

User guide

---

**READy**



**Disclaimer**

All information provided in this document is copyright of Kamstrup. Licence is granted to the user to freely use and distribute the information in complete and unaltered form, provided that the purpose is to use or evaluate Kamstrup products. Distribution rights do not include public posting or mirroring on Internet websites. Only a link to the Kamstrup website can be provided on such public websites.

Kamstrup shall in no event be liable to any party for direct, indirect, special, general, incidental, or consequential damages arising from the use of this information or any derivative works thereof. The information is provided on an as-is basis, and thus comes with absolutely no warranty, either express or implied. No right or licence is granted under any intellectual property right, hereunder copyright, patent or trademark, of Kamstrup to any other party. This disclaimer includes, but is not limited to, implied warranties of merchantability, fitness for any particular purpose, and non-infringement.

Information in this document is subject to change without notice and should not be construed as a commitment by Kamstrup. While the information contained herein is believed to be accurate, Kamstrup assumes no responsibility for any errors and/or omissions that may appear in this document.

**Copyright Information**

Copyright © Kamstrup A/S  
Industrivej 28  
Stilling  
DK-8660 Skanderborg, Denmark

**All Rights Reserved**

The graphics and content in this document are the copyrighted work of Kamstrup and contain proprietary trademarks and trade names of Kamstrup.

**Third Parties**

This document may contain links to other parties. Kamstrup makes no warranty or representation regarding any linked information appearing therein. Such links do not constitute an endorsement by Kamstrup of any such information and are provided only as a convenience. Kamstrup is not responsible for the content or links displayed by third parties.

## Contents

<b>1</b>	<b>What's new.....</b>	<b>11</b>
<b>2</b>	<b>Video tutorials.....</b>	<b>17</b>
<b>3</b>	<b>What is READY?.....</b>	<b>22</b>
3.1	Drive-by reading.....	22
3.2	Automatic reading.....	24
3.2.1	Fixed network reading.....	24
3.2.2	Point-to-point reading.....	25
<b>4</b>	<b>Installation and setup of READY.....</b>	<b>27</b>
4.1	Installing READY Manager.....	28
4.2	Importing meters (and collection units).....	33
4.2.1	Automatically importing meters (and collection units).....	34
4.2.2	Manually importing new meters (and collection units).....	37
4.2.3	Importing existing meters (and collection units).....	44
4.2.4	Importing non-Kamstrup meters.....	45
4.2.4.1	Importing non-Kamstrup wired M-Bus meters.....	50
4.3	Adding customer information.....	50
4.3.1	Importing customer data from a customer information system.....	50
4.3.1.1	Manually importing customer data.....	51
4.3.1.2	Automatically importing customer data.....	54
4.3.1.3	Creating and editing import formats.....	57
4.3.1.3.1	Fixed width import formats.....	57
4.3.1.3.2	Sharing import formats.....	57
4.3.1.4	Deleting import formats.....	66
4.3.2	Entering customer information manually.....	68
4.4	Organizing meters in reading groups.....	69
4.4.1	Creating groups.....	70
4.4.2	Adding meters to groups.....	71
4.4.3	Removing meters from groups.....	72
4.4.4	Renaming groups.....	74
4.4.5	Deleting groups.....	75
4.5	Installing READY App.....	76

4.6	Pairing of READY App and READY Manager.....	76
4.7	Pairing of READY App and READY Converter.....	78
4.8	Connecting READY Converter to a roof antenna.....	78
4.9	Installing collection units.....	79
4.10	Setting up collection units.....	81
4.10.1	Adding address, coordinates or comments to collection units.....	82
4.10.2	Assigning a frequency license to a collection unit.....	84
4.10.3	Changing the output power for a collection unit.....	86
4.10.4	Viewing frequency license details for a collection unit.....	87
4.11	Deleting collection units.....	89
4.12	Finding address coordinates and checking addresses.....	90
4.13	Installing and removing meters in the United States.....	93
4.13.1	Configuring meters you install for AMI reading.....	93
4.13.2	Turning on radio signal for new meters and configure later.....	101
4.13.3	Turning off radio signal when removing meters.....	106
4.14	Reading encoded output meters with READY MTU.....	110
4.14.1	Installing READY MTU.....	111
4.14.1.1	Configuration of READY MTU.....	112
4.14.2	Reconfiguring READY MTU.....	119
4.14.3	Removing READY MTU.....	124
<b>5</b>	<b>Reading meters.....</b>	<b>129</b>
5.1	Drive-by meter reading.....	129
5.1.1	Transferring latest data to mobile app.....	130
5.1.2	Collecting reading data from a group of meters.....	130
5.1.3	Collecting reading data from a single meter.....	133
5.1.4	Collecting logged data from a meter.....	137
5.1.4.1	Collecting logged data from meters with two-way communication.....	142
5.1.5	Transferring reading data from mobile app to PC.....	147
5.2	Fixed network reading.....	148
5.2.1	Reading meters in wireless M-Bus radio network.....	148
5.2.1.1	Monitoring automatic collection units in radio network.....	148
5.2.1.2	Fallback reading for two-way radio network meters (AMI).....	149
5.3	Point-to-point meter reading.....	155

5.3.1	Data transmission interval for NB-IoT meters.....	155
5.4	Manual meter reading.....	156
5.4.1	Entering manual readings.....	157
5.4.2	Drive-by reading with manual readings.....	162
5.4.3	Editing manual readings.....	166
5.4.4	Deleting manual readings.....	170
5.5	Meter reading import.....	174
5.5.1	File format for import of meter readings.....	177
5.5.2	Time limit for imported readings.....	177
<b>6</b>	<b>Annual meter reading.....</b>	<b>179</b>
<b>7</b>	<b>Reading performance.....</b>	<b>180</b>
7.1	Getting an overview of meter reading performance.....	182
7.2	Exporting a reading performance report.....	183
<b>8</b>	<b>Notifications and alerts.....</b>	<b>187</b>
8.1	Automatic notification of meter events (info codes).....	187
8.1.1	Receiving notification by email.....	188
8.1.2	Receiving notification by SMS.....	190
8.1.3	Changing automatic notification of meter events.....	193
8.1.4	Temporarily stopping notification of meter events.....	194
8.1.5	Permanently stopping notification of meter events.....	195
8.1.6	Description of meter events (info codes).....	196
8.2	Consumption alerts.....	201
8.2.1	Setting up a consumption alert for a meter.....	204
8.2.2	Extending the alert period (active alerts only).....	205
8.2.3	Resetting a consumption alert.....	208
8.2.4	Deleting a consumption alert you have set up.....	209
8.2.5	Showing/Hiding expired and future alerts.....	210
8.3	Last contact alerts for collection units.....	212
<b>9</b>	<b>Analyzing reading data.....</b>	<b>214</b>
9.1	Priority meters.....	214
9.2	Water loss analysis.....	216
9.3	Data comparison.....	218

9.4	Consumption reports.....	220
9.5	Heat reports.....	222
9.5.1	Cooling performance report.....	224
9.5.2	Inlet temperature report.....	228
9.5.3	Outlet temperature report.....	229
<b>10</b>	<b>Exporting reading data.....</b>	<b>231</b>
10.1	Manually exporting reading data.....	231
10.1.1	Export data from single meter/group.....	233
10.2	Automatically exporting reading data.....	236
10.2.1	Retrying automatic exports that fail.....	239
10.3	Predefined export formats.....	240
10.4	Creating and editing export formats.....	240
10.4.1	Fixed width export formats.....	243
10.4.2	XML export formats.....	246
10.4.3	Sharing export formats.....	250
10.4.4	Customized headers in export formats.....	251
10.5	Deleting export formats.....	253
10.6	Exporting logged data for a single meter.....	254
<b>11</b>	<b>Deleting reading data.....</b>	<b>256</b>
11.1	Delete one or more readings.....	257
11.2	See status and log of reading deletions.....	259
11.3	Find meters with deleted readings.....	260
11.4	User permissions for deleting reading.....	262
<b>12</b>	<b>Updating meters.....</b>	<b>263</b>
12.1	Updating MULTICAL® 403, 603 and 803 meters.....	263
12.1.1	Uploading meter update files.....	270
12.2	Updating flowIQ® 2200, 2250, 3250 and 4200 meters.....	272
12.2.1	Updating reading method, interval, data and notification limits.....	273
12.2.2	Changing radio frequency for communication with meters.....	281
12.2.3	Updating notification limits only.....	287
12.2.4	Checking which configuration orders a meter is part of.....	292
12.2.5	Reading interval and battery warranty.....	293
12.3	Updating NB-IoT meters.....	294

12.3.1	Creating a configuration order for NB-IoT meters.....	294
12.3.2	Updating reading interval of NB-IoT meters.....	301
12.3.3	Updating notification limits for NB-IoT meters.....	307
12.3.4	Update via update file from Kamstrup.....	312
12.3.4.1	Uploading meter update file for NB-IoT meters.....	316
<b>13</b>	<b>Meter exchange.....</b>	<b>319</b>
13.1	Replacing meters in READY Manager.....	320
13.2	Replacing meters via READY App.....	323
13.3	Removing a meter from a customer address.....	328
13.4	Adding a meter to a customer address.....	330
13.5	Adding meters to the list of meters in stock.....	332
13.6	Creating a customer receipt for the meter exchange.....	333
13.6.1	Adding your logo to a customer receipt.....	338
13.6.2	Removing a logo from customer receipts.....	340
13.7	Exporting list of meter exchanges.....	341
<b>14</b>	<b>Pressure sensors and offset pressure.....</b>	<b>342</b>
<b>15</b>	<b>Dis- and reconnecting water supply.....</b>	<b>345</b>
15.1	Installing valves in your network.....	345
15.2	Checking the status of a valve in your network.....	346
15.3	Disconnecting water supply.....	352
15.4	Reconnecting water supply.....	356
15.5	Updating the valve with new features.....	360
15.6	Replacing valves.....	362
<b>16</b>	<b>Dis- and reconnecting heat supply.....</b>	<b>363</b>
16.1	Initial setup of valve type.....	365
16.2	Disconnecting heat supply.....	366
16.3	Reconnecting heat supply.....	367
16.4	Checking if heat supply is connected or disconnected.....	368
16.5	Canceling a disconnection or reconnection request.....	370
16.6	Changing maximum limit for (dis)connection requests.....	371
<b>17</b>	<b>Subscription handling.....</b>	<b>373</b>
17.1	My Kamstrup system user credentials.....	375

<b>18</b>	<b>Updating READY Manager</b>	<b>378</b>
<b>19</b>	<b>Updating READY App</b>	<b>380</b>
<b>20</b>	<b>READY Manager main window overview</b>	<b>382</b>
20.1	Changing language	382
20.2	User rights in READY Manager	384
20.2.1	Changing user and superuser permissions	386
20.3	Home view	388
20.4	Meters view	389
20.4.1	Sorting the list of meters/customers	394
20.4.2	Changing the order of information in Meters view	394
20.4.3	Show and hide information in Meters view	394
20.4.4	Search for meters/customers	395
20.4.5	Creating a new meter/customer	397
20.4.6	Editing meter/customer information	400
20.4.7	Adding custom information to meter/customer	401
20.4.8	Deleting a meter/customer	401
20.4.9	Moving meters in stock to Meters view	402
20.4.10	Details on meter configuration	404
20.4.11	See readings for a meter	406
20.4.11.1	Readings	409
20.4.11.1.1	Final readings	409
20.4.11.2	Visualization	413
20.4.11.2.1	Consumption graphs	413
20.4.11.2.2	Pressure sensor graphs	413
20.4.11.3	Logged data	421
20.4.12	Icons used on the map	425
20.5	Analysis view	426
20.6	Operation view	427
20.6.1	Info codes	428
20.6.2	Monitoring gateways for third-party meters	430
20.6.3	Audit log	431
20.7	Configuration view	432
20.7.1	Units of measurement	434

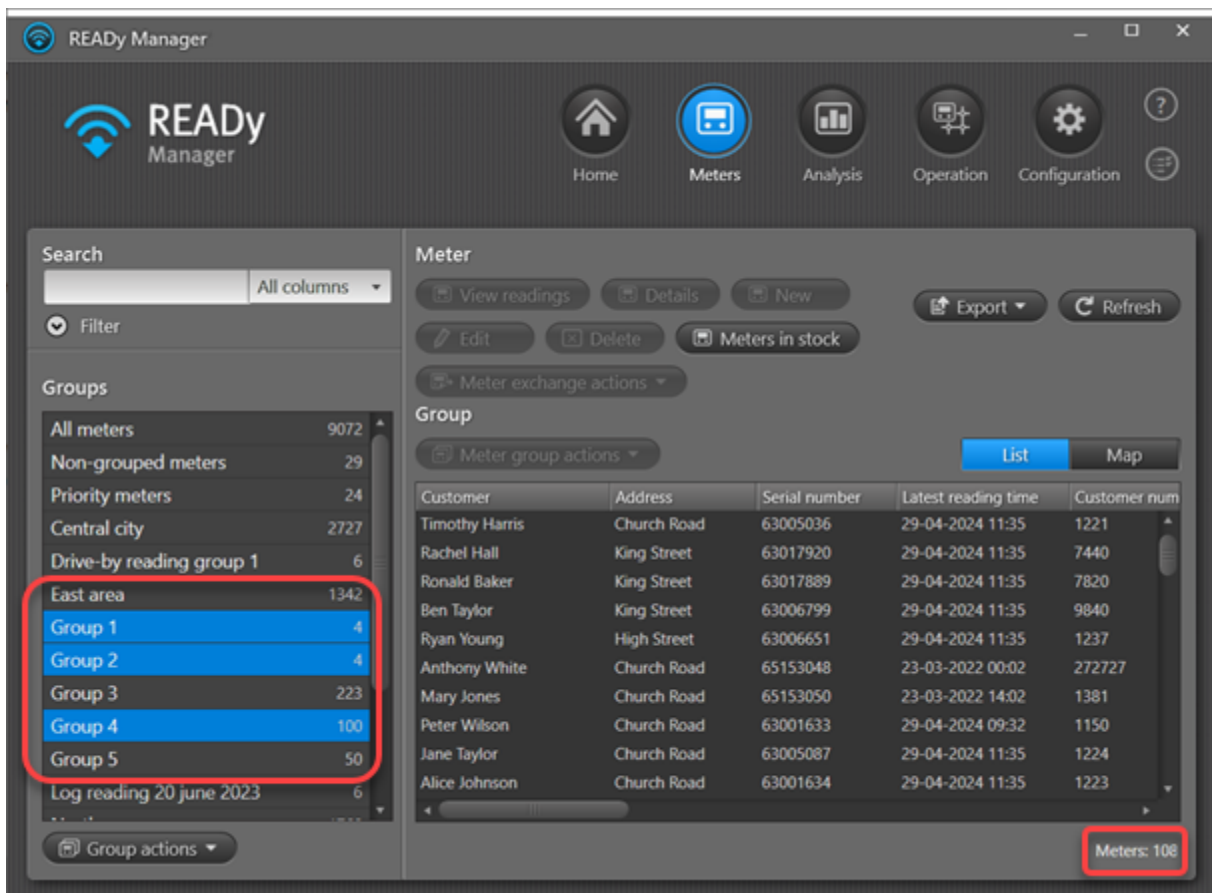
20.7.1.1	Global units of measurement .....	434
20.7.1.2	Local units of measurement .....	435
20.7.1.3	Finding meters with local units .....	437
20.7.1.4	Resetting all local units .....	438
20.7.1.5	Setting up units in fixed width export formats .....	439
20.7.2	Prioritizing info codes .....	441
20.7.3	Custom information in READY .....	442
20.7.3.1	Creating a new custom field .....	443
20.7.3.2	Adding a custom field to the Meters view .....	445
20.7.3.3	Enter information into a custom field .....	446
20.7.3.4	Removing a custom field from the Meters view .....	447
20.7.3.5	Deleting a custom field .....	449
20.7.3.6	Renaming a custom field .....	450
20.7.3.7	Importing custom information .....	452
20.7.3.8	Exporting custom information .....	452
20.7.4	API key .....	453
20.8	Task list .....	454
<b>21</b>	<b>Troubleshooting .....</b>	<b>456</b>
21.1	I have lost my mobile device - what should I do? .....	456
21.2	Checking connection quality to meters .....	458
21.3	What do the alerts in Infrastructure view mean? .....	459
21.4	Checking readability of flowIQ® 2250 or 3250 meters .....	460
21.5	Checking readability of NB-IoT meters .....	463
21.5.1	Getting status code from NB-IoT flowIQ® meters .....	467
21.6	Automatic job fails .....	473
21.6.1	Automatic export to folder on PC fails .....	475
21.7	When do the next automatic M-Bus reading start? .....	478
21.8	I am asked to accept a certificate when logging in to READY .....	479
21.9	Auto-detection of remote disconnect module ends in error .....	481
21.10	Where do I find acoustic leakage detection (ALD) information? .....	481
21.11	Checking storage usage .....	482
21.12	Checking firewall connection issues .....	482
21.13	More meters than subscription allows .....	484

21.14	Contacting Kamstrup support.....	486
<b>22</b>	<b>Additional information.....</b>	<b>487</b>
22.1	READy guides.....	487
22.2	List of words.....	487
22.3	Accessing the READy online help.....	488
22.4	Creating online help favorites.....	488
22.5	READy news update.....	489

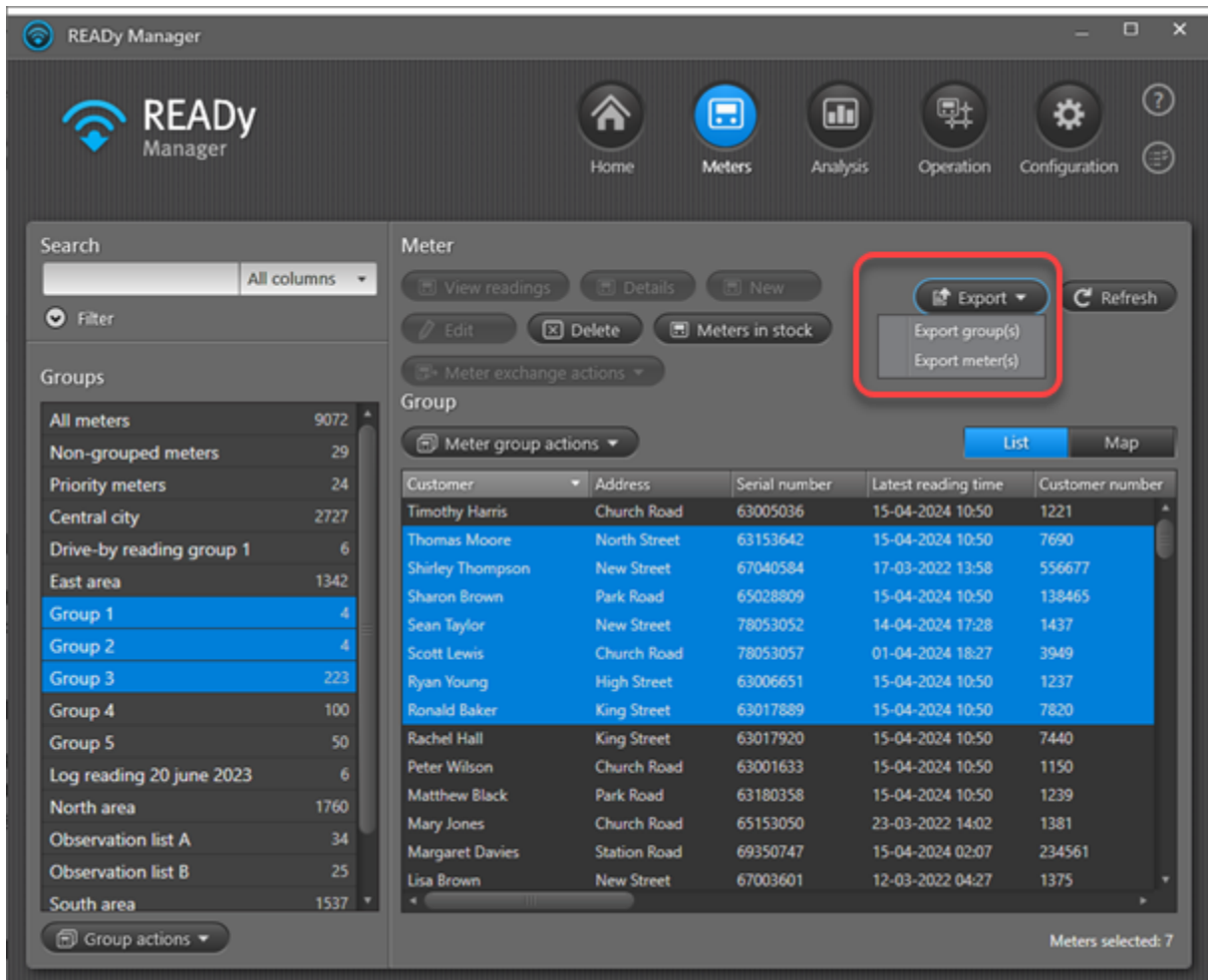
# 1 What's new

The following new features are introduced with READY 1.25:

- It is now possible to select more meter groups and display them in the list or on the map in **Meters** view:

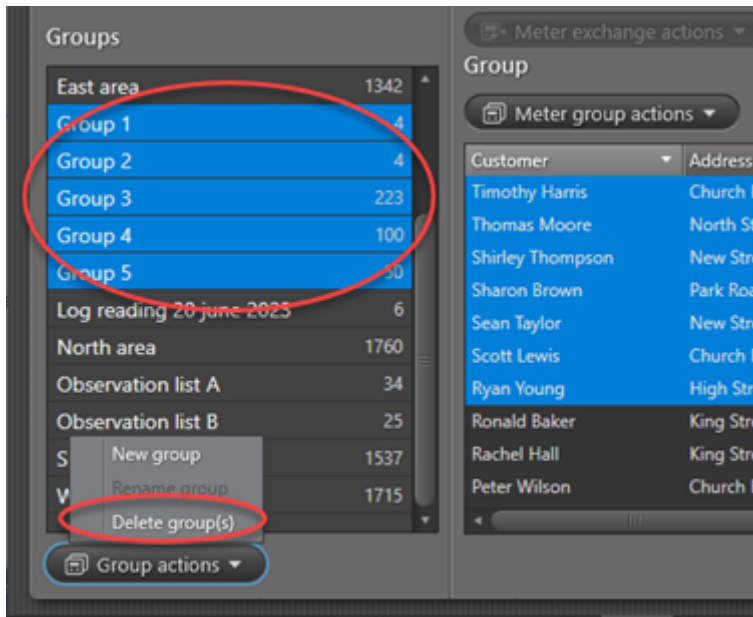


- Previously, it was only possible to manually export data from a single meter or group (including the "All meters" group). With READY 1.25, it is now possible to manually export data from selected meters or meter groups.



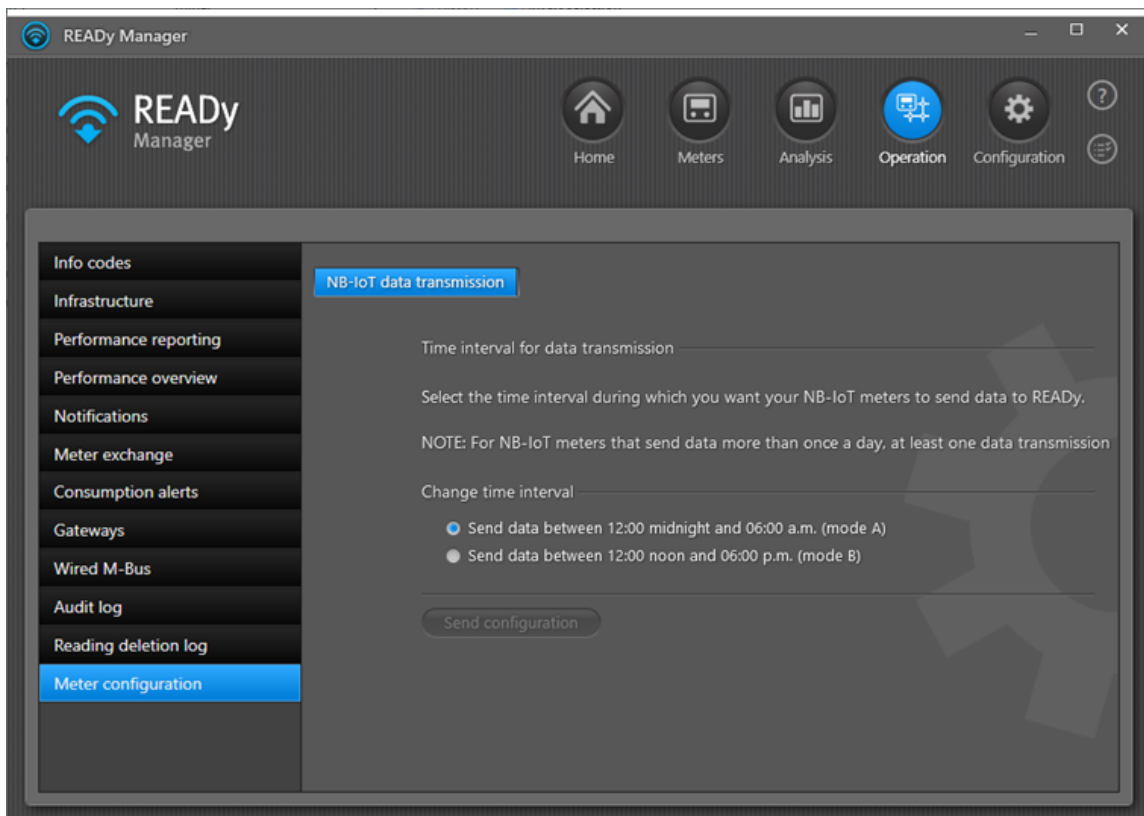
For details, see [Manually exporting reading data](#).

- Instead of deleting one meter group at a time, you can now select all the groups you want to delete and delete them all at once.



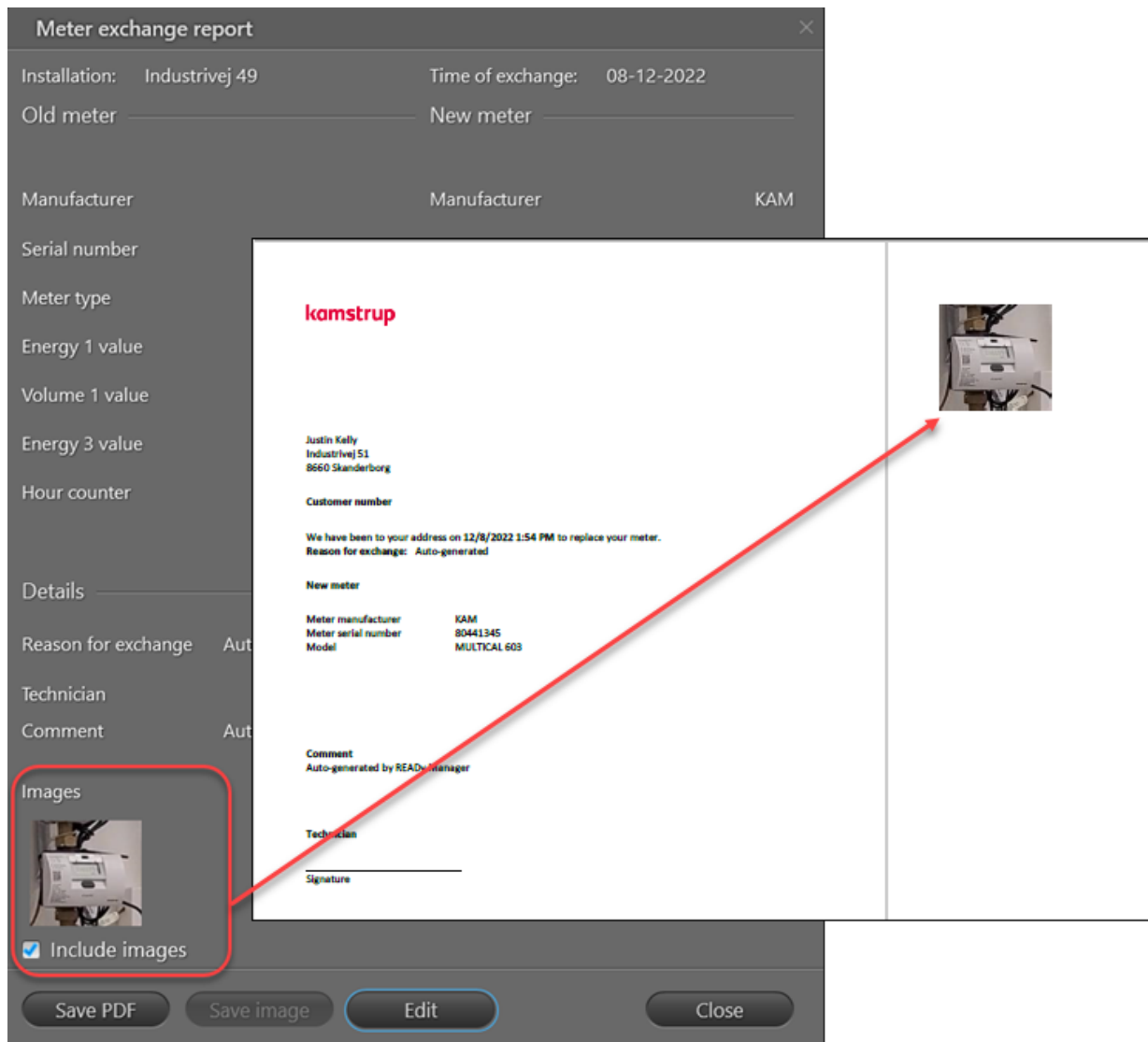
For details, see [Deleting groups](#).

- If you read meters in an NB-IoT network, it is now possible to set up a data transmission interval:



For details, see [Data transmission interval for NB-IoT meters](#).

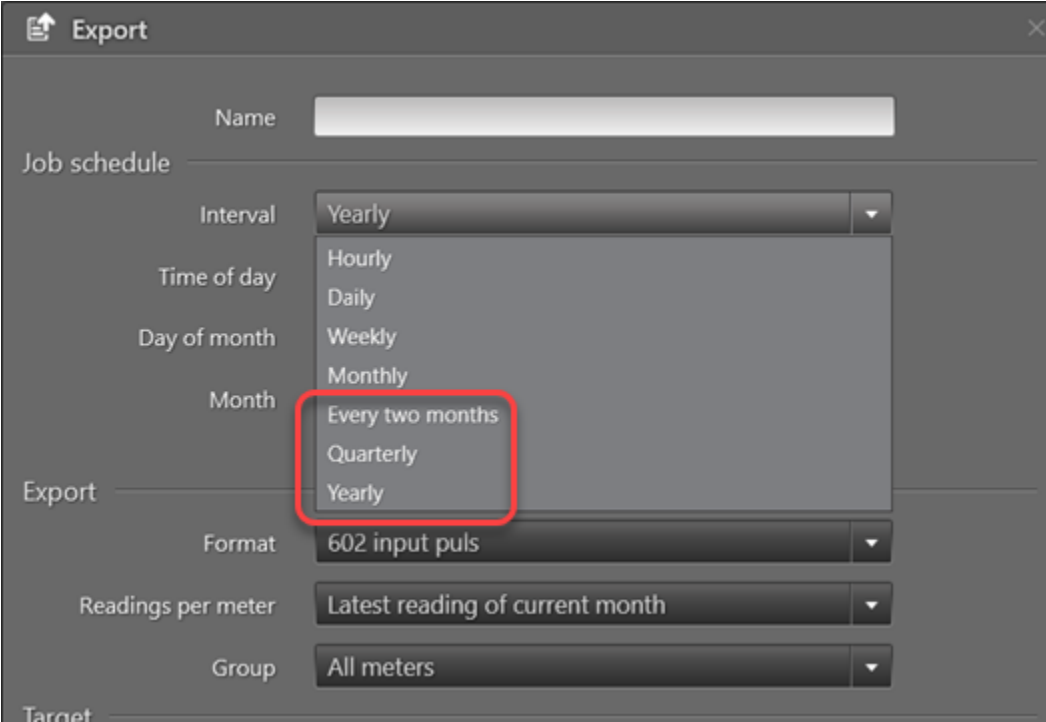
- If you have the Meter Exchange add-on to READY, installation images can now be included in the receipt you download for your customer.



- Point-to-point meters, e.g. NB-IoT meters, with KEM2 files can now be imported manually into READY by going to **Configuration > Import devices > Local KEM file** and selecting the .kem2 file.

For details about local KEM file import, see [Manually importing new meters \(and collection units\)](#).

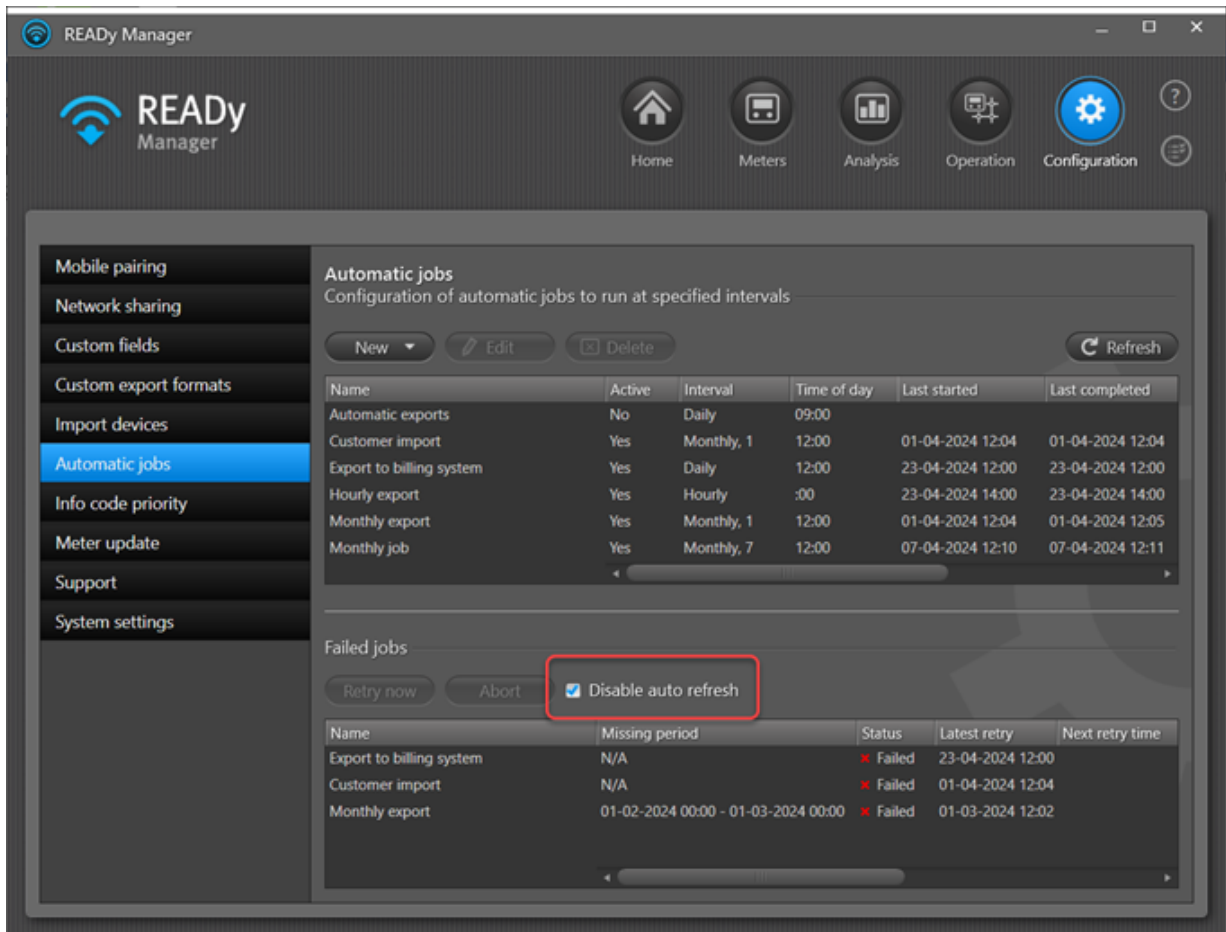
- Automatic export every 2, 3 or 12 months is now possible:



The screenshot shows the 'Export' configuration window. The 'Job schedule' section is expanded, and the 'Month' dropdown menu is open. The options in the dropdown are: Yearly, Hourly, Daily, Weekly, Monthly, Every two months, Quarterly, and Yearly. The 'Every two months' option is highlighted with a red box. Other fields in the window include 'Name', 'Interval', 'Time of day', 'Day of month', 'Format', 'Readings per meter', and 'Group'.

See how to set up the new options here: [Automatically exporting reading data](#).

- When you investigate failed jobs or otherwise work in the Automatic jobs view, you can prevent the view from being continuously updated if it disturb your work. To do so, turn on the new **Disable auto refresh** check box:



For details, see [Retrying automatic exports that fail.](#)

## 2 Video tutorials

---

The following video tutorials are available (to open the complete list of READY video tutorials, click [here](#)):

### Basic features

- [How to get an overview of READY Manager](#) This video provides an overview of the many features in READY Manager.
- [How to customize the Meters view](#) This video shows you how to rearrange information in the **Meters** view in READY Manager. You will learn how to sort, change the sequence, hide and show information.
- [How to use the map view](#) This video shows you how to see your meters and collection units on a map in READY Manager and how the map view works.
- [How to see the readings of a meter](#) This video shows you how to find all readings for a meter. You will learn how to see readings for a specific time period, display reading values as graphs, and see both current readings and logged readings.
- [How to delete meter readings](#) This video shows you how to delete meter readings in READY Manager.
- [How to edit meter and customer information](#) This video shows you how to edit meter and customer information in READY Manager.
- [How to start using meters in stock](#) This video shows you how to start using meters in stock in READY Manager. New meters you import into READY Manager are either regarded as meters in stock or as meters in use depending on your import setup. In this video you will learn where to find meters in stock in READY Manager and 2 different ways of moving them to the **Meters** view in order to start using them.
- [How to add custom information](#) This video shows you how to add your own information about meters, customers and installation addresses to READY Manager.
- [How to create meter groups](#) This video shows you how to create meter groups in READY Manager. You will also learn how to edit, rename and delete meter groups.
- [How to edit meter groups for a meter](#) This video shows you how to see which groups a meter is part of and how to quickly change it in READY Manager.
- [How to set up units of measurement](#) This video shows you how to set up units of measurement for meters in READY Manager.
- [How to change user rights](#) This video shows you how to change user rights for superusers and users in READY Manager.

## Address coordinates / map location

- [How to find address coordinates](#) This video shows you how to find address coordinates for your meters in READY Manager. The coordinates will enable you to display meters on the map in READY Manager and READY App.
- [How to move meters on the map](#) This video shows you how to move meters to the exact right position on the map.
- [How to move collection units on the map](#) This video shows you how to move collection units to the exact right position on the map.

## Consumption

- [How to see the consumption of a customer](#) This video shows you how to see the consumption of a consumer in READY Manager.
- [How to set up a consumption alert](#) This video shows you how to set up a consumption alert for a meter in READY Manager.

## Meter events (info codes)

- [How to receive notifications via email or SMS](#) This video shows you how to receive an SMS or email when important events are detected by your meters.
- [How to prioritize info codes](#) This video shows you how to categorize events detected by your meters as high or normal priority.

## Network sharing (shared infrastructure)

- [How to share a reading network](#) This video shows you how to share a radio network between two or more companies with meters in nearby geographical areas.

## Import

- [How to import encryption keys](#) This video shows you how to import encryption keys for your meters and collection units into READY Manager.
- [How to set up meter import destination](#) This video show you how to set up whether new meters should be imported to the **Meters** view (meters in use) or the **Meters in stock** view.
- [How to import non-Kamstrup meters](#) This video shows you how to import non-Kamstrup meters into READY Manager.
- [How to create a format for importing customer data](#) This video shows you how to create a format for importing customer data into READY Manager.
- [How to set up automatic import jobs](#) This video shows you how to set up READY Manager to automatically import customer data at regular intervals. In this example, the data is imported from a local file on your PC.

[How to import meter readings](#)

This video shows you how to import meter readings from third-party systems into READY Manager.

## Export

[How to create export formats](#)

This video shows you how to create a custom export format in READY Manager.

[How to set up automatic export jobs](#)

This video shows you how to set up READY Manager to automatically export data at regular intervals. In this example, the data is sent to an email address and opened in Microsoft Excel.

[How to export info codes](#)

This video shows you how to export meter events, such as leak or burst, from READY Manager and export them in CSV format to the desired location.

[How to export fixed width data](#)

This video shows you how to export data in fixed width format from READY Manager. You will learn how to create a fixed width export format and how to export data in this format.

[How to export data in XML format](#)

This video shows you how to export data in XML format from READY Manager. You will learn how to create an XML format and how to export data in this format.

## Notifications and alerts

[How to receive meter event notifications via email or SMS](#)

This video shows you how to receive an SMS or email when important events are detected by your meters.

[How to set up a consumption alert](#)

This video shows you how to set up a consumption alert for a meter in READY Manager.

[How to monitor the connection to collection units](#)

This video shows you how you receive and mute last contact alerts for collectors and other collection units in READY Manager.

## Meter exchange

[How to exchange meters in READY Manager](#)

This video shows you how to replace meters in READY Manager without losing the reading history.

[How to exchange meters using READY App](#)

This video shows you how to replace meters using READY App without losing the reading history.

[How to add your logo to meter exchange receipts](#)

This video shows you how to add your logo to customer receipts for meter exchanges.

## Log reading

[How to read the log of a meter with an optical head](#)

This video shows you how to read the log of a meter using READY App and an optical read-out head.

## Manual readings

[How to enter manual readings in READY Manager](#)

This video shows you how to manually enter meter readings in READY Manager. You will also learn how to edit and delete manual readings.

[How to enter manual readings in READY App](#)

This video shows you how to manually enter meter readings in READY App.

[How to use READY App for drive-by reading of manually read meters](#)

This video shows you how to use READY App for drive-by reading of manually read meters.

## Wired M-Bus reading

[How to read meters via wired M-Bus network](#)

This video shows you how to read meters in a wired M-Bus network from READY Manager. You will learn how to create an M-Bus master in READY Manager and how to read the meters connected to it.

## Reports

[How to create cooling performance reports](#)

This video shows you how to create cooling performance reports in READY Manager and export them in CSV format to the desired location.

[How to create inlet and outlet temperature reports](#)

This video shows you how to create inlet and outlet temperature reports in READY Manager and export them in CSV format to the desired location.

[How to create consumption reports](#)

This video shows you how to create consumption reports in READY Manager and export them in CSV format to the desired location.

## Reading performance

[How to get an overview of reading performance](#)

This video shows you how to see the reading performance of meters in READY Manager.

[How to export a reading performance report](#)

This video shows you how to export reading performance reports from READY Manager.

## Pressure sensors

[How to see relative pressure values](#)

This video shows you how to find the pressure offset and see relative pressure values for Kamstrup PressureSensor in READY Manager.

## Disconnecting heat or water supply

[How to remotely disconnect water supply](#)

This video shows you how to disconnect and reconnect water supply from READY App. This is done by opening and closing remotely controlled valves in your network

[How to remotely disconnect heat supply](#)

This video shows you how to disconnect the heat supply in READY Manager.

## **Encryption Key Service (to open all Encryption Key Service videos, click [here](#))**

[How to get an overview of Encryption Key Service](#) This video gives you an overview of Encryption Key Service – A program for accessing encryption keys for your Kamstrup devices.

[How to transfer ownership of devices to others](#) This video shows you how to transfer the ownership of your Kamstrup devices to others.

[How to request ownership of devices from current owner](#) This video shows you how to request ownership of one or more Kamstrup devices from the current owner.

[How to grant others permission to read a device](#) This video shows you how to give others permission to read one or more of your Kamstrup meters.

[How to download encryption keys](#) This video shows you how to download a file with encryption keys for one or more Kamstrup devices.

### 3 What is READY?

---

READY is a system for reading water, heat, cooling and electricity meters. The meters can be read in the following ways:

1. by driving or walking past the houses where the meters are installed. For details, see [Drive-by reading](#).
2. by installing collection units in the supply area that automatically collect reading data. For details, see [Fixed network reading](#).
3. by wiring meters to an M-Bus master that collects reading data. For details, see [Wired reading](#).
4. by standing next to the meter and manually read the meter (and manually enter the meter data in READY App or READY Manager). For details, see [Manual meter reading](#).

It is possible to combine the reading methods so that you use the drive-by reading solution in one part of the supply area, the fixed network in other parts, and manually read the mechanical meters that may still exist around your supply area.

#### 3.1 Drive-by reading

Drive-by meter reading is where you drive (or walk) the supply area with a smartphone and a converter (see table below) that automatically collect the meter readings. You do not have to follow a fixed route or keep track of the order. The installations of your consumers are automatically shown on a map on your smartphone, and when you drive through a residential area, your smartphone automatically shows nearby meters, meters being read, and meters to be read.

The READY Drive-by reading solution consists of the following components:

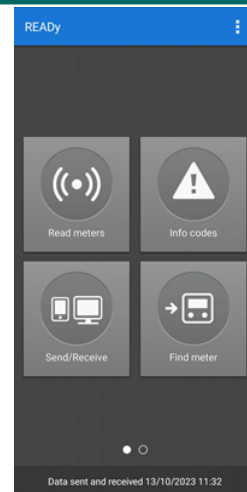
READY Manager:

An application installed on your PC that allows you to store customer and reading data and export this data to other systems, such as a customer information system.



READY App:

An app installed on your android mobile device (smartphone or tablet) that allows you to keep track of your meter readings as you walk/drive around town to collect reading data.



READY Converter:

A communication unit that enables you to receive meter readings on your smartphone/tablet. You bring it along when you walk/drive around to collect reading data.



### 3.2 Automatic reading

Automatic reading is where meter readings are collected automatically without a person in the field to collect it.

The automatic collection of data may take place via the following permanently installed collection units:

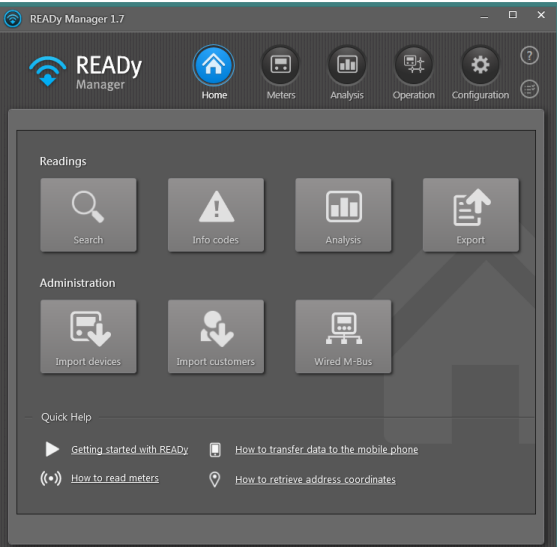
- Collectors installed in the supply area. For details, see [Fixed network reading](#)
- Point-to-point communication module integrated in the meter. For details, see [Point-to-point reading](#).
- M-Bus master wired to the meters. For details, see [Wired reading](#).

#### 3.2.1 Fixed network reading

Fixed network reading is where collectors are permanently installed in the supply area to automatically collect meter readings via radio communication.

**Note** Fixed Network reading is an add-on to READY and requires a special subscription.

The fixed network reading solution consists of the following components:

<p style="text-align: center;"><u>READY Manager:</u></p> <p>An application installed on your PC that allows you to store customer and reading data and export this data to other systems, such as a billing system.</p>	
---	---

Kamstrup READY Collector:

A collector that consists of a top box and a base box. Kamstrup READY Collector Top receives meter data and forwards the data to Kamstrup READY Collector Base. READY Collector Base relays the meter data to READY Manager and provides power and internet connection to up to 4 READY Collector Top boxes.

Kamstrup READY Collector is installed on central locations in the supply area - preferably in water towers or similar high places.



**3.2.2 Point-to-point reading**

Point-to-point reading is where an NB-IoT communication module integrated in the meter sends meter readings directly to READY Manager.

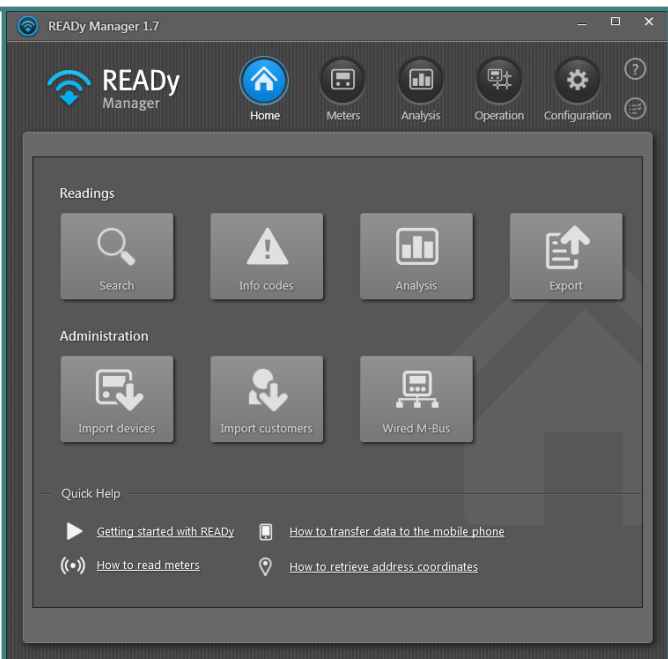
**Note** The point-to-point reading solution is an add-on to READY and requires a special subscription.

**Note** Only flowIQ 2200 and 3200 water meters can be read via point-to-point communication.

The point-to-point solution consists of the following components:

READY Manager:

An application installed on your PC that allows you to store customer and reading data and export this data to other systems, such as a customer information system.



One or more of the following meters with integrated point-to-point module:

- flowIQ® 2200 (NB-IoT point-to-point network only)
- flowIQ® 3200 (NB-IoT point-to-point network only)



## 4 Installation and setup of READY

---

When you start using READY for the first time, there are a few initial steps to perform before the first meter reading:

### What do you want to do?

- [Install and setup READY for drive-by reading](#)
- [Install and setup READY for fixed network reading](#)

The first step describing how to install and set up READY Manager is the same no matter which reading method you use. So if you use a combination of drive-by reading and fixed network reading, you only need to perform Step 1 once.

### Drive-by reading: How to install and setup READY

1. Install READY Manager on your PC, and set up meter data, customer data and meter groups. For details, see:

- [Install READY Manager](#)
- [Import meter information](#)
- [Add customer information](#)
- [Organize meters in reading groups](#)

2. Install READY App on your mobile device, and pair it to READY Manager. For details, see:

- [Install READY App](#)

Once you have installed READY App, follow the on-screen instructions in READY App to pair it to READY Manager and to transfer customer data from the PC to the mobile device.

3. Pair READY Converter to READY App and connect it to a roof antenna, if any. For details, see:

- [Pair READY App to READY Converter](#)
- [Connect READY Converter to roof antenna](#)

### Fixed network reading: How to install and setup READY

**Note** It is possible to reverse Steps 1 and 2 so that you install the collection units first, and install READY Manager afterwards.

1. Install READY Manager on your PC, and set up meter data, customer data and meter groups. For details, see:

- [Install READY Manager](#)
- [Import meter information](#)
- [Add customer information](#)
- [Organize meters in reading groups](#)

2. Install collection units in your network. For details, see:

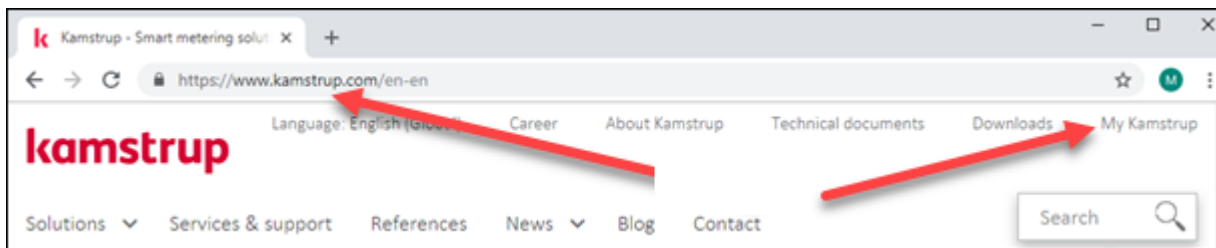
- [Install collection units](#)

## 4.1 Installing READY Manager

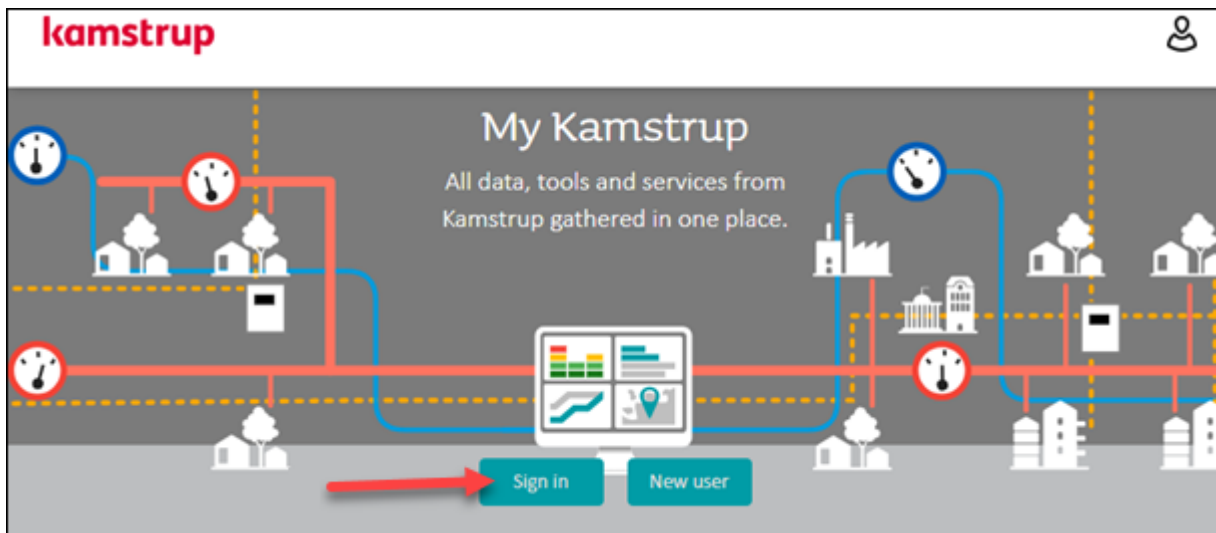
**Note** More information about installing READY Manager, activating your READY subscription, etc. can be found in the document "Getting started with READY Manager", document no. FILE100001588.

### How to install READY Manager

1. Go to [www.kamstrup.com](https://www.kamstrup.com) and click **My Kamstrup** in the upper-right corner:

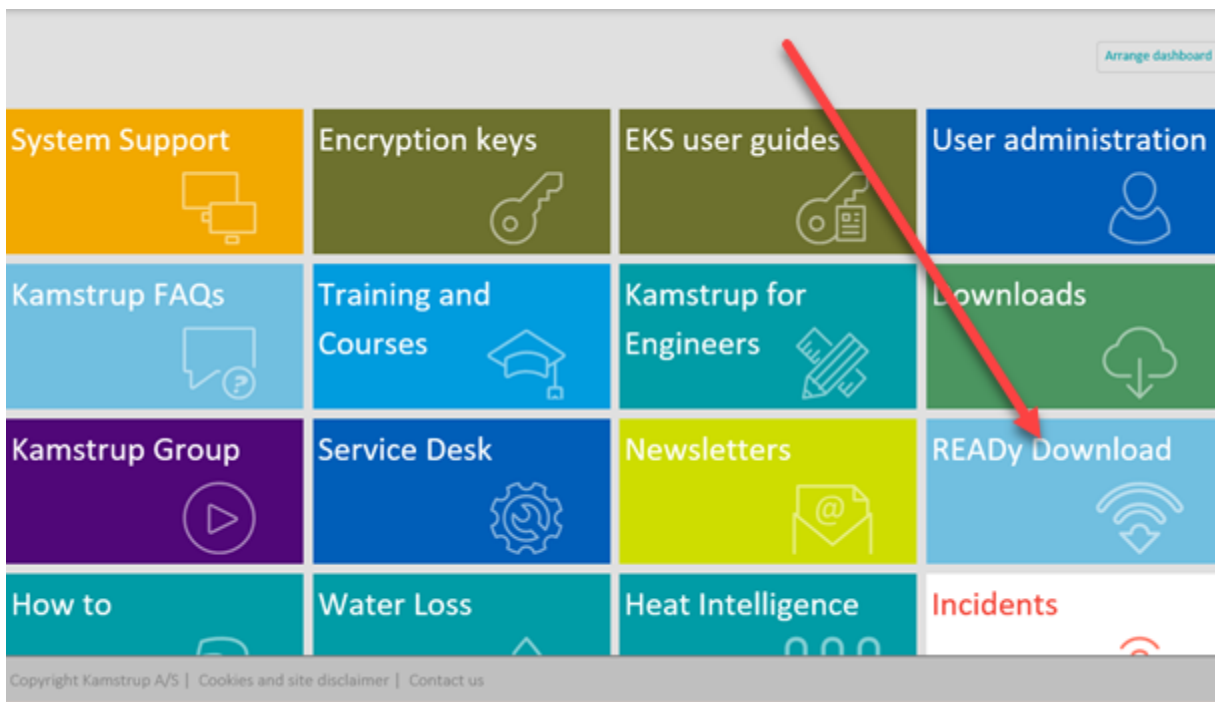


2. Click **Sign in**:



3. Enter your email address and password to My Kamstrup. Then click **Sign in**:

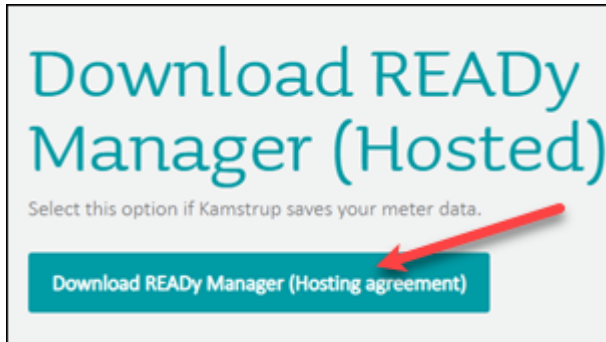
4. Select **READY Download**:



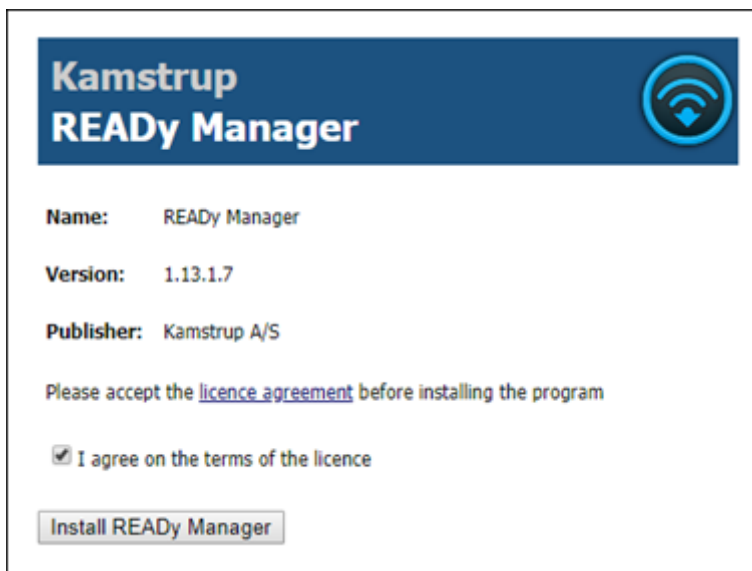
5. Follow Step a if you have purchased READYy Hosting, or b if you have purchased READYy Support:

**Note** It is important that you choose the right option. Otherwise READYy will not work. If in doubt, check the order confirmation from Kamstrup.

- a. READYy Hosting: click **Download READYy Manager (Hosting agreement)**:

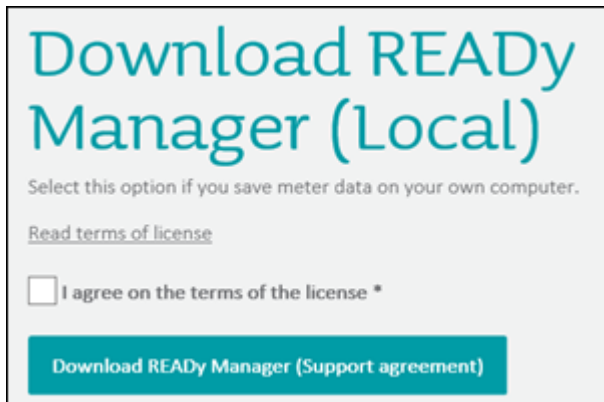


Then select **I agree on the terms of the license** and click **Install READYy Manager**:

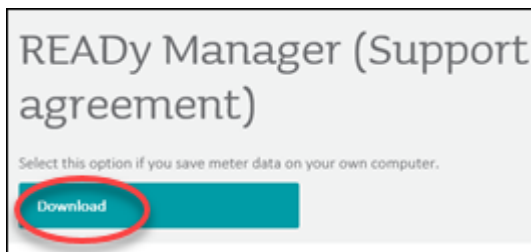


OR

- b. READYy Support: Select **I agree on the terms of the license**, and click **Download READYy Manager (Support agreement)**:




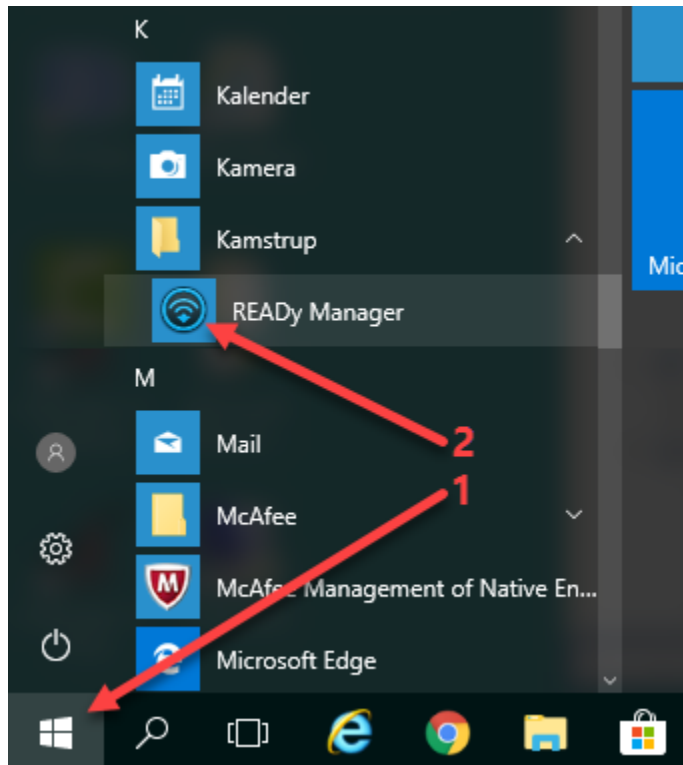
In the window that appears, click **Download**:



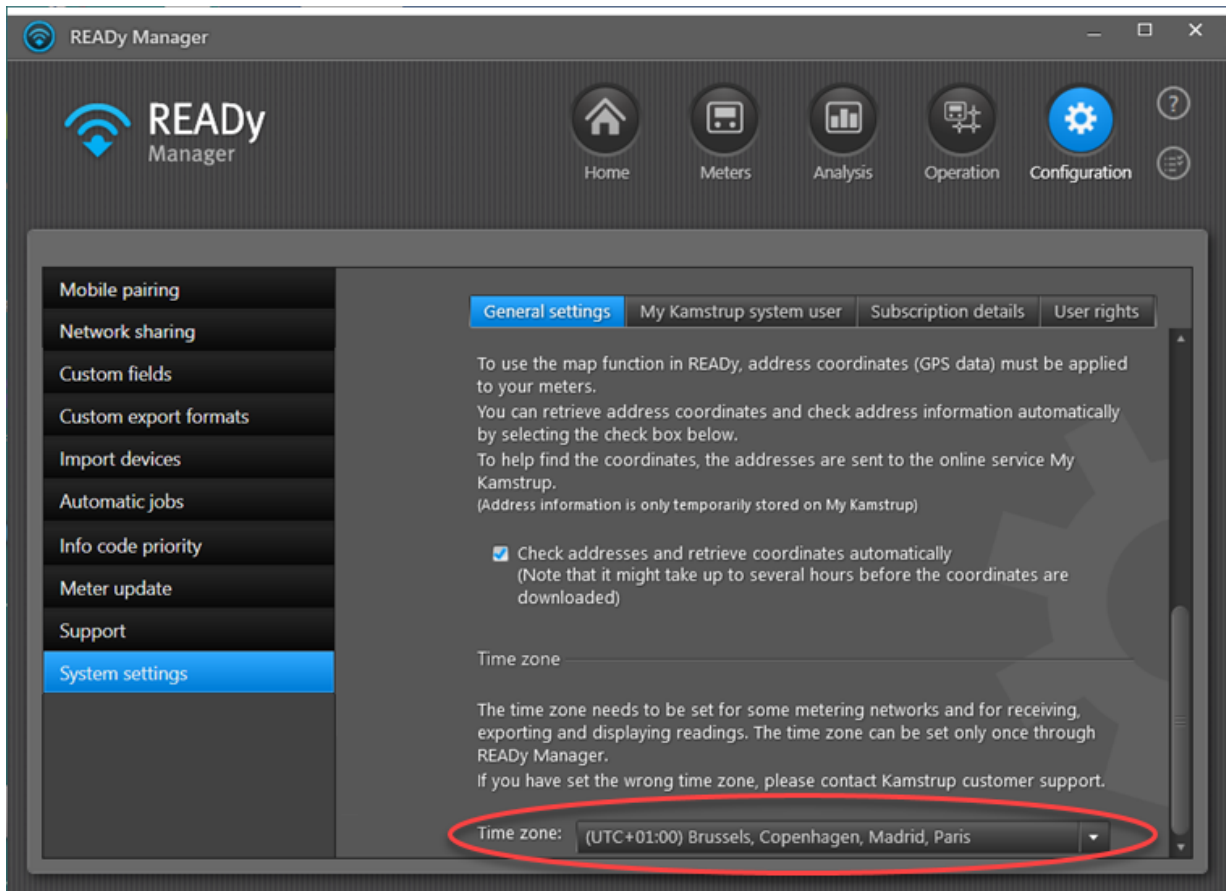
6. Select **Run** if you can choose between “Run” and “Save” during the installation.

**Note** If you have a hosted version of READYy, use your My kamstrup login to log in to READYy. The local version of READYy requires no login.

You open READY Manager by clicking the READY Manager icon on your desktop  or going to: **Start Menu > Kamstrup > READY Manager**.



- The first time you open READY Manager, select your time zone in **Configuration > System settings > General settings**:



## 4.2 Importing meters (and collection units)

Meter information is stored in `.kem` or `.kem2` files. The files contain the encryption keys that you need in order to communicate with the meters. If you [read meters via a network](#), encryption keys for the collection units (i.e. collectors and bridges) in your network are also stored in `.kem` or `.kem2` files.

There are more ways of importing meters and collection units. The easiest way is to set up READY Manager to automatically import them from My Kamstrup. However, you can also initiate the import manually.

**Note** If you read Siemens MAG 8000 meters via READY Manager, information about these meters must be entered manually into READY Manager. For details about creating a new meter manually, see [Creating a new meter/customer](#). In order to read the MAG 8000 meter, a READY Gateway must be connected to the meter. Encryption keys for the gateways are stored in `.kem` files and must be imported into READY Manager in the same way as `.kem` files for Kamstrup meters and collectors. For details, see below:

### What do you want to do?

- [Automatically import meters/collection units from My Kamstrup](#) (applies to all new meters and collection units from now on)
- [Manually import all new meters/collection units](#) (applies to all new meters and collection units since last import)
- [Import existing meters/collection units](#) (applies to all existing meters and collection units)

It is also possible to import non-Kamstrup meters (including room sensors):

- [Manually import information about non-Kamstrup meters](#)


#### 4.2.1 Automatically importing meters (and collection units)

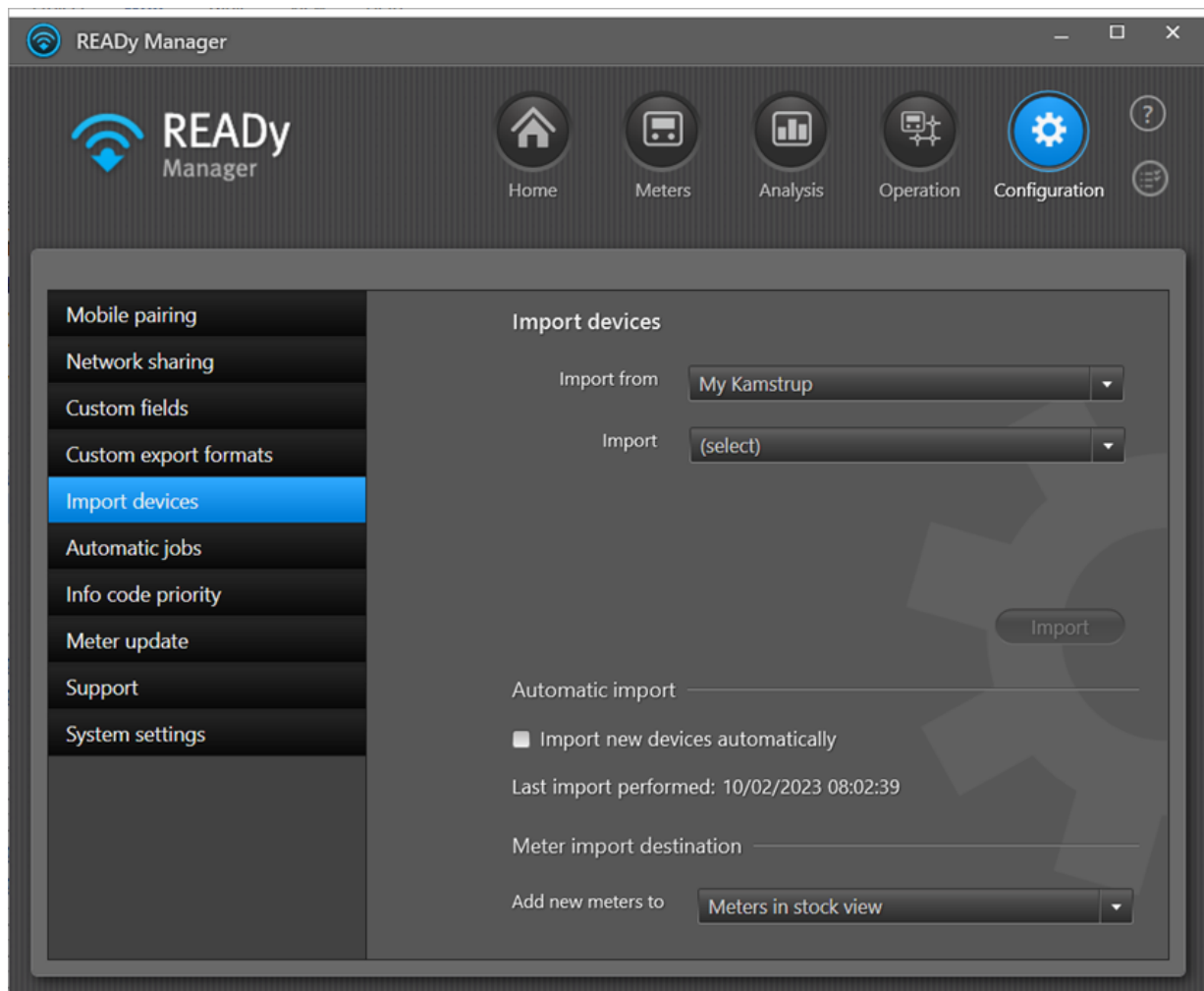
You can set up READY Manager to automatically import all new meters (including their encryption keys) that you add to your network from now on.

If you [read meters via a network](#), collection units in your network (including their encryption keys) are also imported this way.

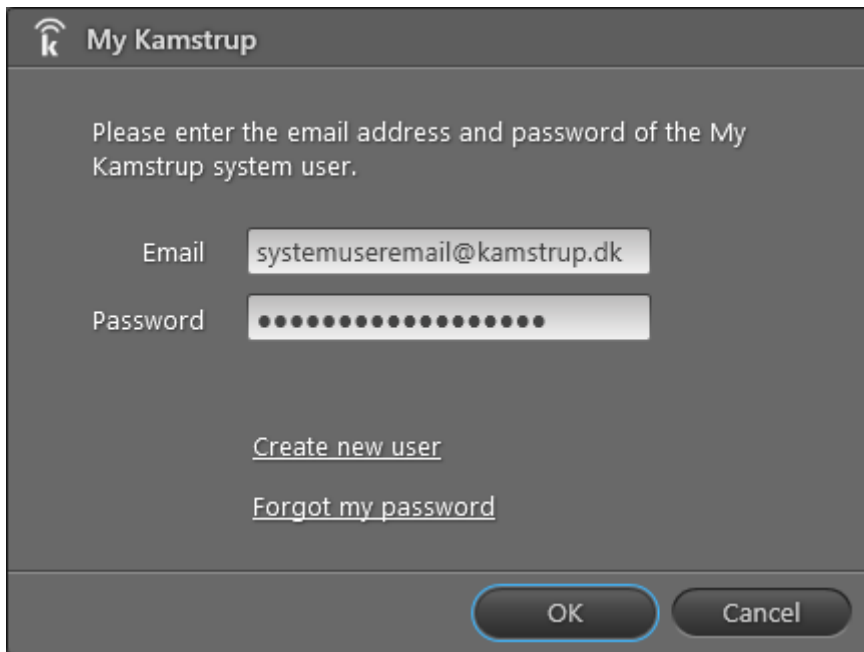
The system will automatically look for new meters/collection units every day when you start up READY Manager for the first time. If you need to import new meter/collection unit information during the day, you can initiate the import manually. For details, see [Manually importing new meters \(and collection units\)](#).

## How to automatically import meters and collection units from My Kamstrup

1. Click **Configuration**  in the upper-right corner of READY Manager and then select **Import devices** to the left.



2. Make sure "My Kamstrup" is selected in the **Import from** field.
3. Click **Import new devices automatically**.
4. In the window that appears, enter the system user credentials for My Kamstrup.  
For details, see [My Kamstrup system user credentials](#).



**My Kamstrup**

Please enter the email address and password of the My Kamstrup system user.

Email

Password

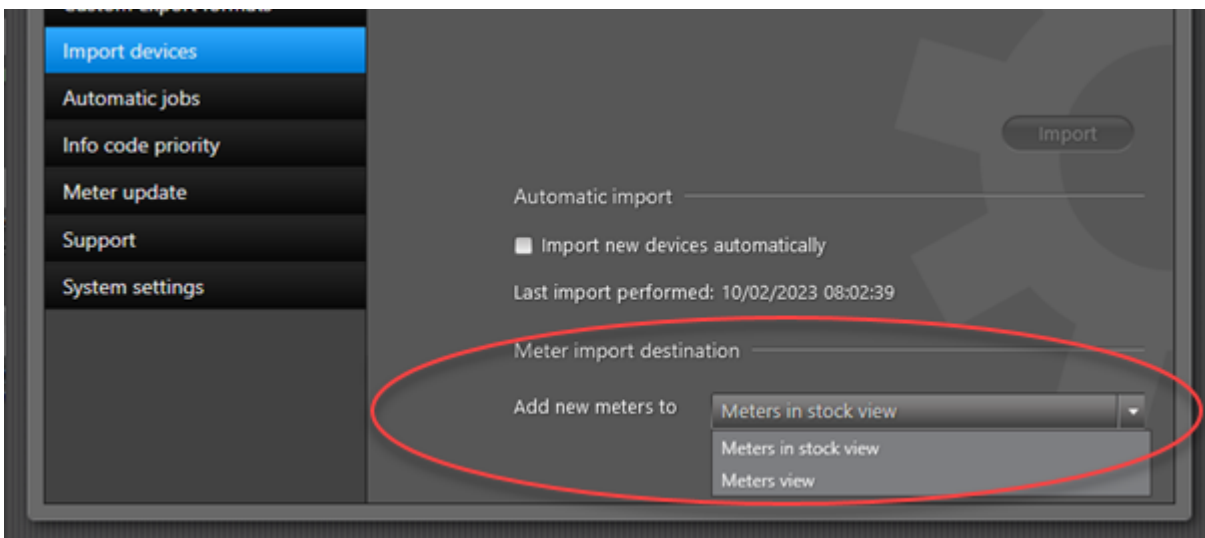
[Create new user](#)

[Forgot my password](#)

5. Click **OK**.

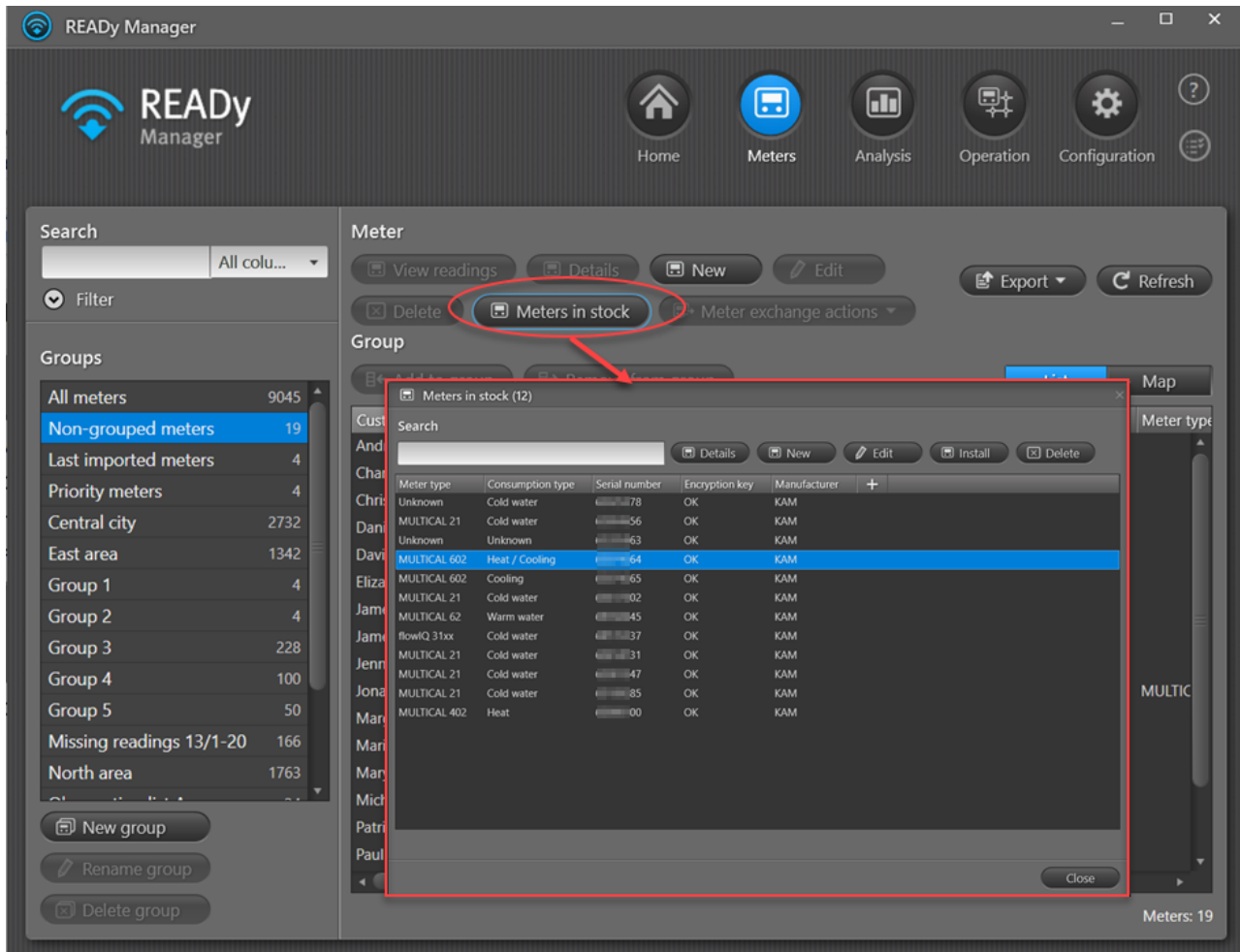
### Where to find meters you import

Meters you import are automatically added either directly to the [Meters](#) view (i.e. meters in use) or to the [Meters in stock](#) view depending on your setting in **Configuration > Import devices > Meter import destination**:



Meters in stock are not read and do not count as “subscription metering points” meaning that you will not exceed the maximum number of meters in your subscription by having new meters in stock.

You find meters in stock by clicking **Meters**  in the upper-right corner of READY Manager, and then clicking the **Meters in stock** button:



The meters are automatically moved from the list of meters in stock to the **Meters** view when the meter’s serial number is attached to an installation address by [importing a CIS \(Customer Information System\) file into READY](#). You can also [manually move meters in stock to the Meters view](#).


#### 4.2.2 Manually importing new meters (and collection units)

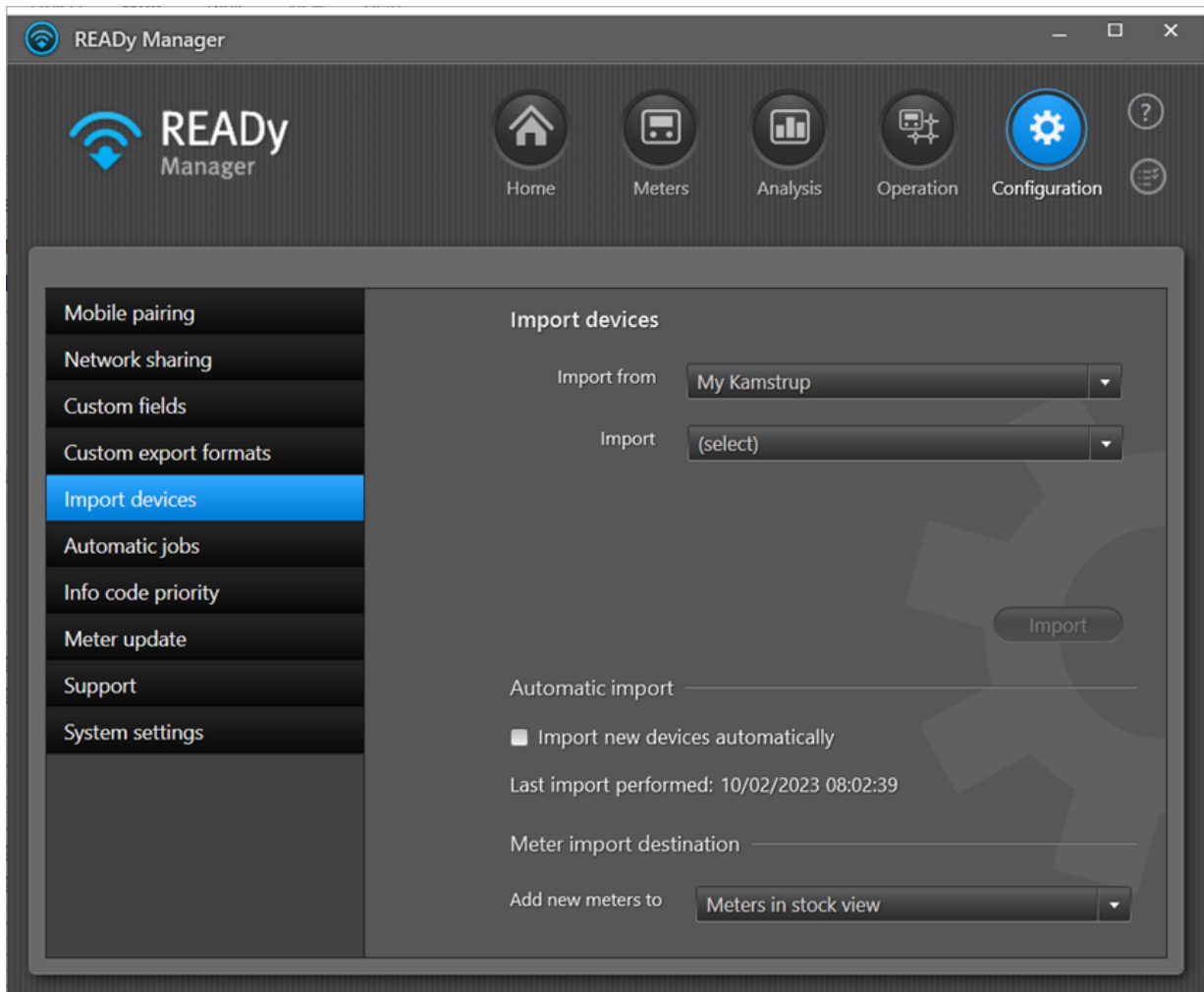
Meter information is stored in `.kem` or `.kem2` files that are available on My Kamstrup when you buy the meters. The files contain the encryption keys that you need in order to communicate with the meters.

You can either import meters from My Kamstrup, or you can import meters via one or more `.kem/` `.kem2` files that you download from My Kamstrup to your computer (local KEM files) or to another computer (online KEM files).

**Note** If you [read meters via a network](#), encryption keys for the collection units in your network are imported the same way.

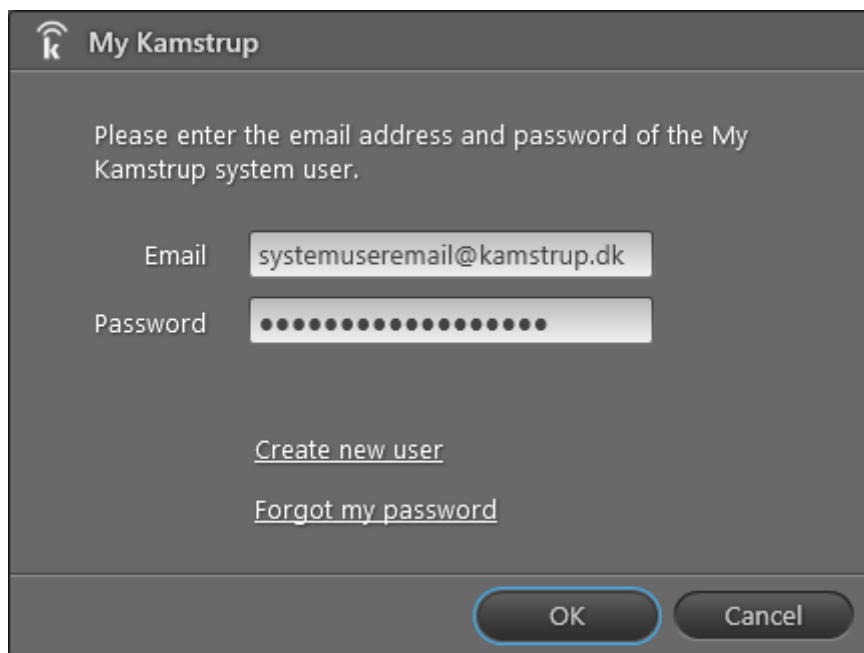
### How to manually import meters/collection units from My Kamstrup

1. Click **Configuration**  in the upper-right corner of READY Manager and then select **Import devices** to the left.



2. In the **Import from** field, select "My Kamstrup".
3. In the **Import** field, select "New devices".
4. Click the **Import** button.
5. In the window that appears, enter the system user credentials for My Kamstrup.

For details, see [My Kamstrup system user credentials](#).



**My Kamstrup**

Please enter the email address and password of the My Kamstrup system user.

Email

Password

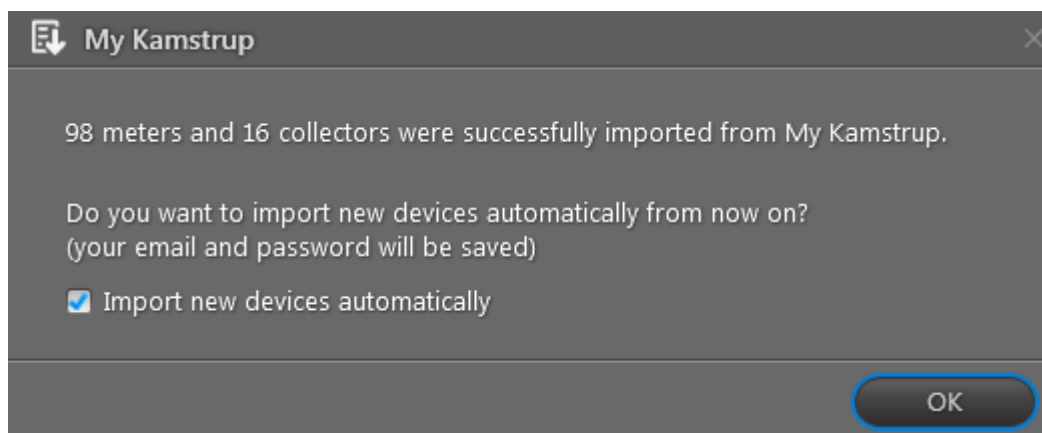
[Create new user](#)

[Forgot my password](#)

**OK** **Cancel**

6. Click **OK**.

A window will appear when the import has been completed:



**My Kamstrup**

98 meters and 16 collectors were successfully imported from My Kamstrup.


Do you want to import new devices automatically from now on?  
(your email and password will be saved)

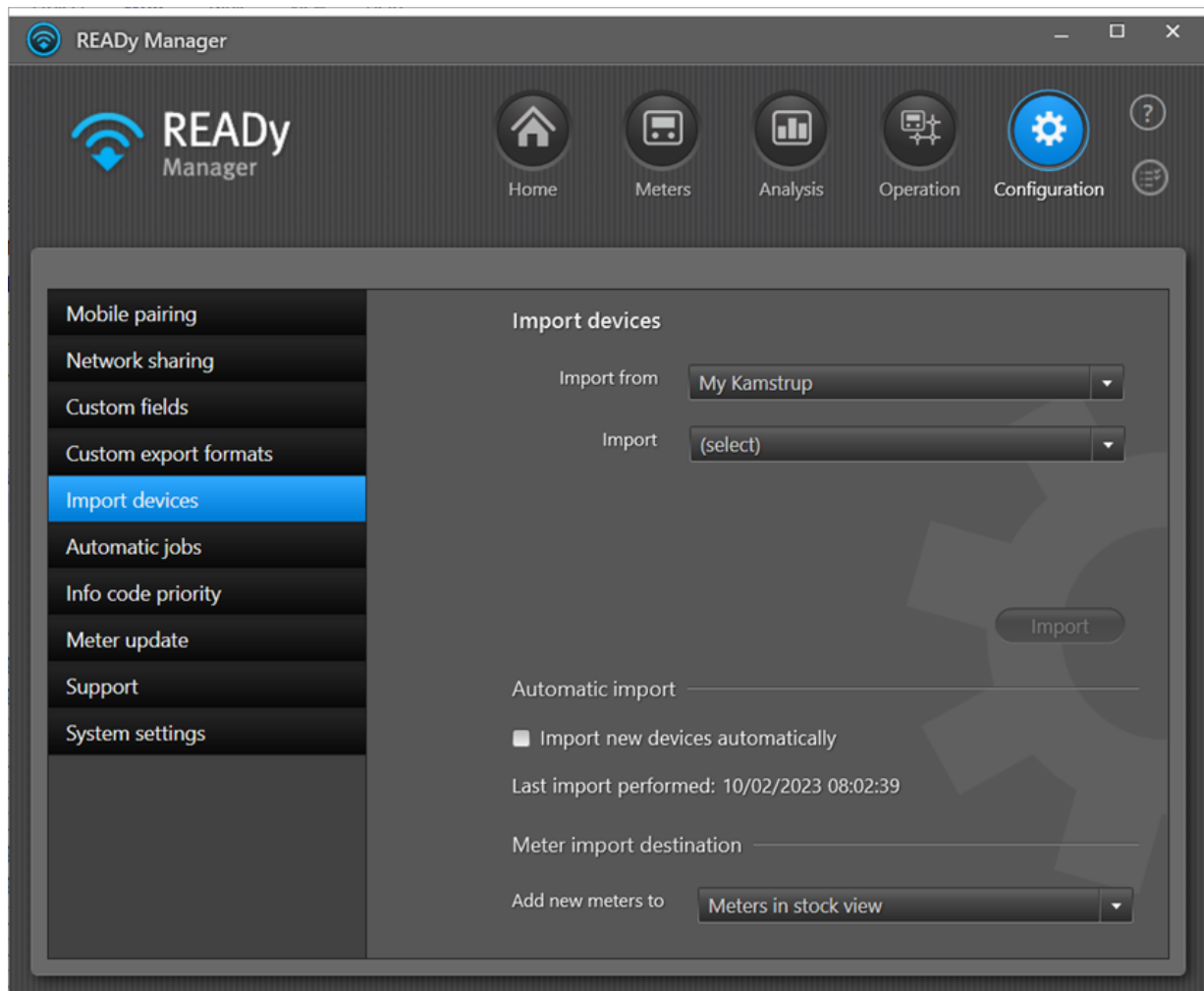
Import new devices automatically

**OK**

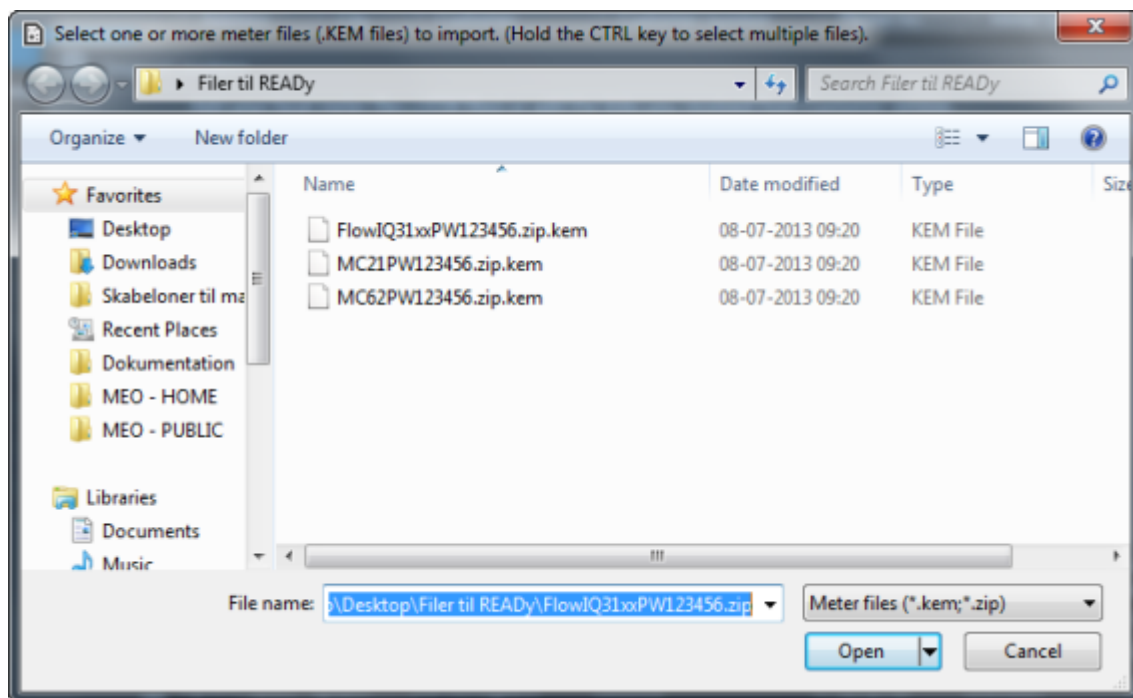
7. Click **OK**.

## How to manually import meters/collection units from .kem/.kem2 files on your PC

1. Click **Configuration**  in the upper-right corner of READy Manager and then select **Import devices** to the left.

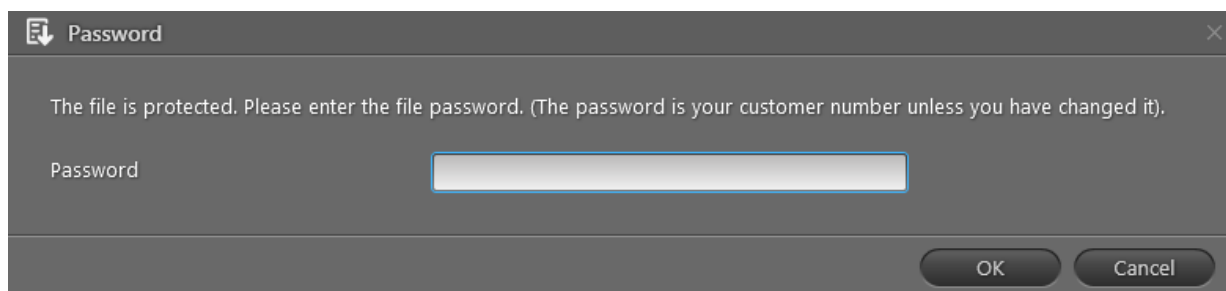


2. In the **Import from** field, select **Local KEM files**.
3. Click **Browse** to browse for and select the meter/collection unit file(s) you want to import. Click **Open**.



4. In the **Password** field, enter the password to the file(s).

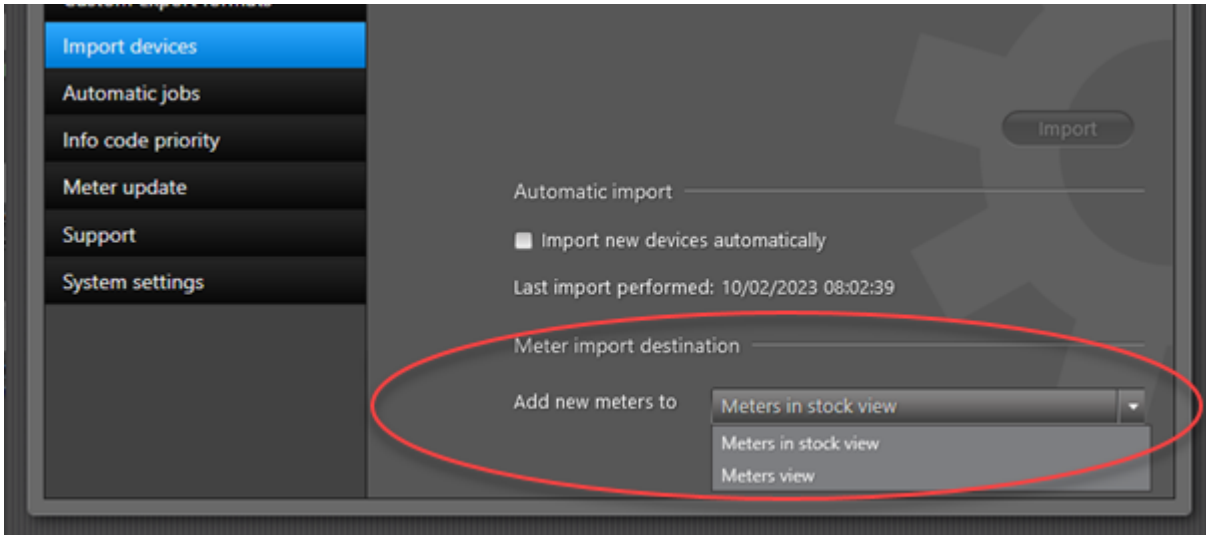
The password is the one you specified on My Kamstrup when downloading the KEM file.




5. Click **OK** to add the import to your task list and start importing.  
Go to the task list to see the result of your import. For details, see [Task list](#).
6. If the same password does not apply to all imported files, click **Retry with another password** and enter another password in the **Password** field to successfully import meter/collection unit files that failed during the first import.

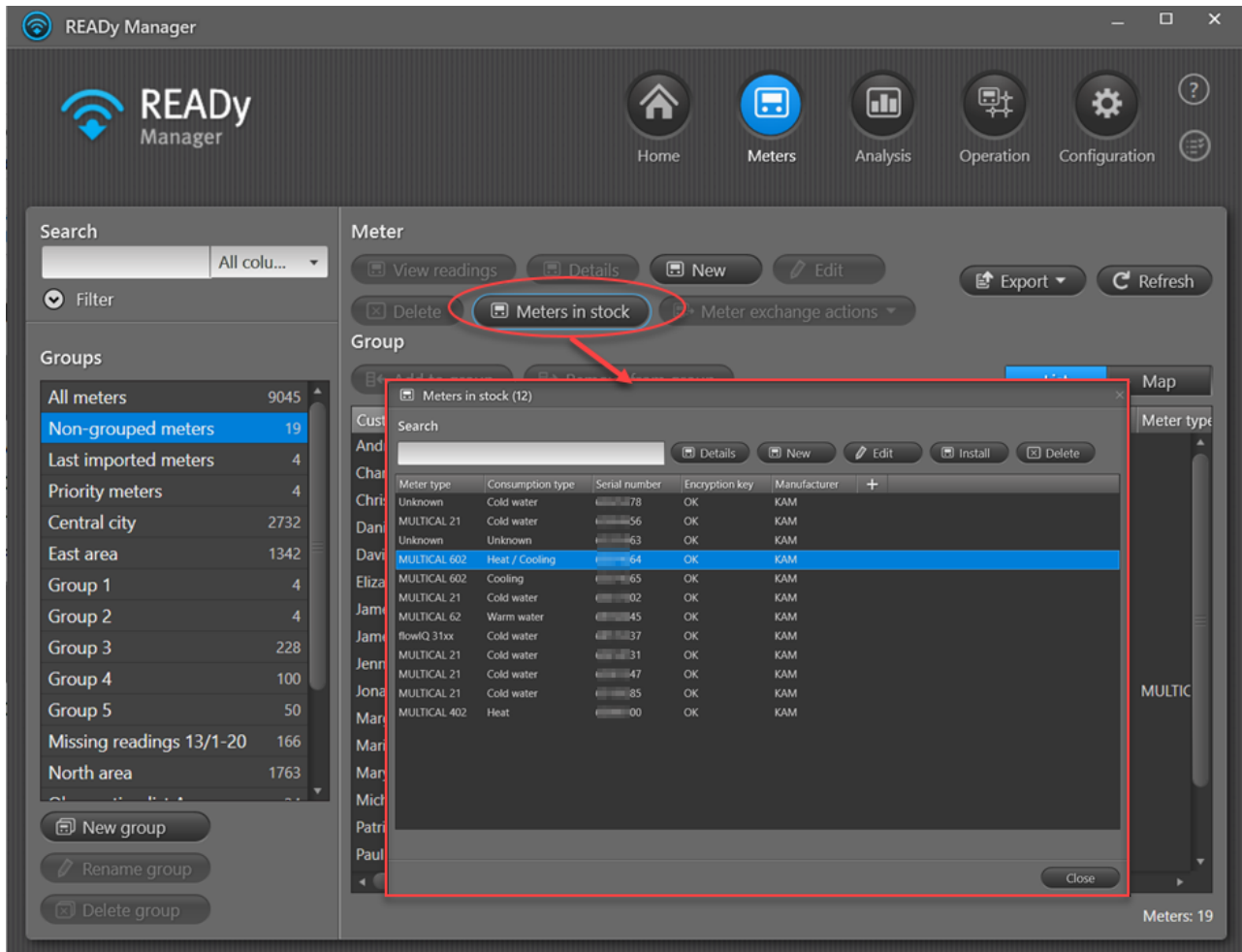
## Where to find meters you import

Meters you import are automatically added either directly to the [Meters](#) view (i.e. meters in use) or to the [Meters in stock](#) view depending on your setting in **Configuration > Import devices > Meter import destination**:



Meters in stock are not read and do not count as “subscription metering points” meaning that you will not exceed the maximum number of meters in your subscription by having new meters in stock.

You find meters in stock by clicking **Meters**  in the upper-right corner of READY Manager, and then clicking the **Meters in stock** button:




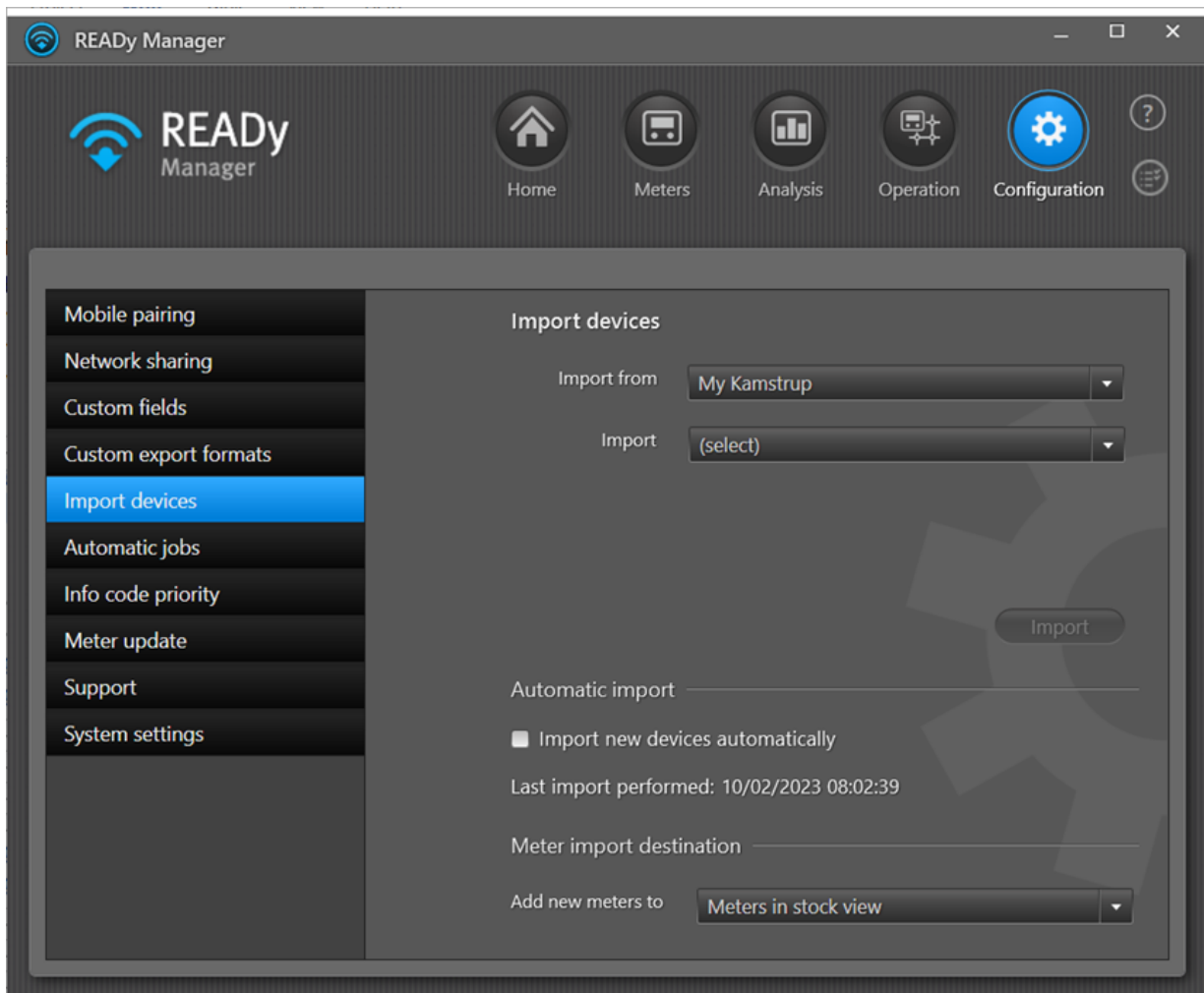
The meters are automatically moved from the list of meters in stock to the **Meters** view when the meter’s serial number is attached to an installation address by [importing a CIS \(Customer Information System\) file into READY](#). You can also [manually move meters in stock to the Meters view](#).

### 4.2.3 Importing existing meters (and collection units)

You can reimport all existing meters in your network from My Kamstrup. If, for some reason or another, the encryption keys for one or more existing meters are missing, you can reimport them this way.

#### How to import all existing meters

1. Click **Configuration**  in the upper-right corner of READY Manager and then select **Import devices** to the left.



2. In the **Import** field, select "All devices".
3. Click the **Import** button.
4. In the window that appears, enter the system user credentials for My Kamstrup.

For details, see [My Kamstrup system user credentials](#).

5. Click **OK**.

A window will appear when the import has been completed:

Follow Step 6 if desired.


6. If you want to import all new meters automatically in the future, click **Import new devices automatically**.
7. Click **OK**.

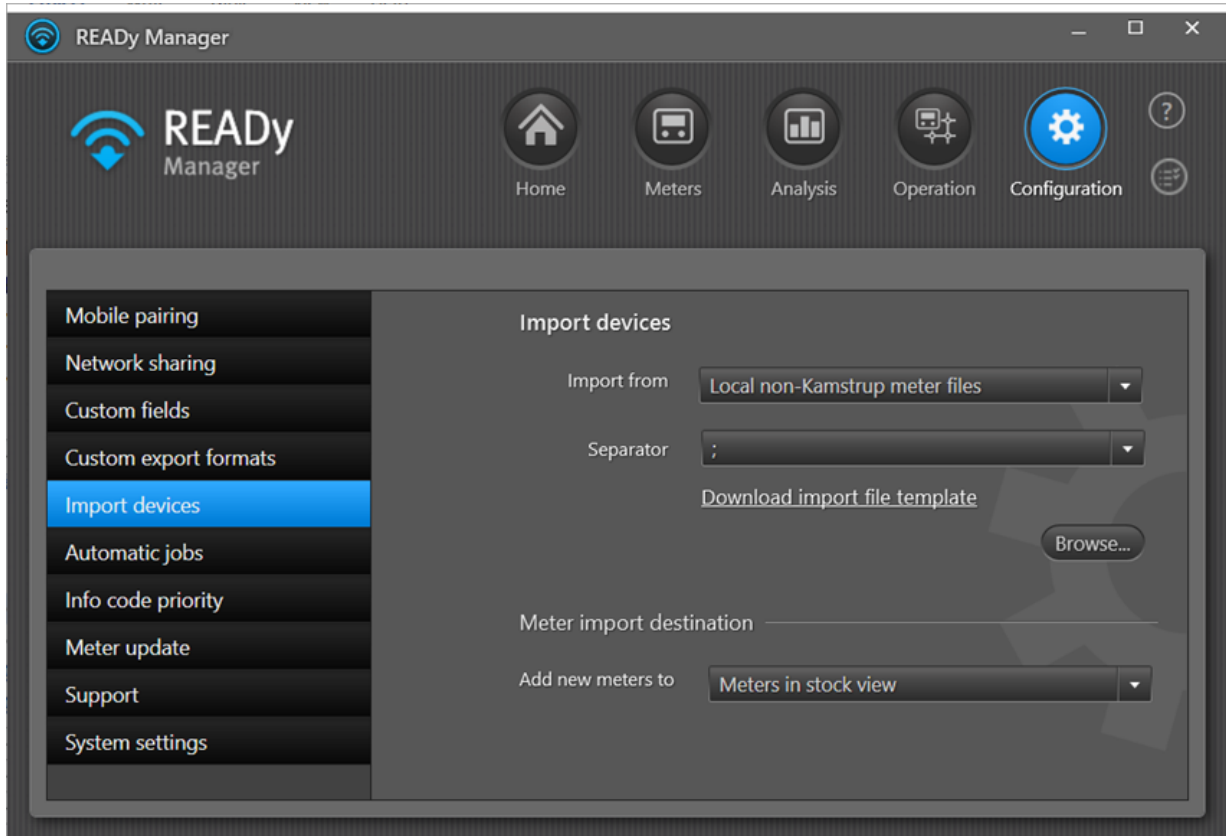
#### 4.2.4 Importing non-Kamstrup meters

Non-Kamstrup meters that apply to the T1 OMS communication standard can be read via READY App. Information about these meters can be imported into READY Manager by following the procedure below:

**Note** Room sensors are also imported as non-Kamstrup meters.

For import of non-Kamstrup wired M-Bus meter, click [here](#).

1. Click **Configuration**  in the upper-right corner of READy Manager and then select **Import devices** to the left.



2. In the **Import from** field, select **Local non-Kamstrup meter files**.
3. In the **Separator** field, select the character used to separate import values.
4. If desired, download a file template for the non-Kamstrup meter information you want to import by clicking **Download import file template**.

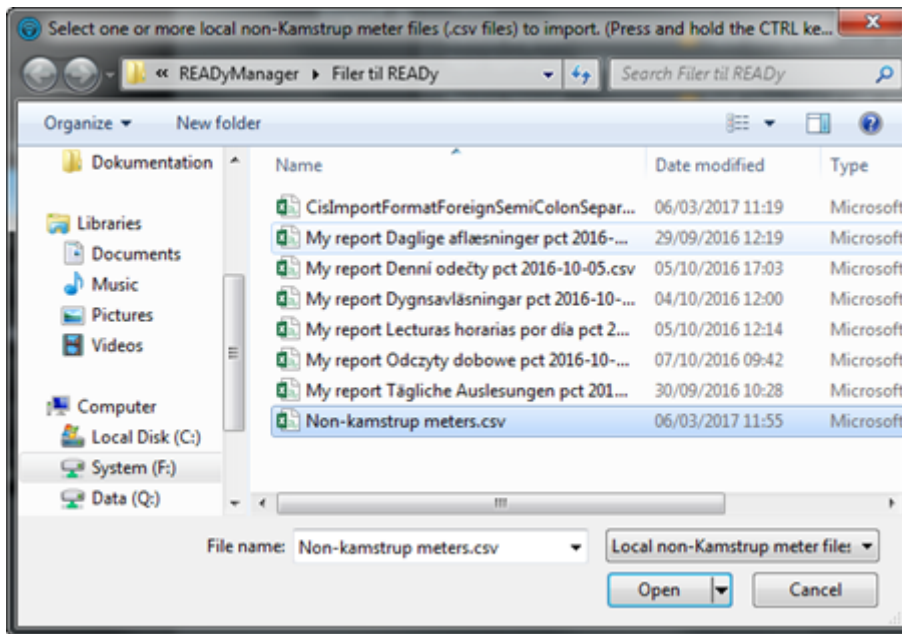
The file must be in csv format structured in the following way (where ";" is the separator selected in Step 3):


Manufacturer;Serial number;Encryption key;Meter type

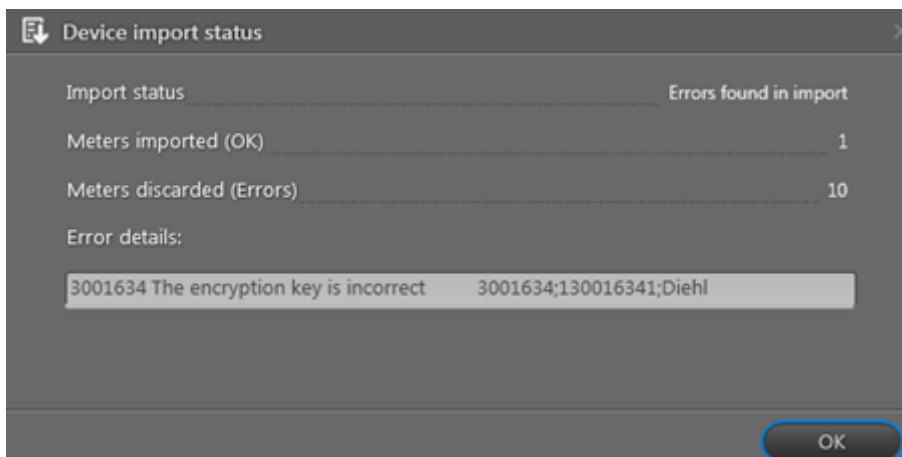
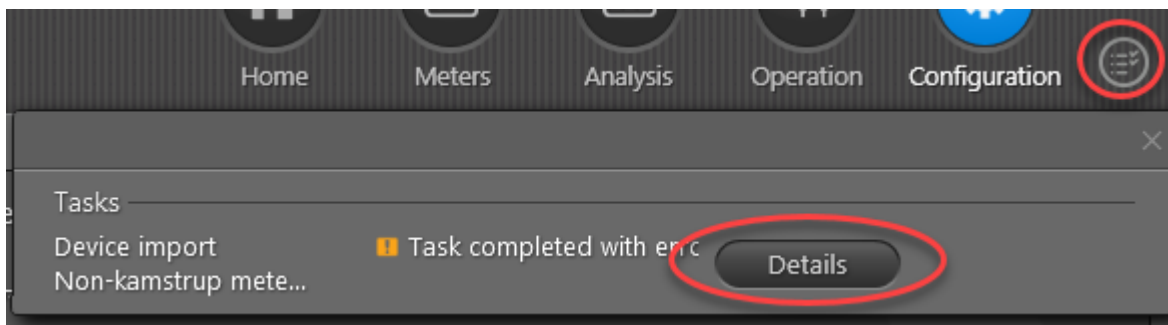
For example:

MEH;123457;ABCDEFGHIJKLMN;Water
WEH;123456;BCDEFGHIJKLMNO;Heat

5. Click **Browse** to browse for and select the meter information file(s) you want to import. Click **Open**.

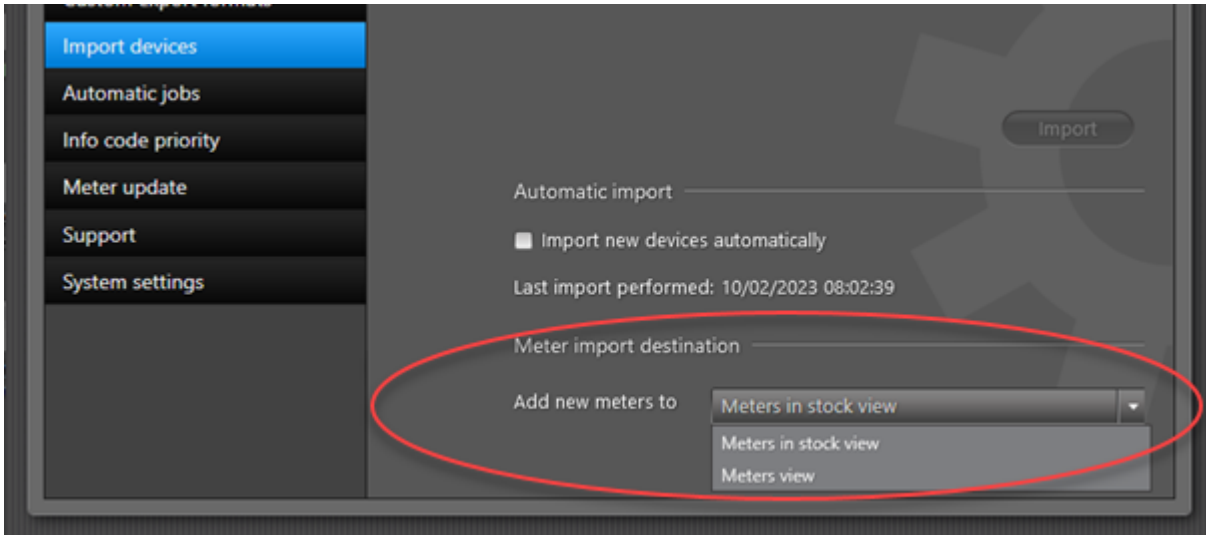


- To see the result of your import, click  in the upper right corner of the main window to open the task list, and click the **Details** button next to the import task:



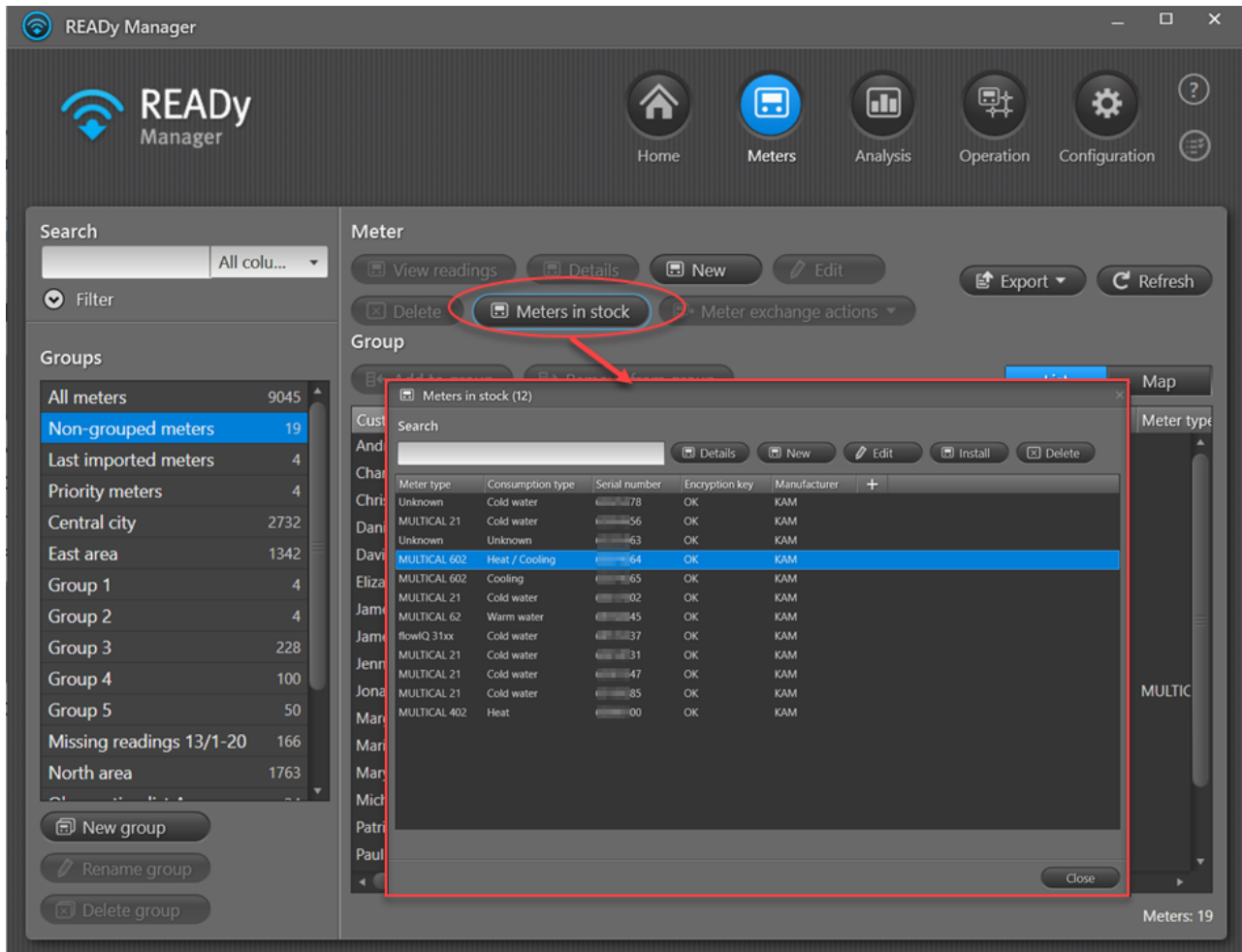
## Where to find meters you import

Meters you import are automatically added either directly to the [Meters](#) view (i.e. meters in use) or to the [Meters in stock](#) view depending on your setting in **Configuration > Import devices > Meter import destination**:



Meters in stock are not read and do not count as “subscription metering points” meaning that you will not exceed the maximum number of meters in your subscription by having new meters in stock.

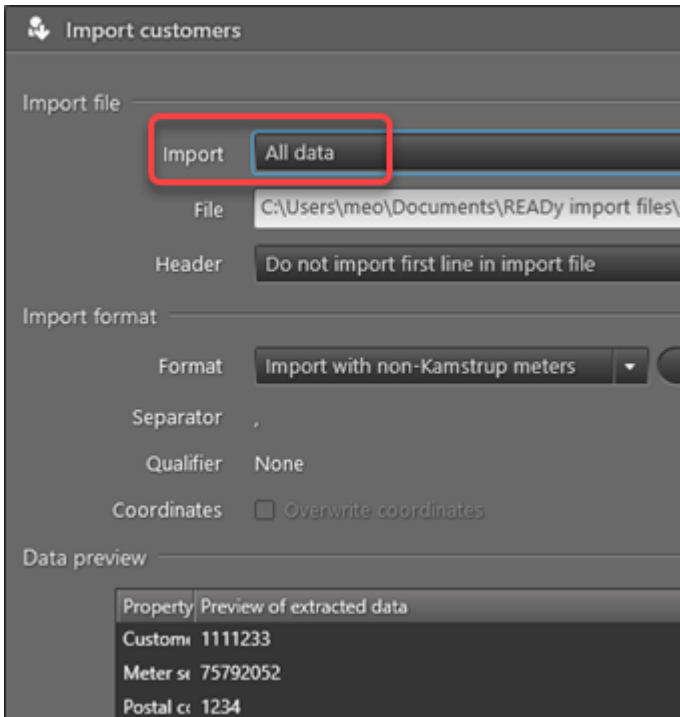
You find meters in stock by clicking **Meters**  in the upper-right corner of READY Manager, and then clicking the **Meters in stock** button:



The meters are automatically moved from the list of meters in stock to the **Meters** view when the meter’s serial number is attached to an installation address by [importing a CIS \(Customer Information System\) file into READY](#). You can also [manually move meters in stock to the Meters view](#).

#### 4.2.4.1 Importing non-Kamstrup wired M-Bus meters

If your non-Kamstrup meters are going to be read in a wired M-Bus network (meaning they have no encryption keys), you can import them via [customer import](#) (by including their serial numbers in the import file and making sure to select "All data" in the **Import** field):



Alternatively, you can create them manually in READY. For details, see "[Creating a new meter/customer](#)".

### 4.3 Adding customer information

If you have a customer information system (CIS), customer information is normally imported into READY Manager via a file from this system. However, if this is not possible, customer information can also be entered directly into READY Manager.

#### What do you want to do?

- [Import customer data from a customer information system](#)
- [Enter customer data manually](#)

#### 4.3.1 Importing customer data from a customer information system

Customer information can be imported into READY Manager via a file from a customer information system. The import file can either be in one of the predefined formats delivered by Kamstrup, or you can define your own import format by mapping the customer values of your import file to the customer values of READY Manager.

Import formats that you define can be saved and will be included in the list of predefined formats.

You can either start the import manually when you want, or set up READY Manager to automatically import customer data at regular intervals.

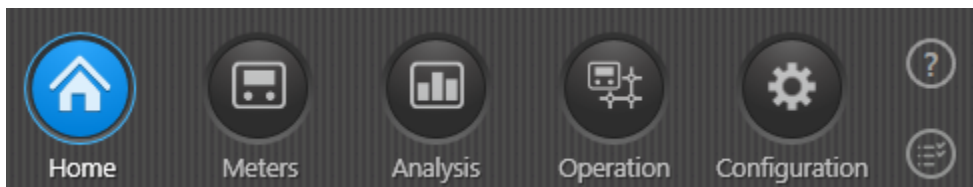
### What do you want to do?

- [Manually import customer data](#)
- [Automatically import customer data](#)
- [Create or edit import formats](#)
- [Share an import format](#)
- [Delete an import format](#)

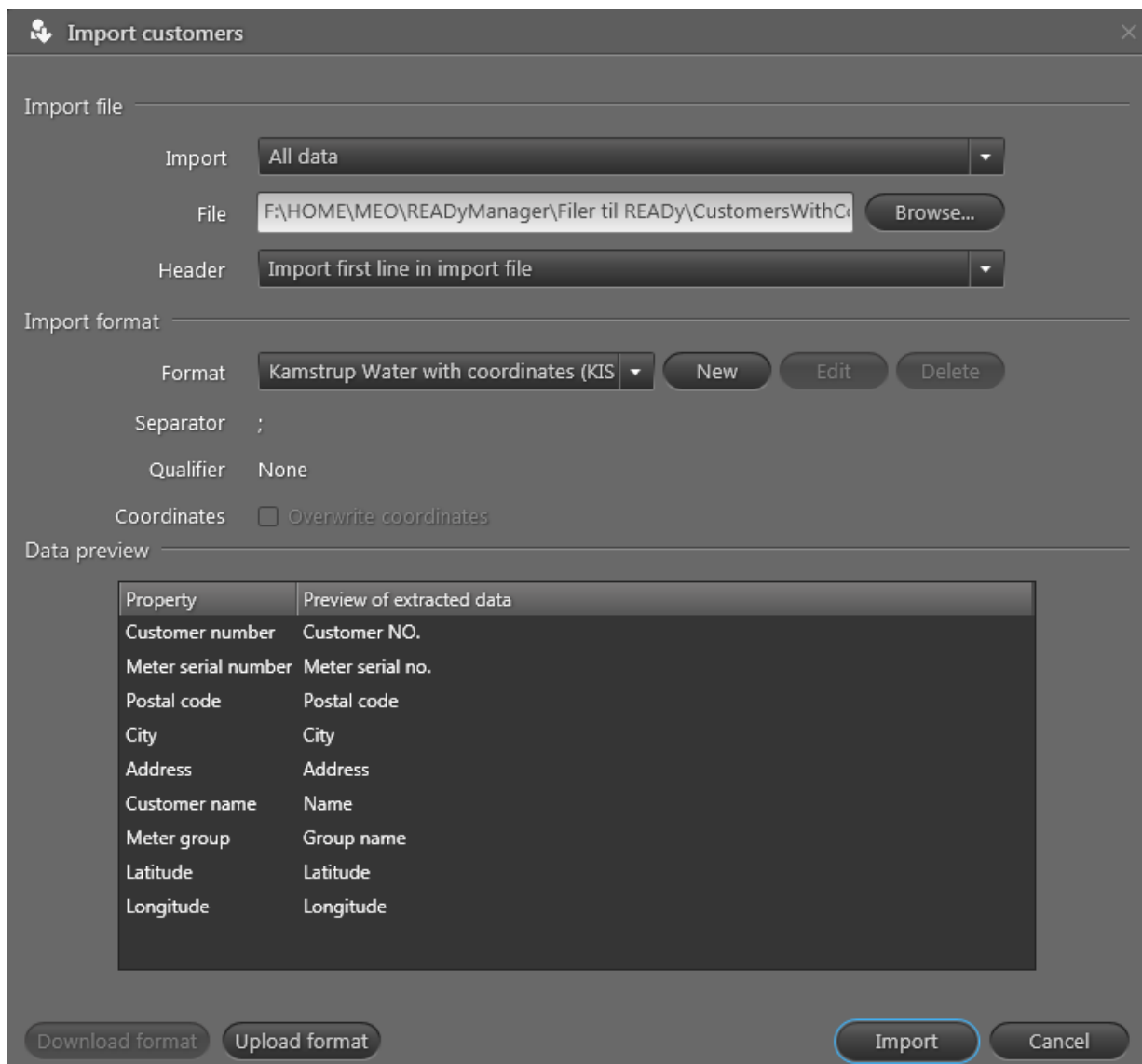
#### 4.3.1.1 Manually importing customer data

Use the following procedure to import customer data into READY Manager using one of the predefined formats delivered by Kamstrup or a format that you have previously defined in READY Manager (see also [Creating and editing import formats](#)):

1. Click  in the upper-right corner of READY Manager to open the **Home** view.



2. Click **Import customers**.



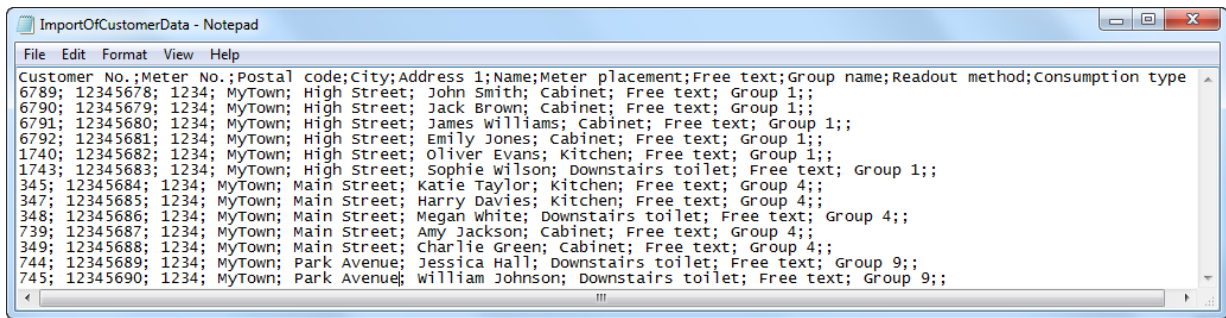
3. In the **Import** field, select "All data" to import all customer information or "Only data for meters with encryption keys" to import only customer information for meters whose encryption keys have already been imported.

For details about importing encryption keys, see [Importing meter information](#).

4. Click **Browse** next to the **File** field to browse for and select the file with your customer information. Click **Open**.
5. In the **Header** field, select "Import first line in import file" if your file has no header line or "Do not import first line in import file" if your file has a header line.
6. In the **Format** field, select the format of your customer file.

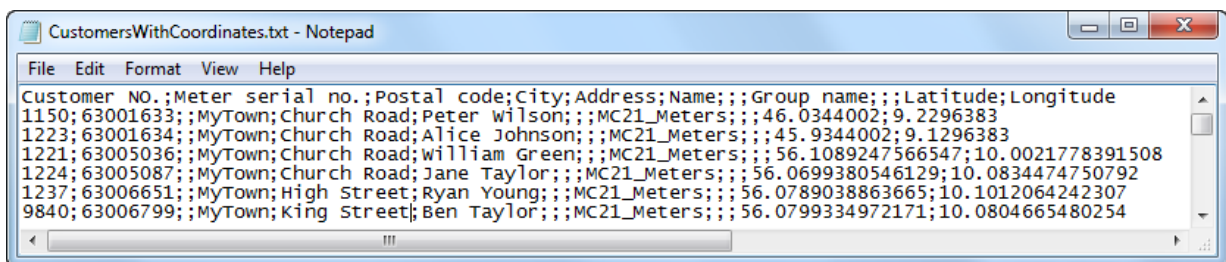
For example, if you select "Kamstrup Water" the file must be in this format:

Customer no.;Meter serial no.;Postal code;City;Address;Name;;;Group name;;



If you select "Kamstrup Water with coordinates" the file must be in this format:

Customer no.;Meter serial no.;Postal code;City;Address;Name;;;Group name;;;Latitude WGS84 format;Longitude WGS84 format



7. Select or clear the selection of **Overwrite coordinates**, depending on whether or not you want to overwrite the map coordinates of a customer in READY Manager with the map coordinates of the same customer in your import file.

This means that if you select **Overwrite coordinates**, and the map coordinates of customer A are missing in your import file, the map coordinates fields of customer A in READY Manager will be empty after the import.


8. Click **Download format** to share the import format with another user, or click **Upload format** to upload a format you want to use for importing customers.
9. Click **Import** to add the import task to your task list.

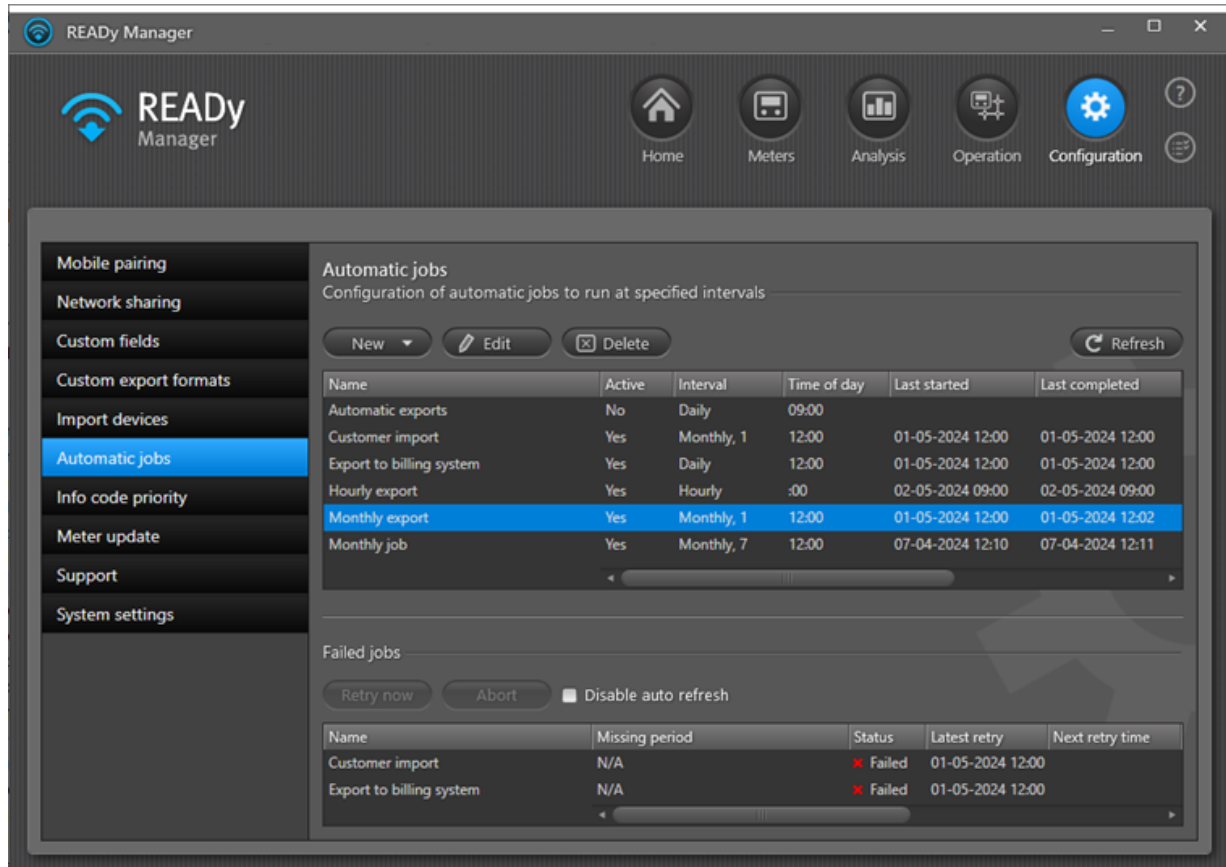
Go to the task list to see the result of your import. For details, see [Task list](#).

**Meters discarded (Errors)** appears if formatting errors in one or more rows of data occur in the import file. **Meters ignored (no encryption key)** appears if "Only data for meters with encryption keys" was selected in Step 3, and one or more rows of customer data are ignored because encryption keys for the meter are not yet imported.

### 4.3.1.2 Automatically importing customer data

Use the following procedure to automatically import customer data at regular intervals:

1. Click **Configuration**  in the upper-right corner of READY Manager. Click **Automatic jobs**:



2. Click **New > Customer import**.

3. In **Name**, enter a name for the automatic import:

Customer import

Name

Job schedule

Interval Monthly

Time of day 12 : 00

Day of month 1

Active

Import

Format DFF

Header Import first line in import file

Import Only data for meters with encryption keys

Separator ;

Qualifier None

Coordinates  Overwrite coordinates

Source

Location FTPS server

Server ftps://

User name

Password

File options Specific file

File

Allow self-signed server certificate

Remove file after import

Run job now Save Close

4. In **Interval**, select the time interval between each import (hourly, daily, weekly or monthly).
- For hourly import, select the time each hour at which you want to import data.
  - For daily import, select the time of the day at which you want to import data.

- For weekly and monthly import, select the time of day and day of week/month on which you want to import data.

5. Select **Active** to activate the import to take place at the specified time.

If the check box is cleared, the import is deactivated and will not take place.

6. In **Format**, select the import format you want to use.

7. In **Header**, select "Import first line in import file" if your file has no header line or "Do not import first line in import file" if your file has a header line.

8. In **Import**, select "All data" to import all customer information or "Only data for meters with encryption keys" to import only customer information for meters whose encryption keys have already been imported.

For details about importing encryption keys, see [Importing meter information](#).

9. If your import format includes map coordinates, select or clear the selection of **Overwrite coordinates**.

If you select **Overwrite coordinates**, and one or more of the customers in your import file already exist in READY Manager, the map coordinates in READY Manager are overwritten with those in the import file (and if coordinates are missing in the import file, existing coordinates are still overwritten, i.e. they are deleted in READY Manager).

10. Follow Step a or b to select the location of the import file.

a. To import data from an FTP server

- In **Location**, select "FTPS server" or "SFTP server".
- In **Server**, enter the name of the FTP server.
- In **User name**, enter the user name for the FTP server.
- In **Password**, enter the password for the FTP server.
- In **File options**, select which file you want to import:
  - To import a specific file, select "Specific file" and enter the path to the file in the **File** field.
  - To import all files, select "All files". If you enter something in **File prefix**, all files starting with the entered string are imported. If you enter a file extension in **File suffix**, e.g. ".txt", all files with this extension are imported.
  - To import the most recently added/changed file, select "Most recent". If you enter something in **File prefix**, the most recently added/changed file starting with the entered string is imported. If you enter a file extension in **File suffix**, the most recently added/changed file with this extension is imported.
- Select if you want to **Allow self-signed server certificate**.

b. To import data from a folder on your computer (local installation of READY Manager only)

- In **Location**, select "Folder on PC".
- In **File options**, select which file you want to import:
  - To import a specific file, select "Specific file" and click **Browse** to go to the folder and select the file. Click **Open**.

- To import all files in the folder, select "All files". If you enter something in **File prefix**, all files starting with the entered string are imported. If you enter a file extension in **File suffix**, e.g. ".txt", all files with this extension are imported.
- To import the most recently added/changed file in the folder, select "Most recent". If you enter something in **File prefix**, the most recently added/changed file starting with the entered string is imported. If you enter a file extension in **File suffix**, the most recently added/changed file with this extension is imported.

11. Select **Remove file after import** if you want to delete the import file after a successful import.

12. Select **Run job now** if you want to import customer data right away.

If the check box is cleared, the first import will take place at the time selected in Step 4.

13. Click **Save** to save the automatic import.

The import job now appears in the job list at the top of the **Automatic jobs** view. Import jobs that fail are added to the list of failed jobs at the bottom of the **Automatic jobs** view. Retries are run automatically. However, you can also select a failed job in the list and click the **Retry now** button above the list to run a manual retry. If a retry succeeds, the job automatically disappears from the **Failed jobs** list.

**Note** Failed jobs are deleted after 60 days.

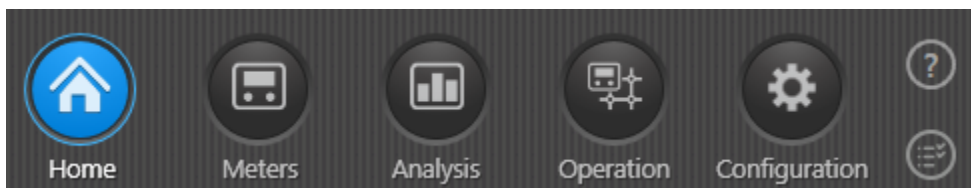
**Note** You can sort and change the sequence of the information in the list of automatic imports and exports. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#) and [Sorting the list of meters/customers](#).

### 4.3.1.3 Creating and editing import formats

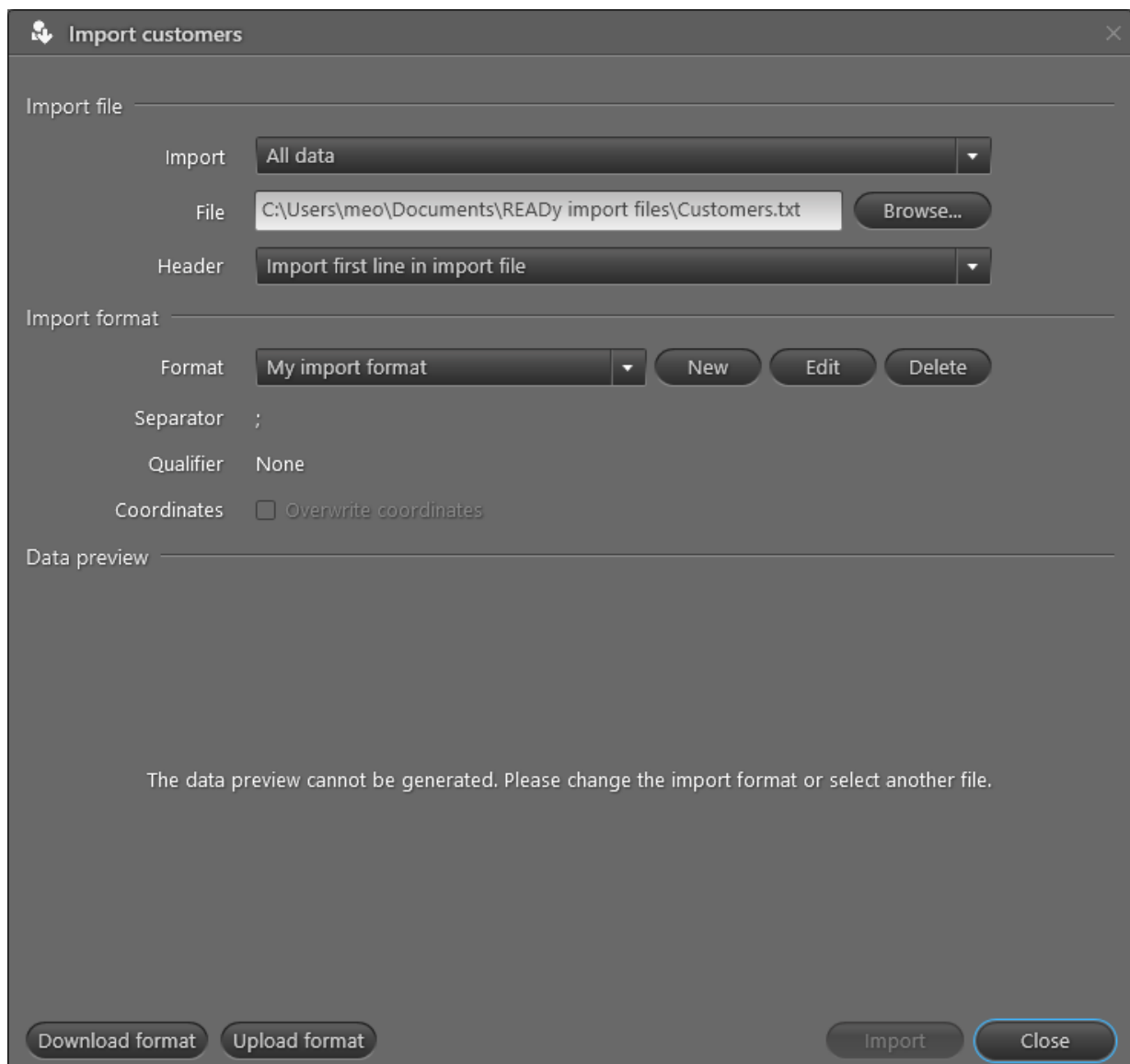
Use the following procedure to create or edit import formats:

**Note** If you want to create a fixed width format, see [Fixed width import formats](#).

1. Click  in the upper-right corner of READY Manager to open the **Home** view.



2. Click **Import customers**.



3. Click **Browse** next to the **File** field to browse for and select the file with customer information for which you want to create or edit an import format. Click **Open**.
4. Click the **New** button next to the **Format** field to create a new format or **Edit** to modify an existing format.

The **New/Edit custom import format** window now appears:

**New custom import format**

Import format

Format name: My customer import format

Separator: , Qualifier: None

Properties

Index	Property	Preview of extracted data
0	Customer number	11001
1	Meter serial number	3001601
2	Ignore	5
3	City	MyTown
4	Street name	New Road
5	Customer name	David Williams
6	Ignore	817

Create custom field

Save format Cancel

5. In the **Format name** field, enter the name you want to use to identify this import format among other import formats.

6. In **Separator**, select the character used to separate import values.

In the **Properties** area, values from your import file are now displayed in the **Preview of extracted data** column.

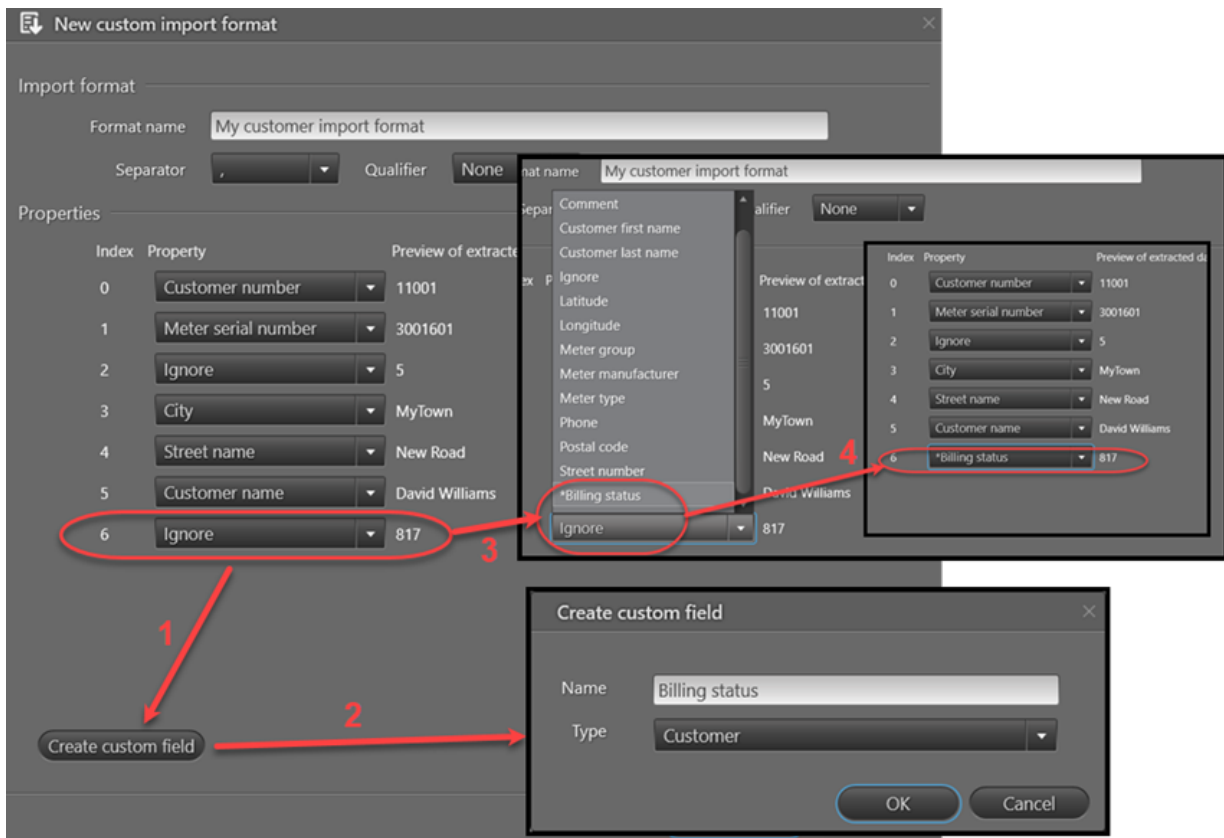
7. In **Qualifier**, select " or ' if the separator character you selected in Step 6 also appears within imported values.

For example, if you select comma (,) as separator in Step 6, and you know that commas may also be used in customer addresses or names (e.g.: Smith, John), you need to select a qualifier to avoid that Smith, John is considered as two separate import values instead of one. The qualifier character you select will surround all imported values.

8. In **Property**, select the customer information that corresponds to the extracted data or select "Ignore" if it is not in the list.

Alternatively, you can add the information that is not in the list to READY Manager by following the steps below:

- Click **Create custom field** (1).
- Enter the name of the information and categorize it as meter information, customer information or installation address information in the **Type** field. Click **OK** (2).
- In **Property**, select the new custom field instead of "Ignore" (3) and (4):



If you want your custom field to be visible in READY Manager, go to **Configuration > Custom fields** and turn on the **Show in READY Manager** check box for the custom field you have created. Otherwise you can just [add the same custom field to your export format](#), and the custom field will be imported to and exported from READY Manager without being visible in READY Manager.

9. Click **Save format**.

Your format has now been created/edited.

10. Follow Step a or b.

- a. To NOT import the customer info of the file selected in Step 3, click **Close**.

OR

- b. To import the customer info of the file selected in Step 3:

- In the **Import** field, select "All data" to import all customer information or "Only data for meters with encryption keys" to import only customer information for meters whose encryption keys have already been imported.

For details about importing encryption keys, see [Importing meter information](#).

- If your format contains map coordinates, select or clear the selection of **Overwrite coordinates**.

If you select **Overwrite coordinates**, and one or more of the customers in your import file already exist in READY Manager, the map coordinates in READY Manager are overwritten with those in the import file (and if coordinates are missing in the import file, existing coordinates are still overwritten, i.e. they are deleted in READY Manager).

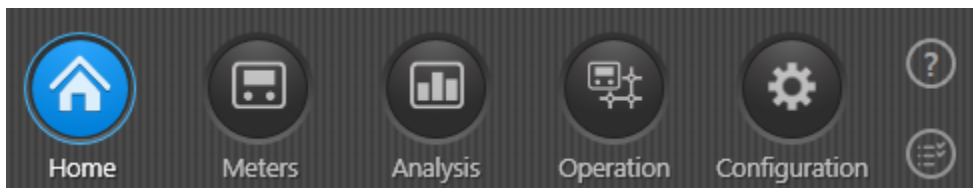
- Click **Import** at the bottom of the window.

#### 4.3.1.3.1 Fixed width import formats

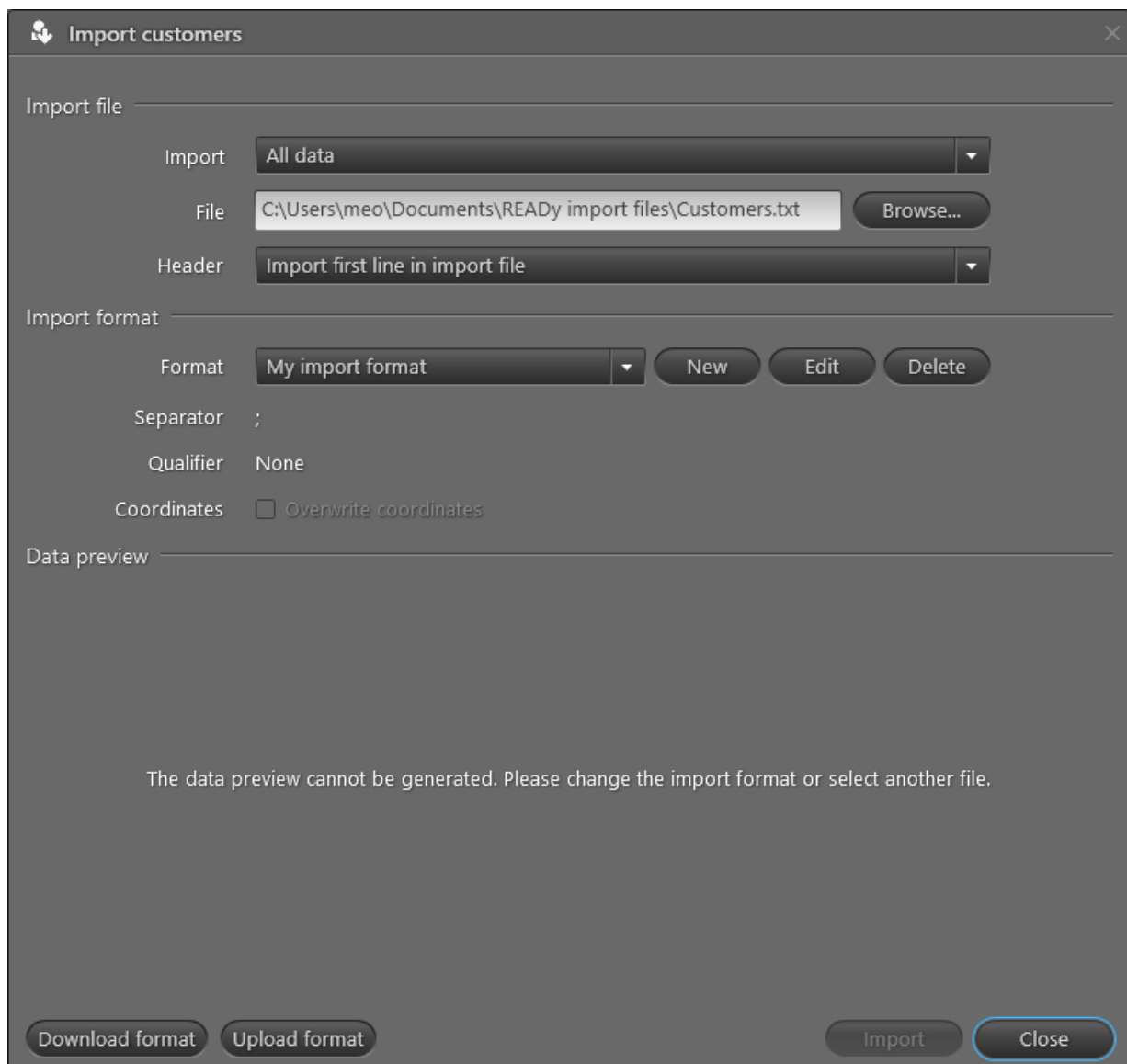
Data in a fixed-width text file is arranged in rows (records) and columns (properties), with one entry per row. Each column (property) has a fixed width, specified in characters, which determines the maximum amount of data it can contain. No separators are used to separate the fields in the file.

Use the following procedure to create or edit fixed width import formats:

1. Click  in the upper-right corner of READY Manager to open the **Home** view.

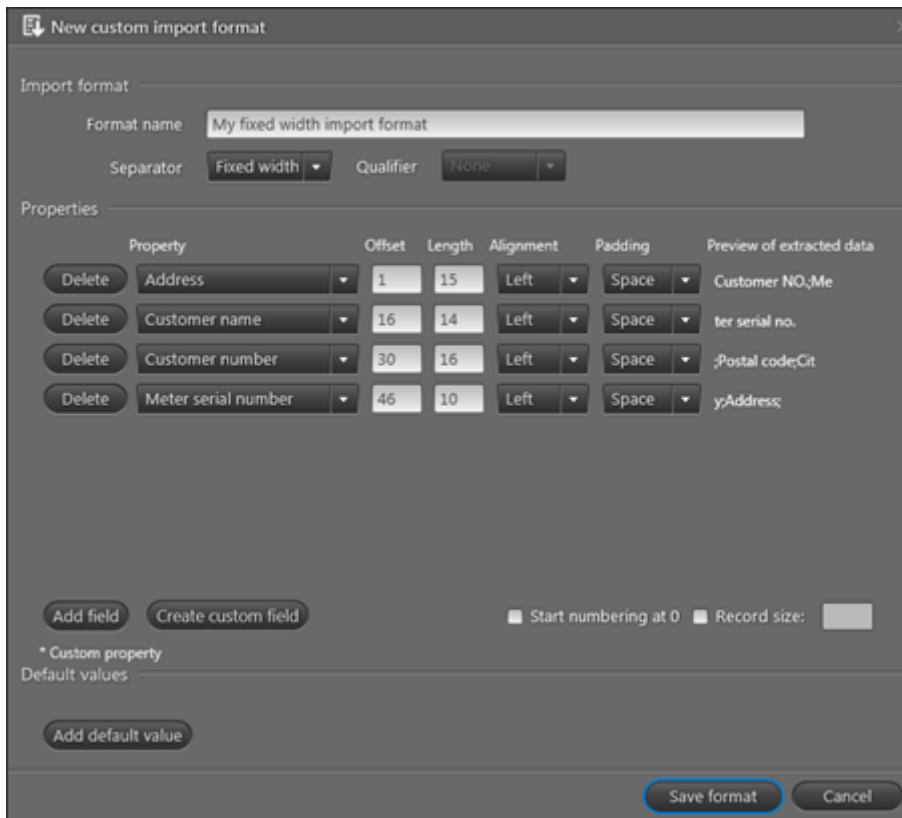


2. Click **Import customers**.



3. Click **Browse** next to the **File** field to browse for and select the file with your customer information. Click **Open**.
4. In the **Header** field, select "Import first line in import file" if your file has no header line or "Do not import first line in import file" if your file has a header line.
5. Click the **New** button next to the **Format** field to create a new format or **Edit** to modify an existing format.

The **New/Edit custom import format** window now appears:



6. In the **Format name** field, enter the name you want to use to identify this import format among other import formats.
7. In **Separator**, select 'Fixed width'.
8. In the **Properties** area, click **Add field** to add a value to your import format.
9. In **Property**, select the customer information in the first column of your import data.
10. In **Length**, enter the number of characters you want to allot to this value (column width)
11. In **Alignment**, select whether the value is left or right aligned within the allotted length, meaning the pad characters occur on the opposite side of the value.
12. In **Padding**, if the value does not use the entire length (number of characters) allotted to it, select whether the unused space is padded with zeros (select "Zero" in this field) or with empty spaces (select "Space" in this field).
13. Repeat Steps 9 to 13 for each customer information you want to import.
14. If desired, you can add custom information to your import format by clicking **Create custom field**.

If you want your custom field to be visible in READY Manager, go to **Configuration > Custom fields** and turn on the [Show in READY Manager](#) check box for the custom field you have created. Otherwise you can just [add the same custom field to your export format](#), and the custom field will be imported to and exported from READY Manager without being visible in READY Manager.

15. If desired, you can add one or more default values to your import format by clicking **Add default value**.

For example, if your import data does not contain the ZIP code, you can create a default value with the ZIP code. It will then be added to all customer data that you import using this format.

16. If you want to start your offset numbering sequence at 0 instead of 1, select the **Start numbering at 0** check box below the list.
17. If you want your import format to import all data in a single row, i.e. all records are imported as one long line of data, enter a fixed total length for each record, in characters, in the **Record size** check box.
18. Click **Save format**.

Your format has now been created/edited.

19. Follow Step a or b.
  - a. To NOT import the customer info in the file selected in Step 3, click **Close**.

OR

- b. To import the file with customer info selected in Step 3:

- In the **Import** field, select "All data" to import all customer information or "Only data for meters with encryption keys" to import only customer information for meters whose encryption keys have already been imported.

For details about importing encryption keys, see [Importing meter information](#).

- If your format contains map coordinates, select or clear the selection of **Overwrite coordinates**.

If you select **Overwrite coordinates**, and one or more of the customers in your import file already exist in READY Manager, the map coordinates in READY Manager are overwritten with those in the import file (and if coordinates are missing in the import file, existing coordinates are still overwritten, i.e. they are deleted in READY Manager).

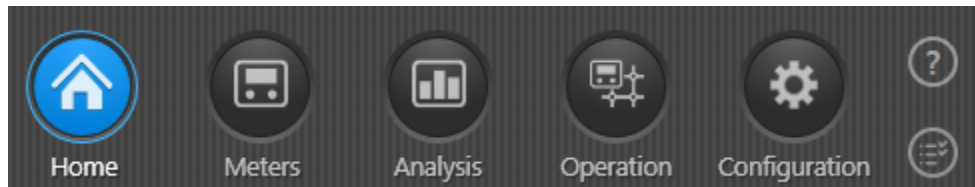
- Click **Import** at the bottom of the window.

### 4.3.1.3.2 Sharing import formats

You can share an import format that you have created with other users.

#### How to share an import format with another user

1. Click  in the upper-right corner of READY Manager to open the **Home** view.




2. Click **Import customers**.

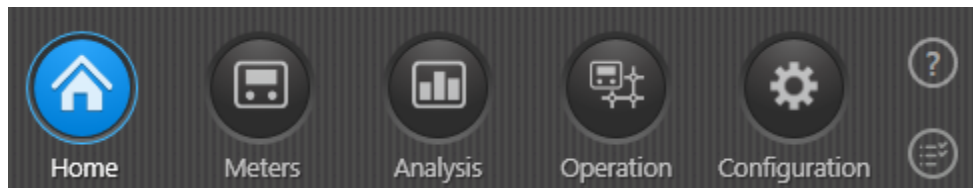
Property	Preview of extracted data
Customer number	Customer NO.
Meter serial number	Meter serial no.
Postal code	Postal code
City	City
Address	Address
Customer name	Name
Meter group	Group name
Latitude	Latitude
Longitude	Longitude

3. In **Format**, select the format you want to share.

4. Click **Download format**.
5. Browse for and select the folder where you want to save the format file. Click **Save**.
6. Deliver the format to the other user, e.g. by sending an email with the format file.

### How to import an import format someone has shared with you


1. Click  in the upper-right corner of READY Manager to open the **Home** view.

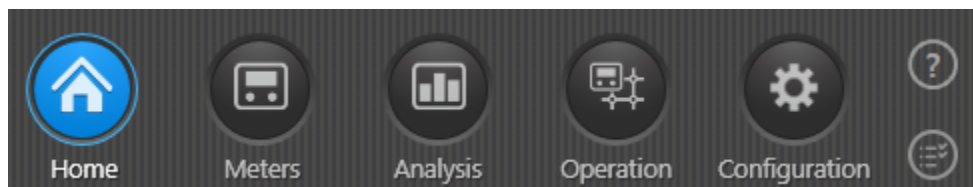


2. Click **Import customers**.
3. Click the **Upload format** button.
4. Browse for and select the format file you have received. Click **Open**.

#### 4.3.1.4 Deleting import formats

Use the following procedure to delete customer import formats:

1. Click  in the upper-right corner of READY Manager to open the **Home** view.



2. Click **Import customers**.

Import customers

Import file

Import: All data

File: F:\HOME\MEO\READYManager\Filer til READY\CustomersWithoi Browse...

Header: Do not import first line in import file

Import format

Format: My import format New Edit Delete

Separator: ;

Coordinates:  Overwrite coordinates

Data preview

Property	Preview of extracted data
Customer number	1150
Meter serial number	63001633
Postal code	1234
City	MyTown
Street name	Church Road
Customer first name	Peter Wilson
Meter group	MC21_Meters

Download format Upload format Import Cancel

- In the **Format** field, select the format you want to delete.  
It is not possible to delete predefined formats, i.e. "Kamstrup Water" formats.
- Click the **Delete** button next to the **Format** field.
- Click **Yes** to confirm the deletion.

Delete format

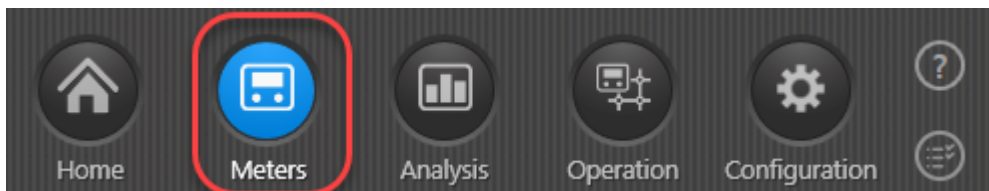
Are you sure you want to delete the "Test format" format?

Yes No

### 4.3.2 Entering customer information manually

Use the following procedure to manually enter customer information into READY Manager:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, click the meter whose customer information you want to enter.
3. Click the **Edit** button above the list.



**Edit meter**

Installation

Current Alternatives

Address

ZIP code

City

GPS longitude

GPS latitude  Search for address

Comment

Customer

Name

Customer number

Phone no.

Meter

Meter type

Consumption type

Manufacturer

Serial number

Save Close

- Fill in the desired customer details (name, address, customer number, phone number, meter type and meter serial number).

**Note** Once reading data have been received for a meter, the serial number can no longer be changed. Likewise, the manufacturer ID is automatically inserted or overwritten and can no longer be changed.

- Click **Save**.

#### 4.4 Organizing meters in reading groups

Meters can be organized in groups. Typically you would group meters according to geographical areas. You can create as many meter groups as you like, and a meter can be part of more than one group, if required.

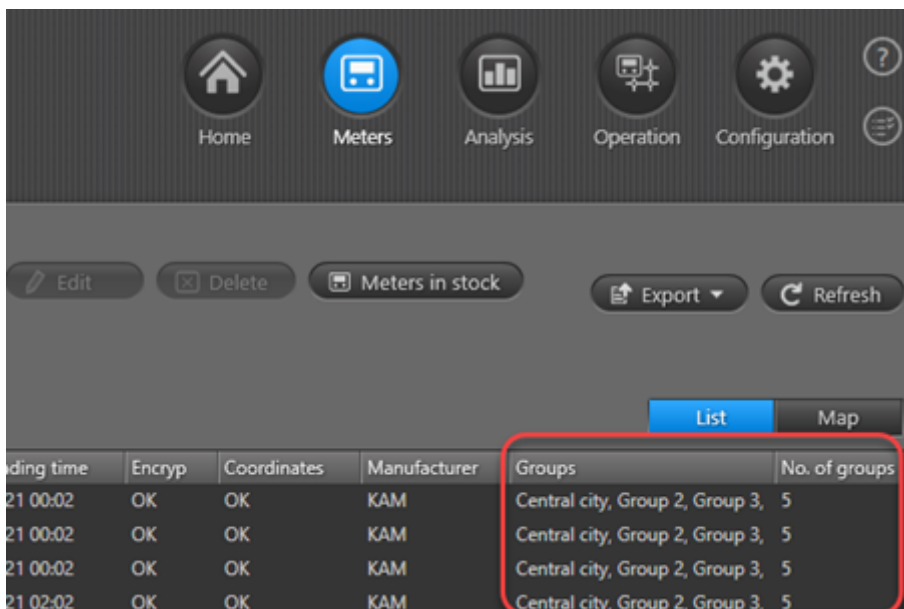
**Note** This step is optional. You do not need to group meters.

#### What do you want to do?

- [Create a new group](#)
- [Add meter\(s\) to a group](#)
- [Remove meter\(s\) from one or more groups](#)
- [Rename a group](#)
- [Delete a group](#)

If you add the **Groups** and **No. of groups** columns to the **Meters** view, you can see:

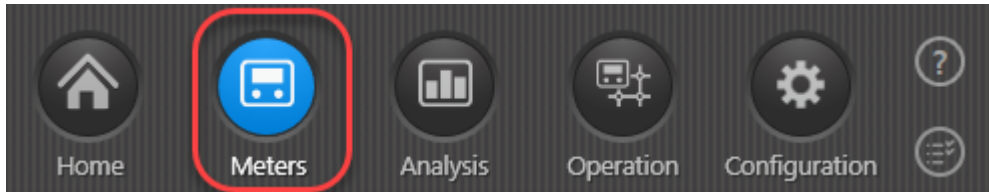
- Which groups the meter is part of.
- How many groups the meter is part of.



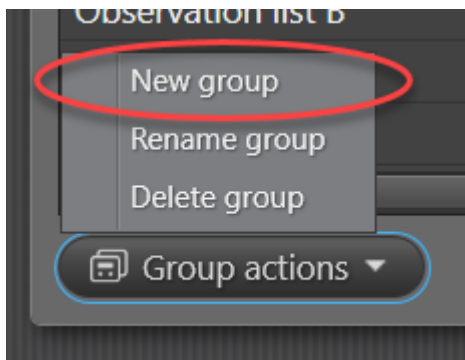
### 4.4.1 Creating groups

Use the following procedure to create a new group:

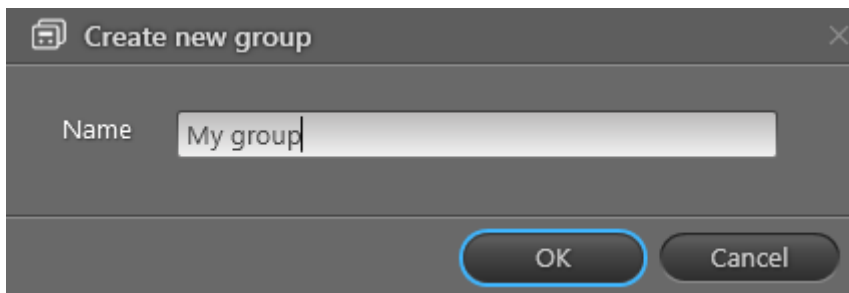
1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



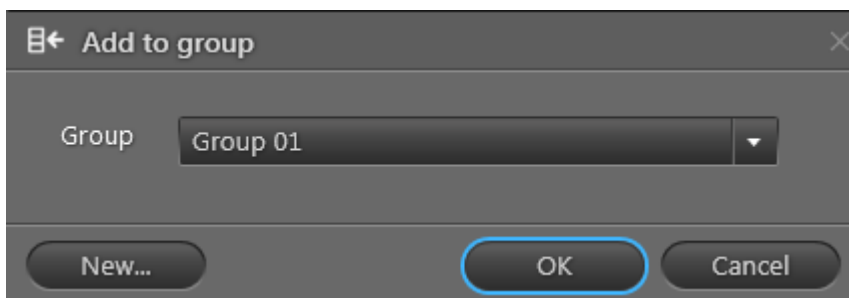
2. Click the **Group actions** button in the bottom-left corner of the window, and select **New group**.



3. Write the name of the group. Click **OK**.



4. In the list of meters, select the meter(s) you want to add to a group.
5. Click the **Meter group actions** button above the list, and select **Add to group**.
6. In the window that appears, select the group name you specified in Step 3.

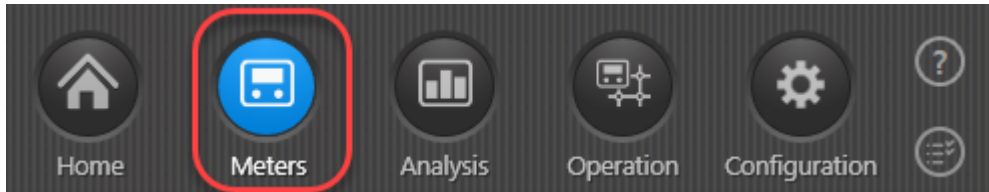


7. Click **OK**.

### 4.4.2 Adding meters to groups

Use the following procedure to add a meter to a group:

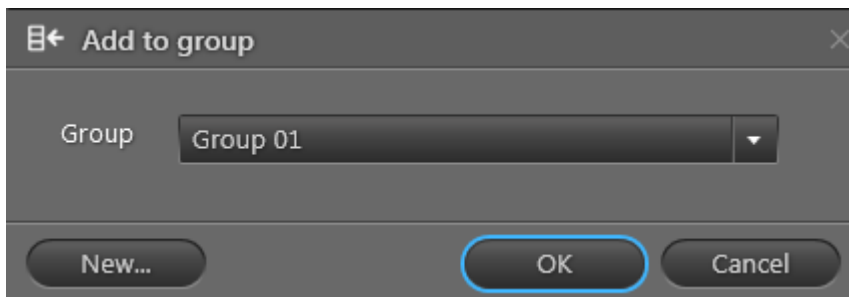
1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, select the meter(s) you want to add to one or more groups.
3. Follow step a, b or c.
  - a. Add to single group.

- Click the **Meter group actions** button above the list, and select **Add to group**.
- In the window that appears, select the group you want to add the meter(s) to.

If you click the **New** button, you can create a new group and add the meter(s) to this group.

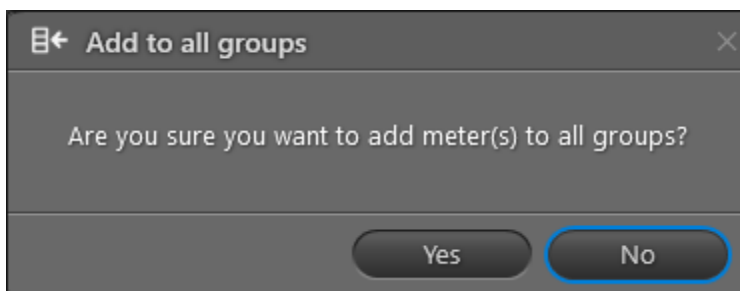


- Click **OK**.

OR

- b. Add to all groups

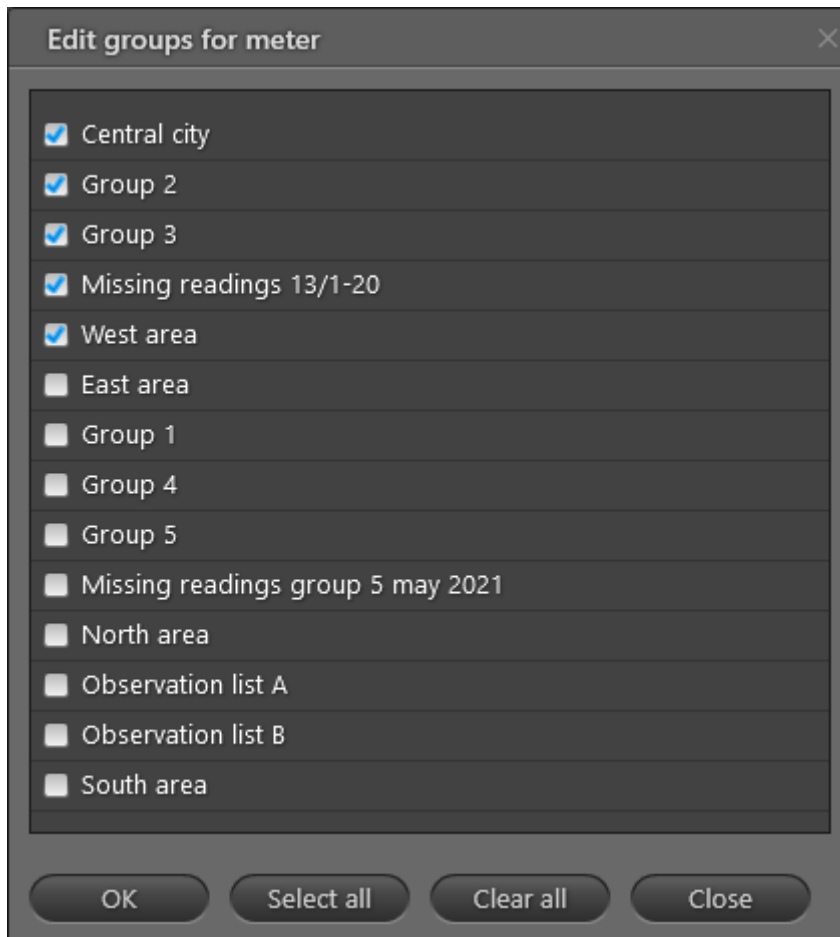
- Click the **Meter group actions** button above the list, and select **Add to all groups**.
- In the window that appears, click **Yes** to confirm:



OR

c. Add to two or more groups

- Click the **Meter group actions** button above the list, and select **Edit groups for meter**.
- In the window that appears, select the groups you want to add the meter to.

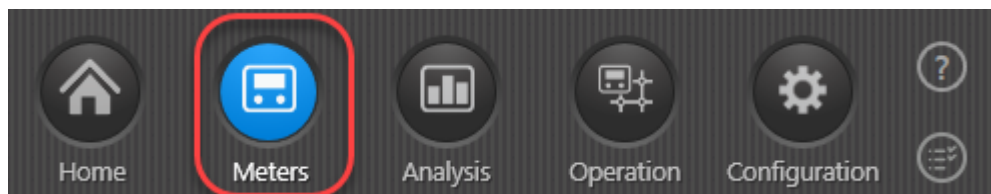


- Click **OK**.

#### 4.4.3 Removing meters from groups

Use the following procedure to remove a meter from a group:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.

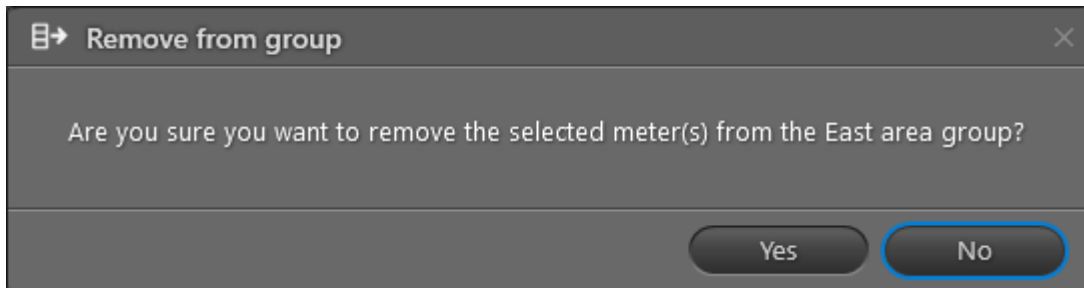


2. In the list of meters, select the meter(s) you want to remove from one or more groups.

3. Follow step a, b or c.

a. Remove from current group.

- Click the **Meter group actions** button above the list, and select **Remove from group**.



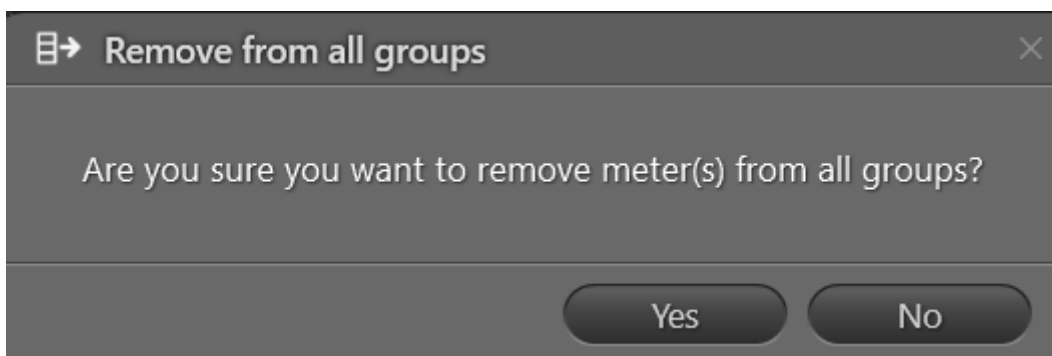
- Click **Yes**.

OR

b. Remove from all groups

**Note** The meter(s) will be removed from all groups and moved to the **Non-grouped meters** group.

- Click the **Meter group actions** button above the list, and select **Remove from all groups**.

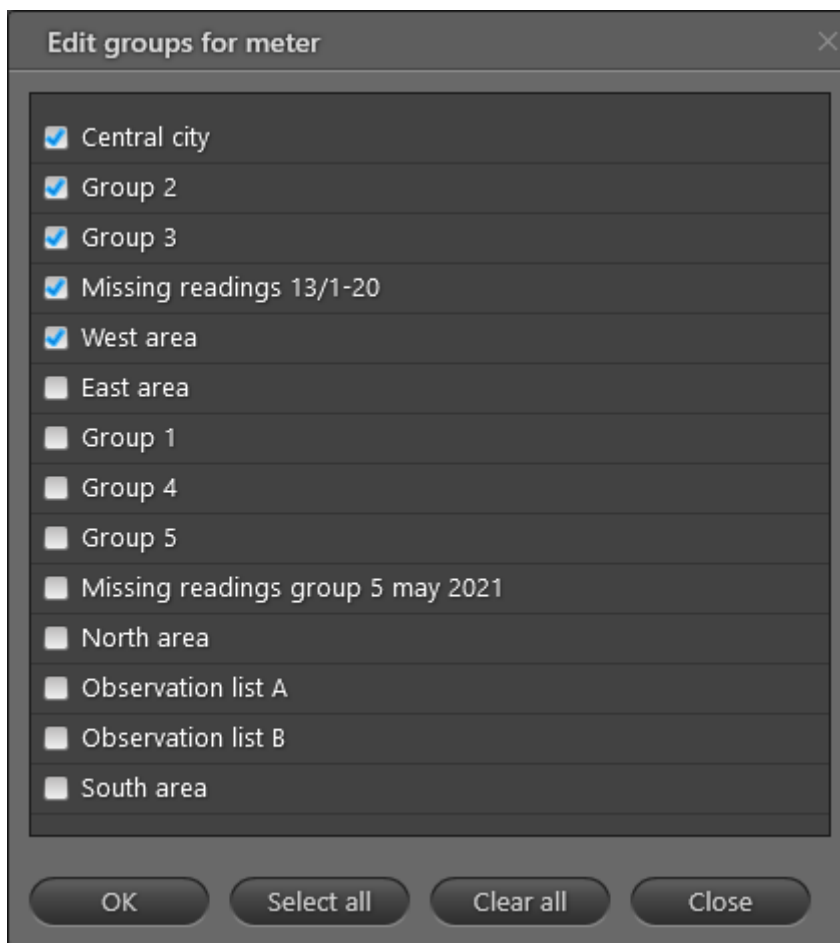


- Click **Yes**.

OR

c. Remove from two or more groups

- Click the **Meter group actions** button above the list, and select **Edit groups for meter**.
- In the window that appears, clear the check boxes of the groups you want to remove the meter from.

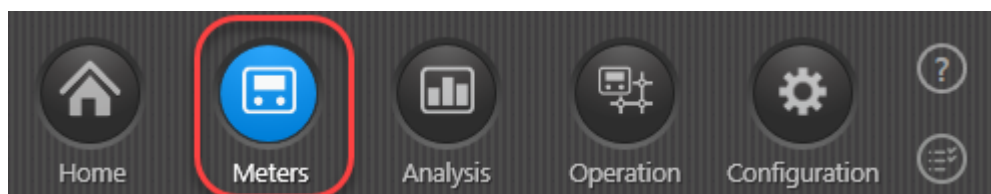


- Click **OK**.

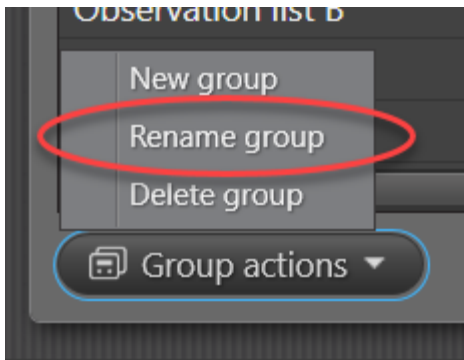
#### 4.4.4 Renaming groups

Use the following procedure to rename a group:

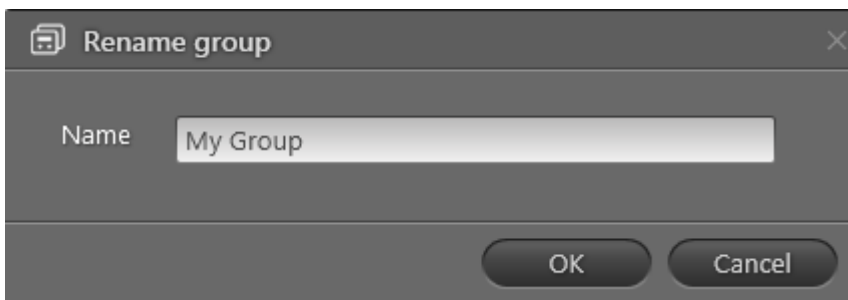
1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the **Groups** area to the left, select the group you want to rename.
3. Click the **Group actions** button in the bottom-left corner of the window, and select **Rename group**.



4. In the window that appears, enter the new name of the group.



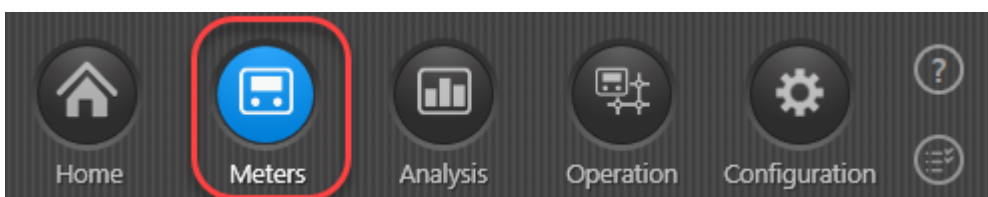
5. Click **OK**.

#### 4.4.5 Deleting groups

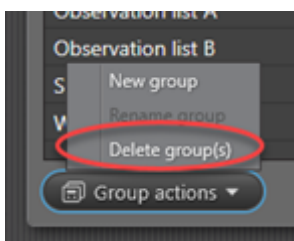
When you delete meter groups, only the group itself is deleted. The meters are not deleted.

Use the following procedure to delete one or more groups:

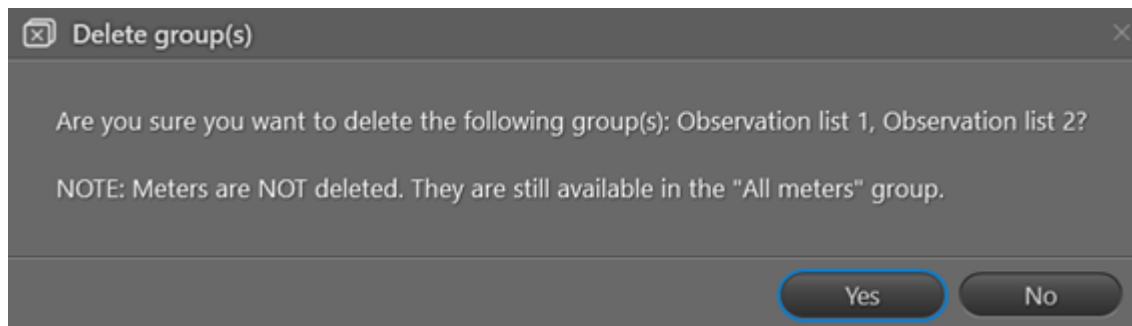
1. Click  in the upper-right corner of READY Manager to open the **Meters** view:



2. In the **Groups** area to the left, select the group(s) you want to delete.
3. Click the **Group actions** button in the bottom-left corner of the window, and select **Delete group(s)**:



4. Click **Yes** to confirm the deletion of the group(s):



## 4.5 Installing READY App


Use the following procedure to install READY App on your smartphone or tablet:

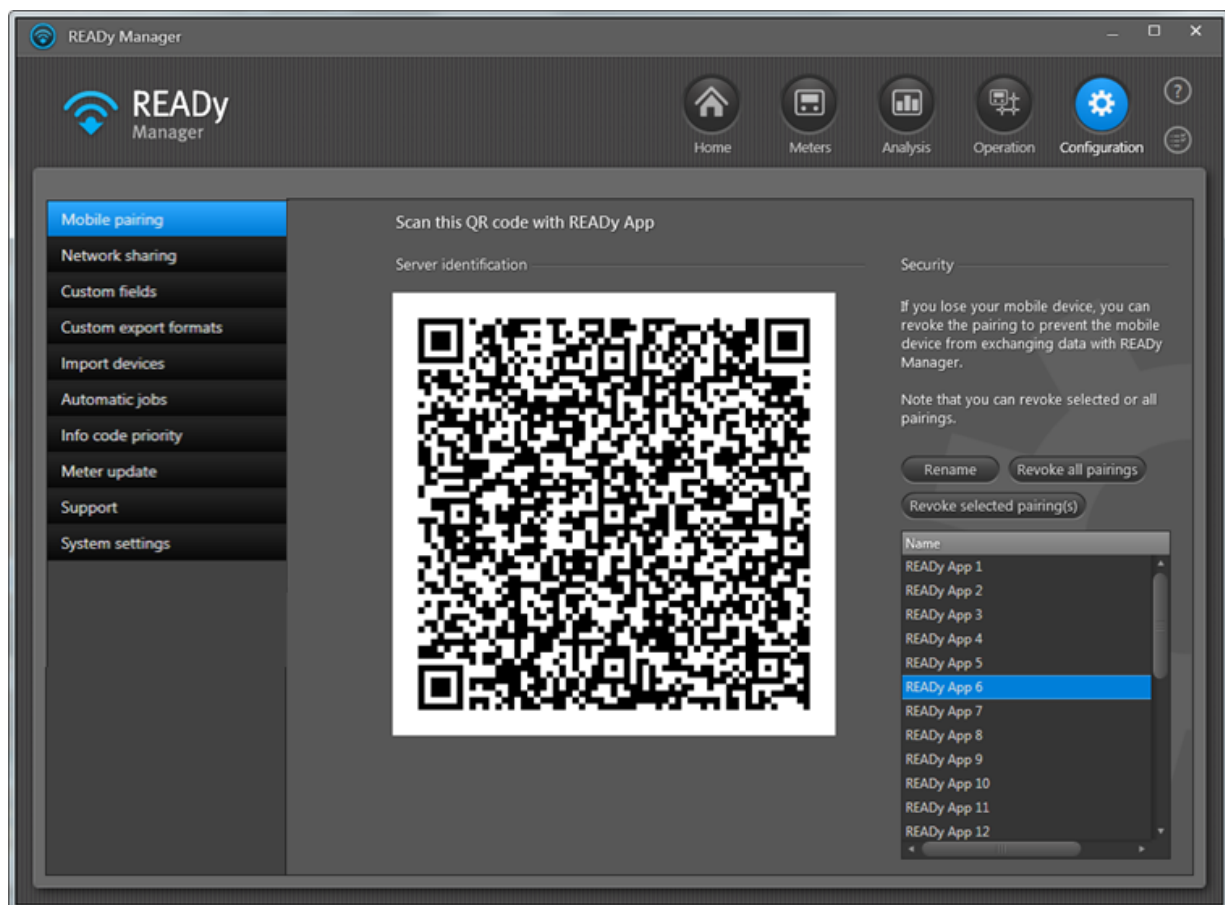
1. Go to Google Play and download READY App.
2. On your smartphone or tablet, open the app and create a password.



**Important** Remember your password! If you forget it, you will not be able to access collected reading data on your smartphone/tablet. To prevent unauthorized access to reading data, reading data will be deleted on the smartphone/tablet if you enter a wrong password more than four times.

## 4.6 Pairing of READY App and READY Manager

Use the following procedure to establish the connection between READY App on your smartphone/tablet and READY Manager on your PC:

1. On your PC: Click **Configuration**  in the upper-right corner of READY Manager and then select **Mobile pairing** to the left.




2. On your smartphone/tablet, tap  in the upper-right corner of READY App.
3. Tap **Pair with server**.
4. Tap **Scan from PC**.
5. Scan the QR code displayed in READY Manager. Tap **OK**.  
Connection settings are now displayed on the screen.
6. Tap  in the upper-left corner to return to the home screen.

### Naming strategy for mobile devices


When you have paired your mobile device with READY Manager on your PC, the name of your smartphone/tablet appears at the bottom of the list of mobile devices in READY Manager.

You can rename the mobile device by selecting it in the list, and clicking the **Rename** button. If you have many meters and mobile devices, consider naming your devices according to the meter group(s) you read via each mobile device, the name of the person using it, or the task (e.g. meter reading, meter configuration) of the person using it.

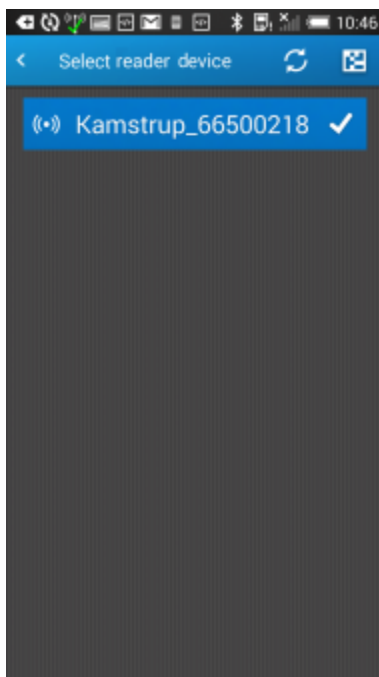
## 4.7 Pairing of READY App and READY Converter

Use the following procedure to establish the connection between READY App  and READY

Converter :

1. Turn on READY Converter.
2. On your smartphone/tablet, tap  in the upper-right corner of READY App.
3. Tap **Pair with reader device**.
4. In the list of converters that appears, tap the one you want to pair with.

When the converter you selected in the list turns blue and has a check mark next to it, READY App and READY Converter are paired.



If you use a roof antenna, connect the READY Converter to it now (for details see [Connecting READY Converter to a roof antenna](#)). Otherwise you are now ready to start reading meters.

## 4.8 Connecting READY Converter to a roof antenna

Use the following procedure to connect READY Converter to a roof antenna:

1. Unscrew the small antenna on READY Converter.
2. Attach the cable for the roof antenna to READY Converter.
3. Place the antenna on the roof of the car.

The antenna is provided with a magnet and sticks to the roof.

You are now ready to start reading meters.

## 4.9 Installing collection units

### How to install collectors in your network

1. In the office: Plan the location of collectors in your utility area.

Collectors must be installed on central locations in the supply area - preferably in chimneys, towers or similar high places.

2. At the installation site: Install each collector at the planned locations in your utility area.

For details, see the instructions that came with your collector.

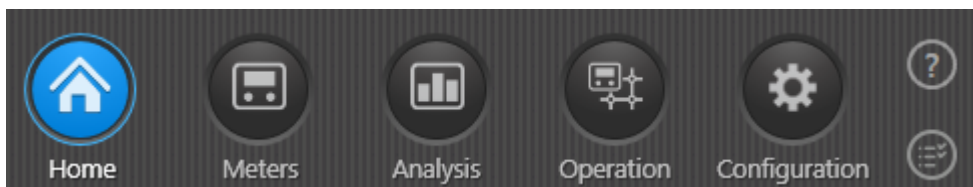
3. Next to the collector you just installed: Verify your installation on-site to make sure that the connection to the collector has been established:

- See status in LSR tool.

For details, see the instructions that came with your collector.

4. Back in the office: Import collector list in READY Manager:

- Click  in the upper-right corner of READY Manager to open the **Home** view.

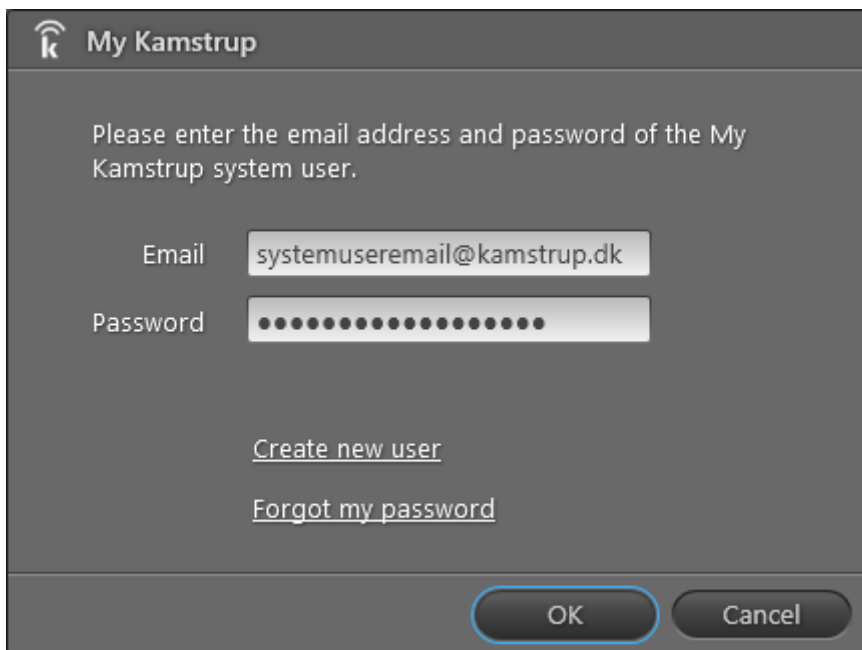


- Click **Import devices**.
- In the **Import from** field, select "My Kamstrup".



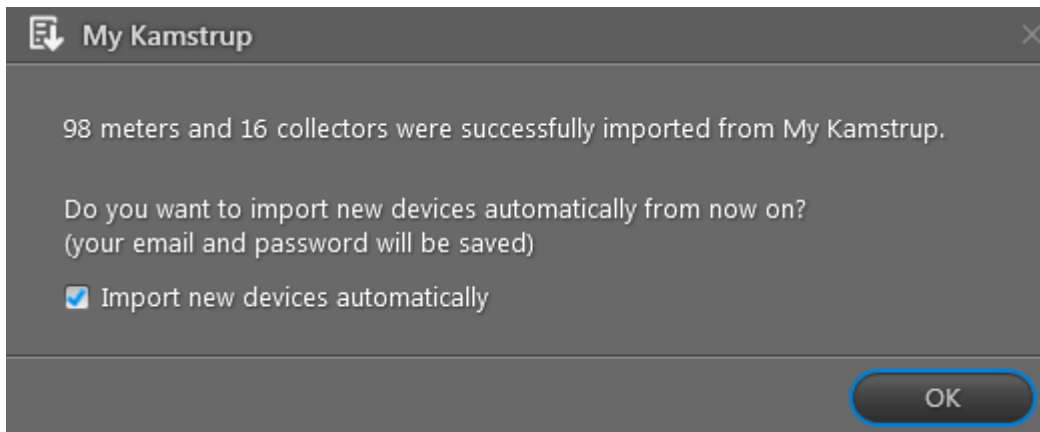
- In the **Import** field, select "New devices".
- Click the **Import** button.
- In the window that appears, enter the system user credentials for My Kamstrup.


For details, see [My Kamstrup system user credentials](#).




- Click **OK**.

A window will appear when the import has been completed:



To see the list of installed collectors in READY Manager, click **Operation**  in the upper-right corner of READY Manager and select **Infrastructure** to the left. If desired, you can add an address, map coordinates and a comment to each collection unit, e.g. a comment about the location of the installation. For details, see [Adding address, coordinates or comments to collection units](#).

If you are located in the United States, follow Steps 5 to 8.

5. Click **Operation**  in the upper-right corner of READY Manager and select **Infrastructure** to the left.
6. Right-click one of the collectors in the list, and choose **Edit** in the menu that appears.
7. In **License area**, select the frequency license area that applies to the location of the collector.  
The maximum signal strength with which the collector is allowed to transmit in the selected license area is automatically inserted in the **Max output power** field.
8. Repeat Steps 6 and 7 for each of your collectors.

#### 4.10 Setting up collection units

If needed, you can add a comment, address and map coordinates to a collection unit.

For collection units located in the United States, you can also assign a frequency license to the collection unit, set the output power and see additional details about the frequency license.

#### What do you want to do?

For all collection units:

- [Add address information, map coordinates or a comment to a collection unit](#)


For collection units located in the United States:

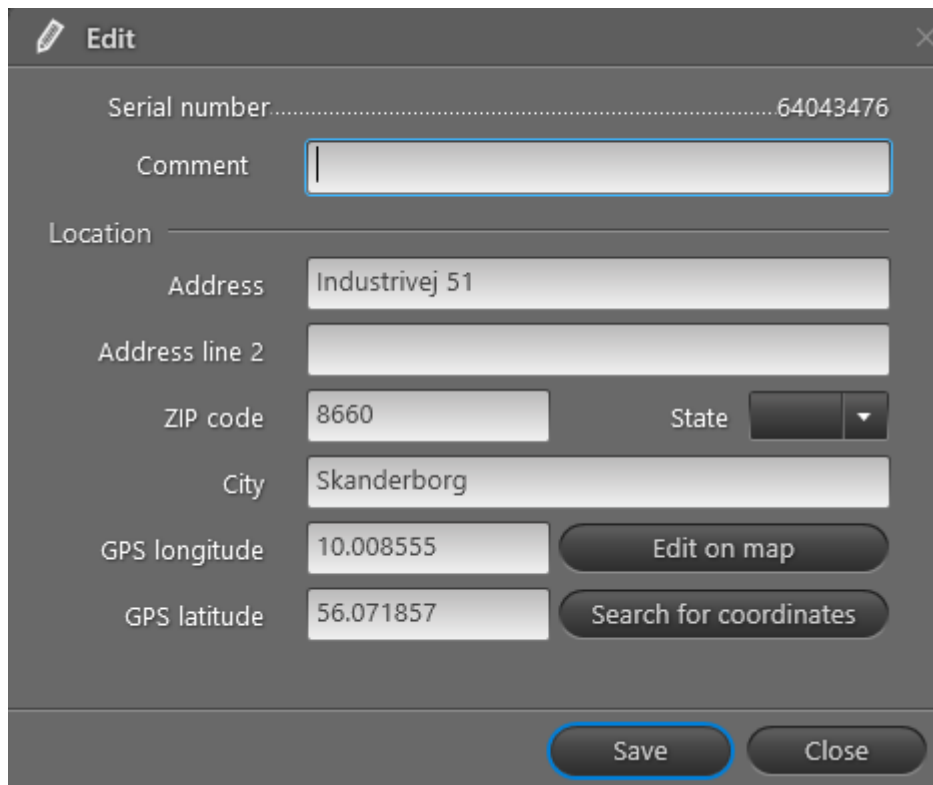
- [Assign a frequency license to a collection unit](#)
- [Change the output power for a collection unit](#)
- [View frequency license details for a collection unit](#)

### 4.10.1 Adding address, coordinates or comments to collection units

Follow the procedure below to enter or change the address, map coordinates or a comment for a collection unit in a radio network:

#### How to add an address, coordinates or a comment to a collection unit

1. Click **Operation**  in the upper-right corner of READy Manager, and select **Infrastructure** to the left.
2. Select a collection unit in the list and click **Edit**.




The screenshot shows the 'Edit' dialog box with the following fields and values:

- Serial number: 64043476
- Comment: (empty)
- Location: (empty)
- Address: Industrivej 51
- Address line 2: (empty)
- ZIP code: 8660
- State: (dropdown menu)
- City: Skanderborg
- GPS longitude: 10.008555
- GPS latitude: 56.071857

Buttons visible: 'Edit on map', 'Search for coordinates', 'Save', 'Close'.

3. Enter the desired address information in the address fields and/or a comment in the **Comment** field.
4. To automatically search for map coordinates based on the address information, click **Search for address**.

In order to look up the address information and automatically find the map coordinates, you need to:

- enter the system user credentials for My Kamstrup, for details see [My Kamstrup system user credentials](#).
- make sure that the **Configuration**  > **System settings** > **General settings** > **Check addresses and retrieve coordinates automatically** check box is selected.

5. If desired, follow the steps below to check that the collector is placed at exactly the right position.
  - a. Click **Edit on map** to open a map view with the collector:



- b. If required, you can drag the collector to the right position. Then click **OK**.  
The map coordinates are now updated to the new position.


- 6. Click **Save**.

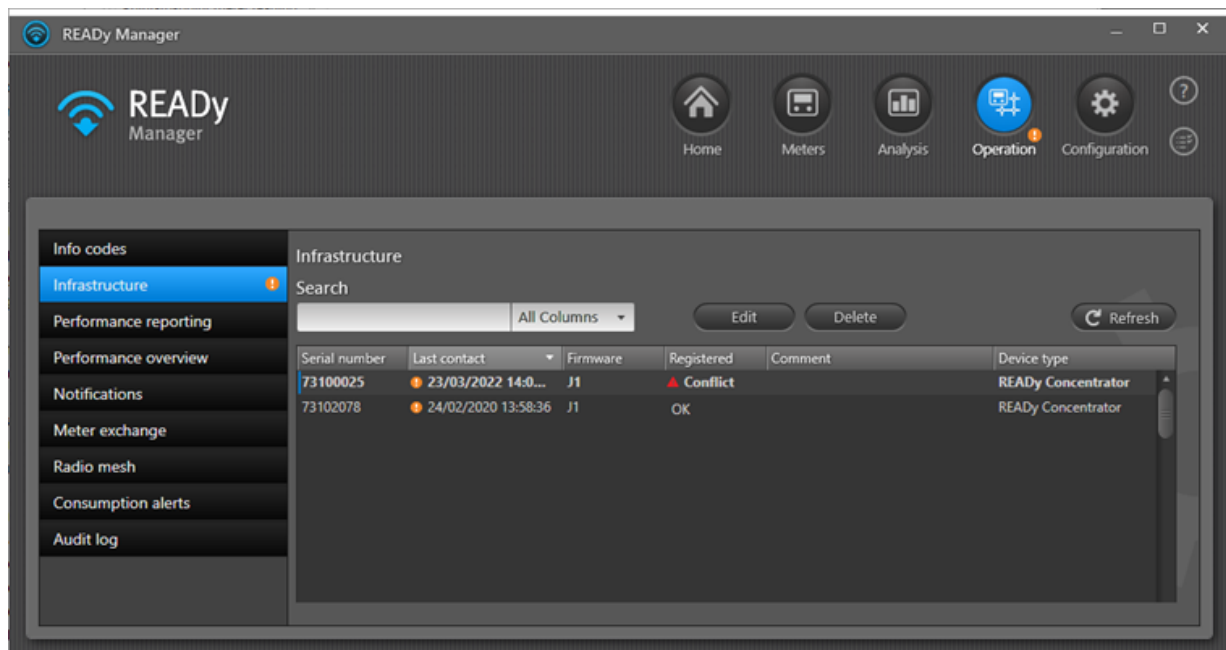
### 4.10.2 Assigning a frequency license to a collection unit

**Note** This procedure applies to collection units located in the United States.

Follow the procedure below to assign a frequency license to a collection unit in a radio network:

#### How to assign a frequency license to collection unit in your network

1. Click **Operation**  in the upper-right corner of READYy Manager, and select **Infrastructure** to the left.



2. Select a collection unit in the list and click **Edit**.

**Edit**

Serial number.....70001337

License area **TEST DK**

Output power **40.000** dBm (10 W)

Comment

---

**Location**

Address line 1 **Industrivej 28**

ZIP code **8660**

City **Skanderborg**

GPS longitude **10.007122** **Edit on map**

GPS latitude **56.071034** **Search for address**

---

**License details**

Station class.....FXO

License status.....Active

Uplink frequency.....458875000 Hz

Downlink frequency.....468875000 Hz

Transmitter address.....Stilling

Coordinates.....35-50-07.2 N, 086-48-03.0 W

Area radius.....15 km

Max output power.....40 dBm

**OK** **Cancel**

3. In **License area**, select the frequency license for this collection unit.

When you select a license area, the maximum output power for this frequency license is automatically shown in the **Output power** field.

4. Click **OK** to confirm your changes and close the window.


### 4.10.3 Changing the output power for a collection unit

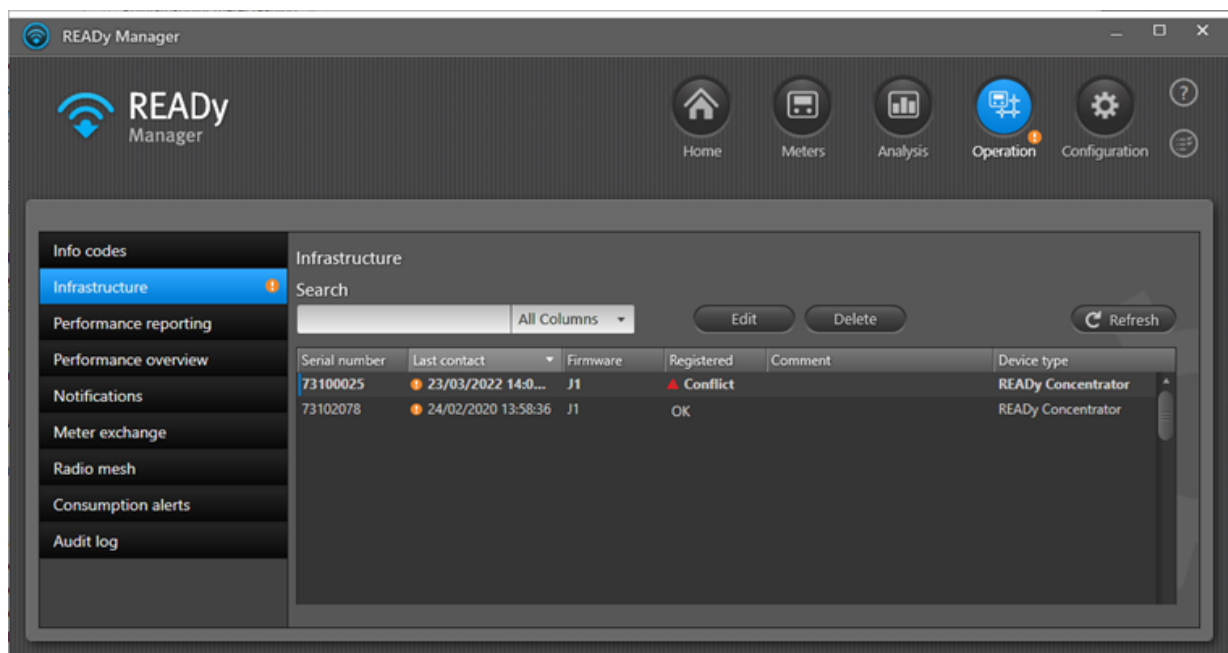
**Note** This procedure applies to collection units located in the United States.

You can change the output power of a collection unit in a radio network. For example, if the collection unit makes too much noise, you can lower the output power of the collection unit.

Follow the procedure below to change the output power of a collection unit in a radio network:

#### How to change the output power of collection units in your network

1. Click **Operation**  in the upper-right corner of READY Manager, and select **Infrastructure** to the left.



2. Select a collection unit in the list and click **Edit**.

**Edit**

Serial number.....70001337

License area **TEST DK**

Output power **40.000** dBm (10 W)

Comment

**Location**

Address line 1 **Industrivej 28**

ZIP code **8660**

City **Skanderborg**

GPS longitude **10.007122** **Edit on map**

GPS latitude **56.071034** **Search for address**

**License details**

Station class.....FXO

License status.....Active

Uplink frequency.....458875000 Hz

Downlink frequency.....468875000 Hz

Transmitter address.....Stilling

Coordinates.....35-50-07.2 N, 086-48-03.0 W

Area radius.....15 km

Max output power.....40 dBm

**OK** **Cancel**

3. In **Output power**, enter the desired output power in dBm for this collection unit.

The maximum output power allowed in this license area is displayed at the bottom of the window. You can decrease the output power as desired, but you cannot exceed the maximum output power.


4. Click **OK** to confirm your changes and close the window.

#### 4.10.4 Viewing frequency license details for a collection unit


**Note** This procedure applies to collection units located in the United States.

Follow the procedure below to see frequency license details for a collection unit in a radio network:

## How to see frequency license details for a collection unit

1. Click **Operation**  in the upper-right corner of READY Manager, and select **Infrastructure** to the left.
2. Right-click the collection unit in the list whose frequency license details you want to see, and choose **Edit** in the menu that appears.

The frequency license details appear at the bottom of the window:



The screenshot shows the 'Edit' dialog box with the following fields and values:

- Serial number: 70001337
- License area: TEST DK
- Output power: 40.000 dBm (10 W)
- Comment: (empty)
- Location section:
  - Address line 1: Industrivej 28
  - ZIP code: 8660
  - City: Skanderborg
  - GPS longitude: 10.007122
  - GPS latitude: 56.071034
- License details section:
  - Station class: FXO
  - License status: Active
  - Uplink frequency: 458875000 Hz
  - Downlink frequency: 468875000 Hz
  - Transmitter address: Stilling
  - Coordinates: 35-50-07.2 N, 086-48-03.0 W
  - Area radius: 15 km
  - Max output power: 40 dBm

Buttons at the bottom: OK, Cancel

**Station class** shows what kind of license you have for the collection unit. For example, if your station class is FXO, the collection unit has a fixed location and cannot be moved. If your station class is MO, the collection unit can be moved to another location within the license area.

**License status** shows if the license is active or inactive. If the license is inactive you need to change to an active one.

**Uplink frequency** shows the frequency that the collection unit is allowed to use for transmitting radio signals.

**Downlink frequency** shows the frequency that the collection unit is allowed to use for receiving radio signals.

**Transmitter address** shows the address of the license area (corresponding to the coordinates shown below).

**Coordinates** shows the map coordinates of the license area center.

**Area radius** shows the extent of the license area measured from the center coordinates.

**Max output power** shows the maximum signal strength with which the collection unit is allowed to transmit its radio signal.


3. Click **OK** to close the window.

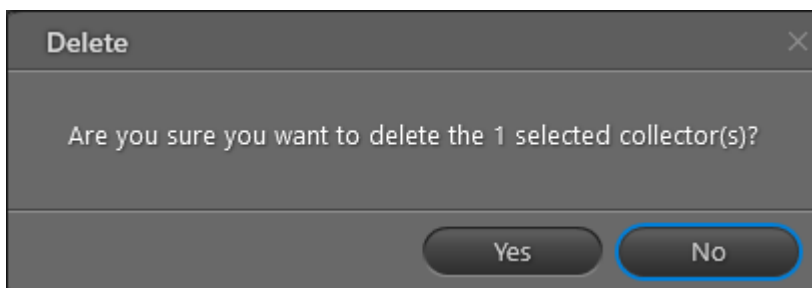
#### 4.11 Deleting collection units

If needed, you can delete collection units from READYy Manager if they are no longer used.

Follow the procedure below to delete a collection unit in a radio network:

##### How to delete a collection unit from READYy Manager

1. Click **Operation**  in the upper-right corner of READYy Manager, and select **Infrastructure** to the left.
2. Select the collection unit in the list that you want to delete, and click the **Delete** button.
3. Click **Yes** in the message that appear to confirm the deletion:

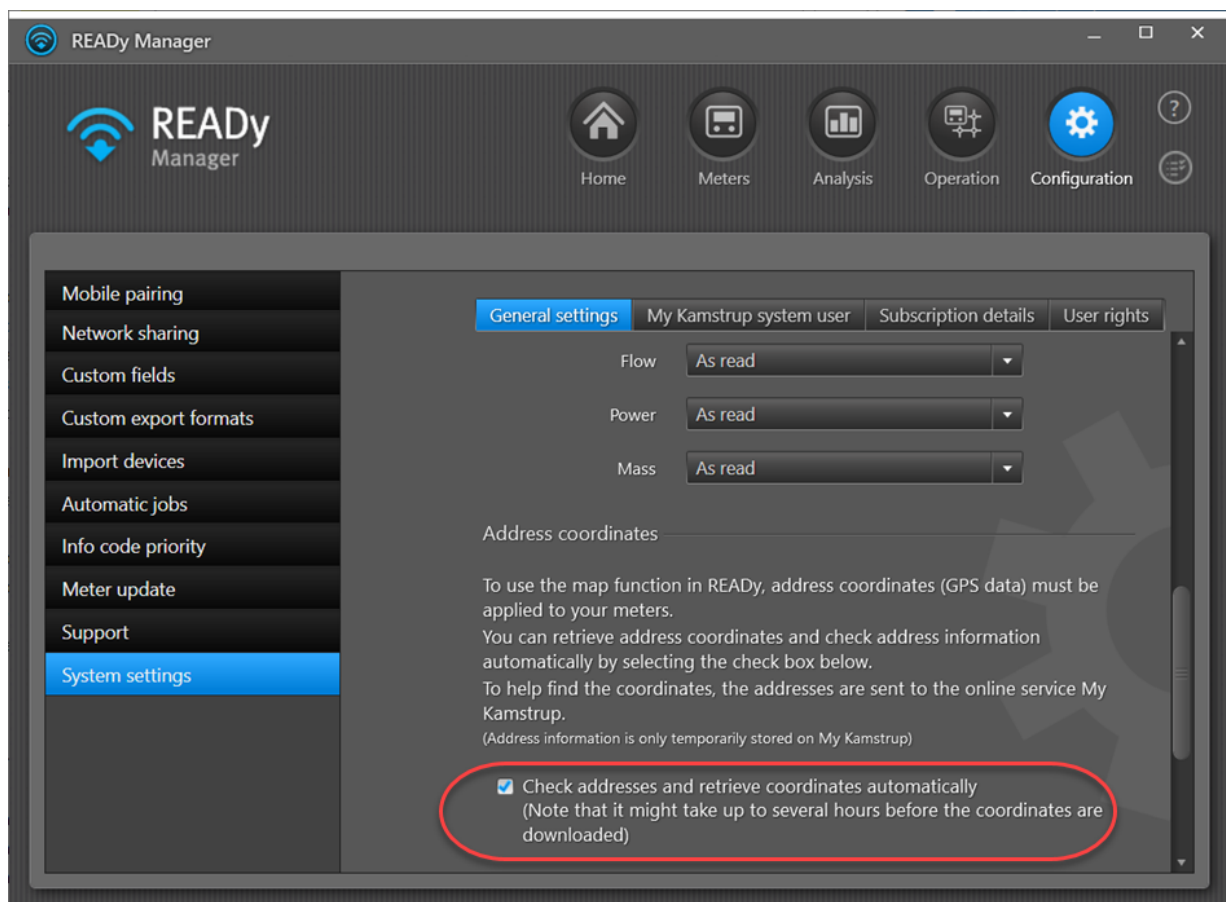


## 4.12 Finding address coordinates and checking addresses

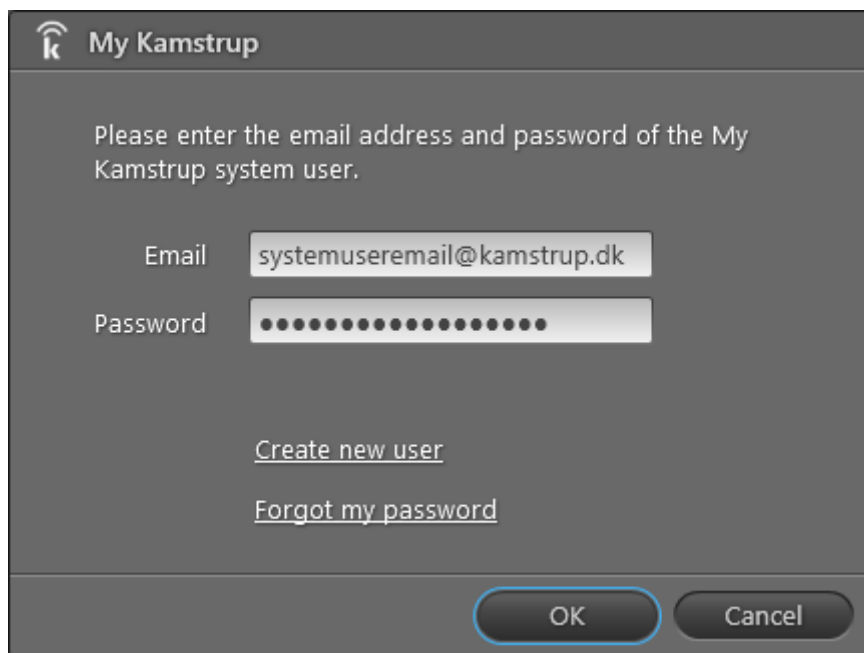
In order for READY Manager and READY App to display meters on a map (see [Meters view](#)), map coordinates must be available for meter addresses.

READY Manager is able to search for map coordinates and check address information in READY Manager. The search takes place via My Kamstrup. In order to work, you must have specified the system user credentials for My Kamstrup (for details, see [My Kamstrup system user credentials](#)). Furthermore, you must allow the system to check the addresses and search for address coordinates by following the procedure below:

1. Select **Configuration**  > **System settings** > **General settings** > **Check addresses and retrieve coordinates automatically**:



2. Enter the system user credentials for My Kamstrup:



**My Kamstrup**

Please enter the email address and password of the My Kamstrup system user.

Email

Password

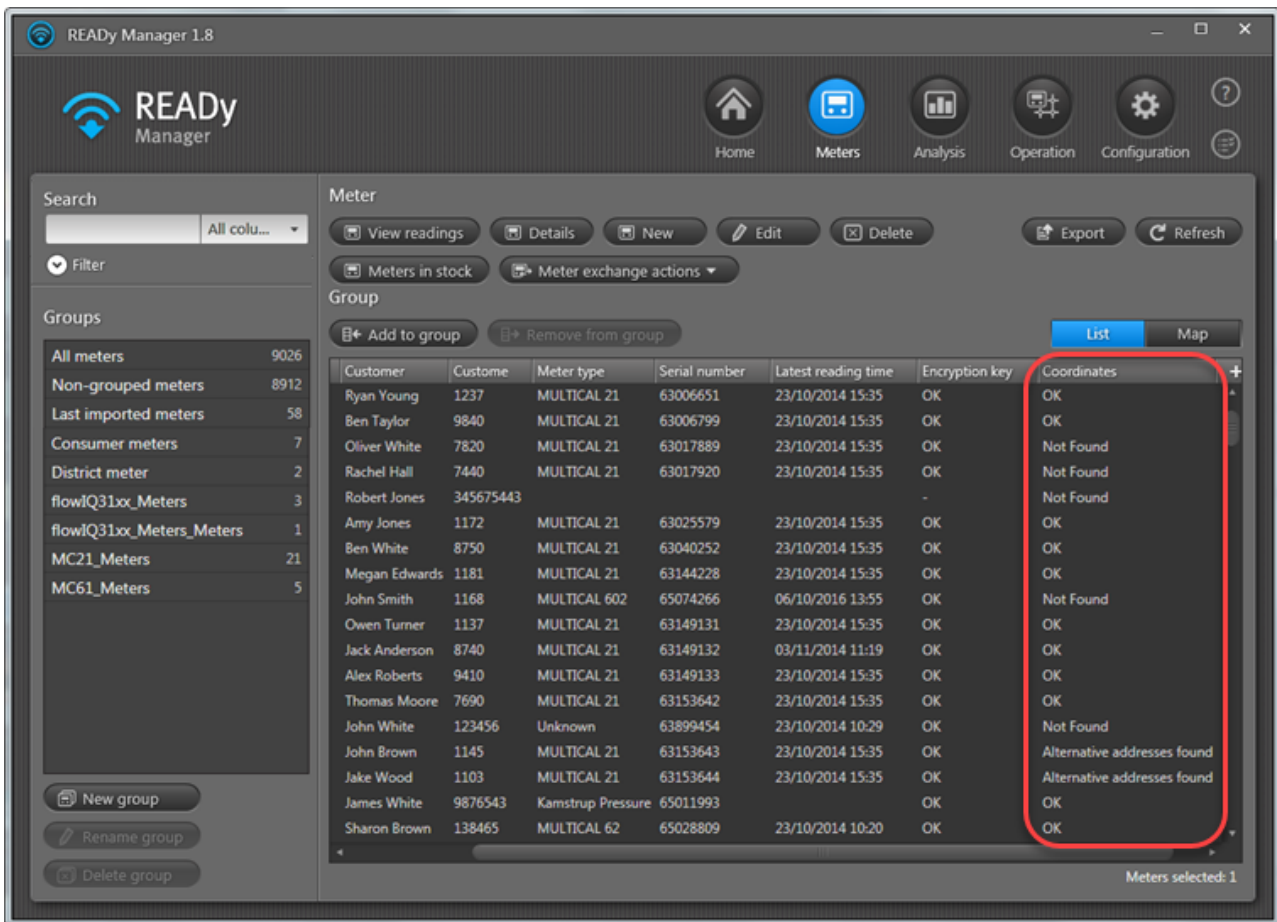
[Create new user](#)

[Forgot my password](#)

READY will now start checking addresses and searching for map coordinates. The search may take several hours to complete.

Once the automatic address check and retrieval of address coordinates has been activated, you can also manually initiate an address search for a single meter via the [New and Edit meter](#) windows in the **Meters** view.

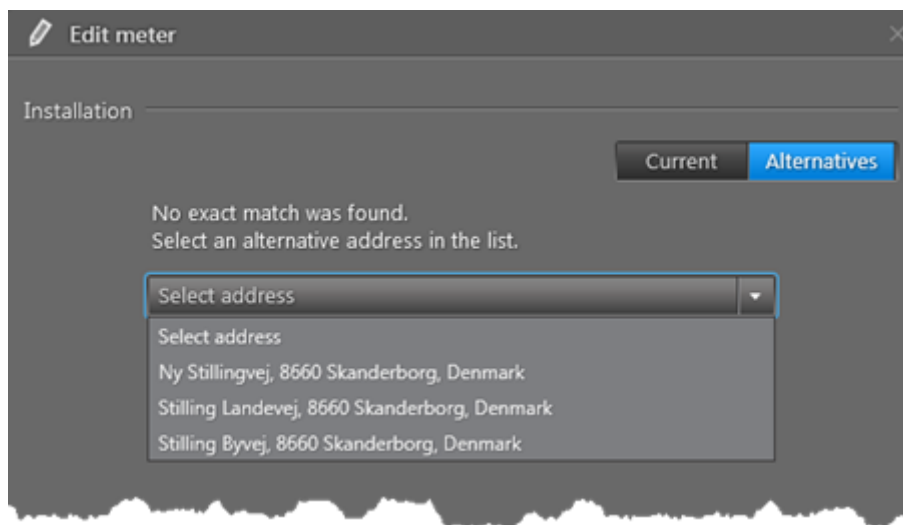
The result of the search is displayed in the **Coordinates** column in the **Meters** view:



The search result is one of the following:

- **OK** means the address search was successful.
- **Not found** means the address could not be found.
- **-** means the search failed because neither ZIP code nor city information has been specified.
- **Alternative addresses found** means that more than one address match was found.

To select the right one, right-click the meter in the **Meters** view, and choose **Edit** in the menu that appears. Then select the right address in the list of alternative addresses at the top of the window:



### 4.13 Installing and removing meters in the United States

If you are located in the United States, special radio frequency license rules apply. This means that if you want to remove a meter from an installation site (for example due to a sample test), the radio signal must be turned off before you drive off with it. Otherwise your risk sending out radio signals in areas where you do not have an appropriate frequency license.

When you install a meter, the "drive-by reading signal" turns on by default when water starts flowing through the meter. If you want to read the meter in a two-way radio network (AMI), you need to configure the meter for AMI reading. You can either configure the meter as part of the installation process or configure the meter remotely later on. If you know that the flow to the meter will not be enabled in the near future, you can turn on the radio signal right away to be able to configure the meter remotely regardless of the flow status.

#### What do you want to do?

- [Configure a meter you install for two-way radio network \(AMI\) reading](#)
- [Turn on the radio signal for a meter you install and configure the meter remotely later on](#)
- [Turn off the radio signal when removing a meter from an installation site](#)

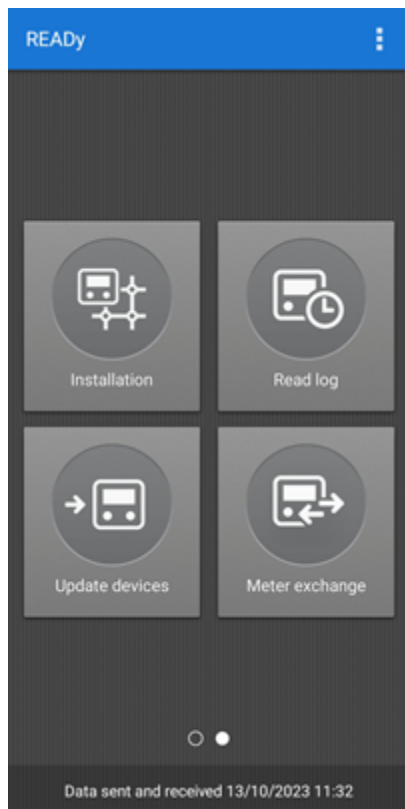
#### 4.13.1 Configuring meters you install for AMI reading

Follow the procedure below if the meter you install is to be read in a two-way radio network (AMI):

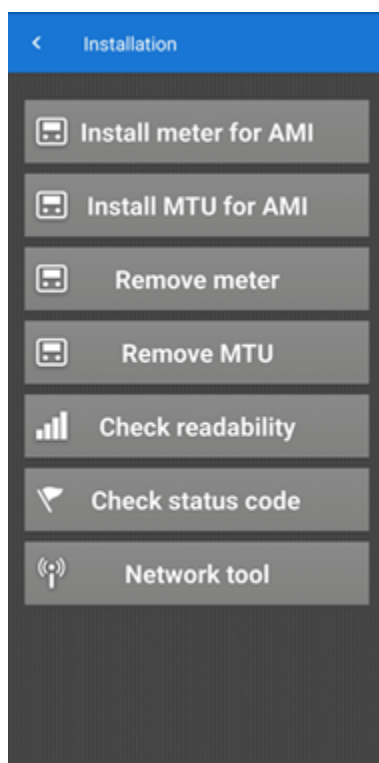
##### How to configure a meter you install for two-way radio network (AMI) reading

1. At the installation site: Install the flowIQ® 2250, 3250 or 4200 meter.
2. Next to the meter you just installed: make sure that READY Converter is turned on.

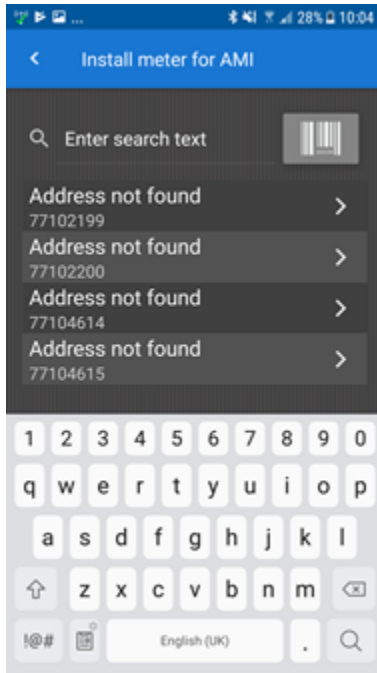
3. Swipe the screen to go to page two of the READYy App home screen and tap **Installation**:



4. On the **Installation** screen that appears, tap **Install meter for AMI**:



5. Tap the bar code icon rightmost in the search field, and scan the bar code of the meter you just installed:



6. Follow Steps a, b, c and d if the radio is not yet on, otherwise tap **Skip** and go to Step 7.

If in doubt, check the meter display to see if the radio is on. The radio turns on automatically when the flow to the meter is turned on.

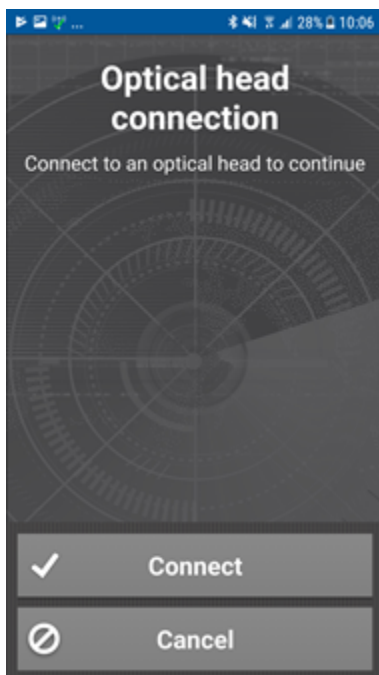


- a. Tap **Enable radio**.

- b. Place the optical head on the meter and turn it on:

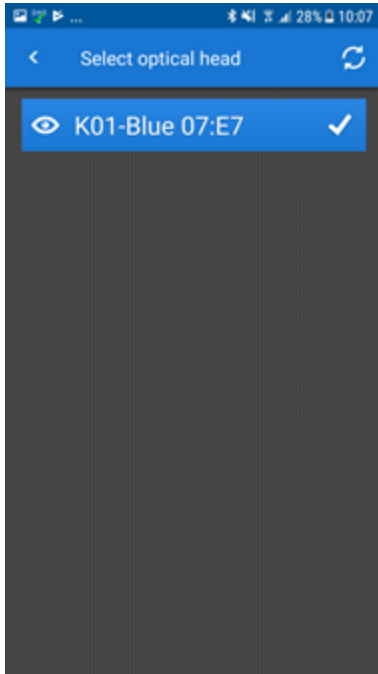


- c. Tap **Connect**:

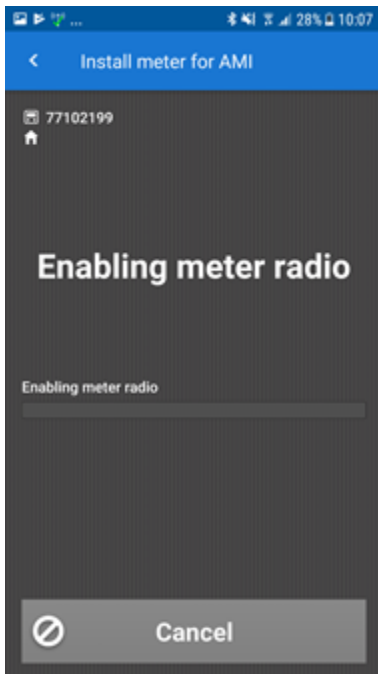


- d. Select the optical head in the list.

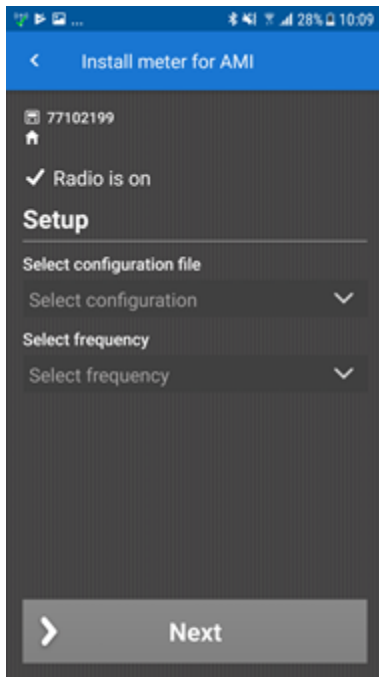
When the optical head you selected in the list turns blue and has a check mark next to it, READY App and the optical head are paired:



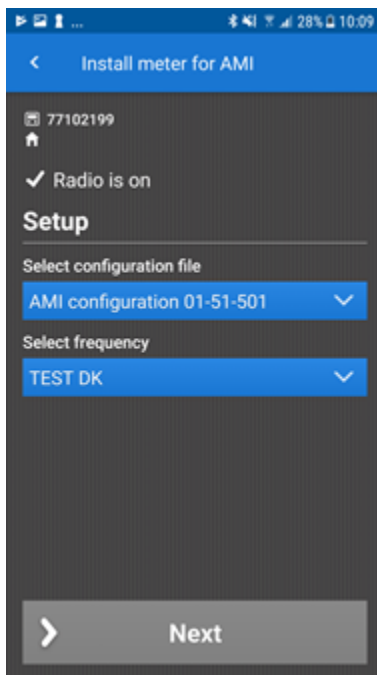
READY App starts enabling the meter radio:



The following window appears when the radio has been turned on:



7. Select the configuration file from Kamstrup and the frequency license, and click **Next**:



8. Read the important message and tap **Accept**:



Wait for the meter configuration to complete:

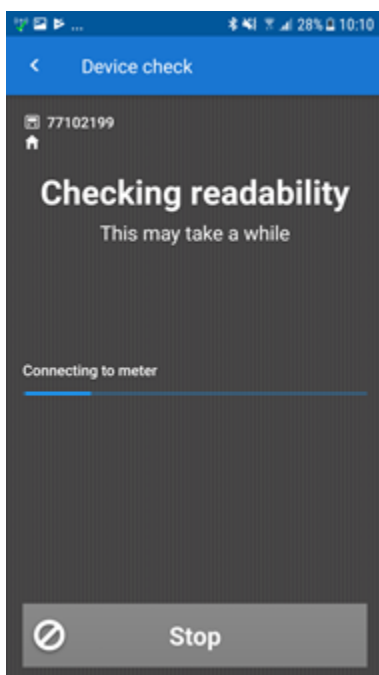


When the configuration has been completed, the following screen appears:

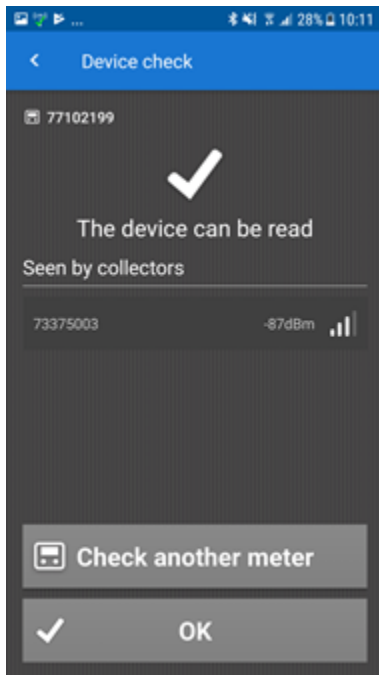


9. Follow Step 9a to complete the AMI configuration of the meter, or follow Step 9b to check the readability of the new meter.
  - a. Tap **Done**.
- OR
- b. Tap **Check readability**

Wait for the readability check to complete:



When the check has been completed, you can see if the meter can be read and by which collection units:



Tap **OK** to finish the device check.

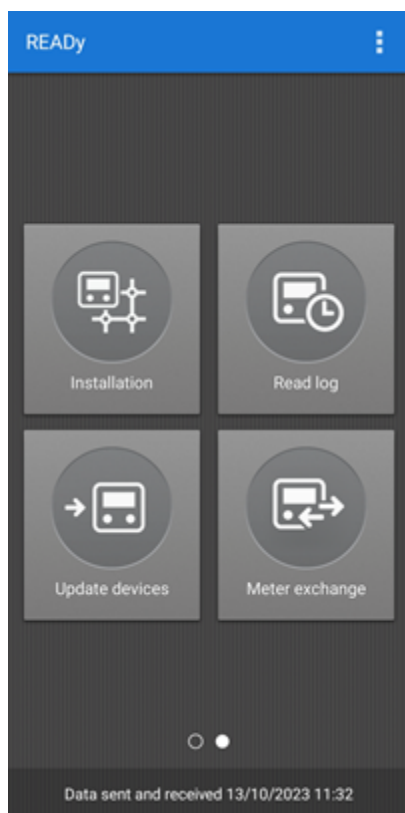
#### 4.13.2 Turning on radio signal for new meters and configure later

Follow the procedure below if the flow to the meter you install will not be enabled in the near future, and you want to be able to configure the meter remotely regardless of the flow status.

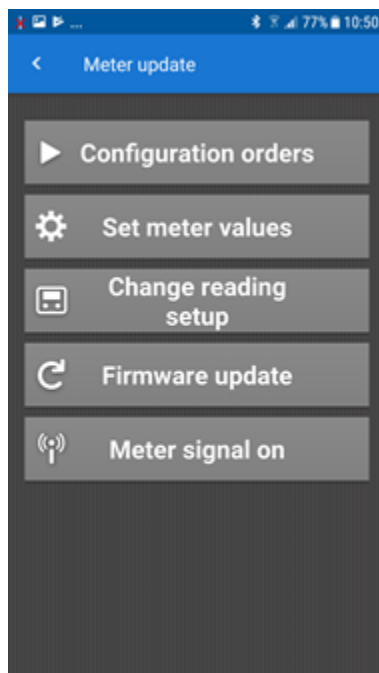
##### How to turn on the radio signal for a meter you install and configure the meter remotely later on

1. At the installation site: Install the flowIQ® 2250, 3250 or 4200 meter (for details, see the instructions that came with your meter).

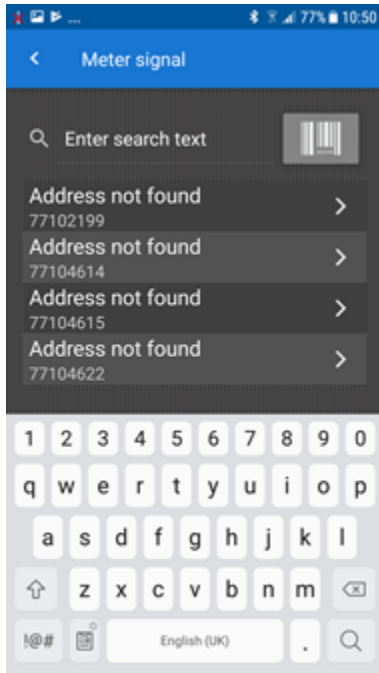
2. Next to the meter you just installed: Swipe the screen to go to page two of the READy App home screen and tap **Update meter**:



3. On the **Meter update** screen that appears, tap **Meter signal on**:



4. Tap the bar code icon rightmost in the search field, and scan the bar code of the meter you just installed:



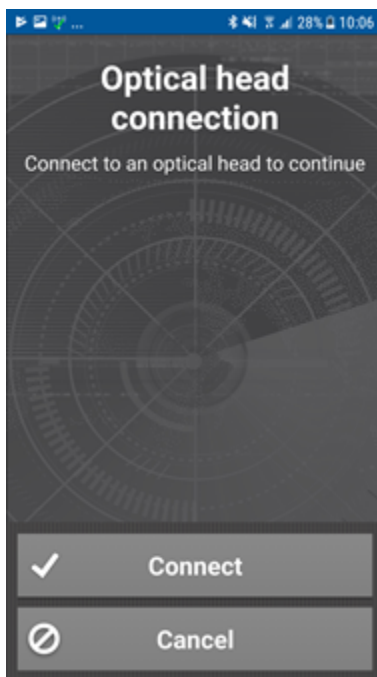
5. Tap **Enable radio**:



6. Follow Steps a, b, c and d to place the optical head on the meter:
  - a. Place the optical head on the meter and turn it on:



- b. Tap **Connect**:

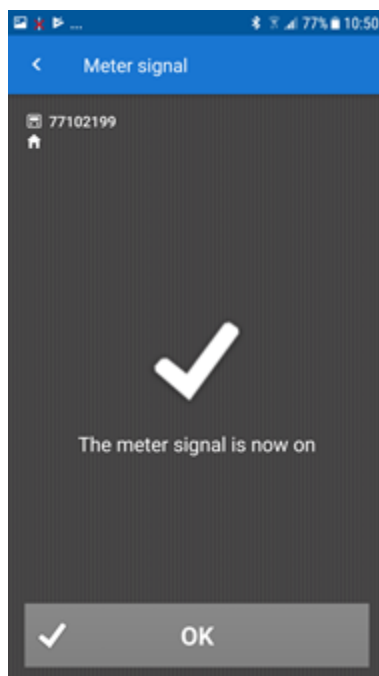


- c. Select the optical head in the list.

When the optical head you selected in the list turns blue and has a check mark next to it, READY App and the optical head are paired:



The following window appears when the radio has been turned on:



- 7. Tap **OK**.

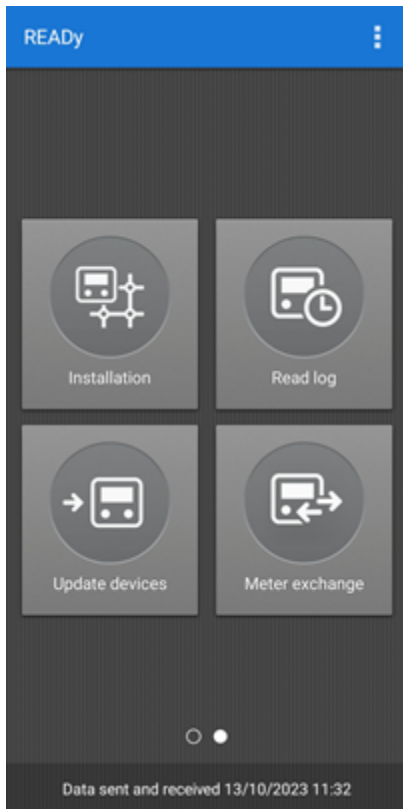
### 4.13.3 Turning off radio signal when removing meters

Follow the procedure below to turn off the radio signal for meters you remove from an installation site.

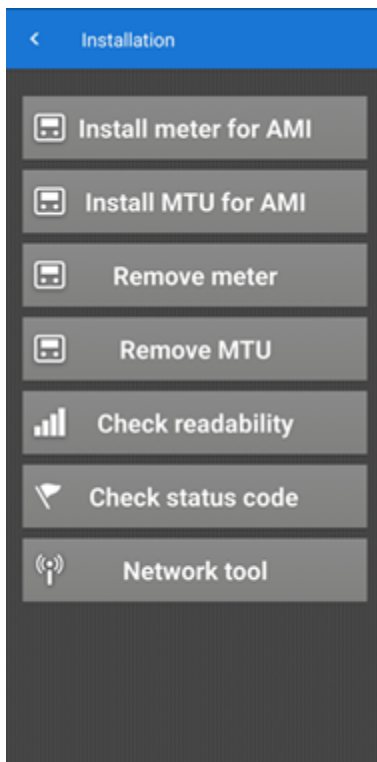
#### How to turn off the radio signal when removing a meter from an installation site

Precondition: Dismount the meter from the pipes or turn off the flow before following the steps below. Otherwise the "mobile radio signal" will turn on again automatically.

1. Next to the meter that is to be removed: make sure that READY Converter is turned on.
2. Swipe the screen to go to page two of the READY App home screen and tap **Installation:**

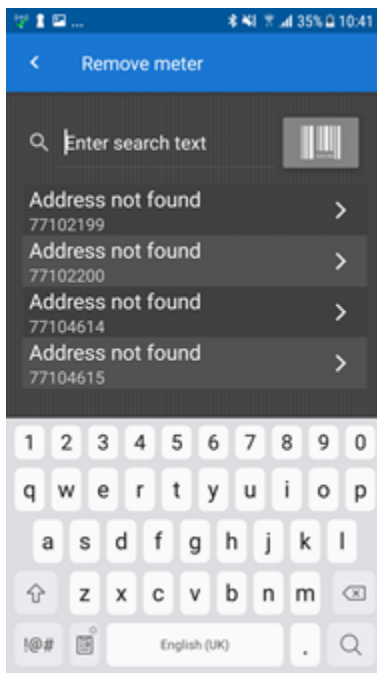


- On the **Installation** screen that appears, tap **Remove meter**:



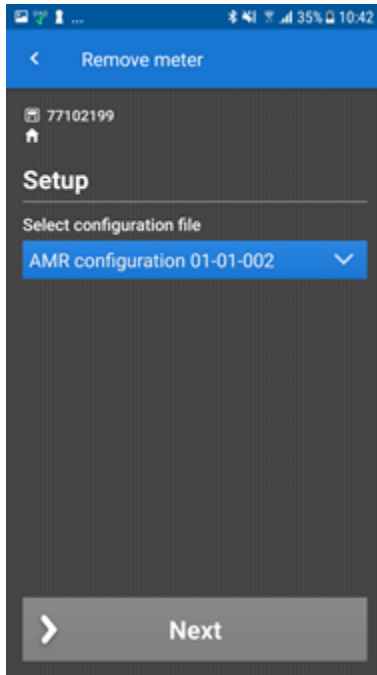
- In the list of meters that appear, select the one you want to remove:

If desired, use the search field to quickly locate the meter, or tap the bar code icon rightmost in the search field, and scan the bar code of the meter you just removed.



Follow Step 5 if the removed meter is part of a two-way radio network (AMI). Otherwise go to Step 6.

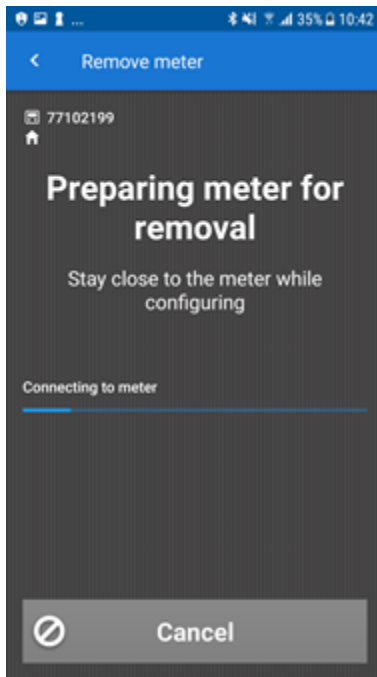
- Select an AMR config file to remove the AMI configuration from the meter. Click **Next**.



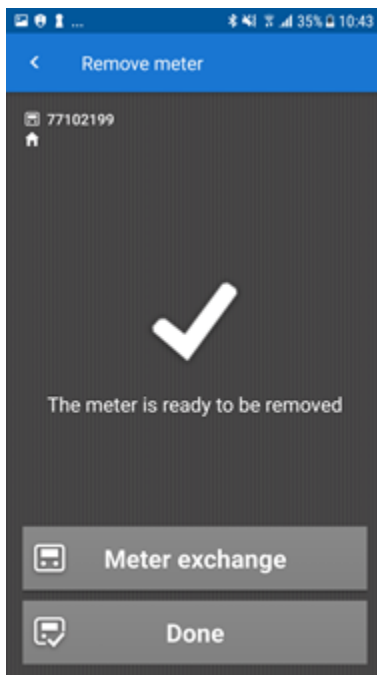
- Click **Accept** to confirm you want to remove the meter:

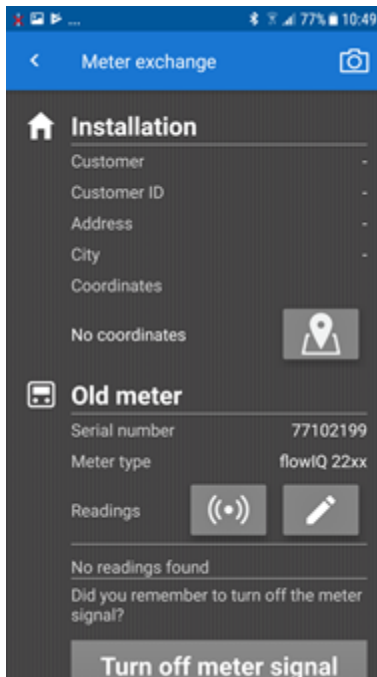


Wait for the removal process to finish:



7. Follow Steps 8 to 10 if the removed meter is going to be replaced by another meter. Otherwise tap **Done** to finish the meter removal.



8. Tap **Meter exchange**.

## 9. Follow the normal procedure for exchanging meters via READY App.

For details, see Step 4 onwards of [Replacing meters via READY App](#).

## 10. Follow Step 10a or 10b if one of the following situations apply for the new meter you install:

- a. If the new meter you install is to be read via two-way radio network (AMI) and you want to configure the new meter for AMI reading right away, follow this procedure [Configuring meters you install for AMI reading](#).

OR

- b. If you want to configure the new meter remotely and the flow to the meter is not going to be turned on in the near future, follow this procedure [Turning on radio signal for new meters and configure later](#).

#### 4.14 Reading encoded output meters with READY MTU

It is possible to read non-Kamstrup meters in READY that communicates via the Sensus UI-1203 Encoded Output protocol. The meters are read by connecting the meter (or the register) to Kamstrup's meter transmission unit, READY MTU.

READY MTU converts the encoded output to AMI reading in READY.

#### What do you want to do?

- [Add READY MTU to your network](#)
- [Change default configuration of READY MTU to AMI reading](#)
- [Reconfigure READY MTU](#)
- [Remove READY MTU from your network](#)

- [Monitor connection to READY MTU](#)

#### 4.14.1 Installing READY MTU

##### How to install READY MTU in your network

1. Import READY MTU into READY Manager.

If you have set up automatic import of new devices from My Kamstrup, READY MTU is imported automatically. For details, see [Importing meters \(and collection units\)](#).

2. Import the encoded output meter (or register) into READY Manager.

Encoded output meters/registers are imported as non-Kamstrup meters. For details, see [Importing non-Kamstrup meters](#).

**Important** Kamstrup strongly recommends that you import the meter or register ID (serial number) that is sent to READY MTU in the encoded output.

3. Import customer information for the encoded output meter into READY Manager.

For details, see [Manually importing customer data](#).

4. At the installation site: Install READY MTU.

For details, see the installation instructions that came with your READY MTU.

5. At the installation site: Configure READY MTU:

- a. Preconfigured MTU:

- Hold the magnet (included in the box) at the indicated position on READY MTU to activate it.

The LED starts flashing 3 times every 5 seconds.

- Wait until the LED flashes once every 5 seconds.

The installation is now completed.

The preconfiguration only works if the meter/register device ID imported into READY Manager (step 2) matches the device ID received by READY MTU in the encoded reading from the meter. If not, go to [Configuration of READY MTU](#).

**OR**

- b. MTU with default configuration:


Follow the instructions described in [Configuration of READY MTU](#).

#### 4.14.1.1 Configuration of READY MTU

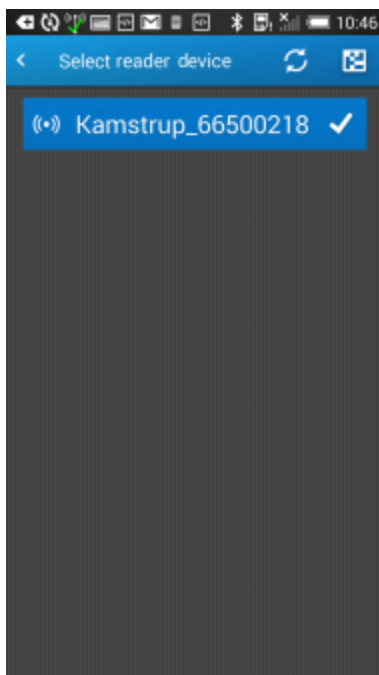
When you install READY MTU (for details, see [Reading encoded output meters with READY MTU](#)), it can either be preconfigured or it can be delivered with a default configuration.

If READY MTU is delivered with default configuration, you need to configure it using READY App. To do so, follow the procedure below:

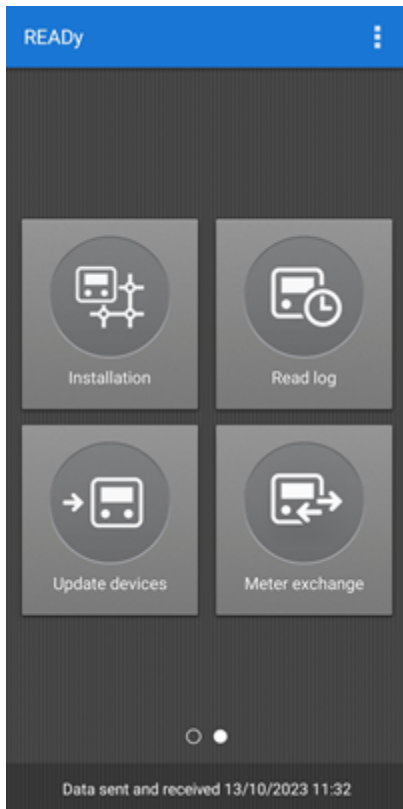
##### How to configure READY MTU

1. Open READY App on your smartphone/tablet and tap **Send/Receive** to synchronize with READY Manager.
2. Hold the magnet (included in the box) at the indicated position on READY MTU to activate it.  
The LED starts flashing.
3. Turn on READY Converter.
4. On your smartphone/tablet, tap  in the upper-right corner of READY App.
5. Tap **Pair with reader device**.
6. In the list of converters that appears, tap the one you want to pair with.

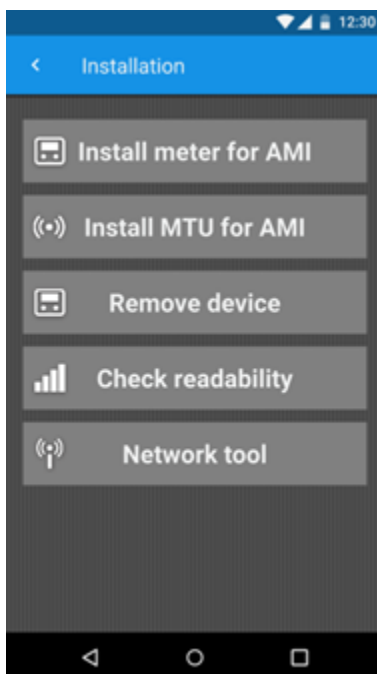
When the converter you selected in the list turns blue and has a check mark next to it, READY App and READY Converter are paired:



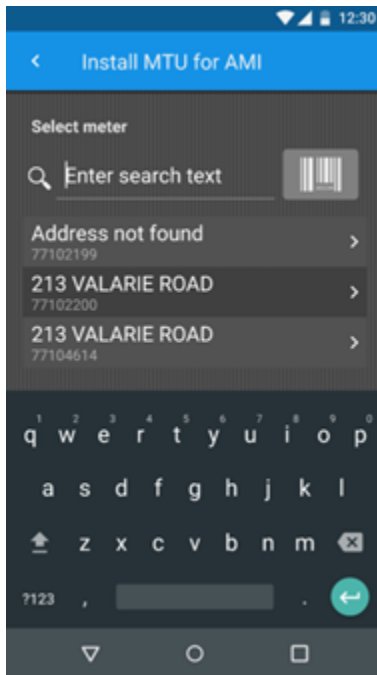
7. Swipe left on the READYy App home screen, and tap **Installation**:



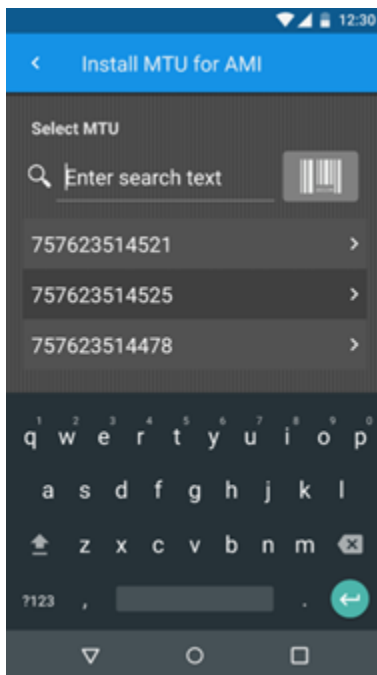
8. Tap **Install MTU for AMI**:



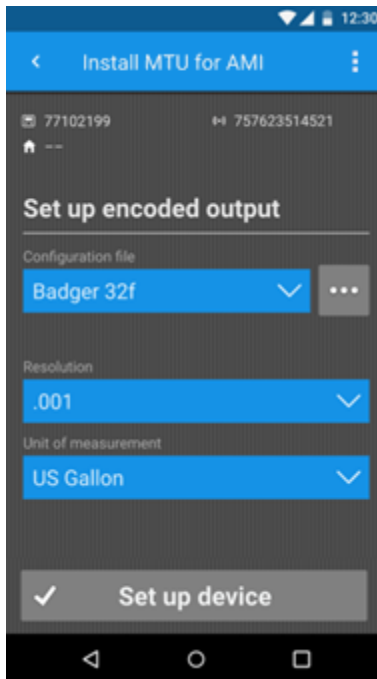
9. Select the encoded output meter/register connected to READy MTU (enter serial number or address to quickly locate it):



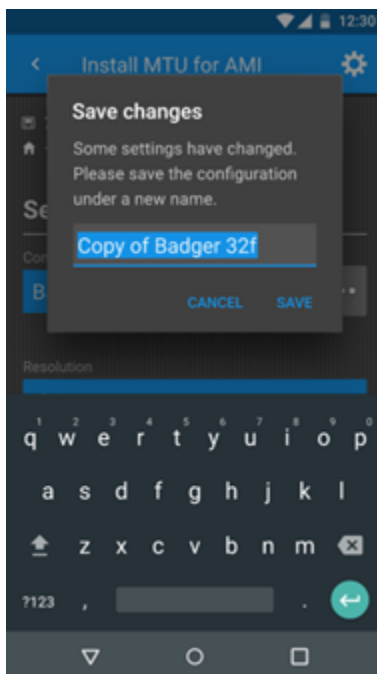
10. Select the MTU you are installing (enter serial number to quickly locate it):



11. In **Configuration file**, select the configuration file that matches the encoded output reading, or select the desired **Resolution** and **Unit of measurement**:

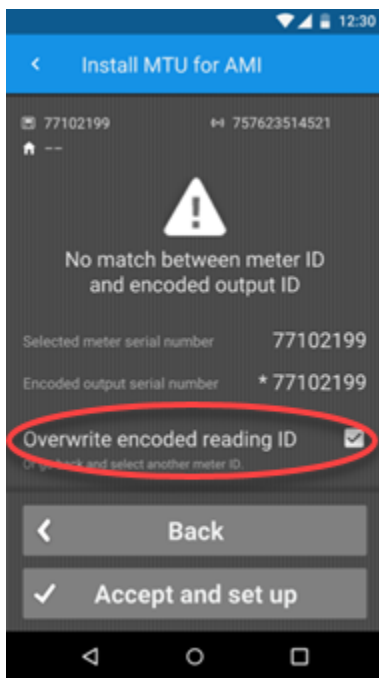


12. Tap **Set up device**. (If no configuration file existed or you have changed an existing one, enter a name for your file and tap **SAVE**.)



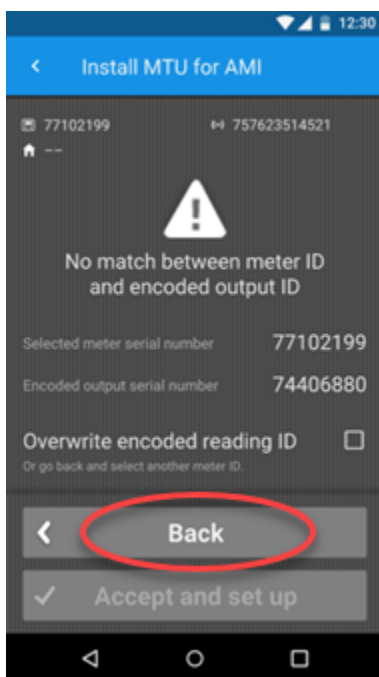
13. If the meter/register selected in step 9 does not match the serial number in the encoded reading from the meter, follow step a or b. Otherwise go directly to step 15.

- a. If the meter/register you selected in step 9 is correct, select **Overwrite encoded reading ID** and tap **Accept and set up**:

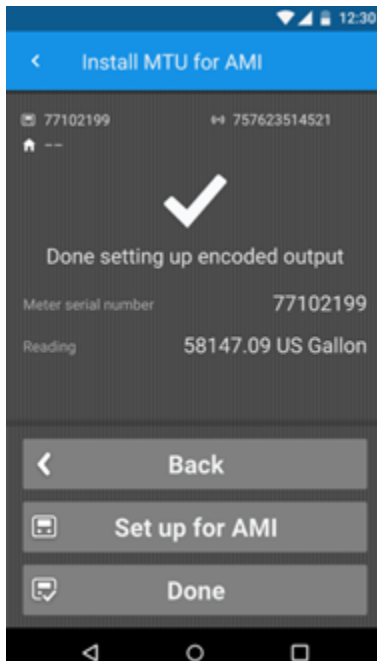


OR

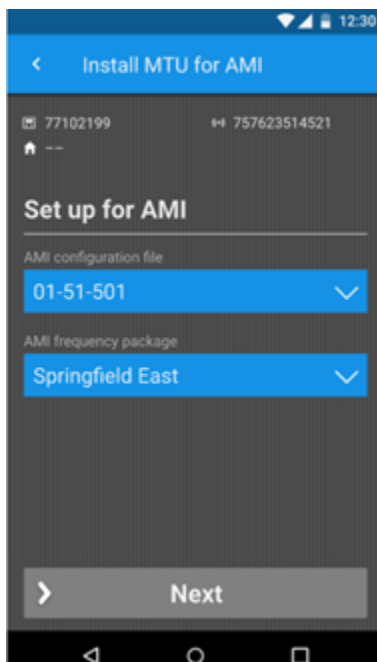
- b. If you realize you selected the wrong meter/register, tap **Back** and select the correct meter/register.



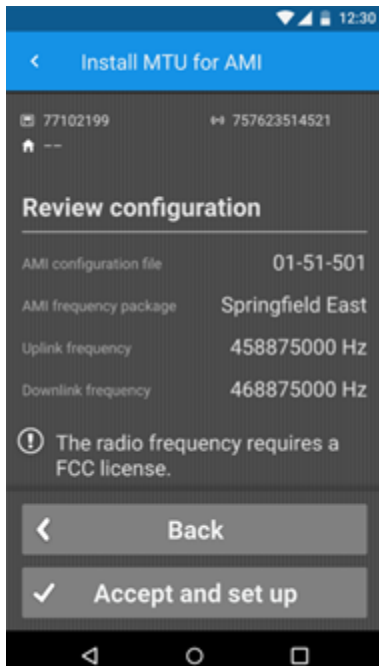
- Ensure the reading is correct and tap **Set up for AMI** to connect READY MTU to your AMI network:



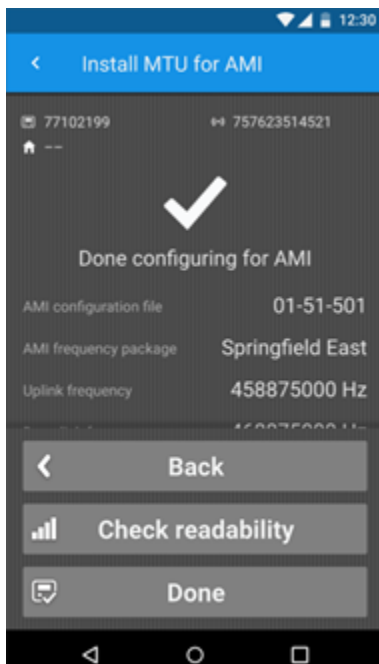
- Choose the correct configuration for your AMI network. Tap **Next**:



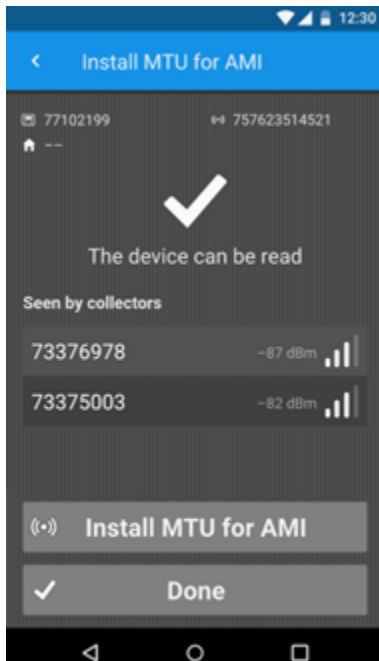
16. Make sure the configuration is correct and tap **Accept and set up**:



17. Tap **Check readability** to make sure READY MTU can read by the AMI network:



18. If the MTU can be read, tap **Done** to complete the installation:



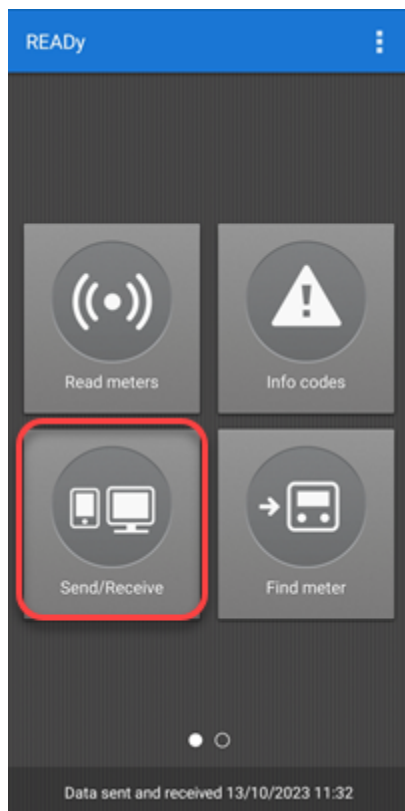
#### 4.14.2 Reconfiguring READY MTU


If you need to reconfigure READY MTU, for example if you have discovered an error in the configuration or you are exchanging the meter connected to it, follow the procedure below:

##### How to reconfigure a READY MTU device

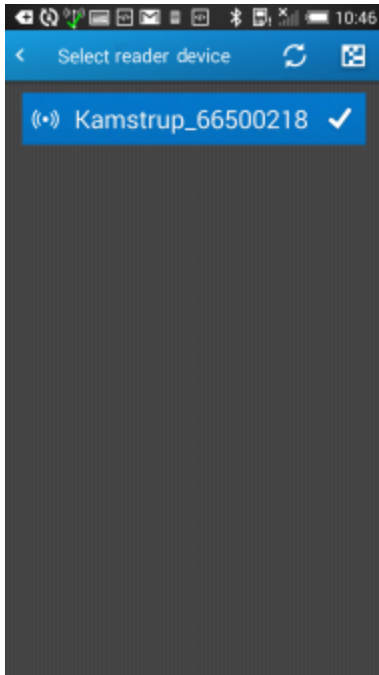
1. Start READY Manager on your PC and READY App on your smartphone/tablet.

2. On smartphone/tablet: Tap **Send/Receive** in READy App, and wait until data has been transferred.

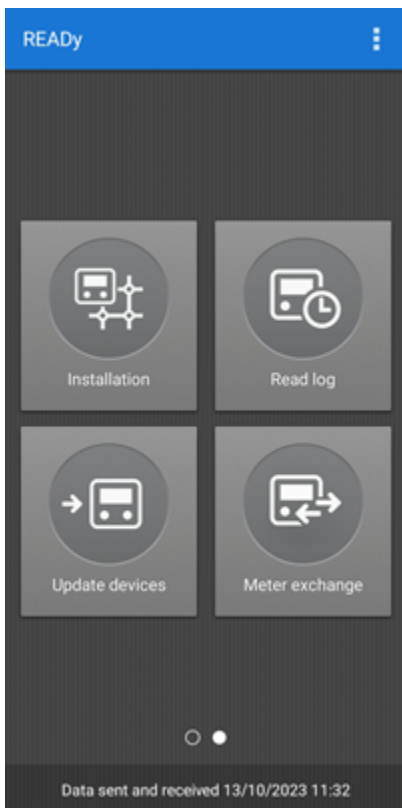


3. On the road near to the READy MTU installation site, make sure that READy Converter is turned on.
4. On your smartphone/tablet, tap  in the upper-right corner of READy App.
5. Tap **Pair with reader device**.
6. In the list of converters that appears, tap the one you want to pair with.

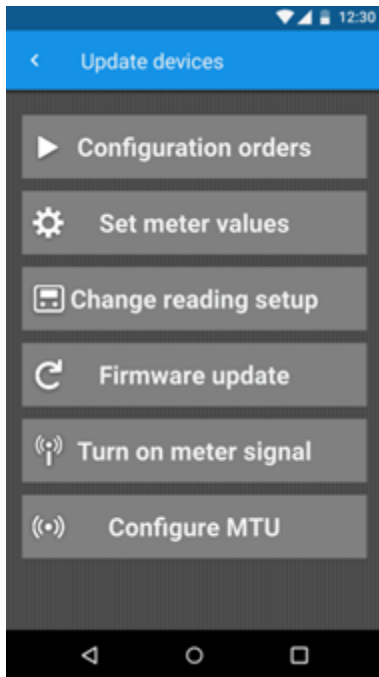
- When the converter you selected in the list turns blue and has a check mark next to it, READY App and READY Converter are paired:



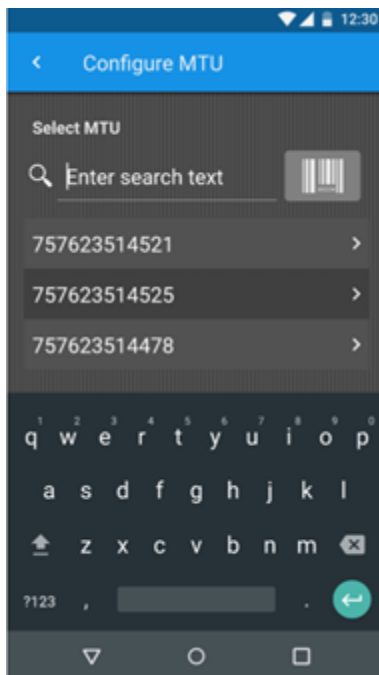
- Swipe left on the READY App home screen, and tap **Update devices**:




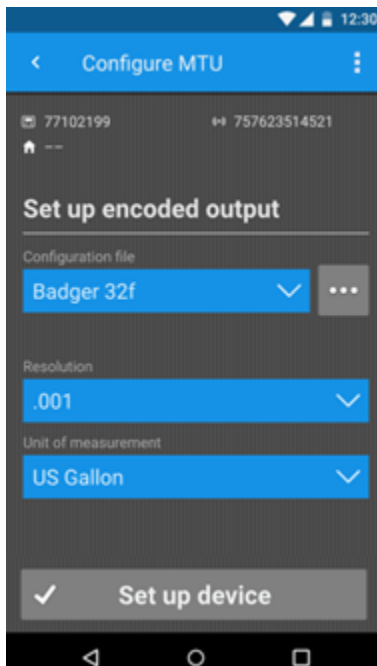
9. Tap **Configure MTU**:



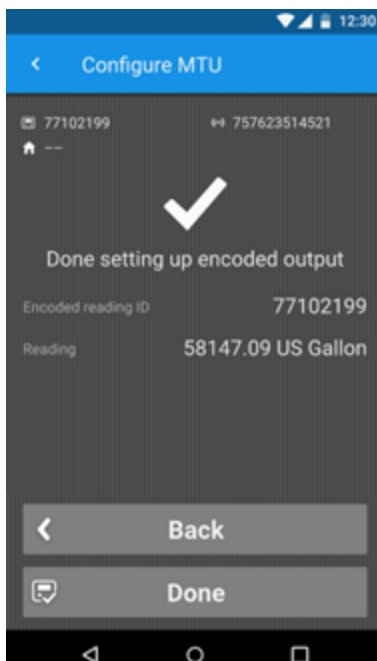
10. Select the MTU you want to reconfigure in the list (or enter serial number to quickly locate it):



11. Select another configuration file, or make changes to the existing one and tap  to rename or save your changes.



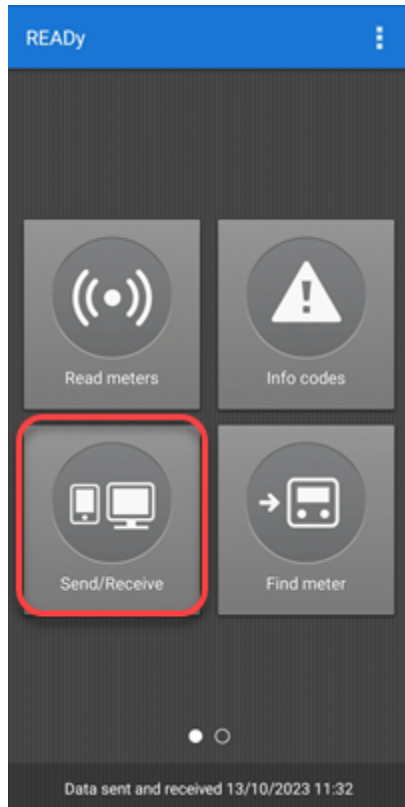
12. Tap **Set up device**.
13. Tap **Done** to finish the reconfiguration:




### 4.14.3 Removing READY MTU

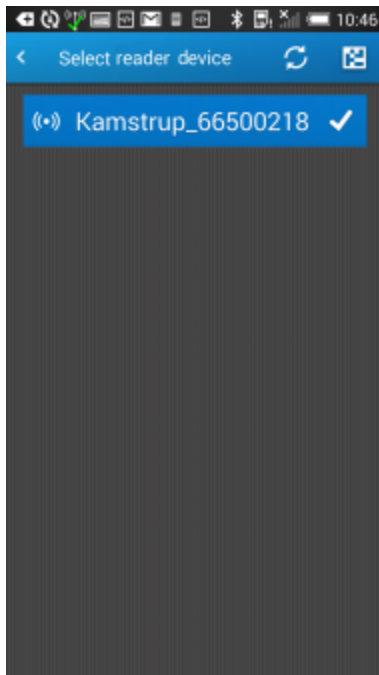
Follow the procedure below to remove a READY MTU device from your network:

1. Start READY Manager on your PC and READY App on your smartphone/tablet.
2. Tap **Send/Receive** in READY App, and wait until data has been transferred.

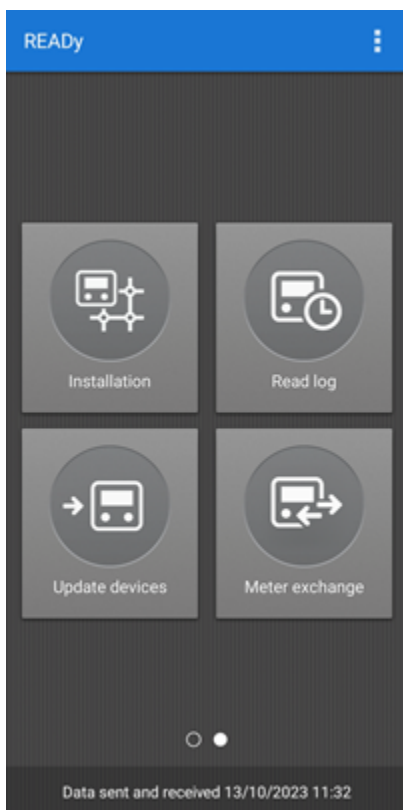


3. At the READY MTU installation site, make sure that READY Converter is turned on.
4. On your smartphone/tablet, tap  in the upper-right corner of READY App.
5. Tap **Pair with reader device**.
6. In the list of converters that appears, tap the one you want to pair with.

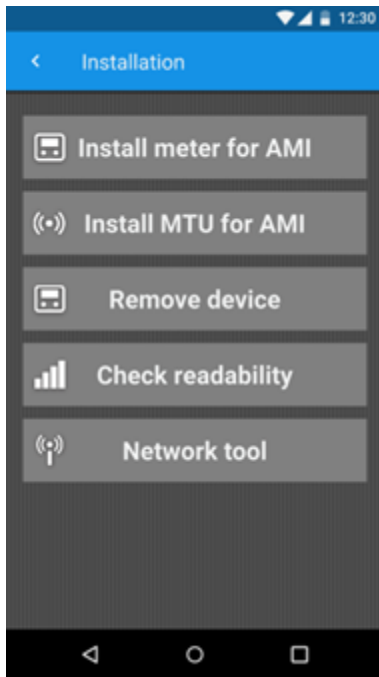
- When the converter you selected in the list turns blue and has a check mark next to it, READy App and READy Converter are paired:



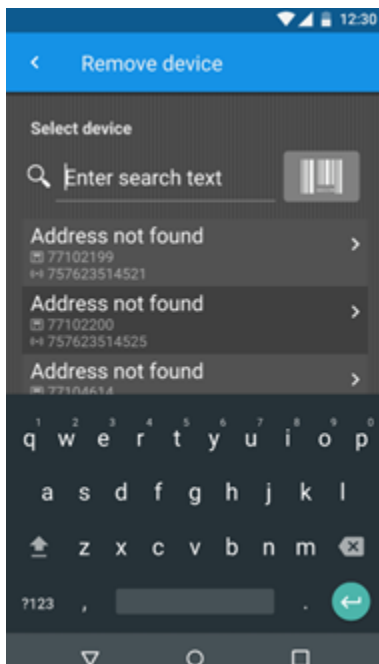
- Swipe left on the READy App home screen, and tap **Installation**:



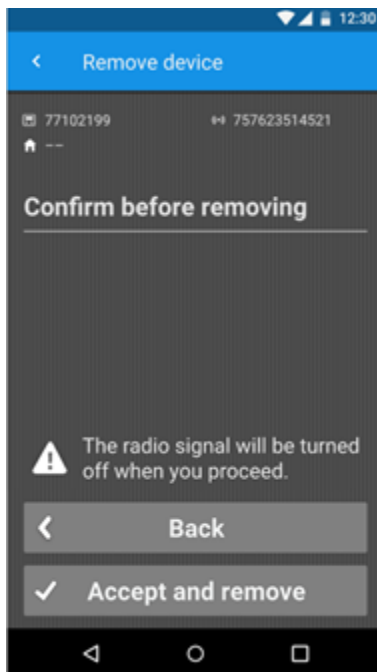
9. Tap **Remove device**:



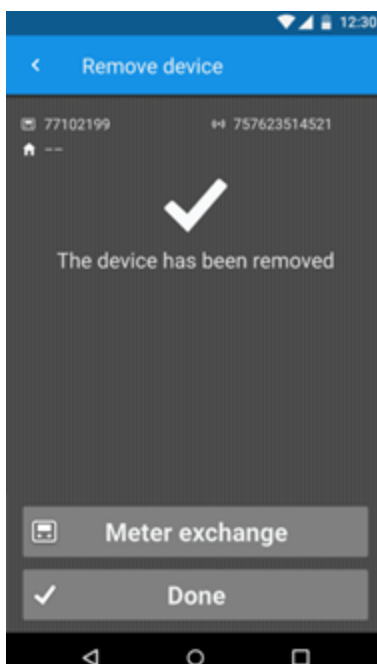
10. Select the MTU you want to remove (enter serial number to quickly locate it):



11. Tap **Accept and remove** to confirm:




12. Tap **Done** to finish:



13. Remove the MTU device from the installation site.

14. If the MTU device is not going to be used again, delete it in READY Manager:

- Click **Operation**  in the upper-right corner of READY Manager, and select **Gateways** to the left.
- Select the READY MTU in the list that you want to delete, and click the **Delete** button.

- Click **Yes** in the message that appears to confirm the deletion.

## 5 Reading meters

---

Meters can be read in following ways:

1. Via smartphone or tablet by driving or walking past the houses where the meters are installed. For details, see [Drive-by meter reading](#).
2. Automatically via collection units installed in the supply area. For details, see [Fixed network meter reading](#).
3. Manually by standing next to the meter, reading the meter display and entering the values in READY App or READY Manager. For details, see [Manual meter reading](#).

This last option is typically used if you still have a number of mechanical meters in your network that cannot be read remotely.

### 5.1 Drive-by meter reading

A drive-by meter reading includes the following main steps:

1. Transfer the latest data to READY App on your smartphone/tablet to make sure that all required data is available and up-to-date.

For details, see [Transferring latest data to mobile app](#).

2. Follow Step 2a or 2b:

- a. On the road: Read water/heat/cooling/electricity meters using READY App and READY Converter.

For details, see [Collecting reading data from a group of meters](#) or [Collecting reading data from a single meter](#).

OR

- b. In consumer's house next to meter: Collect logged data using an optical head.

For details, see [Collecting logged data from a single meter](#).

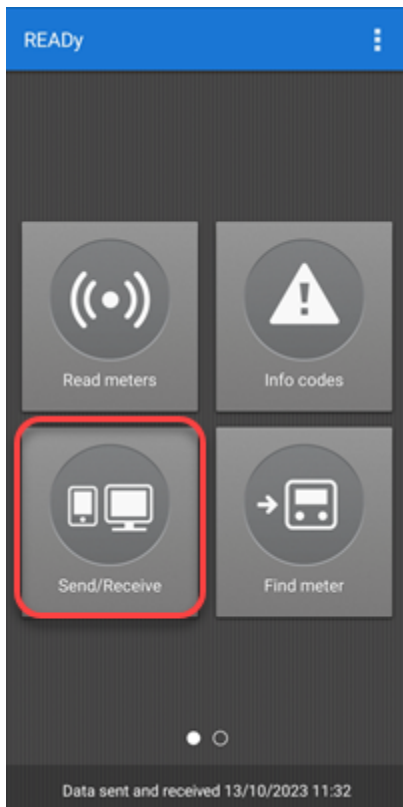
3. Transfer reading data from READY App to READY Manager on PC.

For details, see [Transferring reading data from mobile device to PC](#).

### 5.1.1 Transferring latest data to mobile app

Before any reading, always start by transferring the latest data to READYy App on your smartphone/tablet to ensure that all required data is available and up-to-date:

1. Start READYy Manager on your PC and READYy App on your smartphone/tablet.
2. On smartphone/tablet: Tap **Send/Receive** in READYy App, and wait until the data has been transferred.



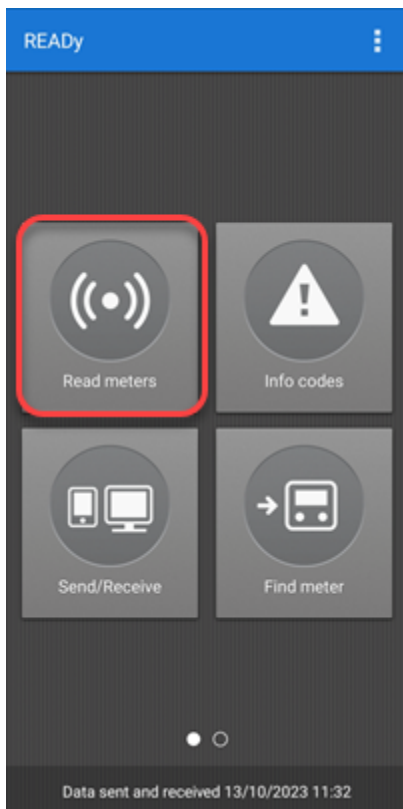
**Note** No more than 30,000 meters can be available at a time in READYy App. If you have more than 30,000 meters in READYy Manager, a window appears in READYy App asking you to select the group(s) of meters you currently want to be available.

### 5.1.2 Collecting reading data from a group of meters

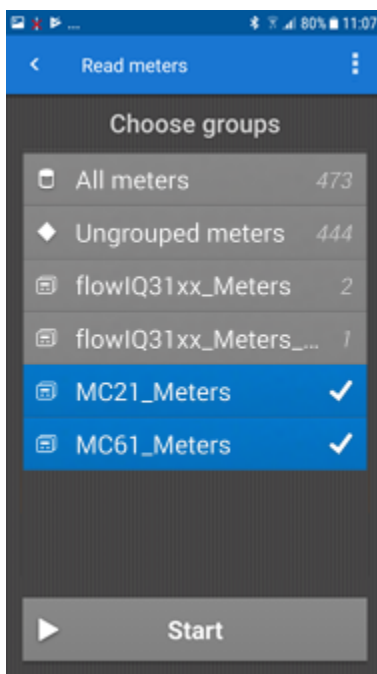
Use the following procedure to collect reading data:

1. Make sure that READYy Converter is turned on.
2. If you use a roof antenna that is not permanently installed in the car, place the antenna on the roof.


- On the smartphone/tablet, tap **Read meters** in READYy App.




- In the list of groups that appear, tap the meter group(s) you want to read. Then tap **Start**:

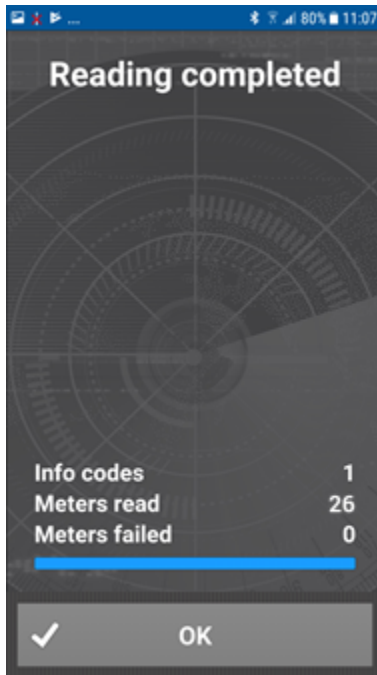


- Drive or walk by the meters you want to read.

You can switch to map view by clicking  in the upper-right corner of the screen. The meters will disappear from the list/map as they are read.

**Note** Meters with [high-priority info codes](#) stay on the map/list with a red warning triangle (if you have turned on the **Keep info codes while reading** check box that you find here: READYy App home screen >  > **Settings**).

When all meters are read, a message will appear:



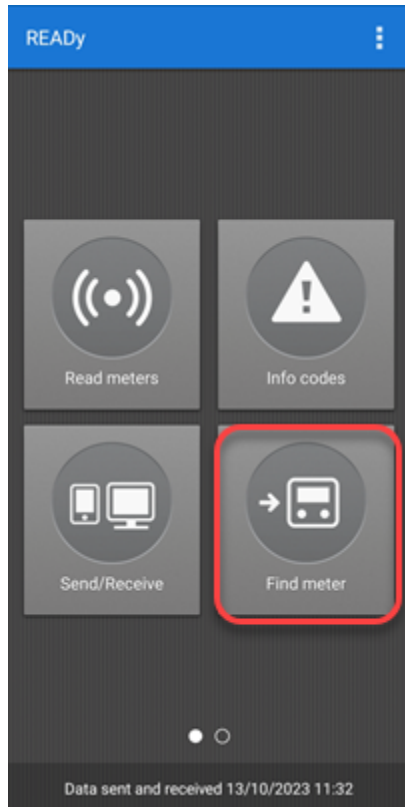
6. Tap **OK**.

It is possible to **pause or finish the reading before all meters are read** by tapping the back-arrow  in the upper-left corner.

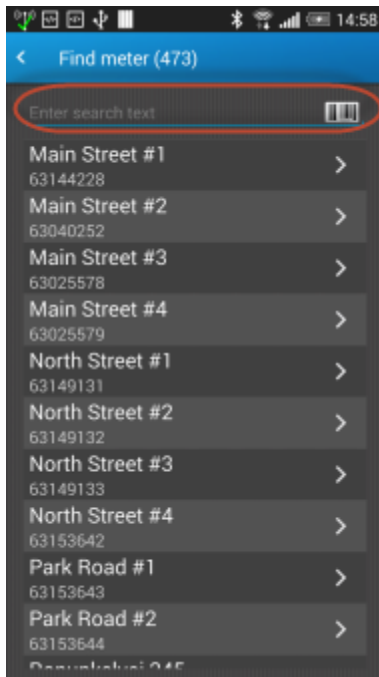
### 5.1.3 Collecting reading data from a single meter

Use the following procedure to collect reading data from a single meter:

1. Make sure that READY Converter is turned on.
2. On the smartphone/tablet, tap **Find meter** in READY App.




3. Follow Step 3a or 3b to find the meter you want to read:

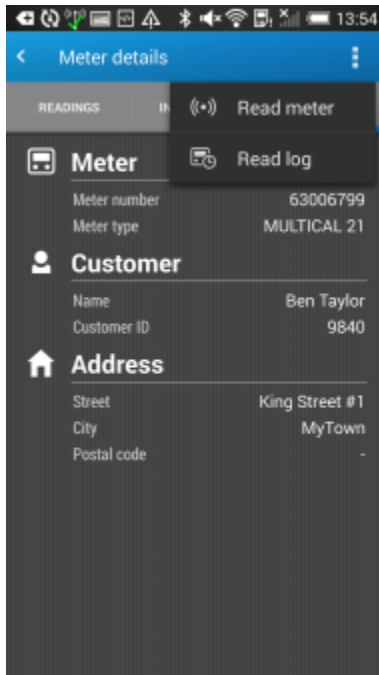


a. In the list of meters that appear, select the one you want to read (use the search field to quickly locate it if desired).

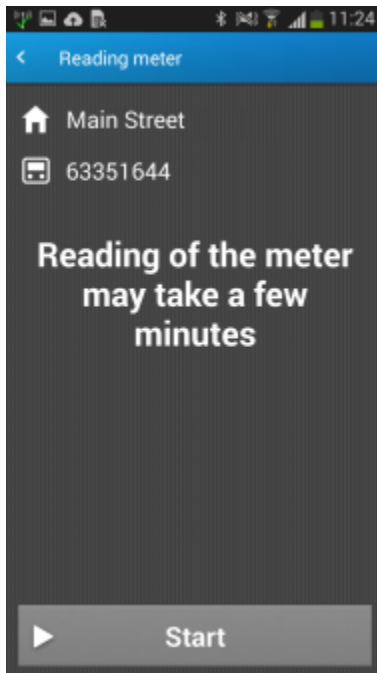
**OR**

b. If you are right next to the meter you want to read, tap the bar code icon rightmost in the search field, and scan the bar code of the meter you want to read.

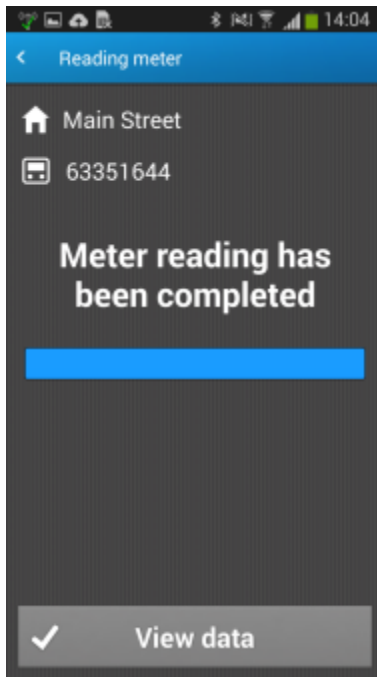
- On the **Meter details** screen, tap the details menu  in the upper-right corner. Tap **Read meter**:



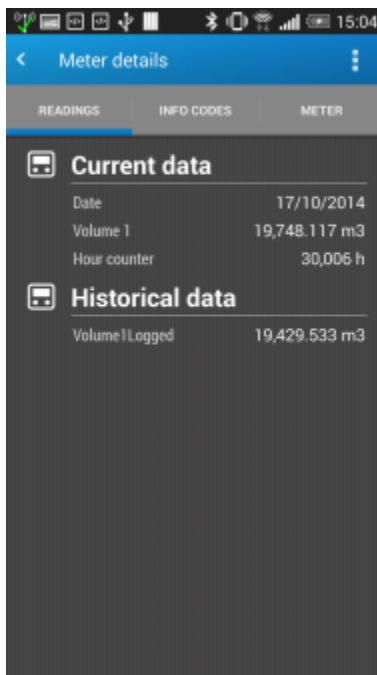
- Tap **Start** at the bottom of the screen:



- When the reading has been completed, tap **View data** at the bottom of the screen:



Reading data is now displayed on the **Meter details** screen:



### 5.1.4 Collecting logged data from a meter



You collect logged data from a meter by using an optical head with the meter.


However, meters of the type:

- 
- flowIQ® 2200
- flowIQ® 2250
- flowIQ® 3250
- flowIQ® 4200

can also be read remotely from the street. For details, see [Collecting logged data from meters with two-way communication](#).

**Note** In READy App you are able to see logged data for 460 days back in time - no matter if the meter has been installed at different installation addresses during this time period. However, when data is transferred to READy Manager, only the logged data for the current installation address is displayed in READy Manager to avoid mixing up the consumption data for more customers.

#### How to read logged meter data using an optical head

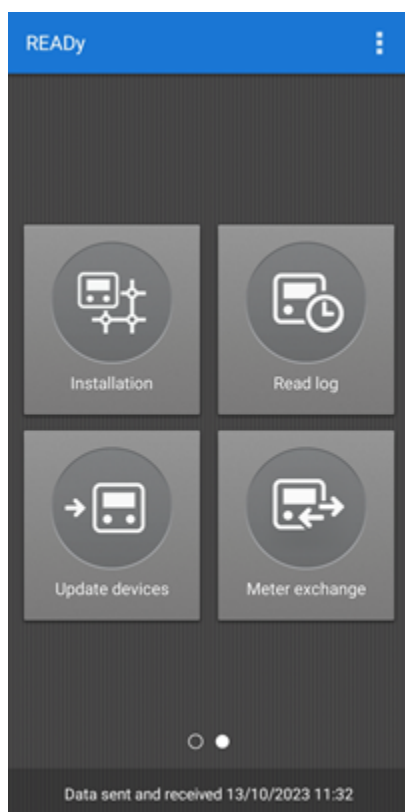
1. Turn on the optical head.
2. On your smartphone/tablet, tap  in the upper-right corner of READy App.
3. Tap **Pair with reader device**.
4. In the list of optical heads that appears, tap the one you want to pair with (see the number on the optical head to identify the right one).

READy App and the optical head are paired when the light on the optical head turns blue, and when the optical head you selected in the list in READy App turns blue and has a check mark next to it.

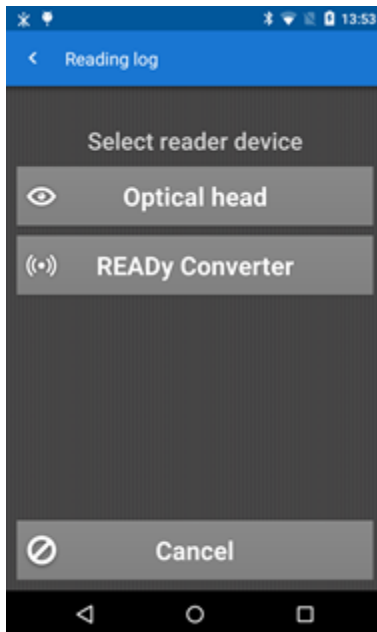
5. Place the optical head on the meter whose log you want to read.



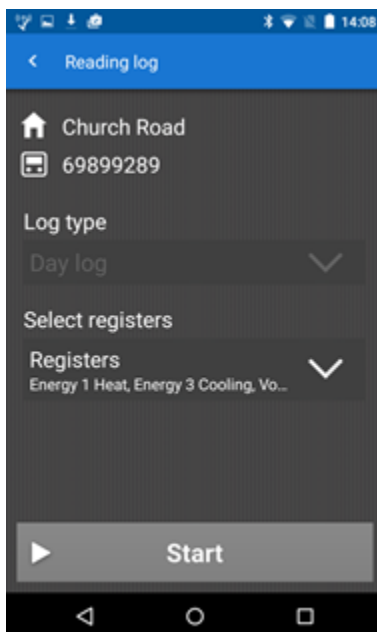
6. On your smartphone/tablet, swipe the screen to go to page two of the READY App home screen and tap **Read log**:



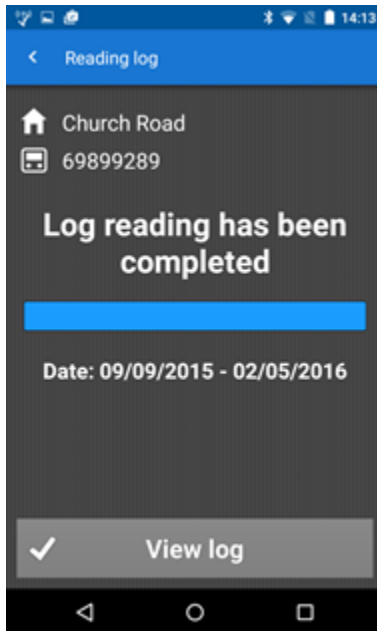
- On the **Reading log** screen that appears, select **Optical head**.



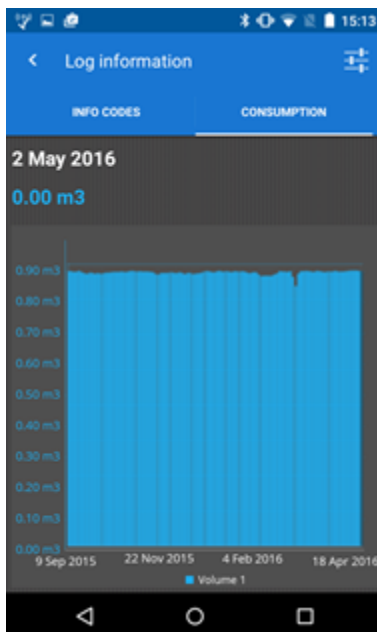
- When the meter appears on the screen, tap **Start**:




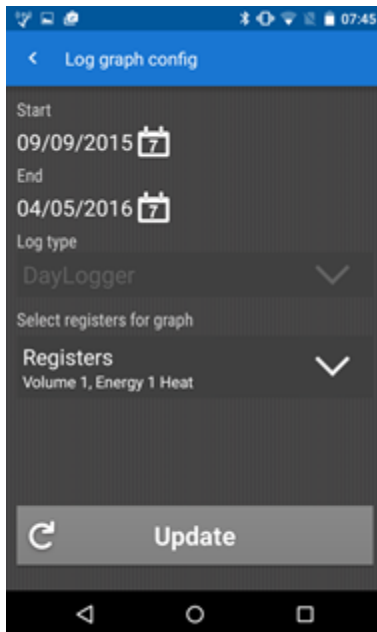
Once the log reading has been completed, the optical head can be removed from the meter and turned off. Furthermore, you can click **View log** at the bottom of the screen to see the collected data:



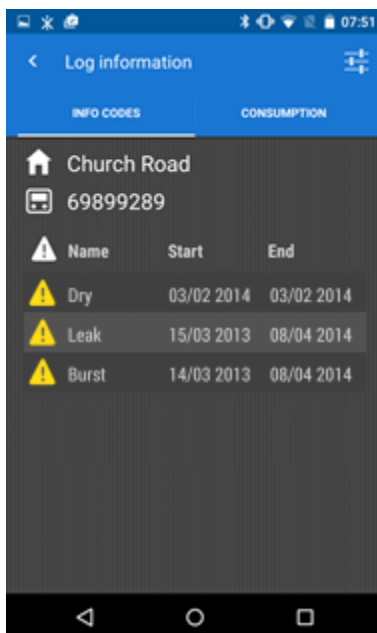
If you tap **CONSUMPTION** at the top of the screen that appears, you will see a bar chart of the collected consumption data:



Tap  at the top right corner of the screen to select the log, registers and the time period for which you want to see the consumption, and tap **Update**:



If you tap **INFO CODES** at the top of the **Logger information** screen, you will see a list of all meter info codes, e.g. leakage and burst, that have been logged in the meter:

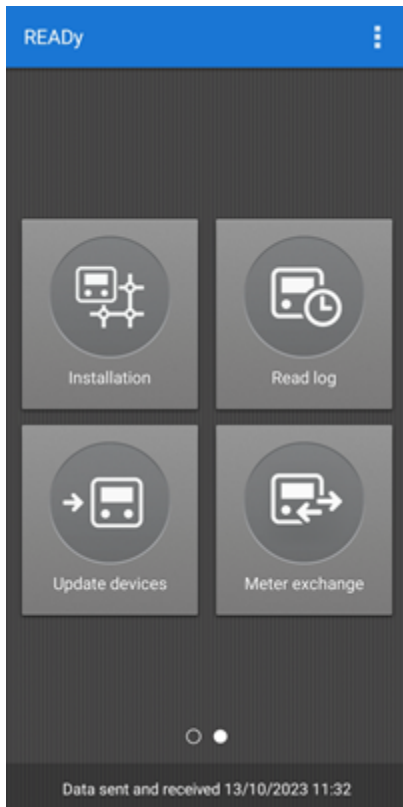


### 5.1.4.1 Collecting logged data from meters with two-way communication

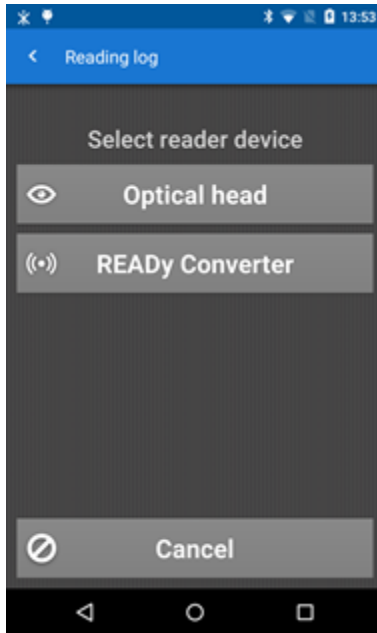
Follow the procedure below to collect logged data from a flowIQ® 2200, flowIQ® 2250, flowIQ® 3250 or flowIQ® 4200 meter.

**Note** These meter types can be read remotely from the street without using an optical head with the meter.

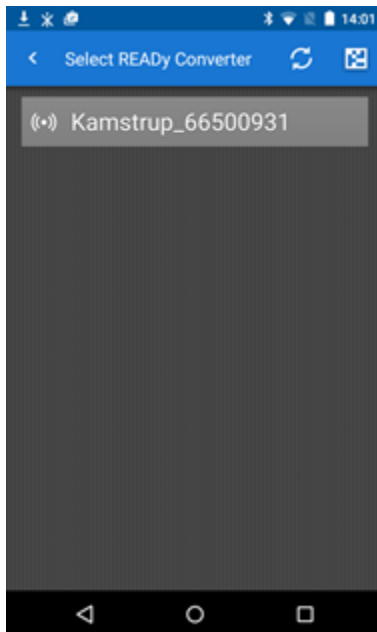
1. On your smartphone/tablet, swipe the screen to go to page two of the READY App home screen and tap **Read log**:



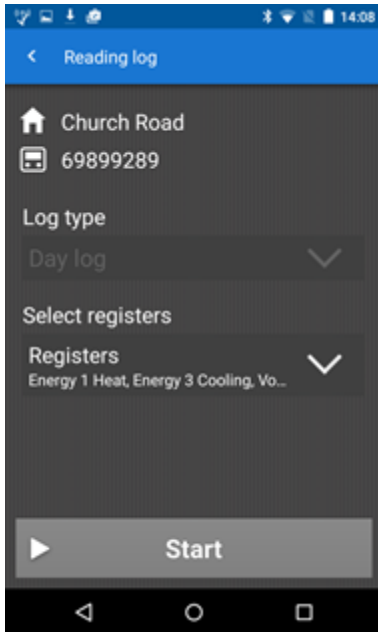
2. On the **Reading log** screen that appears, tap **READy Converter**:



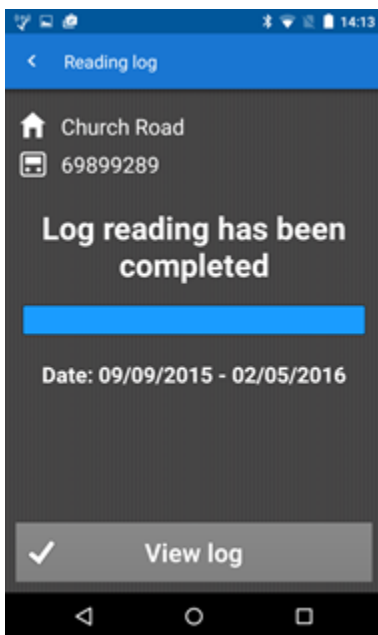
3. On the **Select READy Converter** screen that appears, tap the one you want to pair with (see the number on the back of READy Converter to identify the right one):



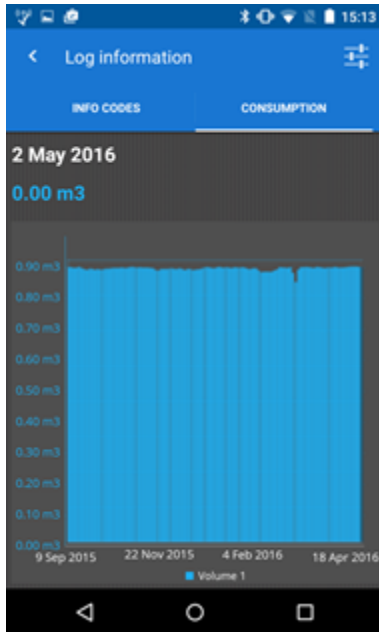
- On the screen that appears, tap the type of log you want to read (if the meter has more than one) and the registers within this log that you want to read. Tap **Start**:




Once the log reading has been completed, you can tap **View log** at the bottom of the screen to see the collected data:



If you tap **CONSUMPTION** at the top of the screen that appears, you will see a bar chart of the collected consumption data:



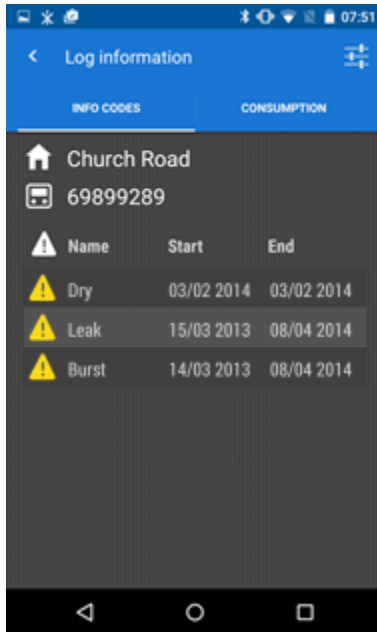
Tap  at the top right corner of the screen to select the log, registers and the time period for which you want to see the consumption, and tap **Update**:

The screenshot shows the 'Log graph config' screen. It has a blue header with a back arrow and the title 'Log graph config'. Below the header, there are several configuration options:
 

- Start:** 09/09/2015 with a calendar icon.
- End:** 04/05/2016 with a calendar icon.
- Log type:** DayLogger with a dropdown arrow.
- Select registers for graph:** Registers with a dropdown arrow.
- Registers:** Volume 1, Energy 1 Heat with a dropdown arrow.

 At the bottom of the screen, there is a large grey button with a refresh icon and the text 'Update'.

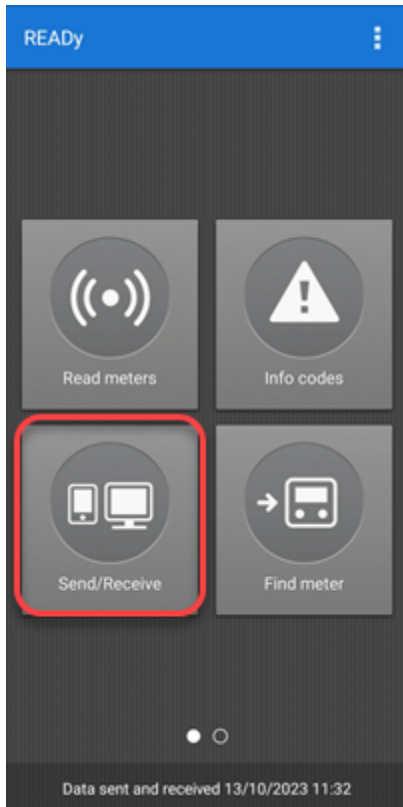
If you tap **INFO CODES** at the top of the **Logger information** screen, you will see a list of all meter info codes, e.g. leakage and burst, that have been logged in the meter:



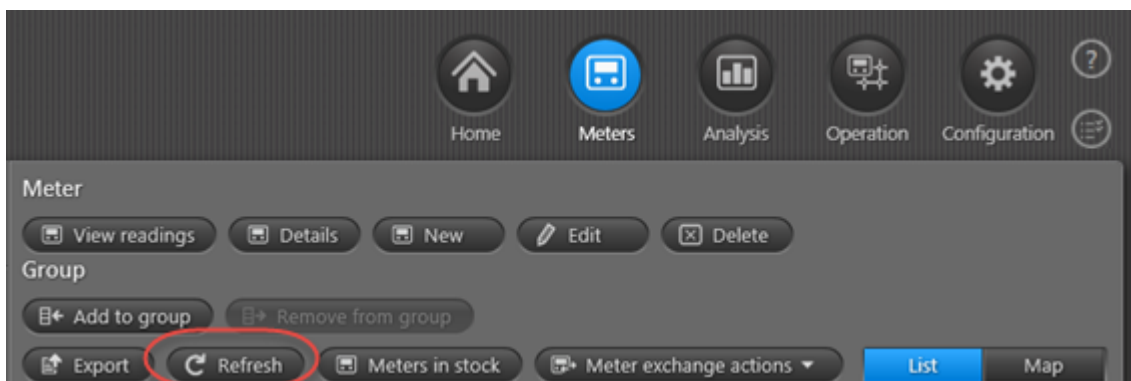
### 5.1.5 Transferring reading data from mobile app to PC

Use the following procedure to transfer metering data from READYy App to READYy Manager:

1. Make sure the PC with READYy Manager is turned on.
2. On smartphone/tablet: Tap **Send/Receive** in READYy App, and wait until the data transfer is complete.



3. On PC: Click the **Refresh** button at the top of READYy Manager to update the meter list with the new readings.



## 5.2 Fixed network reading

If you have a fixed network solution:

- based on [wireless M-Bus reading](#), hourly or daily reading data are automatically available in READY Manager.

### 5.2.1 Reading meters in wireless M-Bus radio network

In order to read meters in a wireless M-Bus radio network, collection units must be installed in your network. For details, see [Installing collection units](#).

Once the collection units have been properly installed, the automatic meter reading starts.



#### Fallback reading of meters in a two-way radio network (AMI)

All meters in a two-way radio network can also be read via READY App (drive-by reading). For details, see [Fallback reading for two-way radio network meters \(AMI\)](#). However, they take a little longer to read from the street than meters designed for drive-by reading. Furthermore, a drive-by reading only collects the current reading values and current meter events (info codes) whereas a meter reading via a collection unit collects *hourly* reading values.

Depending on the battery reserve capacity, a meter stores hourly readings for the collection unit for 9 to 24 hours (24 hours by normal usage). This means that you will lose no hourly reading values if the connection to the collection unit is reestablished within this time frame - and the collection will take place automatically as usual.

If the connection is not reestablished within this time frame, all AMI meters log hourly reading values for 100 days that can be collected by driving to each meter and perform a log reading via READY App. For details, see [Collecting logged data from meters with two-way communication](#).

To avoid unnecessary extra work, your first priority should therefore always be to reestablish the connection to the collection unit if it is broken (see the documentation for your collection unit for information on how to solve connection problems). You monitor the connection to your collection


units in **Operation**  > **Infrastructure**. A warning symbol appears  if no contact has been established to a collection unit for the last 5 hours. For details, see [Monitoring automatic collection units in radio network](#).

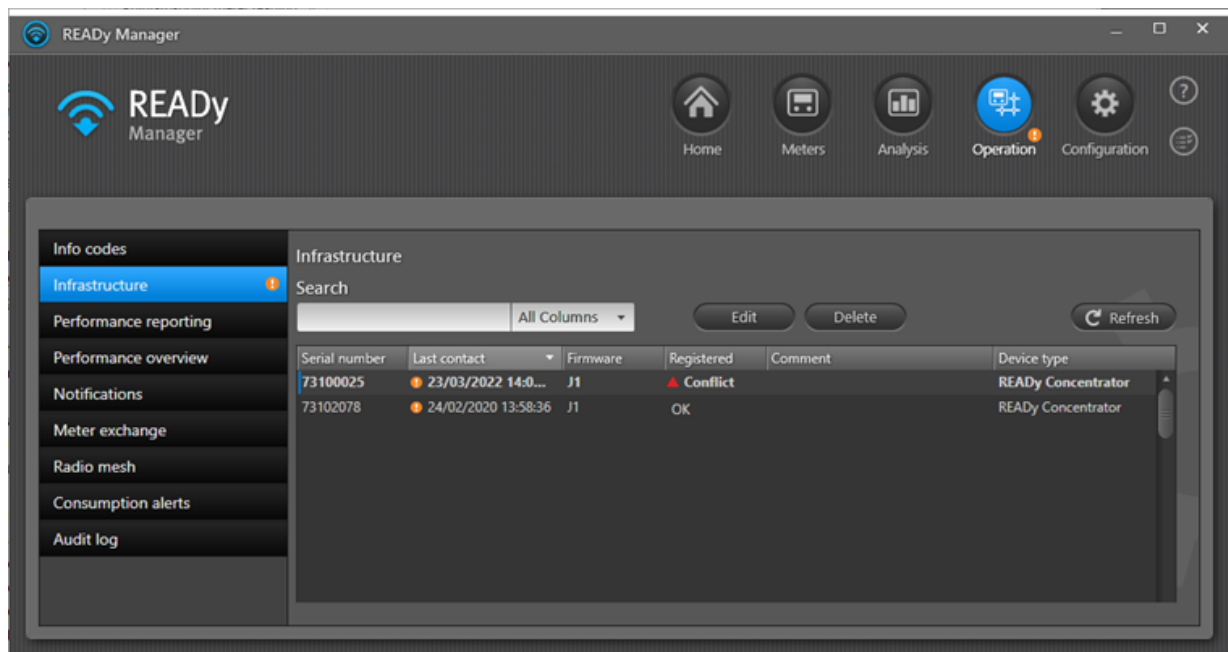
#### 5.2.1.1 Monitoring automatic collection units in radio network

If you read meters automatically via a [fixed network](#), READY continuously monitors the connection to collection units in your network and an alert is triggered if the last time of contact exceeds a certain time period. For details, see [Last contact alerts for collection units](#).

You can also check the connection to a specific collection unit in your radio network by following the procedure below:

## How to check the connection to a collection unit in your network

1. Click **Operation**  in the upper-right corner of READY Manager, and select **Infrastructure** to the left.



2. If desired, use the **Search** field to locate the collection unit(s) you want to check.
3. Check the **Last contact** field, to see the time of the latest contact with the collection unit.

### 5.2.1.2 Fallback reading for two-way radio network meters (AMI)

If the connection to a collection unit is broken, it is possible to read all meters in a two-way radio network via READY App (drive-by reading).

Basically, a fallback drive-by reading of AMI meters is only required in these two situations:

1. You need to send out an invoice now (and therefore need to read the current meter count) and cannot wait for the connection to the collection unit to be reestablished.
2. In case of a disaster, you need to quickly locate the meters with burst alarm in order to disconnect the water supply to these meters.

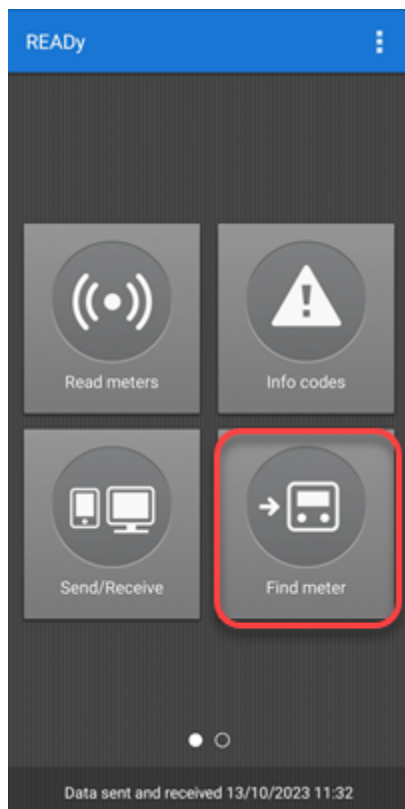
For more information about fallback reading, see [Reading meters in radio network](#).

**Note** AMI meters take a little longer to read from the street than meters designed for drive-by reading. This means you probably have to stop the car at regular intervals and wait for the meters to be read.

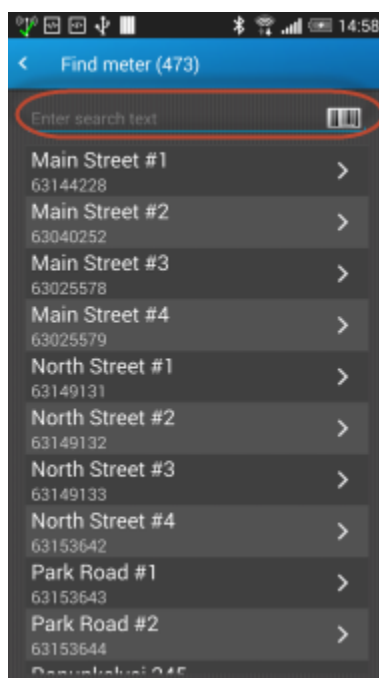
Follow the procedure below to read one or more AMI meters via drive-by reading using READY App:


## How to read a single AMI meter via READY App

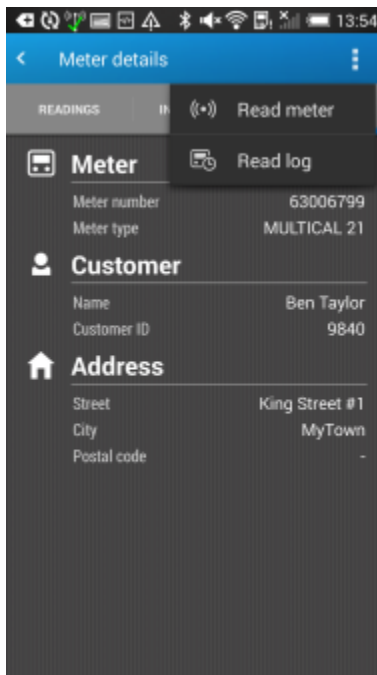
1. On the smartphone/tablet, tap **Find meter** in READY App.



2. In the list of meters that appear, select the one you want to read (use the search field to quickly locate it if desired):



- On the **Meter details** screen, tap the details menu  in the upper-right corner. Tap **Read meter**:

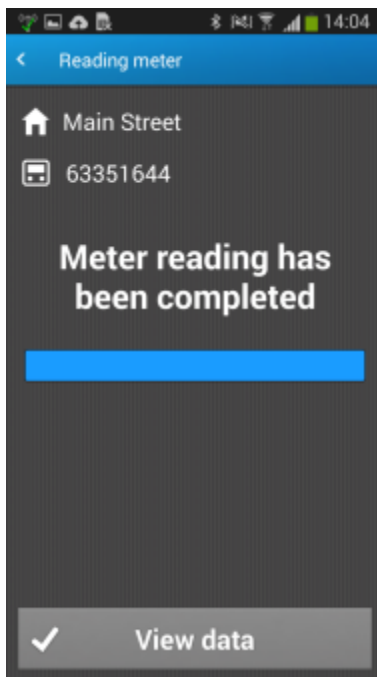


- Select **Use fallback reading** at the bottom of the screen:

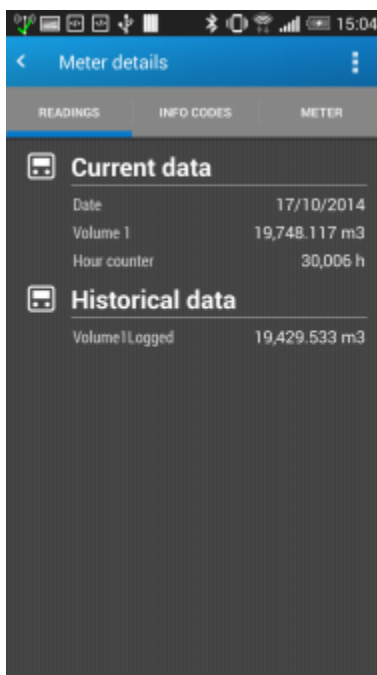


- Tap **Start**.

- When the reading has been completed, tap **View data** at the bottom of the screen:

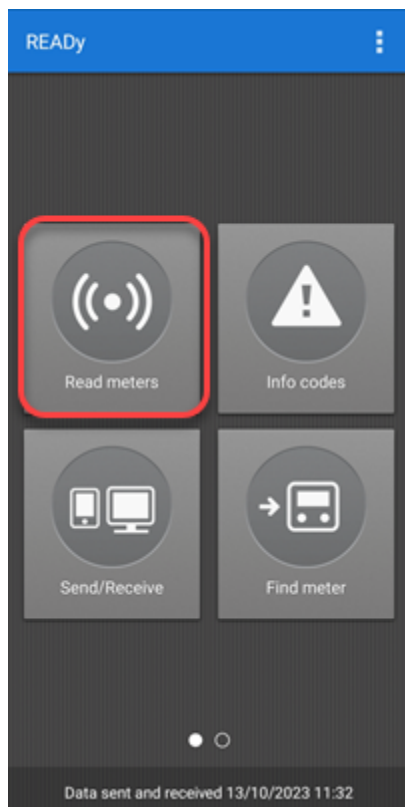


Reading data is now displayed on the **Meter details** screen:

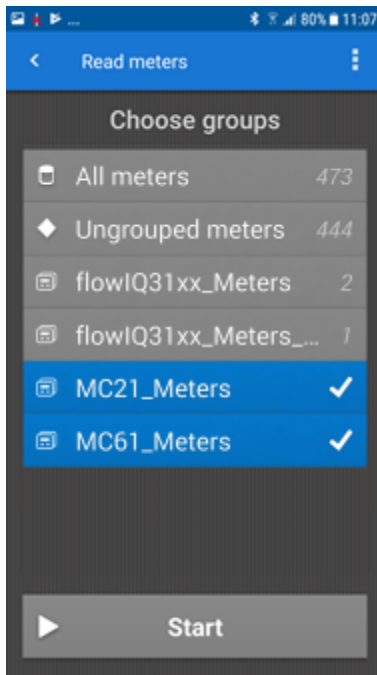



## How to read more AMI meters via READY App

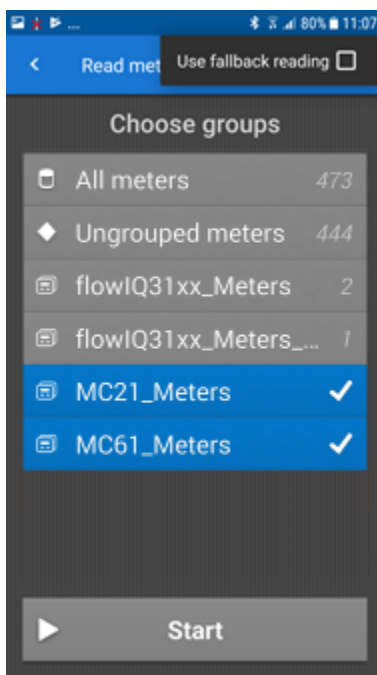
1. Make sure that READY Converter is turned on.
2. If you use a roof antenna that is not permanently installed in the car, place the antenna on the roof.
3. On the smartphone/tablet, tap **Read meters** in READY App.



- In the list of groups that appear, tap the meter group(s) you want to read.




- Tap  in the upper-right corner. Tap **Use fallback reading**:

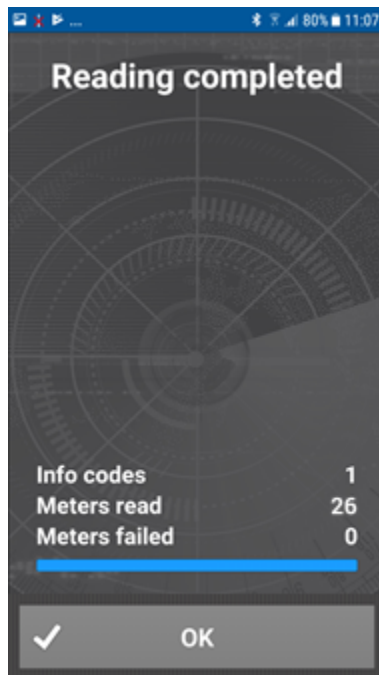


- Tap **Start** at the bottom of the screen.

- Drive or walk by the meters you want to read.

You can switch to map view by clicking  in the upper-right corner of the screen. The meters will disappear from the list/map as they are read.

When all meters are read, a message will appear:



- Tap **OK**.

### 5.3 Point-to-point meter reading

Point-to-point meter reading takes place automatically, and hourly or 15-minute reading data are automatically available in READY Manager when the NB-IoT meters have been properly installed (and the meters have been imported into READY Manager). Hourly readings are sent from the meter once per day and 15-minute readings are sent four times per day.


**Note** You can set up a time interval during which the meter sends data to READY. For details, see [Data transmission interval for NB-IoT meters](#).

The following meters can be read via NB-IoT point-to-point network:

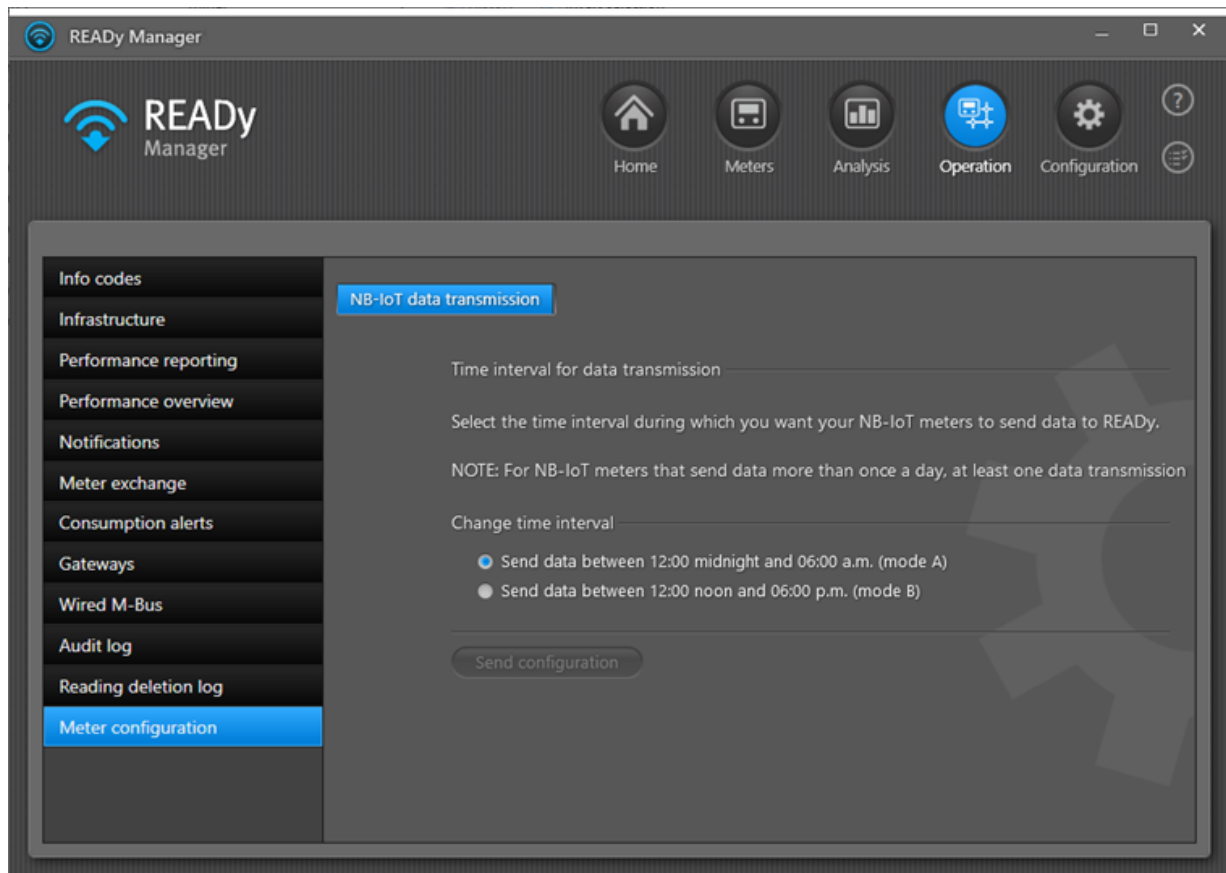
- flowIQ® 2200
- flowIQ® 3200.

#### 5.3.1 Data transmission interval for NB-IoT meters

For NB-IoT meters of the type flowIQ® 2200 or 3200, you can change the time interval during which the meters send data to READY:

- Click **Operation**  in the upper-right corner of READY Manager, and select **Meter configuration** to the left.

- On the NB-IoT data transmission tab, select **Send data between 00.00 and 06.00** (12.00 midnight and 06.00 a.m.) or **Send data between 12.00 and 18.00** (12.00 noon and 06.00 p.m.):



- Click **Send Configuration**.

The configuration order is now sent to the NB-IoT network.

## 5.4 Manual meter reading

In addition to reading meters remotely via mobile phone or collection unit, it is also possible to manually enter meter readings in READYy App or READYy Manager that have been collected by standing next to the meter and writing down the numbers shown on the meter display.

Manual reading is typically used if you still have a number of mechanical meters in your network that cannot be read remotely.

**Note** It is *not* possible to enter manual readings for a meter that has already been read remotely or for which encryption keys are available in the system.

### What do you want to do?

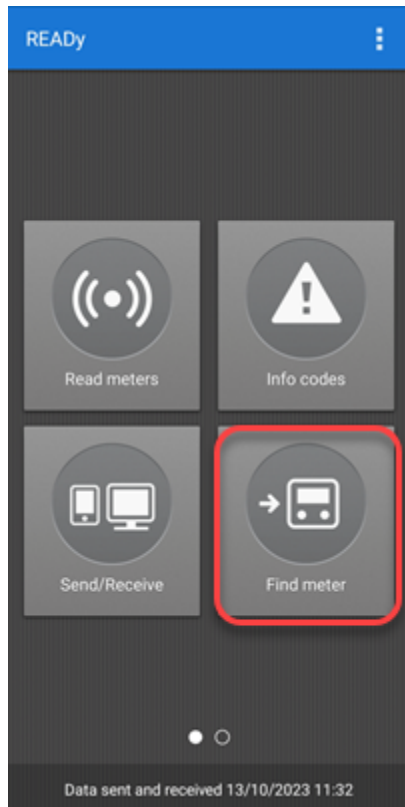
- [Enter a manual reading in READYy App](#)
- [Enter a manual reading in READYy Manager](#)
- [Include manual readings in a drive-by reading](#)
- [Delete manual readings](#)

### 5.4.1 Entering manual readings

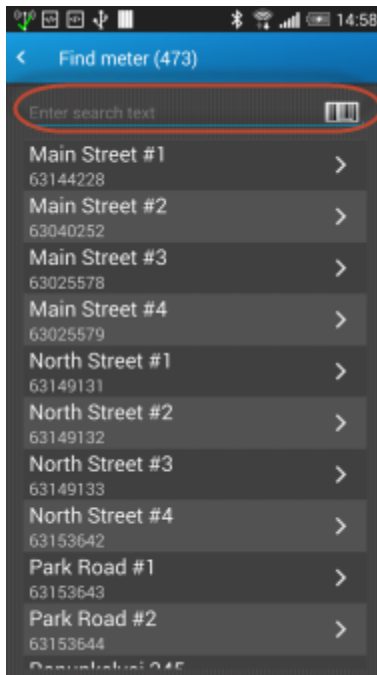
Use the following procedure to manually enter readings in READy App and in READy Manager:


#### How to enter the manually read numbers from the meter display in READy App

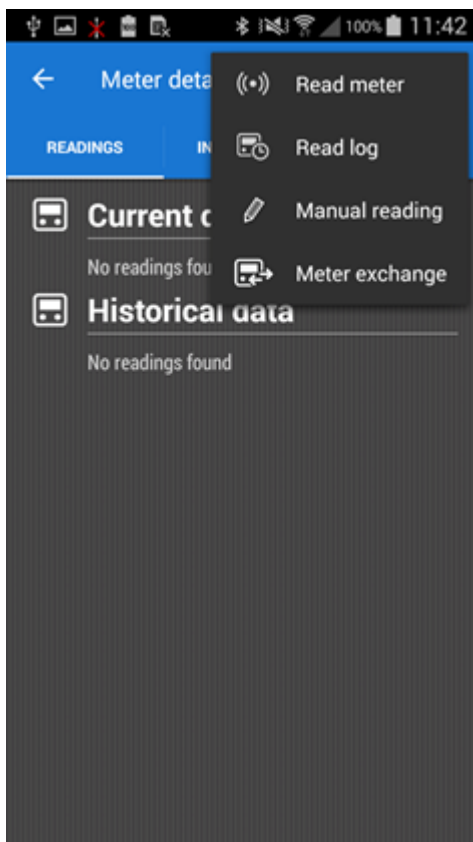
1. On the smartphone/tablet, tap **Find meter** in READy App.



- In the search field, enter the number of the meter for which you want to enter readings:

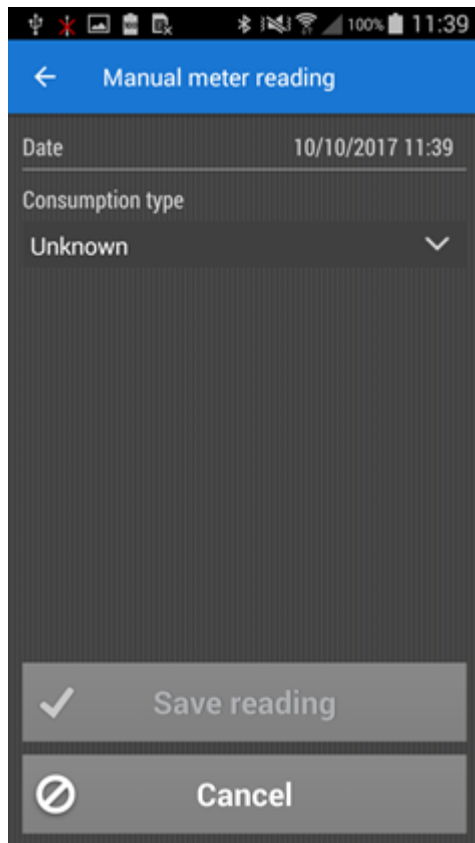


- On the **Meter details** screen, tap the details menu  in the upper-right corner. Tap **Manual reading**:

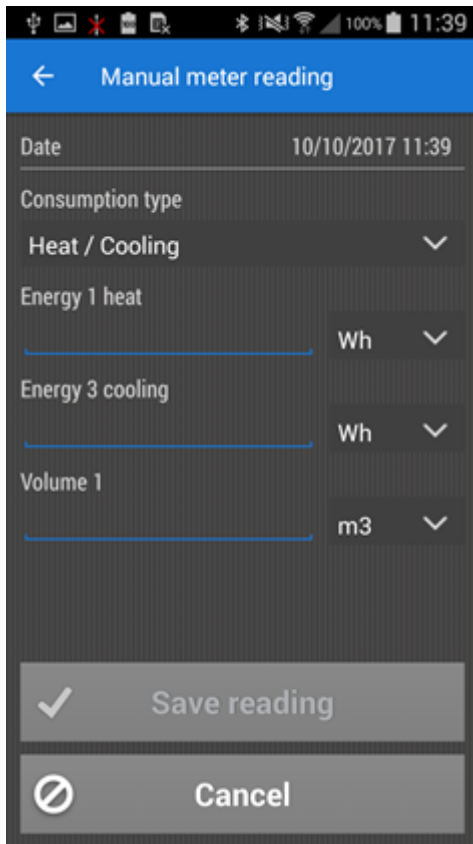


Follow Step 4 if you have not yet registered a consumption type for the meter. Otherwise go to Step 5.

4. Select the consumption type of the meter for which you want to enter readings:



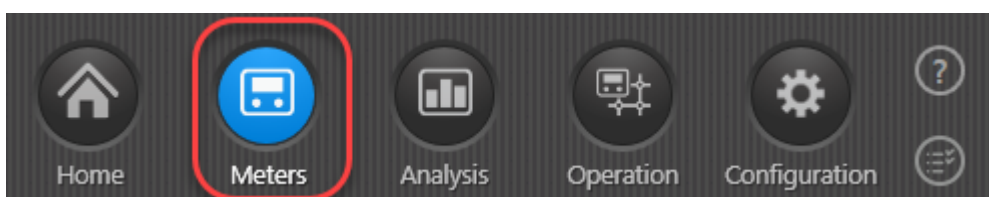
- Enter the readings from the meter display, and select the unit of measurement:



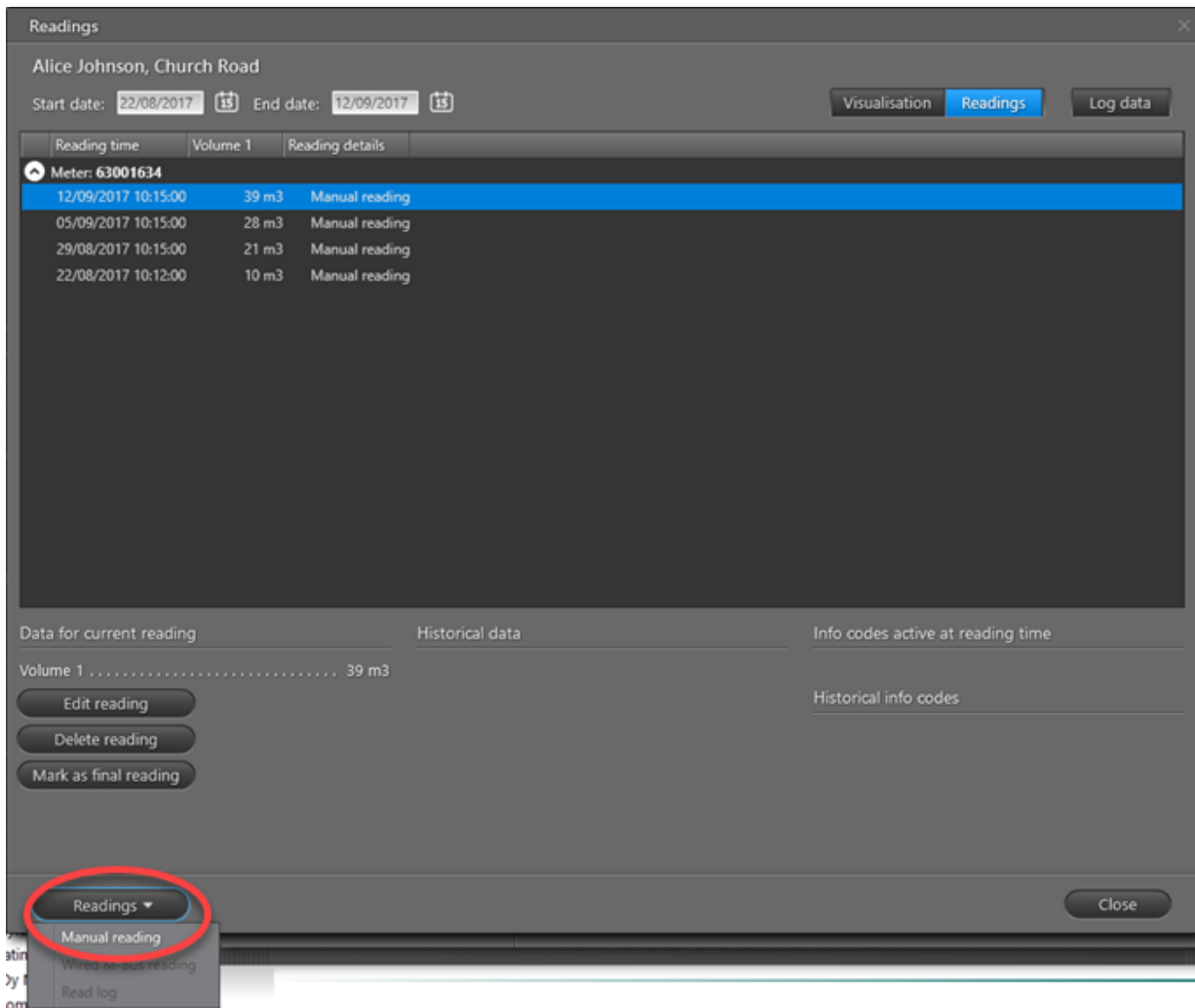
- Tap **Save reading**.

### How to enter the manually read numbers from the meter display in READY Manager

- Click  in the upper-right corner of READY Manager to open the **Meters** view.

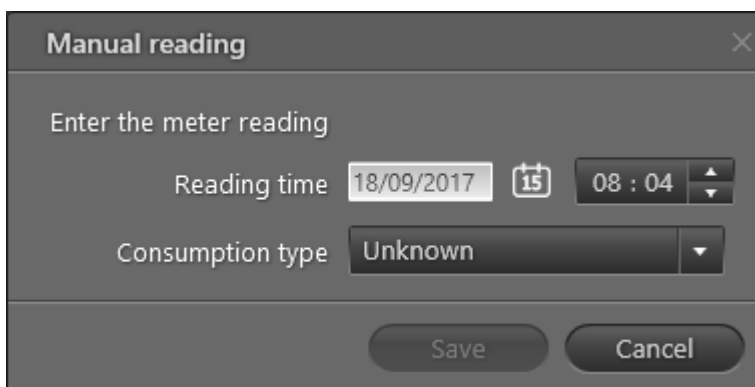


- In the list of meters, double-click the meter for which you want to manually enter reading data.
- In the bottom left corner, click the **Readings** button and select **Manual reading** in the menu that appears:

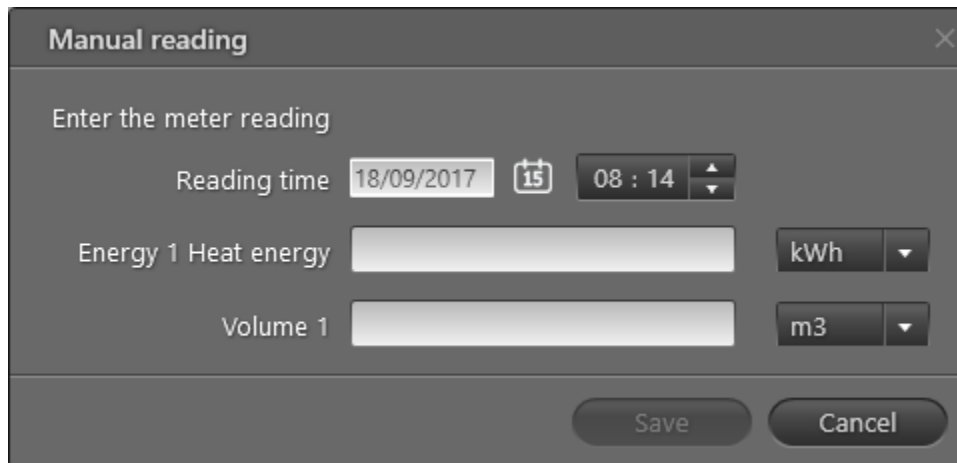


Follow Step 4 if you have not yet registered a consumption type for the meter. Otherwise go to Step 5.

4. Select the consumption type of the meter:



5. Select the data and time of the manual reading, and enter the reading data in the desired unit of measurement:



The image shows a 'Manual reading' dialog box with a close button (X) in the top right corner. The main heading is 'Enter the meter reading'. Below this, there are two rows of input fields. The first row is 'Reading time', which includes a date field containing '18/09/2017' with a calendar icon, and a time field containing '08 : 14' with up and down arrow icons. The second row has two input fields: 'Energy 1 Heat energy' and 'Volume 1'. To the right of the 'Energy 1 Heat energy' field is a dropdown menu showing 'kWh'. To the right of the 'Volume 1' field is a dropdown menu showing 'm3'. At the bottom of the dialog box, there are two buttons: 'Save' and 'Cancel'.

The consumption type of the meter determines which kind of meter data you are able to enter. You only need to enter one type of meter data even though more are available.

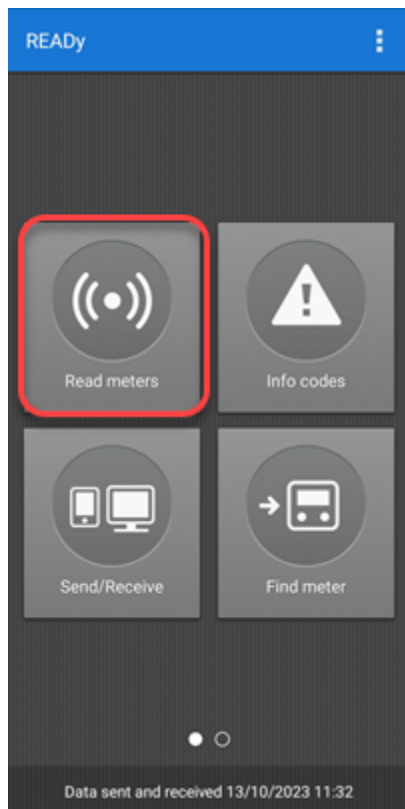
6. Click **Save**.
7. Click **Close** to close the **Readings** window.

#### 5.4.2 Drive-by reading with manual readings

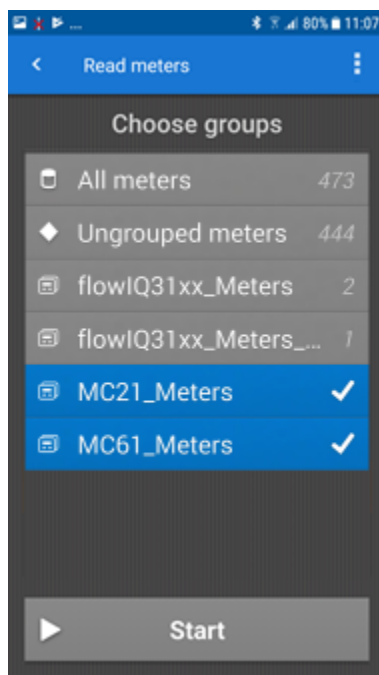
It is possible to include manually read meters in a drive-by reading job - or start a drive-by reading with manually read meters only.


If your reading job contains manually read meters only, you do not need READY Converter. However, if your reading job contains at least one remotely read meter, make sure to turn on READY Converter when you want to start the drive-by reading.

1. On the smartphone/tablet, tap **Read meters** in READYy App.



2. In the list of groups that appear, tap the meter group(s) with your manually read meters. Then tap **Start**:



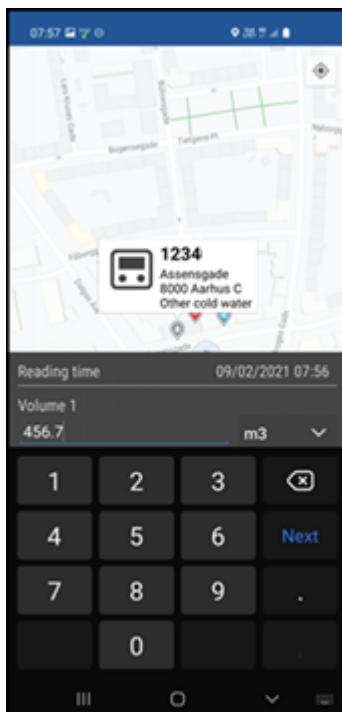
You can switch to map view by tapping the  icon.

3. Tap the meter in the list or on the map for which you want to enter a manual reading.

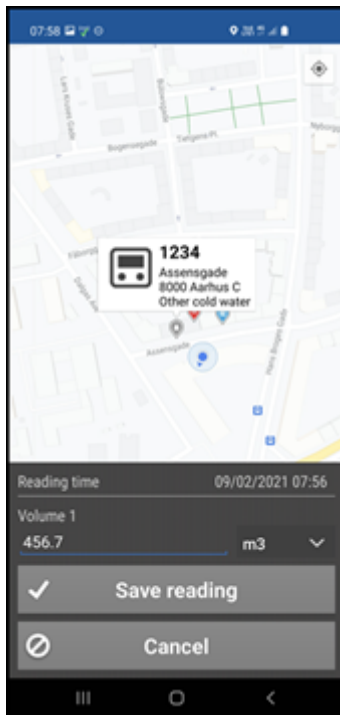
Manually read meters are indicated with a grey icon on the map:



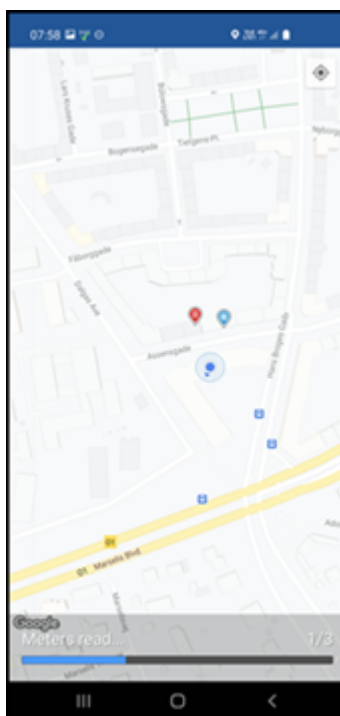
4. Enter the manually read value and tap **Next**:



5. Tap **Save reading**:

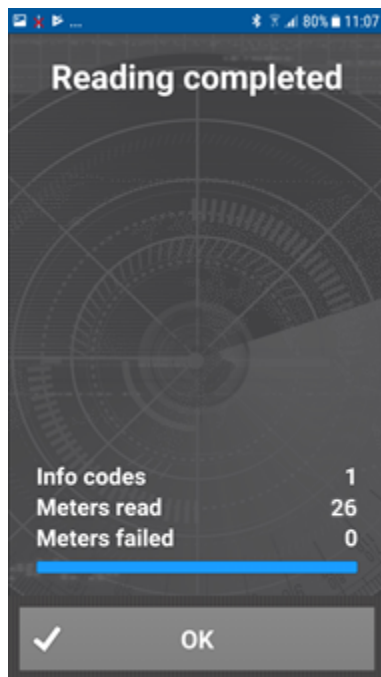


The manually read meter disappears from the list/map when you have saved the reading:




6. Continue with your drive-by reading.

When all meters are read, a message will appear:



7. Tap **OK**.

It is possible to **pause or finish the reading before all meters are read** by tapping the back-arrow  in the upper-left corner.

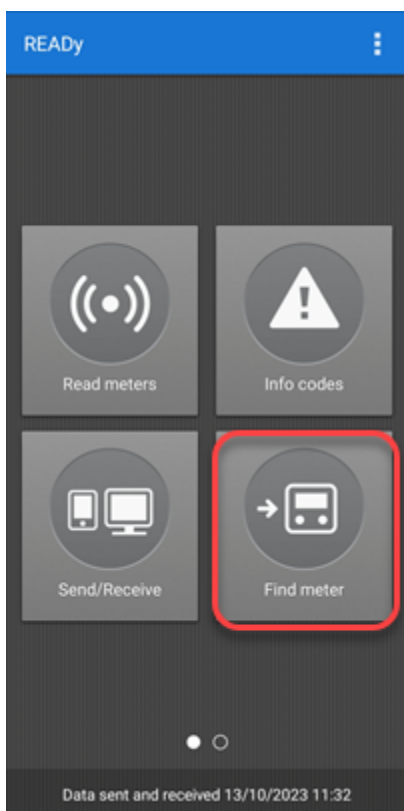
### 5.4.3 Editing manual readings

Use the following procedure to edit readings that you have entered manually in READYy App or in READYy Manager.

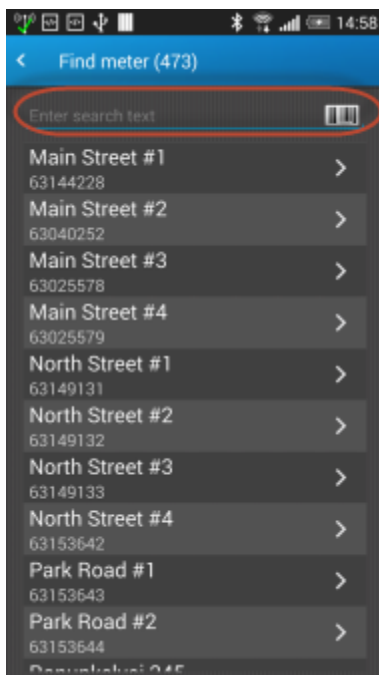
**Note** In READYy App, you are only able to edit manual readings until they have been transferred to READYy Manager. After the transfer, you can edit manual readings in READYy Manager.

## How to edit a manual reading in READYy App

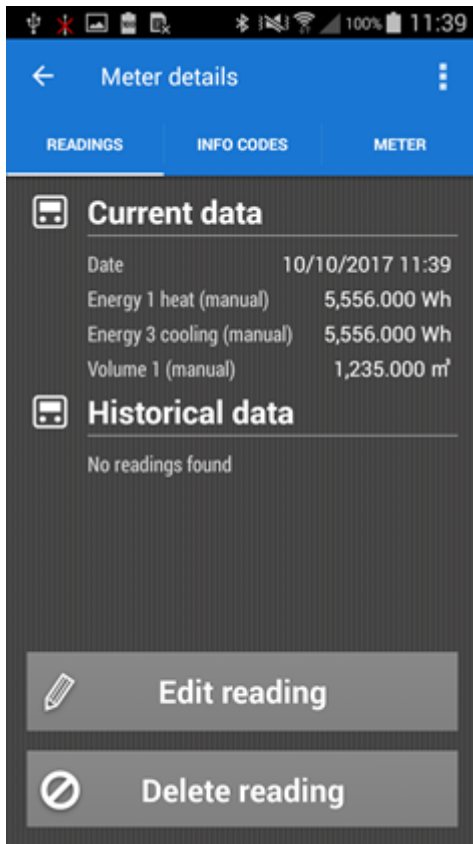
1. On the smartphone/tablet, tap **Find meter** in READYy App.



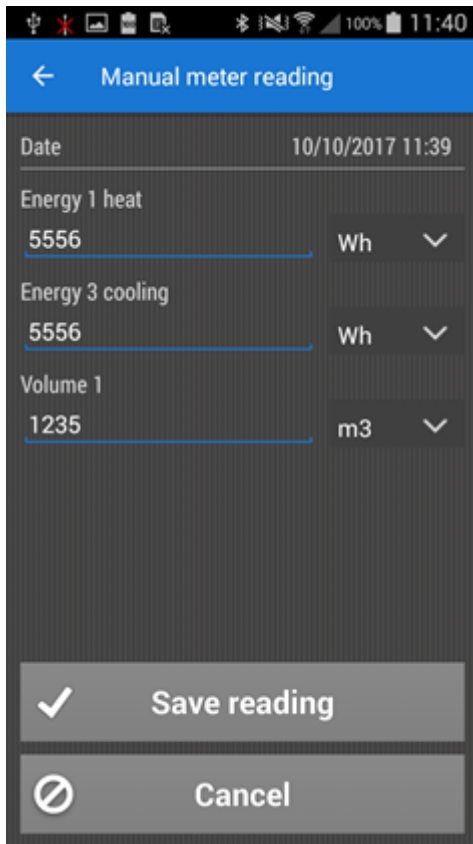
2. In the search field, enter the number of the meter for which you want to edit manual readings:



- On the **Meter details** screen, tap **Edit reading**:

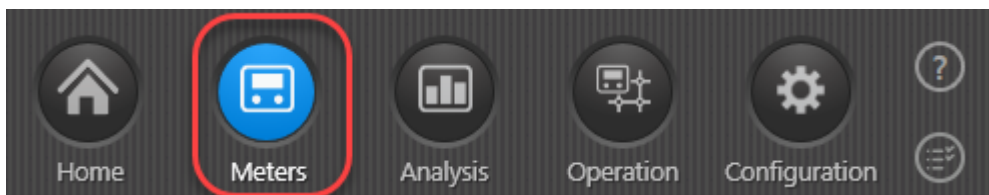


- Edit the values as desired, and tap **Save reading**:



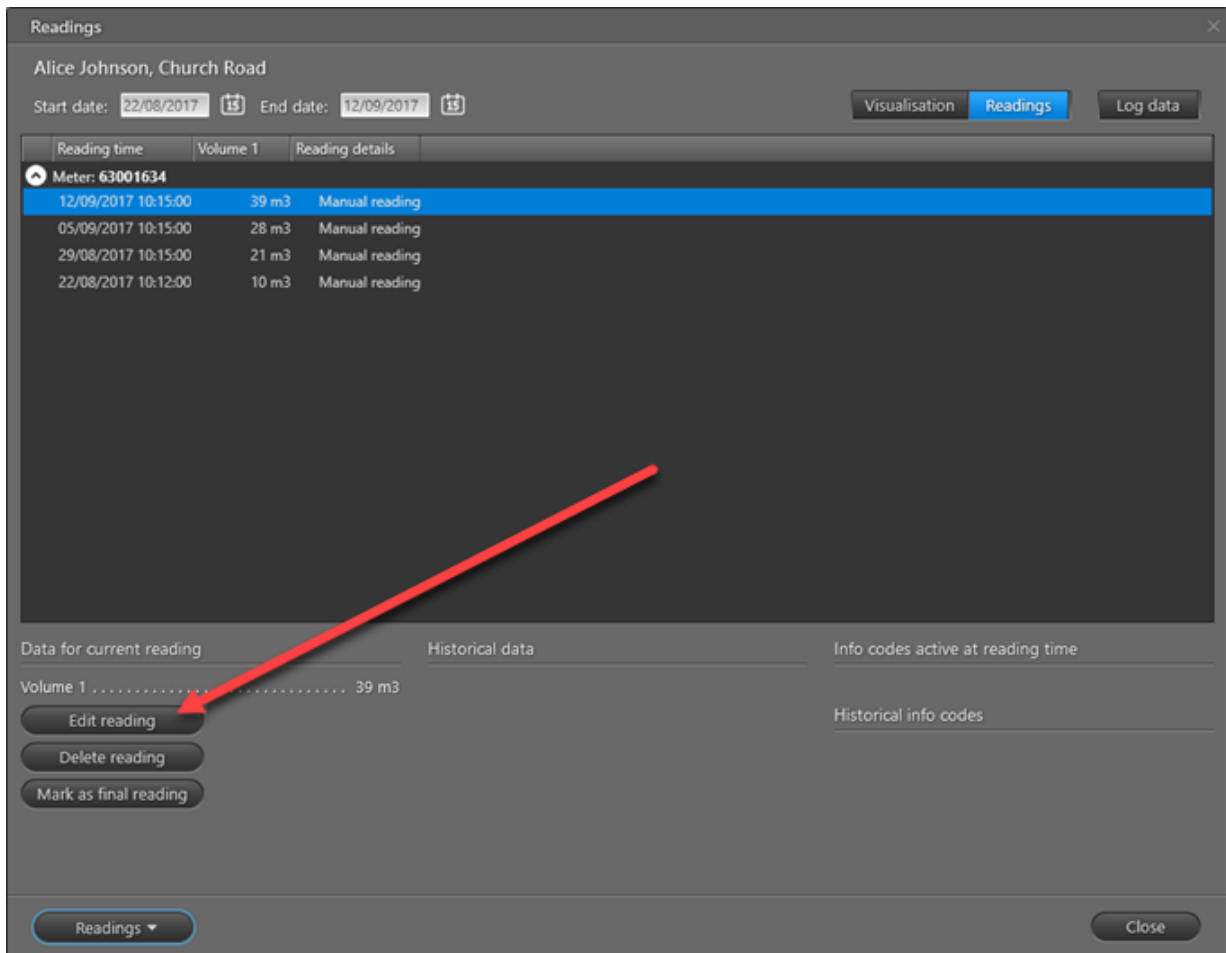
### How to edit a manual reading in READY Manager

- Click  in the upper-right corner of READY Manager to open the **Meters** view.

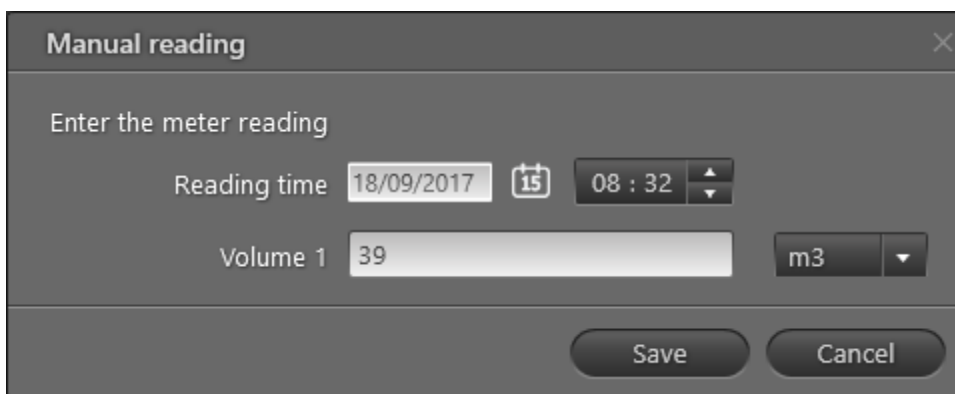


- In the list of meters, double-click the meter for which you want to edit a manually entered reading.
- Select the **Readings** view in the upper right corner.
- In the list of readings that appear, select the one you want to edit, and click the **Edit reading** button below the list:

**Note** You are only able to edit *manual* readings. The **Reading details** column tells you if a reading is manual or not. If a manual reading is marked as "Final reading" you will not be able to edit it unless you remove the final reading status first. For details, see [Final readings](#).



5. Edit the reading as desired, and click **Save**:



6. Click **Close** to close the **Readings** window.

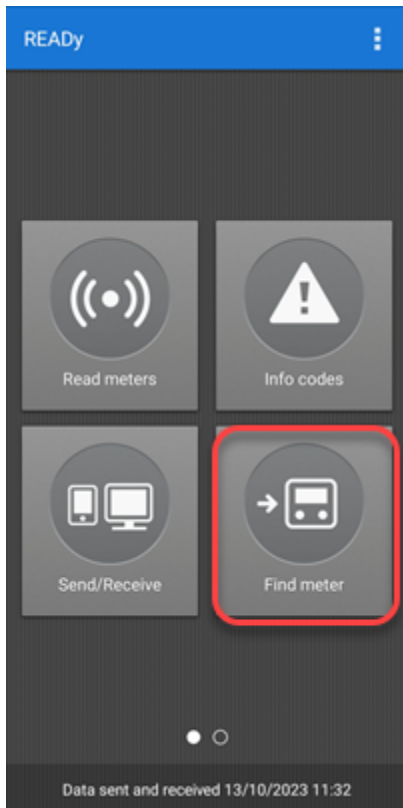
### 5.4.4 Deleting manual readings

Use the following procedure to delete readings that you have entered manually in READY App or in READY Manager.

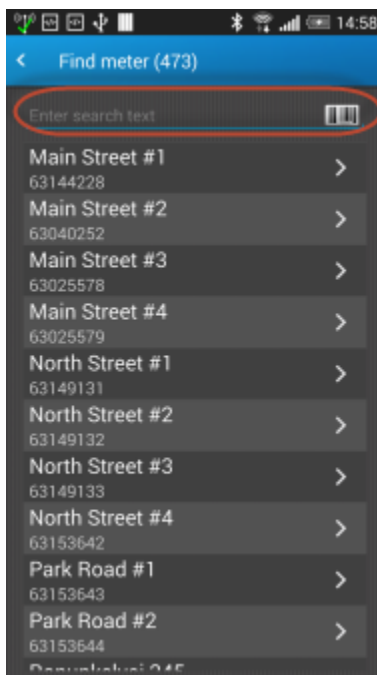
**Note** In READY App, you are only able to delete manual readings until they have been transferred to READY Manager. After the transfer, you can delete manual readings in READY Manager.

## How to delete a manual reading in READY App

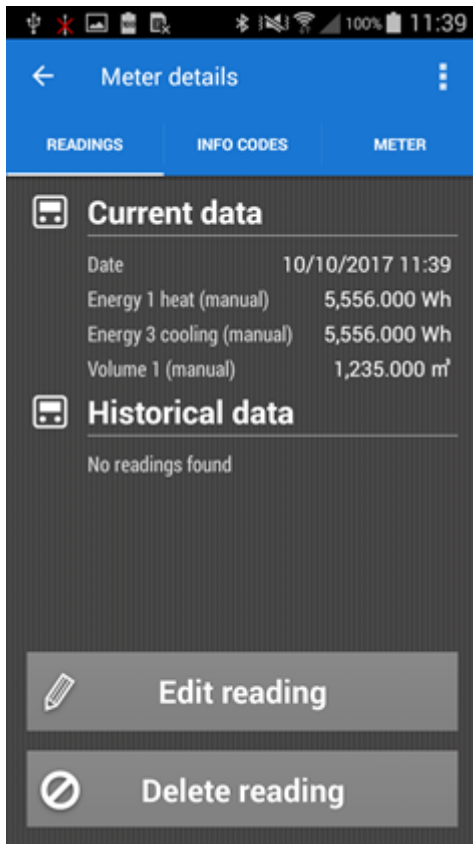
1. On the smartphone/tablet, tap **Find meter** in READY App.



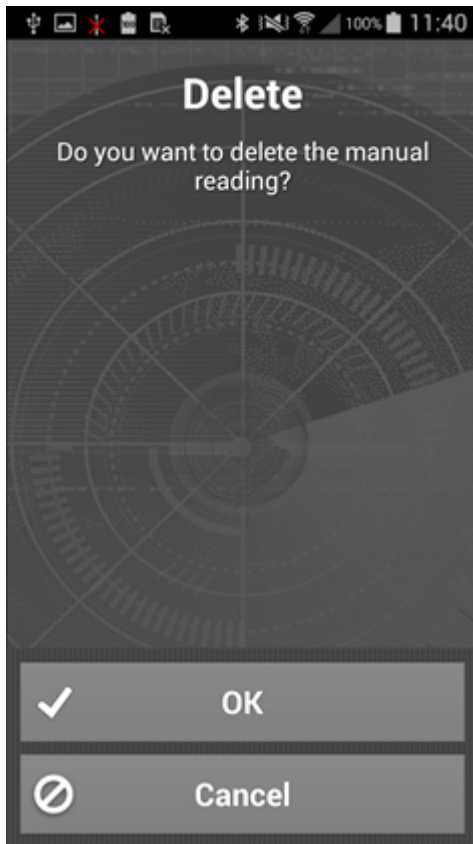
2. In the search field, enter the number of the meter for which you want to delete a manually entered reading:



3. On the **Meter details** screen, tap **Delete reading**:

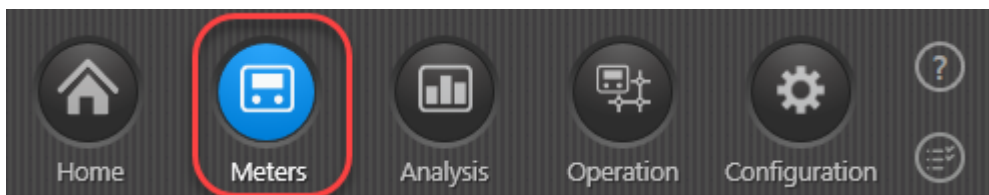


- On the screen that appears, tap **OK** to confirm the deletion of the manual reading:



### How to delete a manual reading in READYy Manager

- Click  in the upper-right corner of READYy Manager to open the **Meters** view.



- In the list of meters, double-click the meter for which you want to delete a manually entered reading.
- Select the **Readings** view in the upper right corner.
- In the list of readings that appear, select the one you want to delete, and click the **Delete reading** button below the list:

**Note** You are only able to delete *manual* readings. The **Reading details** column tells you if a reading is manual or not. If a manual reading is marked as "Final reading" you will not be able to delete it unless you remove the final reading status first. For details, see [Final readings](#).

Readings

Alice Johnson, Church Road

Start date: 22/08/2017 End date: 12/09/2017

Visualisation Readings Log data

Reading time	Volume 1	Reading details
Meter: 63001634		
12/09/2017 10:15:00	39 m3	Manual reading
05/09/2017 10:15:00	28 m3	Manual reading
29/08/2017 10:15:00	21 m3	Manual reading
22/08/2017 10:12:00	10 m3	Manual reading

Data for current reading Historical data Info codes active at reading time

Volume 1 ..... 39 m3

Edit reading Delete reading Mark as final reading

Historical info codes

Readings Close

5. In the window that appears, click **Yes** to confirm the deletion:

Delete manual reading

! Are you sure you want to delete the selected reading?

Yes No

6. Click **Close** to close the **Readings** window.

## 5.5 Meter reading import

If your heat or water meters are read via a Kamstrup electricity meter in Kamstrup's OMNIA® system, it is possible to import these meter readings into READY.

**Note** It is only possible to import meter readings from OMNIA®. *NOT* from third-party systems.

**Note** Import of meter readings is an add-on to READY and requires a special subscription.

**Important** We strongly recommend that you do not import meters readings from meters that are already read in READY via a fixed network reading solution. The reason is that time stamps may be incompatible.

For details about the file format, see [File format for import of meter readings](#).

### Restrictions


The following restrictions apply to meter reading import:

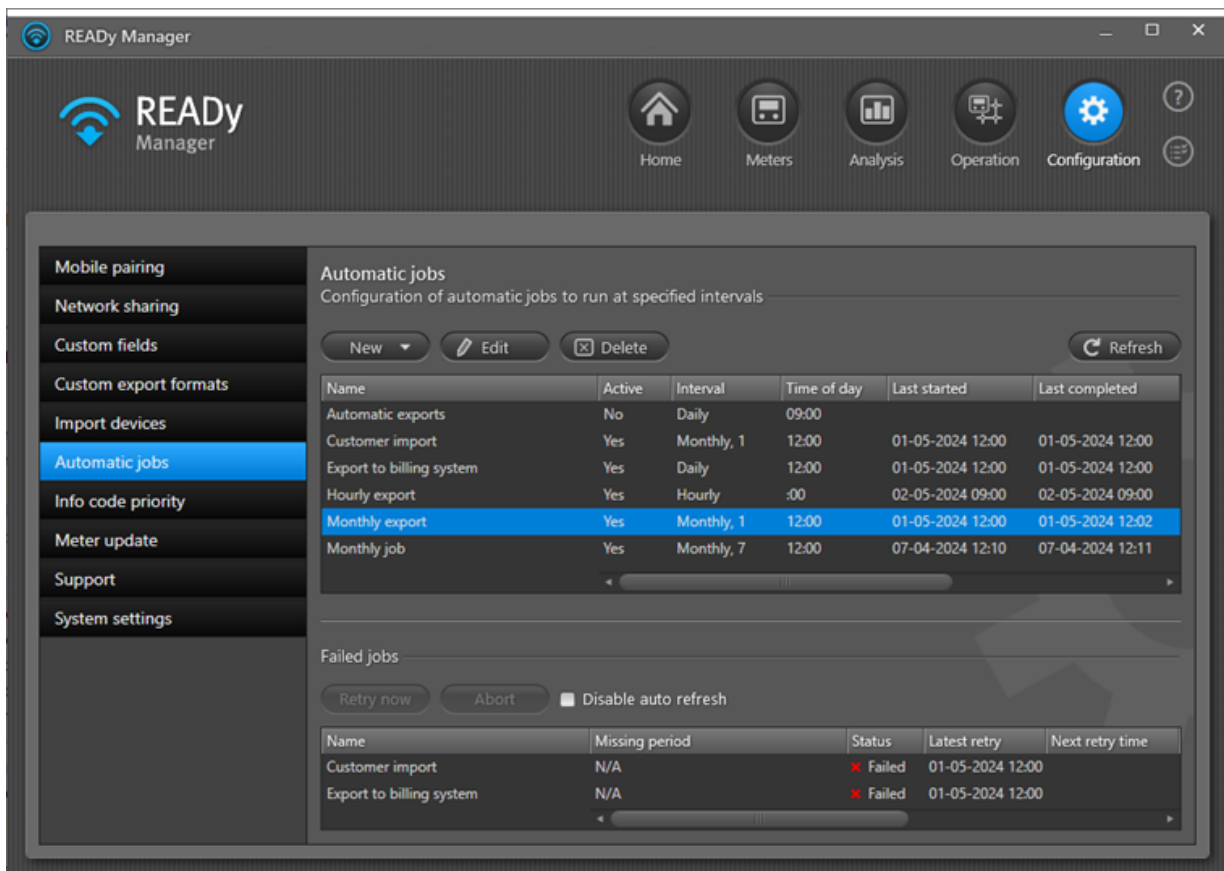
- It is only possible to create one reading import job.
- Maximum file size is 50 MB.
- By default, meter readings older than 72 hours are not allowed to be imported. For details see [Reading time limit](#).

### How to create an automatic reading import job

Precondition: Before you create the import job, make sure that all meters are added to the [Meters](#) list.

Precondition for FTP import: Two separate folders must be created on the FTP server before the automatic import job is created in READY. One input folder for reading files, and one folder for failed import of readings.

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Automatic jobs** to the left:



2. Click **New > Reading import**.

3. In **Name**, enter a name for the automatic reading import.
4. In **Interval**, select "Hourly".
5. In **Time of day**, select the time each hour at which you want to import data.
6. Select **Active** to activate the import to take place at the specified time.  
If the check box is cleared, the import is deactivated and will not take place until you activate it.
7. In **Format**, select "Omnia 103 V2" if you export from an OMNIA 6.x system or "Omnia 103" if you export from an OMNIA 5.x system.
8. In **Location**, select "SFTP server".
9. In **File location**, enter the folder in which the file with reading data you want to import is placed.
10. In **Failed file location**, enter the folder in which you want to place files that fail to be imported.  
A separate status file will be placed in this folder together with the file that failed.
11. In **User name**, enter the user name for the SFTP server.
12. In **Password**, enter the password for the SFTP server.
13. Select **Run job now** if you want to import reading data right away.  
The import job will start in 5 minutes.
14. Click **Save** to save the automatic import job.

### 5.5.1 File format for import of meter readings

Meter readings must be imported via a semicolon-separated csv file with this format:

Serial number;OBIS code;Time stamp;Value;Unit

Value type	Example	Description
Serial number	11122233	Unique ID of the meter.
OBIS code	6.1.1.0.0.255	The OBIS code of the reading value. For a list of supported OBIS codes, see the how-to guide "Meter reading import in READY" (document FILE100001547). The first number of the OBIS code defines the consumption type: 0 = common 5 = Cooling 6 = Heat 8 = Cold water 9 = Hot water
Time stamp	23-08-2020 00:00	The reading time. Use this date format: dd-MM-yyyy hh:mm
Value	1225.41	The actual reading value. The decimal separator must be full stop (.)
Unit	Wh	The unit of measurement for the reading value. Can also be empty. For a list of supported units, see the how-to guide "Meter reading import in READY" (document FILE100001547).

An example of an import file is shown below. The file has a header and each row represents a reading value and a time stamp. A meter consists of multiple rows with the same reading time, one for each reading value included in the import:

```
Serial number;OBIS code;Time stamp;Value;Unit
11122233;6.1.1.0.0.255;22-08-2020 23:00;38452.000;Wh
11122233;6.1.4.0.0.255;22-08-2020 23:00;1225.41;m3
11122233;0.1.96.8.0.255;23-08-2020 00:00;38156;hour
11122233;6.1.1.0.0.255;23-08-2020 00:00;38453.000;Wh
11122233;6.1.141.0.0.255;23-08-2020 00:00;74720;cubic_metre_degree_celsius
11122233;6.1.143.0.0.255;23-08-2020 00:00;40984;cubic_metre_degree_celsius
11122233;6.1.4.0.0.255;23-08-2020 00:00;1225.45;m3
11122233;6.1.97.97.0.128;23-08-2020 00:00;0;No unit
```

### 5.5.2 Time limit for imported readings

When importing meter readings into READY from other systems, readings older than 72 hours cannot be imported by default.

The number of hours can be changed directly in the database. This is, however, *not* recommended as it may affect the performance.

The following SQL script updates the number of hours back in time that is accepted for meter reading import in a local READY database:

```
USE [READYManagerDB]
```

```
GO
```

```
UPDATE [dbo].[JobProperty]
```

```
    SET [Value] = 72
```

```
    WHERE Name = 'ReadTimeMaxHoursBackInTime'
```

```
GO
```

## 6 Annual meter reading

---

If you only read your meters once per year, make sure to follow the check list below to ensure that everything is up-to-date:

**Note** Kamstrup recommends that you go through this check list a couple of days before the annual reading.

**Hint** Save this check list as a favorite help topic to easily find it again when you need it. For details, see [Creating online help favorites](#).

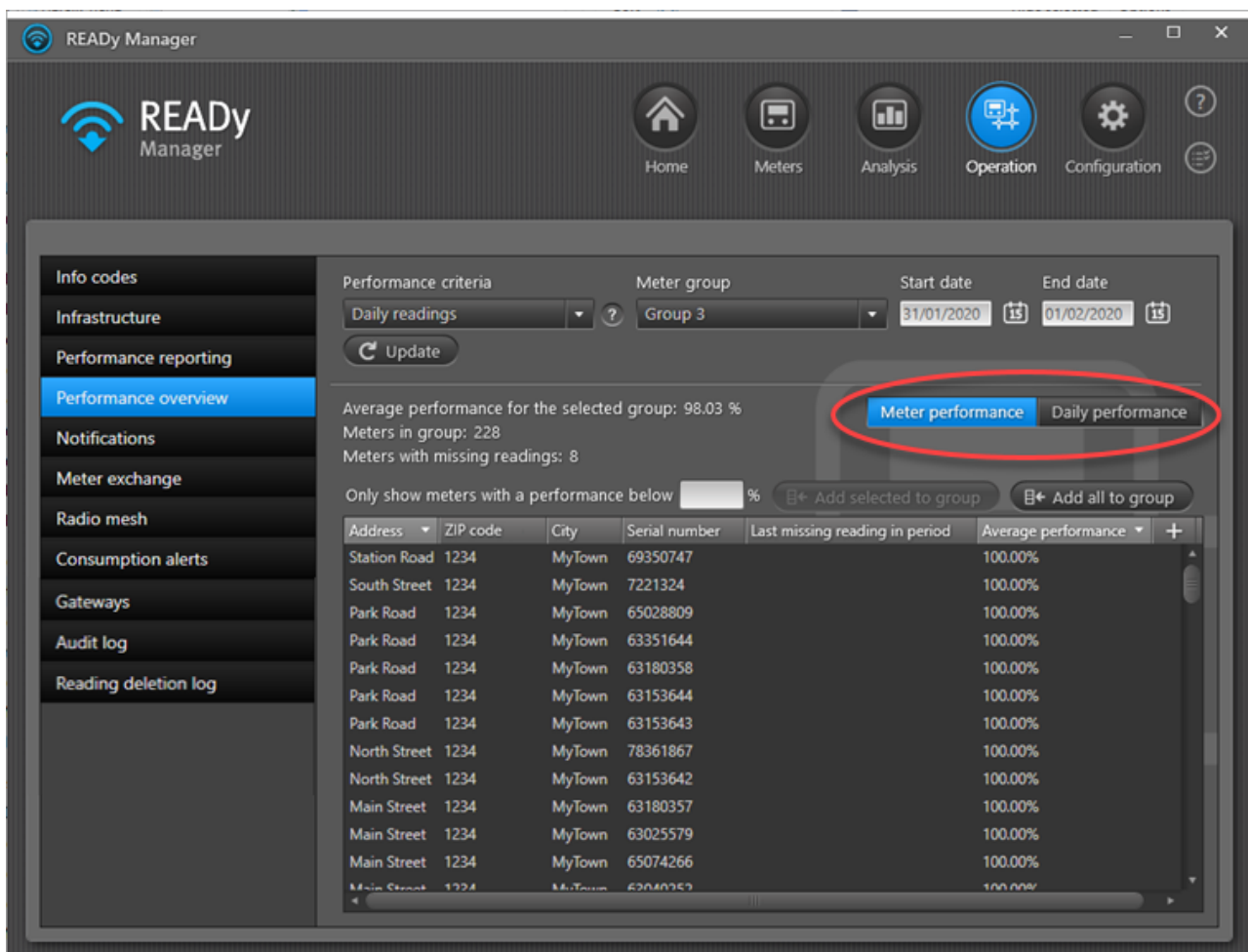
1. Update READY Manager to the latest version.  
For details, see [Updating READY Manager](#).
2. Update READY App to the latest version.  
For details, see [Updating READY App](#).
3. Make sure that READY Manager has encryption keys for all meters.  
For details, see [Importing information for existing devices](#).
4. Update READY Manager with the latest customer information.  
For details, see [Importing customer data from a customer information system](#).
5. Make sure READY App and READY Manager are paired.  
For details, see [Pairing of READY App and READY Manager](#).
6. Make sure that all required data is available and up-to-date in READY App.  
For details, see [Transferring latest data to mobile app](#).
7. Make sure READY App and READY Converter are paired.  
For details, see [Pairing of READY App and READY Converter](#).
8. Read your meters.  
For details, see [Collecting reading data from a group of meters](#).
9. Transfer reading data from READY App to READY Manager.  
For details, see [Transferring reading data from mobile app to PC](#).
10. Export reading data to your billing system.  
For details, see [Manually exporting reading data](#) or [Automatically exporting reading data](#).

## 7 Reading performance

In order to ensure a proper operation of the meters and accurate billing of the consumers, you may want to check the reading performance of the meters in your network.

**Note** The reading performance feature is not applicable to linkIQ and NB-IoT meters. If you have Kamstrup Network Monitor, you can use this application to check the performance of these meters.

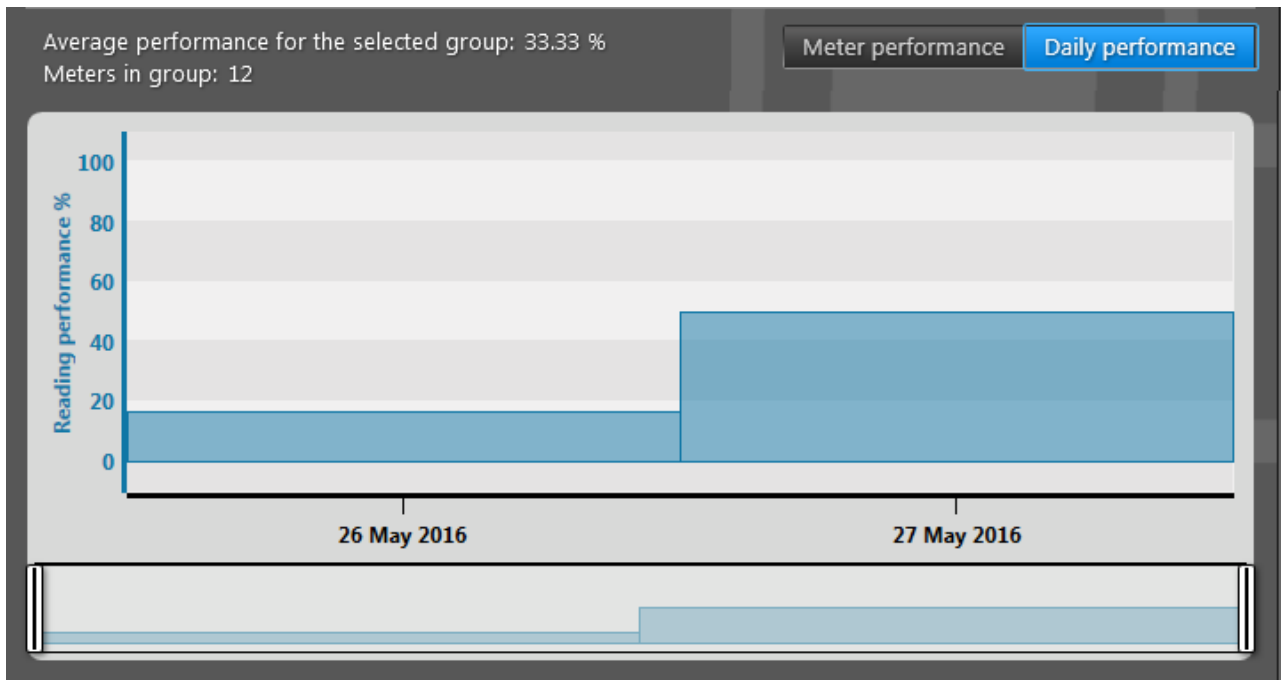
READY Manager enables you to see the reading performance either as an average per meter (select the **Meter performance** tab) or as an average per day (select the **Daily performance** tab):



For both the **Meter performance** view and the **Daily performance** view, the following overall performance information is shown:

- **Average performance for the selected group:** The average performance for all meters in the selected time period.
- **Meters in group:** The total number of meters included in the performance calculation.

### Daily performance view



The performance is displayed as a bar chart with the total performance for each day in the selected time period.

If you hold the mouse over a bar, a tooltip appears with the exact average performance for that date. Left- or right-drag to zoom in on the graph, or use the slider below the graph to zoom in or out. Press HOME to return to default view.

### Meter performance view

Average performance for the selected group: 33.33 %  
Meters in group: 12  
Meters with missing readings: 6

Only show meters with a performance below  %

Address	Postal code	City	Serial number	Last missing reading in period	Average performance
Church Road		MyTown	63001634	27/05/2016	0.00 %
Church Road	1234	MyTown	69899289	27/05/2016	0.00 %
Church Road	1234	MyTown	71000109	27/05/2016	0.00 %
Church Road	1234	MyTown	71000407	27/05/2016	0.00 %
King Street		MyTown	63017889	27/05/2016	0.00 %
King Street		MyTown	63017920	27/05/2016	0.00 %

The performance is displayed as a list of the individual meters included in the performance calculation.

The number of meters for which one or more readings are missing in the selected period are shown above the list (**Meters with missing readings**).

If you enter a performance percentage in the **Only show meters with a performance below** field, the list only displays the meters with a performance below the specified percentage, and **Meters with missing readings** now shows the number of meters with a performance below the specified percentage.

To create a group with poorly performing meters, click **Add selected to group** (only selected meters in the list are included) or **Add all to group** (all listed meters are included).

The following information is shown for each meter in the list:

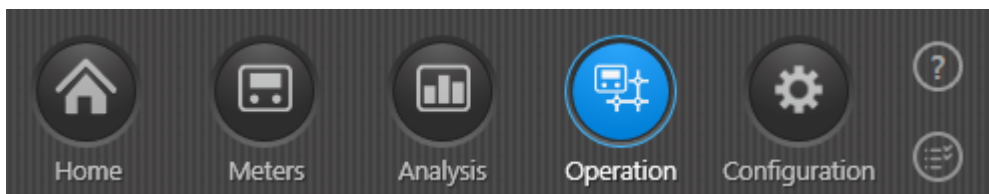
Meter property	What it means
Address	The address at which the meter is installed.
ZIP code	The ZIP code of the city in which the meter is installed.
City	The city in which the meter is installed.
Serial number	The serial number of the meter.
Last missing reading in period	The last date in the selected time period on which one or more readings were missing for the selected meter.
Average performance	The average performance for the meter in the selected time period.

You can sort, change the sequence and show/hide the information in the list. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#), [Sorting the list of meters/customers](#) and [Show and hide information in Meters view](#).

## 7.1 Getting an overview of meter reading performance

Follow the procedure below to see the reading performance of one or more meters:

1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Performance overview** in the menu to the left.
3. In **Meter group**, select the group of meters for which you want to see the reading performance. For details about creating a group, see [Creating groups](#).
4. In **Performance criteria**, select one of the following options:
  - a. **Hourly readings per day**: the performance gradually decreases for each missing reading.
  - b. **24 hourly readings per day**: at least one reading per hour must be present. If so, the reading performance is 100% for that day. If not, it is 0% for that day.

- c. **Daily readings:** at least one reading per day must be present to obtain 100% reading performance.
5. Select the period for which you want to see the reading performance in the **Start date** and **End date** fields.  
**Note** You cannot select a period of more than 6 month. Also note that you cannot include today's date.
6. Click **Update**.

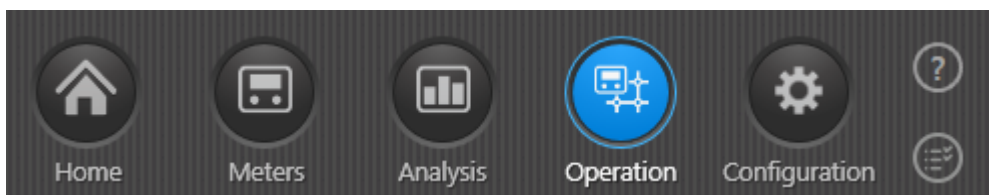
You are now able to see the reading performance either as an average per meter (select the **Meter performance** tab to the right) or as an average per day (select the **Daily performance** tab to the right).

For details about the **Meter performance** and **Daily performance** views, see [Reading performance](#).

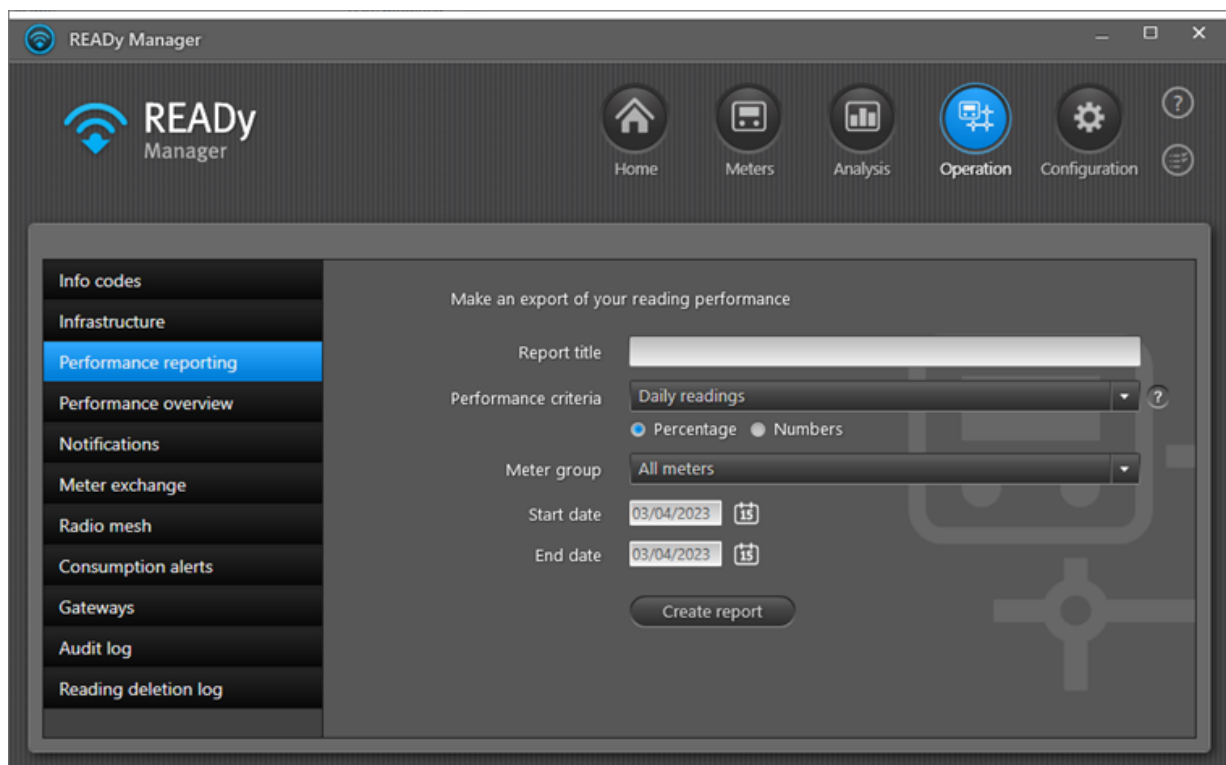
## 7.2 Exporting a reading performance report

Follow the procedure below to export a report on reading performance in txt or csv format:

1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



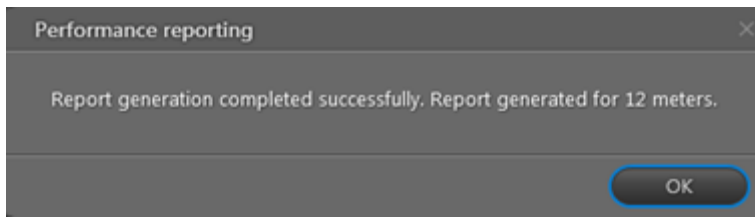
2. Select **Performance reporting** in the menu to the left:



3. In **Report title**, enter the name of your report.
4. In **Performance criteria**, select one of the following options:
  - a. **Hourly readings per day**: the performance gradually decreases for each missing reading.
  - b. **24 hourly readings per day**: at least one reading per hour must be present. If so, the reading performance is 100% for that day. If not, it is 0% for that day.
  - c. **Daily readings**: at least one reading per day must be present to obtain 100% reading performance.
5. Select if you want the number of readings per meter per day as a percentage or as a number.
6. In **Meter group**, select the group of meters for which you want to generate a reading performance report.
 

**Note** You cannot select a group with more than 5.000 meters. For details about creating a group, see [Creating groups](#).
7. Select the period for which you want to see reading performance in the **Start date** and **End date** fields.
 

**Note** A period of maximum 6 months can be selected. Also note that you cannot include today's date.
8. Click **Create report**.
9. In the window that appears, select a location and a file name for your report.
10. Click **OK** in the message that appears:



An example of a report in csv format:

	A	B	C	D	E	F
1	Daily readings					
2	Title:	My daily readings report				
3	Report generated:	14/06/2016 12:03				
4	Start date:	26/05/2016				
5	End date:	27/05/2016				
6	Average performance:	33.33%				
7	Group:	My Group				
8	Number of meters:	12				
9	Number of meters with missing readings:	10				
10						
11		Address	Note	Average per meter	26/05/2016	27/05/2016
12	Average per day				16.67%	50.00%
13	Meter number					
14		63001634	Church Road, MyTown	0.00%	0.00%	0.00%
15		63017889	King Street, MyTown	0.00%	0.00%	0.00%
16		63017920	King Street, MyTown	0.00%	0.00%	0.00%
17		69899289	Church Road, 1234 MyTown	0.00%	0.00%	0.00%
18		71000109	Church Road, 1234 MyTown	0.00%	0.00%	0.00%
19		71000407		0.00%	0.00%	0.00%
20		63001633	Church Road, MyTown	50.00%	0.00%	100.00%
21		63005036	Church Road, MyTown	50.00%	0.00%	100.00%
22		63006651	High Street, MyTown	50.00%	0.00%	100.00%
23		63006799	King Street, MyTown	50.00%	0.00%	100.00%
24						
25		63005087	Church Road, MyTown	100.00%	100.00%	100.00%
26		69111151	King Street, MyTown	100.00%	100.00%	100.00%
27						
28						

An example of a report in text format:

```

24 hourly readings per day no 2016-06-14.txt - Notepad
File Edit Format View Help
sep=;
24 hourly readings per day
Title:;
Report generated:;14/06/2016 16:40
Start date:;26/05/2016
End date:;27/05/2016
Average performance:;0.00%
Group:;My Group
Number of meters:;12
Number of meters with missing readings:;12

;Address;Note;Average per meter;26/05/2016;27/05/2016
Average per day;;;0.00%;0.00%
Meter number
63001633;Church Road, MyTown;;0.00%;0;0
63001634;Church Road, MyTown;;0.00%;0;0
63005036;Church Road, MyTown;;0.00%;0;0
63005087;Church Road, MyTown;;0.00%;0;0
63006651;High Street, MyTown;;0.00%;0;0
63006799;King Street, MyTown;;0.00%;0;0
63017889;King Street, MyTown;;0.00%;0;0
63017920;King Street, MyTown;;0.00%;0;0
69111151;King Street, MyTown;;0.00%;0;0
69899289;Church Road, 1234 MyTown;;0.00%;0;0
71000109;Church Road, 1234 MyTown;;0.00%;0;0
71000407;Church Road, 1234 MyTown;;0.00%;0;0

```

## 8 Notifications and alerts

---

You can

- be notified of important meter events that appear in your supply network. For details, see [Automatic notification of meter events \(info codes\)](#).
- trigger an alert if the consumption of a meter exceeds a specified limit. For details, see [Consumption alerts](#).
- receive notification of connection issues with collectors and other collection units in your network. For details, see [Last contact alerts for collection units](#).

### 8.1 Automatic notification of meter events (info codes)

**Note** Notifications are an add-on to READY and require a special subscription. The Notifications add-on is only available on hosted versions of READY Manager.

You can be automatically notified of important meter events that appear in your supply network as soon as they are detected or on a regular basis. The notifications are sent via email or SMS.

Meter events exist in three categories:

- events of high priority
- events of normal priority
- events you do not want to be notified of

This makes it possible to receive high-priority meter events as soon as they are detected and normal-priority meter events at regular intervals, e.g. once a week or once a month.

For details about how to define which meter events are of high priority and which ones are of normal priority, see [Prioritizing info codes](#).

#### What do you want to do?

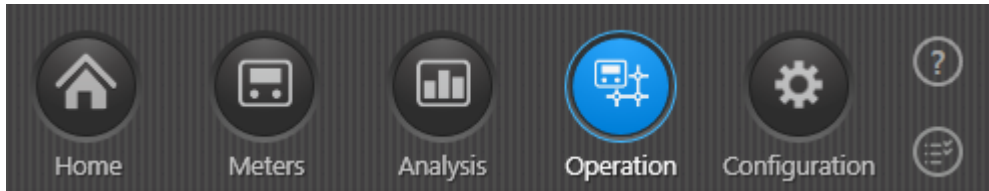
- [Receive notification by email](#)
- [Receive notification by SMS](#)
- [Make changes to automatic notification of meter events](#)
- [Temporarily stop automatic notification of meter events](#)
- [Permanently stop notification of meter events](#)

### 8.1.1 Receiving notification by email

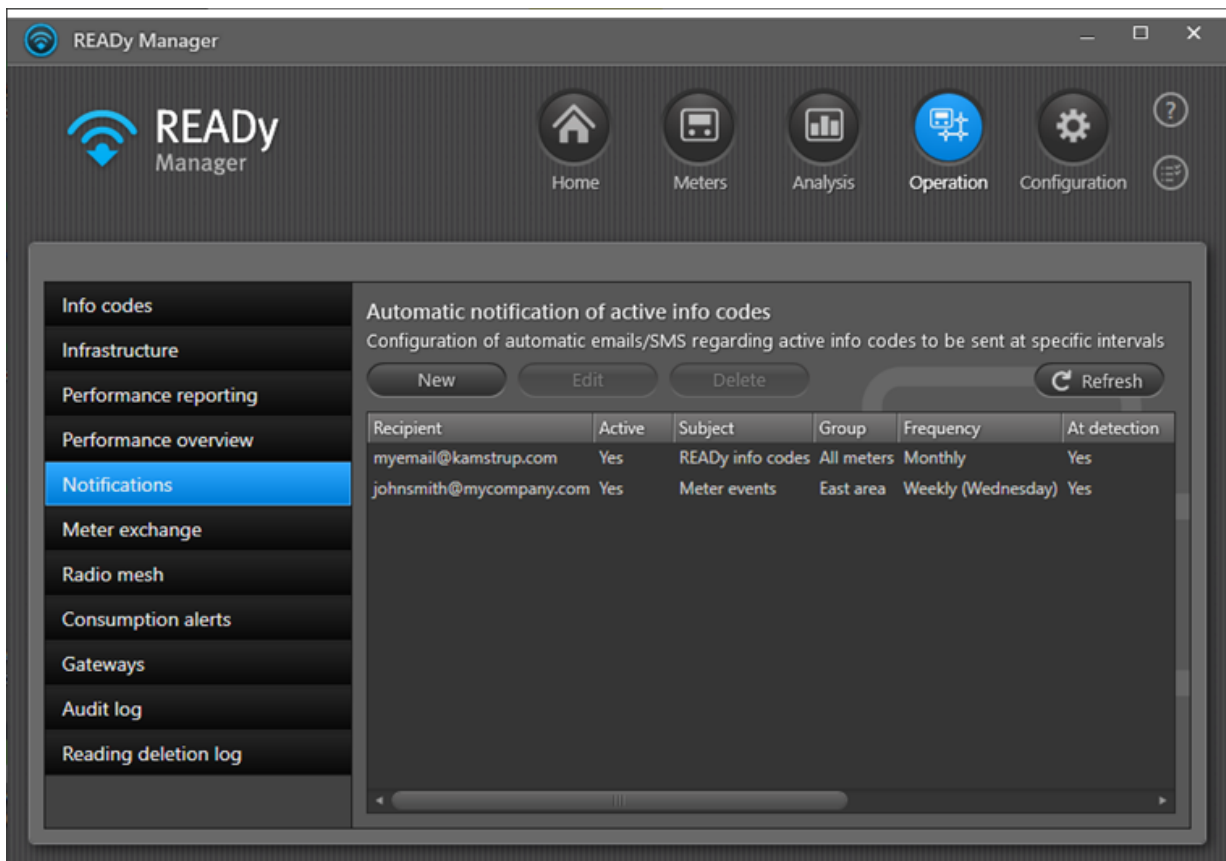
**Note** You can create up to 50 notifications in READY Manager.

Follow the procedure below to be automatically notified of meter events by email:

1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Notifications** in the menu to the left.



3. Click **New**:

4. Select **Active** if you want to start sending notifications right away, or clear the selection of **Active** if you want to wait and activate notifications at a later time.
5. In **Send as**, select "Email".
6. In **Email address**, enter the email address you want to send the notifications to.
7. In **Subject**, enter the text you want to appear in the subject field of the email to recognize the meter notification.
8. In **Meter group**, select the group(s) of meters from which you want to receive notifications.
9. Select when to receive automatic notification:

- a. To receive notification on a regular basis: Select "Daily", "Weekly" or "Monthly" in the **Frequency** field, and select the exact time of the day, week or month. Then select whether you want to receive **High** and/or **Normal priority info codes**.

You will receive an email at the specified time with all meter events that are active at that time.

- b. To receive immediate notification when an event is detected, select the **High** and/or **Normal priority info codes** check boxes at the bottom of the window.

You will receive an email as soon as a meter event is detected. Note, however, that only events collected automatically via a collector trigger an immediate notification. If you collect the events yourself via READY App on your mobile phone, no immediate notification is triggered.

10. Select **Send test notification** if you want to test that notifications are received as desired.

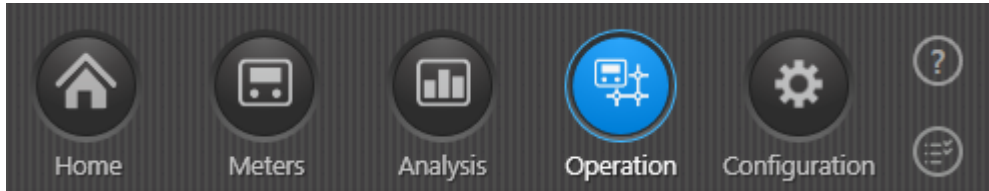
11. Click **Save**.

### 8.1.2 Receiving notification by SMS

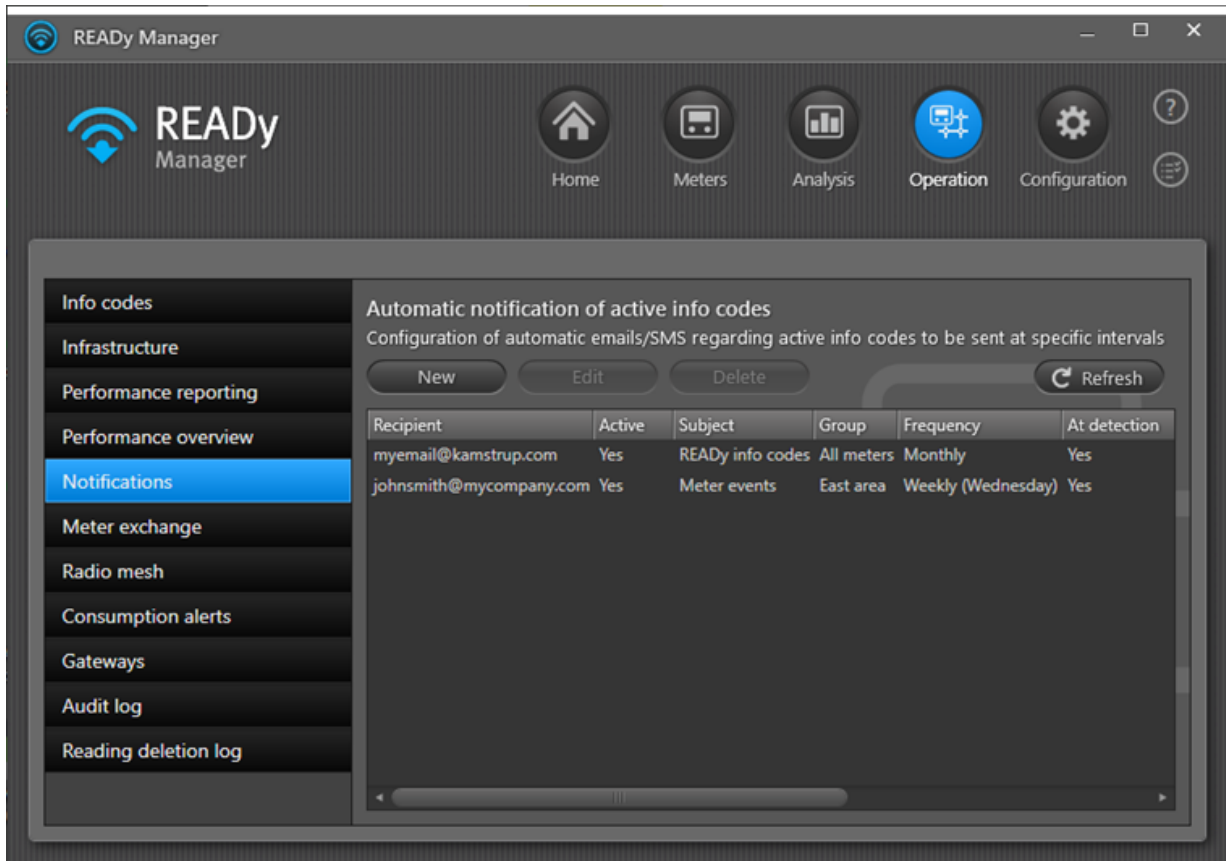
**Note** You can create up to 50 notifications in READY Manager.

Follow the procedure below to be automatically notified of meter events by SMS:

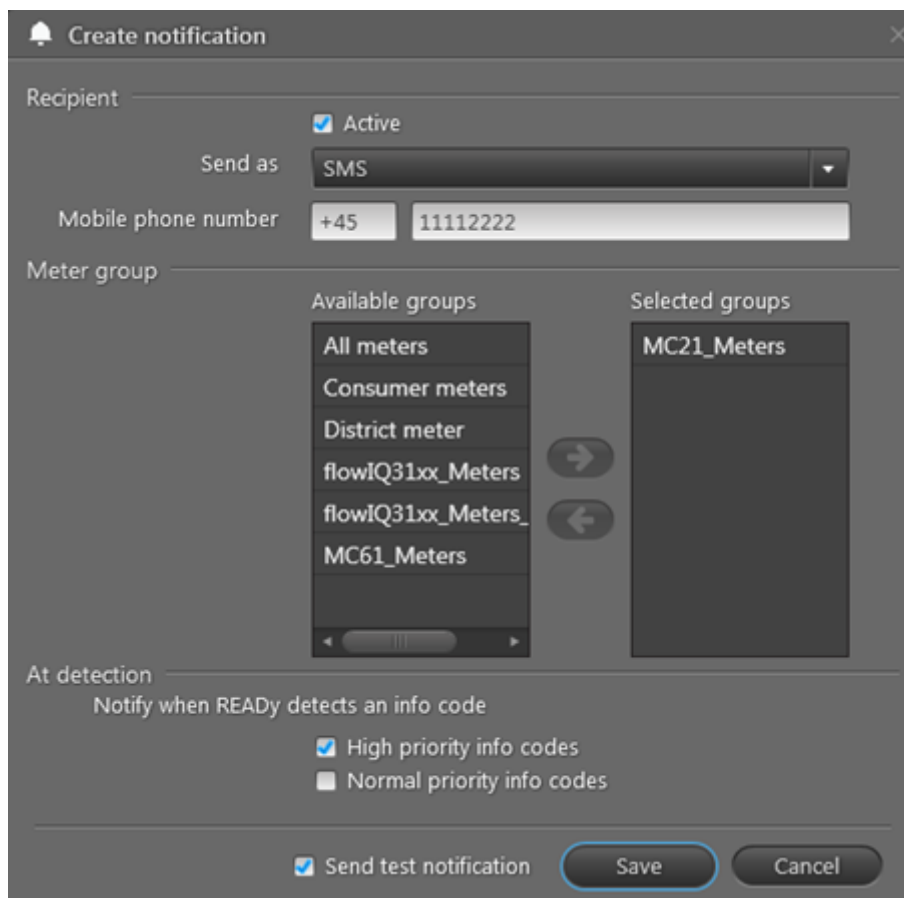
1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Notifications** in the menu to the left.



3. Click **New**:



4. Select **Active** if you want to start sending notifications right away, or clear the selection of **Active** if you want to wait and activate notifications at a later time.
5. In **Send as**, select **SMS**.
6. In **Mobile phone number**, enter the mobile phone number you want to send the notifications to (rightmost field) and the country code of the mobile number in the leftmost field (e.g. +45 for Denmark).
7. In **Meter group**, select the group(s) of meters from which you want to receive notifications.
8. Follow Step 8a and/or 8b:
  - a. High priority events: To receive immediate notification when a high priority meter event is detected: select the **High priority info codes** check box.
  - b. Normal priority events: To receive immediate notification when a normal priority meter event is detected: select the **Normal priority info codes** check box.
- Note** Only events collected automatically via a collector trigger an immediate notification. If you collect the events yourself via READY App on your mobile phone, no immediate notification is triggered.
9. Select **Send test notification** if you want to test that notifications are received as desired.
10. Click **Save**.

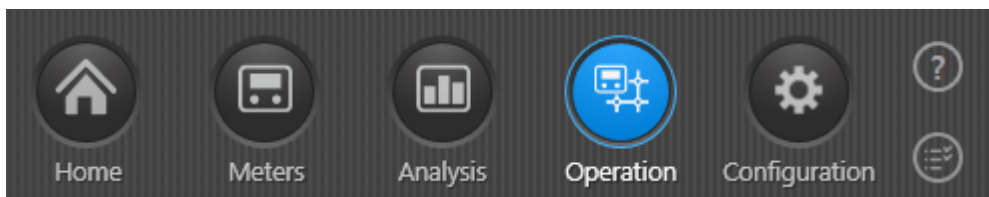
### 8.1.3 Changing automatic notification of meter events

Follow the procedure below to make changes to who, when and how to be notified as well as which category of meter events to be notified of:

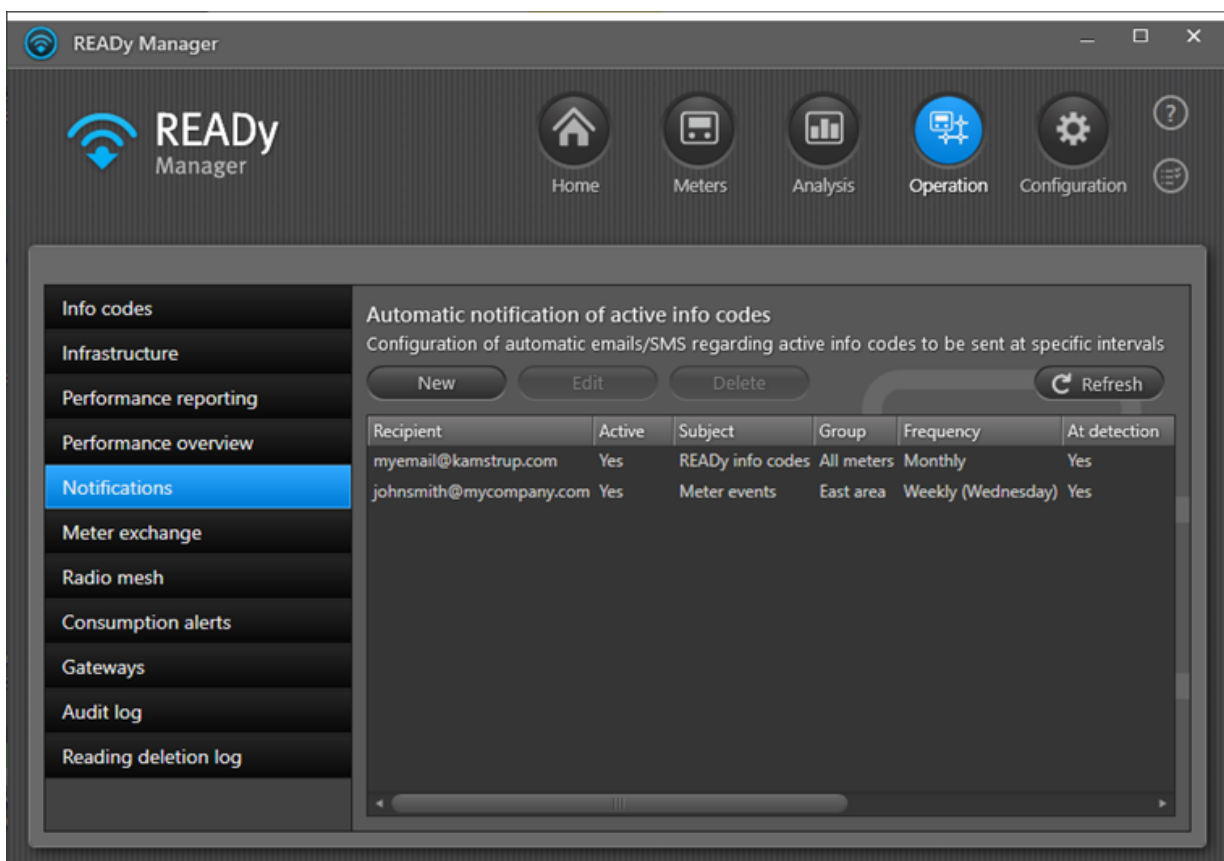
**Note** If you want to change exactly which meter events that go into the "high priority", "normal priority" and "no interest" categories, see [Prioritizing info codes](#).

#### How to change automatic notification of meter events

1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Notifications** in the menu to the left.



3. In the list of notifications, select the one that you want to change and click **Edit**.

4. Make the required changes.

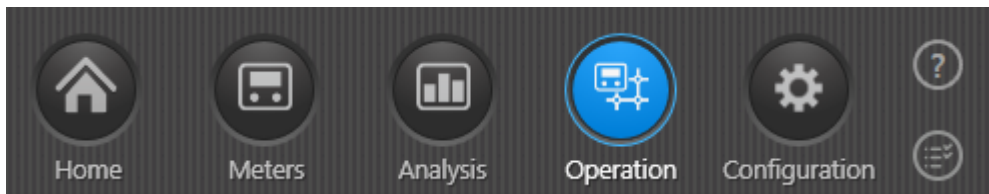
For details about the various options, see [Receiving notification by email](#) and [Receiving notification by SMS](#).

5. Click **Save**.

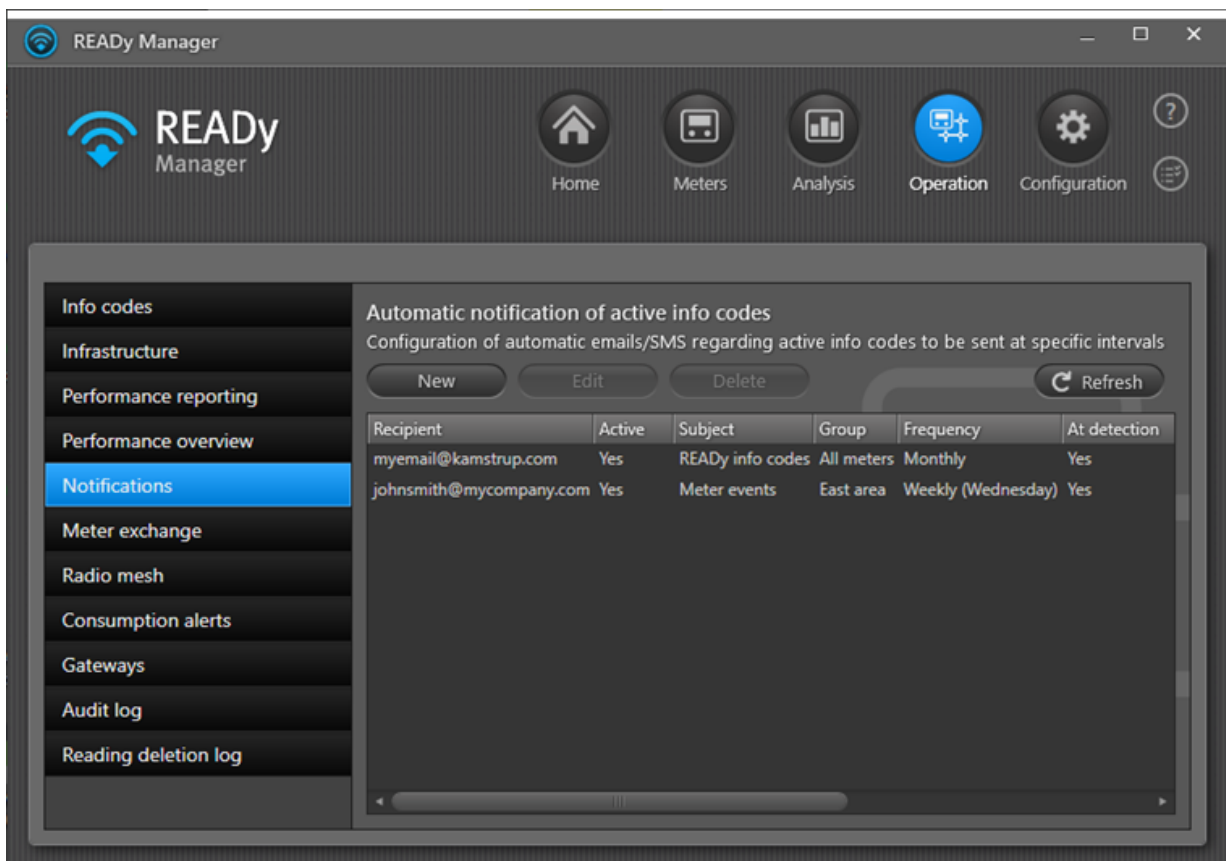
### 8.1.4 Temporarily stopping notification of meter events

Follow the procedure below to temporarily stop receiving notifications of meter events:

1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Notifications** in the menu to the left.

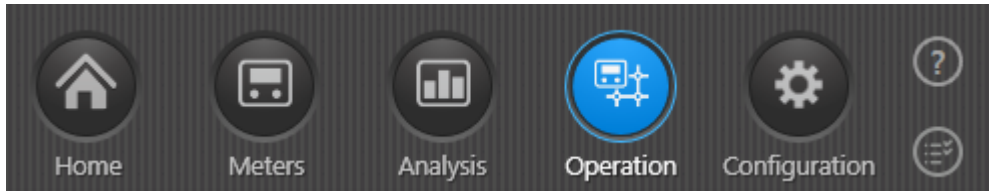


3. In the list of notifications, select the one that you want to temporarily stop and click **Edit**.
4. Clear the selection of **Active** to deactivate the automatic notification of meter events.
5. Click **Save**.

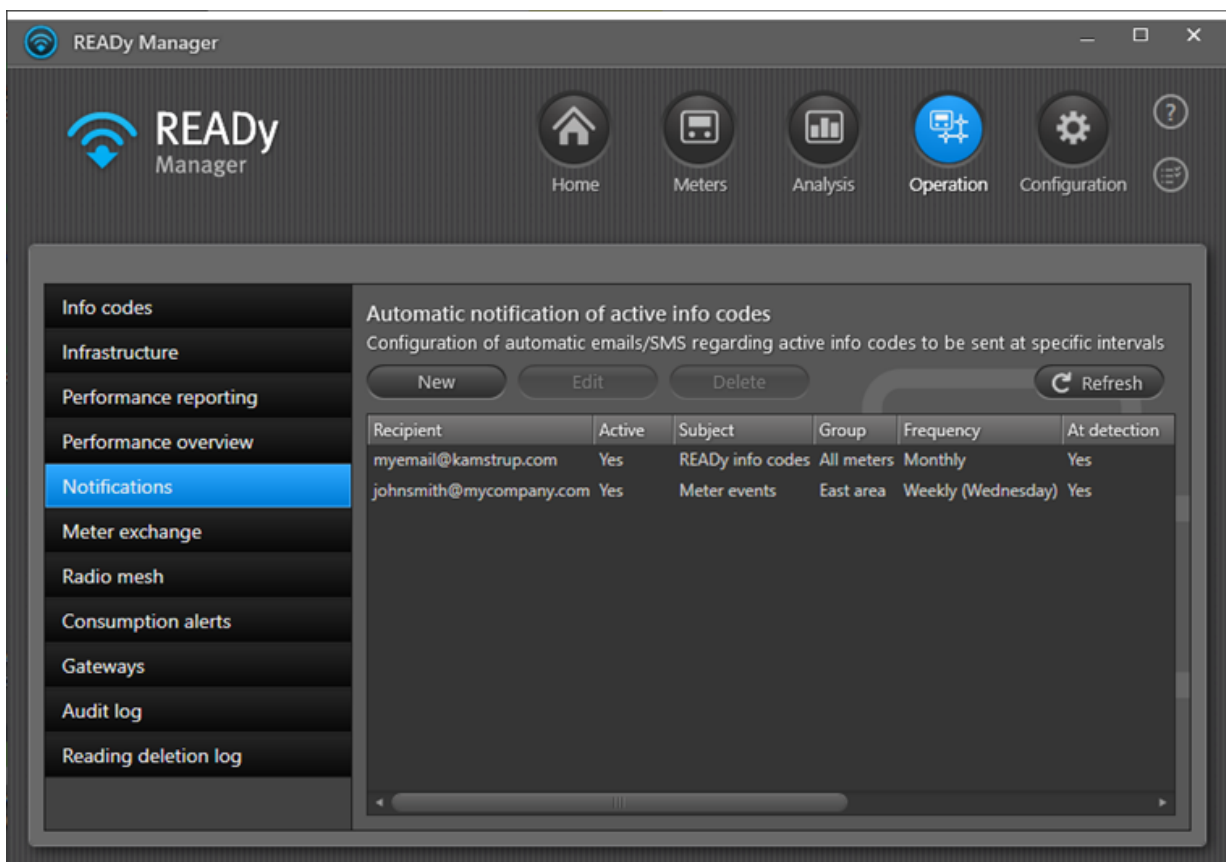
### 8.1.5 Permanently stopping notification of meter events

Follow the procedure below to permanently stop automatic notification of meter events:

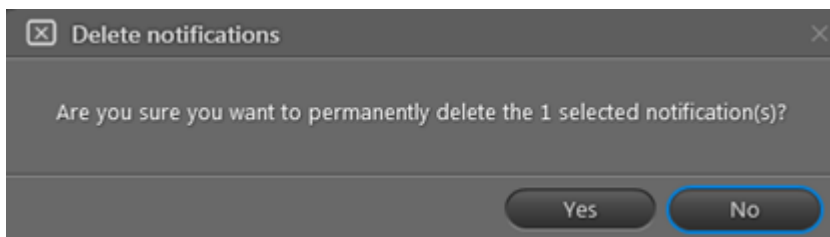
1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Notifications** in the menu to the left.



3. In the list of notifications, select the one that you want to permanently stop and click **Delete**.
4. In the window that appears, click **Yes** to confirm the deletion:



### 8.1.6 Description of meter events (info codes)

Below you find a description of all meter events (info codes) in READY:

**Hint** Additional information about an info code can be found in the technical description document for each meter type.

Meter event (info code)	Meter type	Description
Air is detected in the flow sensor 2 (only indicated as long as the error exists)	Heat meters	This info code activates if air is detected in flow sensor 2. The code is only shown as long as the error exists.
Air is detected in the flow sensor (only indicated as long as the error exists)	Heat meters	This info code activates if air is detected in the flow sensor. The code is only shown as long as the error exists.
Alarm from an external unit	Heat meters	This info code activates if an alarm has been triggered on an external unit, e.g. a sensor.
Alarm has been active	MAG 8000	This information appears on the display or in the log of MAG 8000 if an alarm has been active.
Battery low	All water meters	This info code activates if the battery of the meter is running low.
Burst	All water meters	This info code activates if the flow exceeds a given value for a continuous period of 30 minutes. This can be a sign of a burst in the pipe installation, which requires prompt action. The size of the 30-minute flow (which prompts the info code BURST) can be determined when you order the meter, and later by using METERTOOL.
Burst in the heating system		This info code activates if a burst occurs in the heating system.
Coil current fault	MAG 8000	This info code activates if the coil current has not settled within the specified period. A short circuit in the coil CANNOT be detected
Consumption interval	MAG 8000	This info code activates if the accumulated volume on totaliser 1 during the data log period has exceeded the 'too low' or 'too high' consumption limit
Controller restarted		This info code activates if the controller has been restarted.
Database checksum	MAG 8000	This info code activates if corrupted data is detected in the eeprom by the checksum test made during power-up.
Date-time changed	Heat meters	This info code activates if you have changed the date and time of the meter.
Dry	All water meters	This info code activates if air occurs in the meter. The ultrasonic measuring principle implies that the meter must be water-filled; the meter does not count air. If air occurs in the meter, nothing is measured.

Meter event (info code)	Meter type	Description
		To avoid false alarms due to short-term air build-up in the meter, the info code DRY is not added to the relevant registers, until it has been continuously active for 30 minutes.
Empty pipe	MAG 8000	This info code activates if the measured electrode impedance has exceeded the empty-pipe detection level (parameters 540, 541 and 334).
Error log has been reset	MAG 8000	This information appears on the display or in the log of MAG 8000 if the error log has been reset. This means that you will not be able to see previous errors.
External alarm on input A	Heat meters	This info code activates if an alarm on input A is triggered by an externally connected unit, e.g. a sensor.
External alarm on input B	Heat meters	This info code activates if an alarm on input B is triggered by an externally connected unit, e.g. a sensor.
Flow above Q4	water meters	This info code activates if the water flow through the meter has exceeded the upper flow limit (Q4 /max flow) for operation within the maximum margin of error.
Flow limit	MAG 8000	This info code activates if the forward flow rate is greater than the high flow alarm limit.
Flow meter V1 communication error, signal too weak or wrong flow direction	Heat meters	This info code activates if a communication error occurs between the calculator and the flow sensor.
Flow meter V1, signal too weak (air)	Heat meters	This info code activates if the signal from the flow sensor is too weak.
Flow meter V1, wrong flow direction	Heat meters	This info code activates if the water flows in the wrong direction (arrows on the flow sensor indicate flow direction).
Flow meter V1, wrong pulse figure	Heat meters	This info code activates if the flow sensors pulse figure does not match the calculators configuration.
Flow meter V2, communication error, signal too weak or wrong flow direction	Heat meters	This info code activates if a communication error occurs between the calculator and the flow sensor.
Flow meter V2, signal too weak (air)	Heat meters	This info code activates if the signal from the flow sensor is too weak.
Flow meter V2, wrong flow direction	Heat meters	This info code activates if the water flows in the wrong direction (arrows on the flow sensor indicate flow direction).
Flow meter V2, wrong pulse figure	Heat meters	This info code activates if the flow sensors pulse figure does not match the calculators configuration.

Meter event (info code)	Meter type	Description
Flow overload	MAG 8000	This info code activates if the flow rate has exceeded 125% of Q3.
Flow sensor with weak signal or air	Heat meters	This info code activates if the signal from the flow sensor is too weak.
Flow sensor with wrong flow direction	Heat meters	This info code activates if the water flows in the wrong direction (arrows on the flow sensor indicate flow direction).
Flow V1 exceeds the specified limit	Heat meters	This info code activates if the flow detected on input V1 is higher than allowed.
Flow V2 exceeds the specified limit	Heat meters	This info code activates if the flow detected on input V2 is higher than allowed.
Hardware key has been activated	MAG 8000	This information appears in the log of MAG 8000 if a hardware key has been activated.
High ambient temp.	Water meters	This info code activates if the ambient temperature is above a certain level specified in the meter configuration. The info code indicates an increased risk of undesirable organic growth in the water or that the water quality is otherwise negatively affected.
High pressure	Kamstrup PressureSensor	This info code activates if the current average pressure increases to a configurable limit. The default setting is 15 bar.
Insulation fault	MAG 8000	This info code activates if "cross-talk" between coil circuit and electrodes occurs. An insulation fault will cause an offset error to appear in the flow measurement.
Leak	All water meters	This info code activates if the water in the meter is never stagnant. Possible leaky connections, running cisterns, leaky safety valves in hot water tanks, or other leakages will have the result that the meter registers water flow 24 hours a day.
Leak in the cold-water system		This info code activates if a leak occurs in the cold-water system.
Leak in the heating system		This info code activates if a leak occurs in the heating system.
Leak in water system on input A	Heat meters	This info code activates if a leak in the water system occurs on input A.
Leak in water system on input A2	Heat meters	This info code activates if a leak in the water system occurs on input A2.
Leak in water system on input B	Heat meters	This info code activates if a leak in the water system occurs on input B.
Leak in water system on input B2	Heat meters	This info code activates if a leak in the water system occurs on input B2.
Leakage	MAG 8000	This info code activates if the lowest flow rate or volume during the leakage period has exceeded the leakage detection settings.

Meter event (info code)	Meter type	Description
Low ambient temp.	Water meters	This info code activates if the ambient temperature is below a certain level specified in the meter configuration. The info code indicates an increased risk of frozen pipe burst, especially in areas where the water is stagnant for parts of the year, such as summer houses.
Low conductivity	MAG 8000	This information appears on the display of MAG 8000 if the conductivity is low.
Low power alarm	MAG 8000	This info code activates if the battery capacity is below the specified threshold (default is 10%).
Low pressure	Kamstrup PressureSensor	This info code activates if the current average pressure drops to a configurable limit. The default setting is 1.5 bar.
No consumption	Water meters	This info code indicates that no or very little flow (below the leakage detection limit) has occurred in the piping system for the last 30 days.
No voltage supply	All heat meters	This info code activates if there is no voltage supply.
Preamplifier overload	MAG 8000	This info code activates if the input signal is outside the expected range. The input amplifier circuit cannot provide a stable measurement. A short circuit between the two electrodes or between an electrode and common CANNOT be detected.
Pressure drop	Kamstrup PressureSensor	This info code activates if the pressure has dropped unexpectedly compared to the current average pressure.
Pressure surge	Kamstrup PressureSensor	This info code activates if the pressure has surged unexpectedly compared to the current average pressure.
Pressure transient	Kamstrup PressureSensor	This info code activates if the pressure changes rapidly over short periods of time.
Pulse A overload	MAG 8000	This info code activates if the duty cycle of output A has exceeded a maximum of 50.
Pulse B overload	MAG 8000	This info code activates if the duty cycle of output B has exceeded a maximum of 50.
Reverse	All water meters	This info code activates if the water flows from the consumer's installation and back into the distribution network. The purpose of this code is to ensure the water quality in your network.
Reverse flow	MAG 8000	This info code activates if the reverse flow rate is below the specified threshold.
Sensor communication error	Kamstrup PressureSensor	This info code activates if the pressure sensor is unable to communicate. This can either be caused by an error in the communication to the radio part

Meter event (info code)	Meter type	Description
		or a measurement error. All metering data is based on very frequent sampling.
Supply voltage has been interrupted		This info code activates if the power supply to the meter has been interrupted.
Supply voltage too low	Heat meters	This info code activates if a low battery level is detected.
Tamper		This info code activates if the meter has been exposed to unauthorized access, i.e. an attempt to cheat. This means that the meter is no longer valid for billing purposes.
Tariff register changed or reset		This info code activates if the tariff register has been changed or reset.
Temperature difference has wrong polarity	Heat meters	This info code activates if an invalid temperature difference is detected.
Temperature sensor t1 above range or disconnected	Heat meters	This info code activates if the temperature sensor is above measuring range.
Temperature sensor t1 below range or short-circuited	Heat meters	This info code activates if the temperature sensor is below measuring range.
Temperature sensor t1 outside measuring range	Heat meters	This info code activates if the temperature sensor is outside measuring range.
Temperature sensor t2 above range or disconnected	Heat meters	This info code activates if the temperature sensor is above measuring range.
Temperature sensor t2 below range or short-circuited	Heat meters	This info code activates if the temperature sensor is below measuring range.
Temperature sensor t2 outside measuring range	Heat meters	This info code activates if the temperature sensor is outside measuring range.
Temperature sensor t3 above range or disconnected	Heat meters	This info code activates if the temperature sensor is above measuring range.
Temperature sensor t3 below range or short-circuited	Heat meters	This info code activates if the temperature sensor is below measuring range.
Temperature sensor t3 outside measuring range	Heat meters	This info code activates if the temperature sensor is outside measuring range.
The meter has been powered up	MAG 8000	This information appears on the display or in the log of MAG 8000 if the power supply to the meter has been interrupted and is now reconnected.
The tariff setting has been changed or reset	Heat meters	This info code activates if the tariff setting has been changed or reset.
Totaliser 1 or 2 changed or reset	MAG 8000	This information appears on the display or in the log of MAG 8000 if totaliser 1 or 2 has been changed or reset.


Meter event (info code)	Meter type	Description
V1V2 burst in	Heat meters	This info code is activated if a burst into the system is detected by the flow sensors connected to the inputs V1 and V2.
V1V2 burst out	Heat meters	This info code is activated if a burst out of the system is detected by the flow sensors connected to the inputs V1 and V2.
V1V2 leak in	Heat meters	This info code is activated if a leak into the system is detected by the flow sensors connected to the inputs V1 and V2.
V1V2 leak out	Heat meters	This info code is activated if a leak out of the system is detected by the flow sensors connected to the inputs V1 and V2.

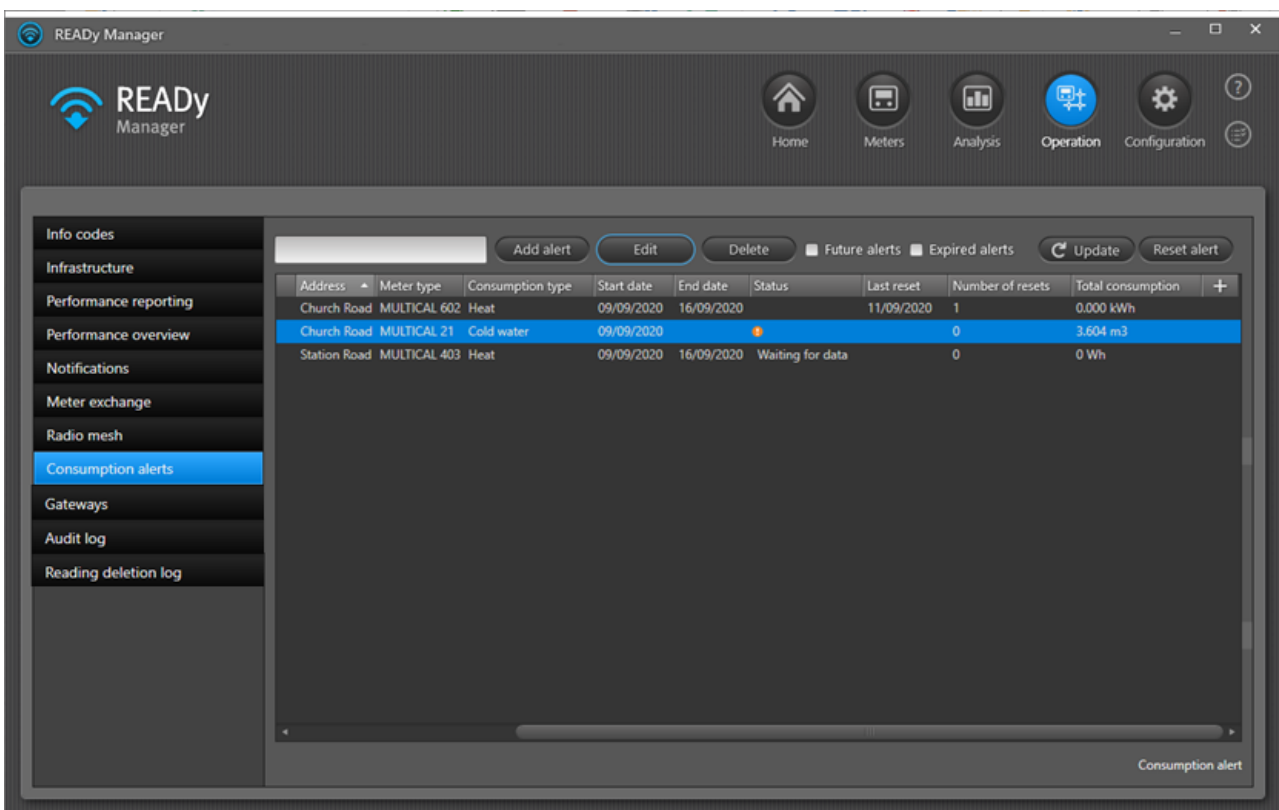
## 8.2 Consumption alerts

You can set up a consumption limit for a meter, and issue an alert in READY Manager if the specified limit is exceeded.


Monitoring of the consumption limit can be active for a specified period of time, or be set up without an end date, and you can monitor the consumption of up to 5000 meters at a time.

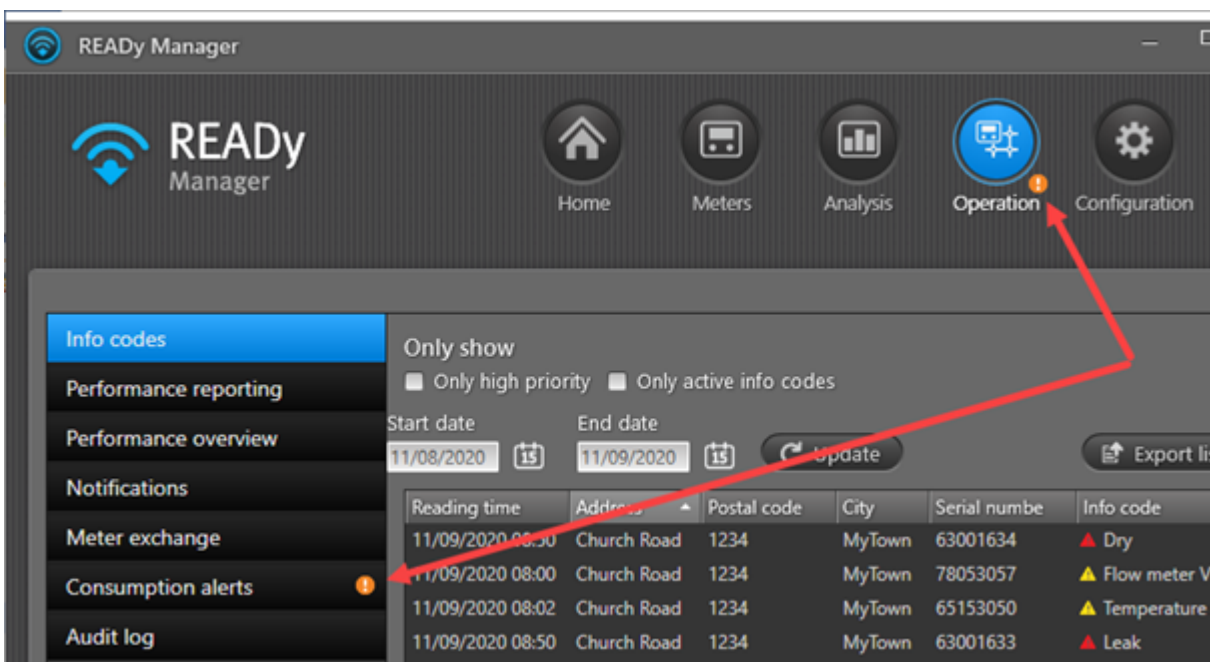
Consumption alerts that have expired or are set up to start in the future can be shown or hidden in the list of consumption alerts as desired.

To set up and view consumption alerts go to **Operation**  **> Consumption alerts:**

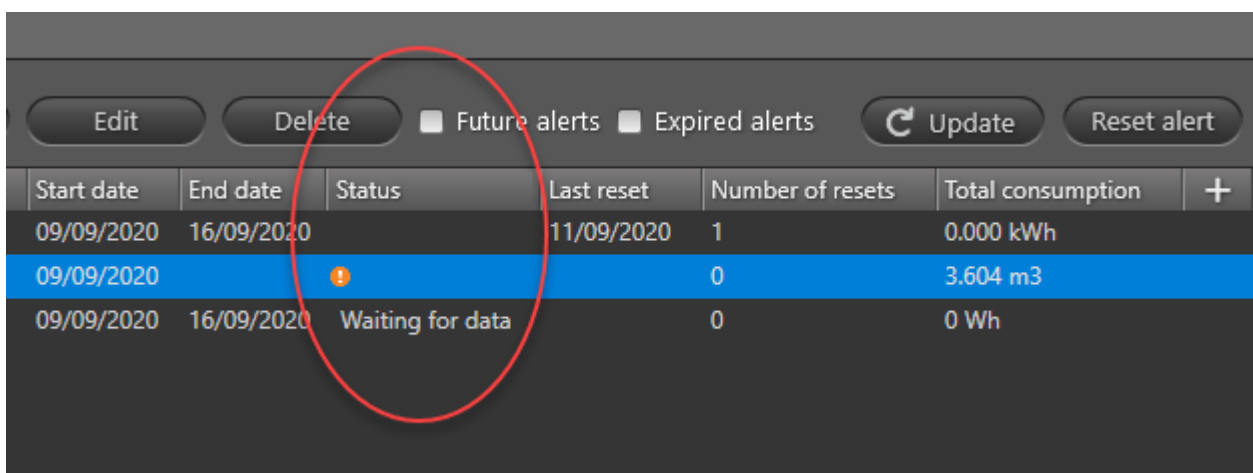


**Hint** Double-click a meter in the list to see readings for the selected meter.

If a consumption alert is triggered, an alert icon  appears on the **Operation** view icon and on the **Consumption alerts** menu item:



Furthermore, an alert icon appears in the **Status** column in the **Consumption alerts** view. It disappears when you click the **Reset alert** button:



The following information is shown in the list for each meter you monitor:

Alert property	What it means
Serial number	The serial number of the meter.
Customer	The name of the customer.
Customer number	The unique identification of the customer.
Address	The address at which the meter is installed.
Meter type	Kamstrup meter type, e.g. MULTICAL® 603.
Consumption type	The meter consumption type, e.g. heat or cold water
Start date	The start date for monitoring of the the consumption.
End date	The end date for monitoring of the consumption.
Status	The current status of monitoring the consumption. One of the following: <b>Waiting for data:</b> Waiting for the first reading after the alert period has started. <b>(Field is blank):</b> After first reading has been received. No alert. <b>Missing data:</b> No reading has been registered for more than 24 hours. : Consumption limit has been exceeded.
Last reset	The last time the consumption alert for this meter has been reset during the alert period.
Number of resets	The number of times the consumption alert for this meter has been reset during the alert period.
Total consumption	Total consumption in the alert period until now.

### What do you want to do?

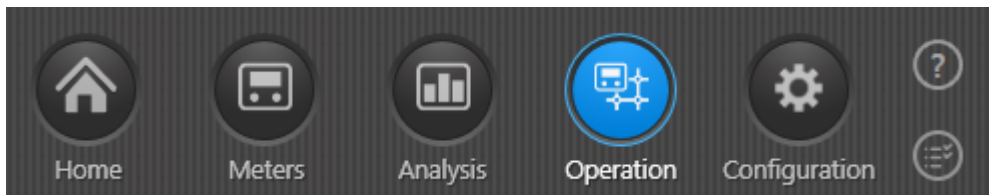
- [Set up a consumption alert for a meter](#)
- [Extend the alert period \(active alerts only\)](#)
- [Reset a consumption alert](#)
- [Delete a consumption alert you have set up](#)
- [Show/hide expired and future consumption alerts](#)

You can sort, change the sequence and show/hide the information in the list. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#), [Sorting the list of meters/customers](#) and [Show and hide information in Meters view](#).

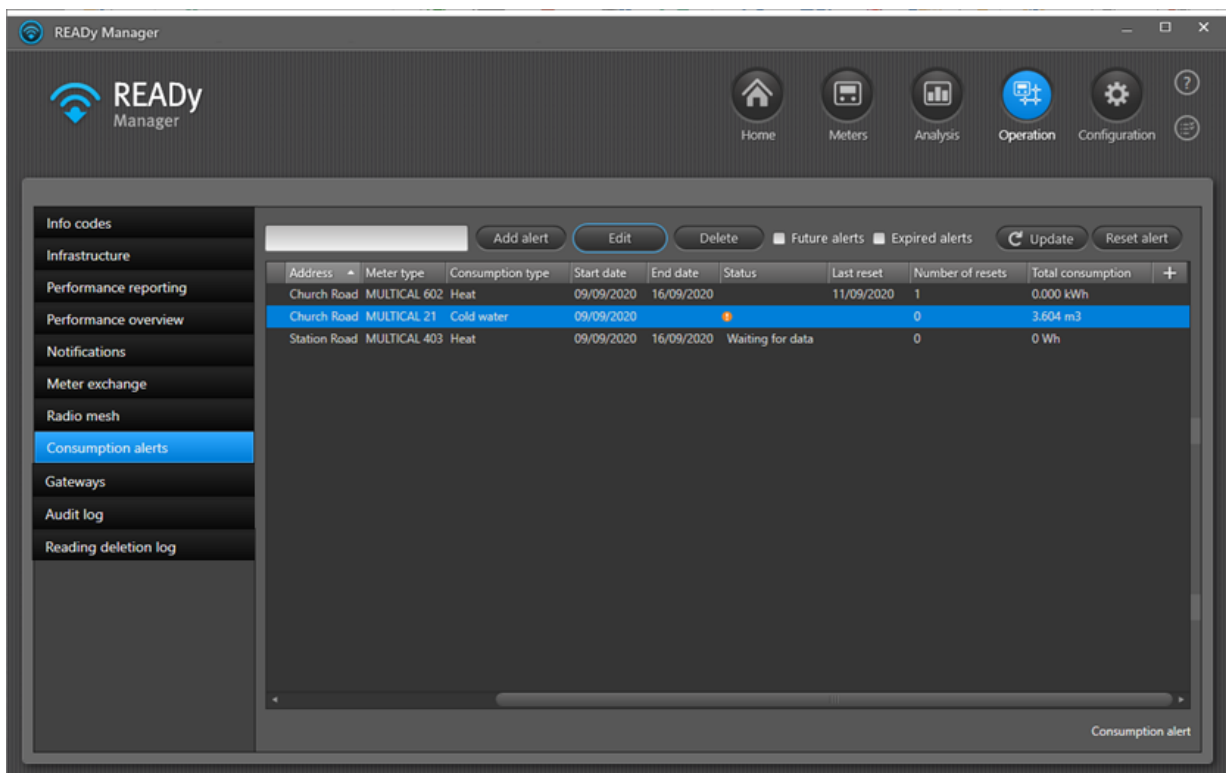
### 8.2.1 Setting up a consumption alert for a meter

Follow the procedure below to set up a consumption alert for a meter:

1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Consumption alerts** in the menu to the left.



3. Click the **Add alert** button.

The following window appears:

4. In **Meter**, enter the serial number of the meter to which you want to add a consumption alert.

You can also enter the address or customer number to find the meter.

5. In **Start date**, select the date on which you want the alert period to start.
6. In **End date**, select the date on which you want the alert period to end, or select **No end date**.
7. In **Register**, select the consumption value for which you want to set up an alert.

The choices depend on the consumption type of the meter (for example Volume 1 and Energy 1 for heat meters and Volume 1 for water meters).

8. In **Consumption limit**, enter the maximum consumption allowed between two readings, and select the unit of measurement for the consumption limit.

The alert will be issued if this limit is exceeded.

9. Click **Save**.

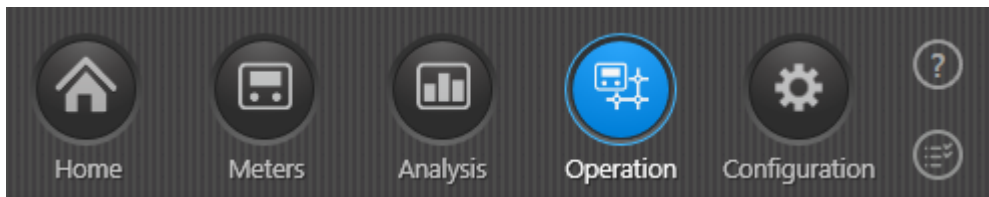
The consumption alert is now added to your list of alerts. If your start date is a date in the future, your new alert is only visible if you turn on the **Future alerts** check box.

### 8.2.2 Extending the alert period (active alerts only)

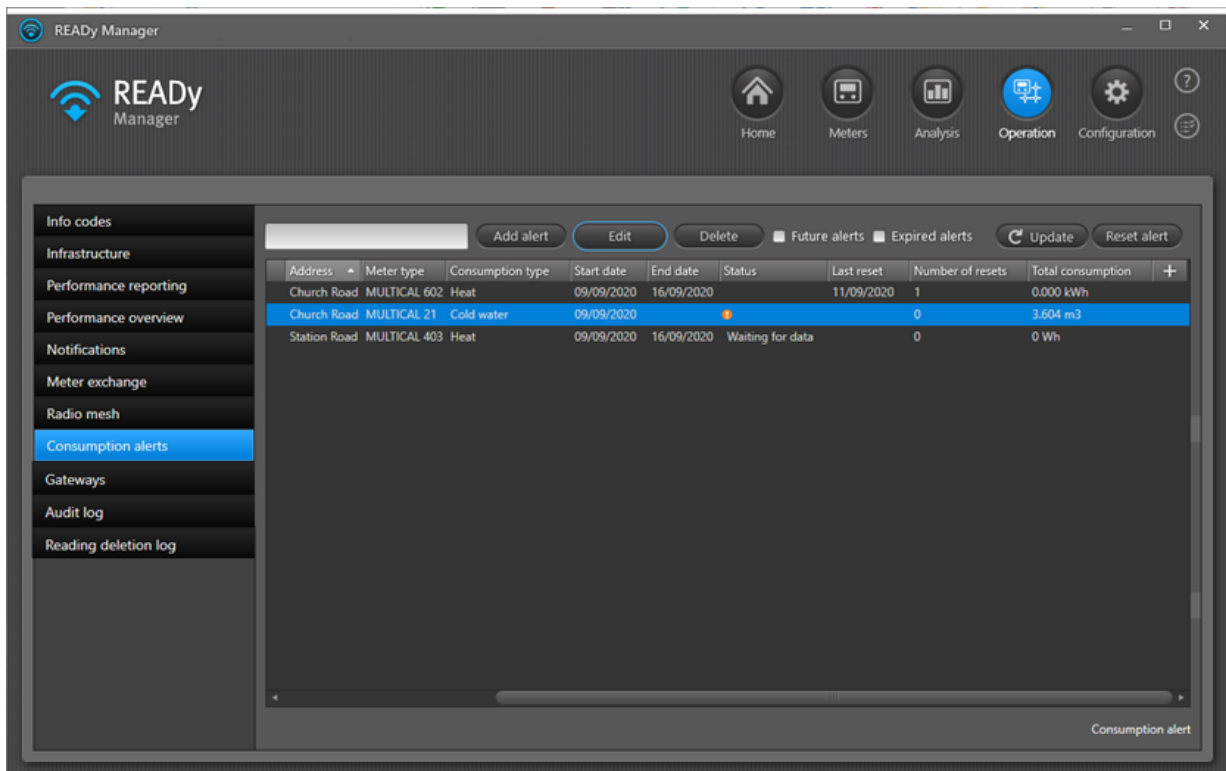
Follow the procedure below to extend the alert period of a consumption alert.

Precondition: To extend the alert period, the alert must still be active. If it has expired, you must set up a new alert (for details, see [Setting up a consumption alert for a meter](#)).

1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Consumption alerts** in the menu to the left.



3. Select the alert you want to extend in the list.

4. Click the **Edit** button.

The following window appears:

**Consumption alerts** [X]

Search by meter or customer

Meter 71007690, Station Road, 1111222

Alert period

Start date 09/09/2020 [Calendar icon]

End date 16/09/2020 [Calendar icon]

No end date

Alert criterion

Register Energy 1 Heat energy [Dropdown arrow]

Consumption limit 0 Wh [Dropdown arrow]

Save Cancel

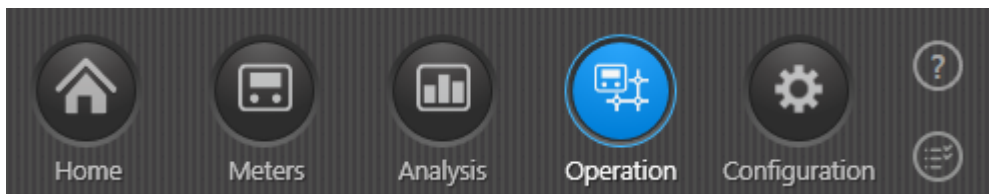
5. In **End date**, select the new date on which you want the alert period to end, or select **No end date**.
6. Click **Save**.

### 8.2.3 Resetting a consumption alert

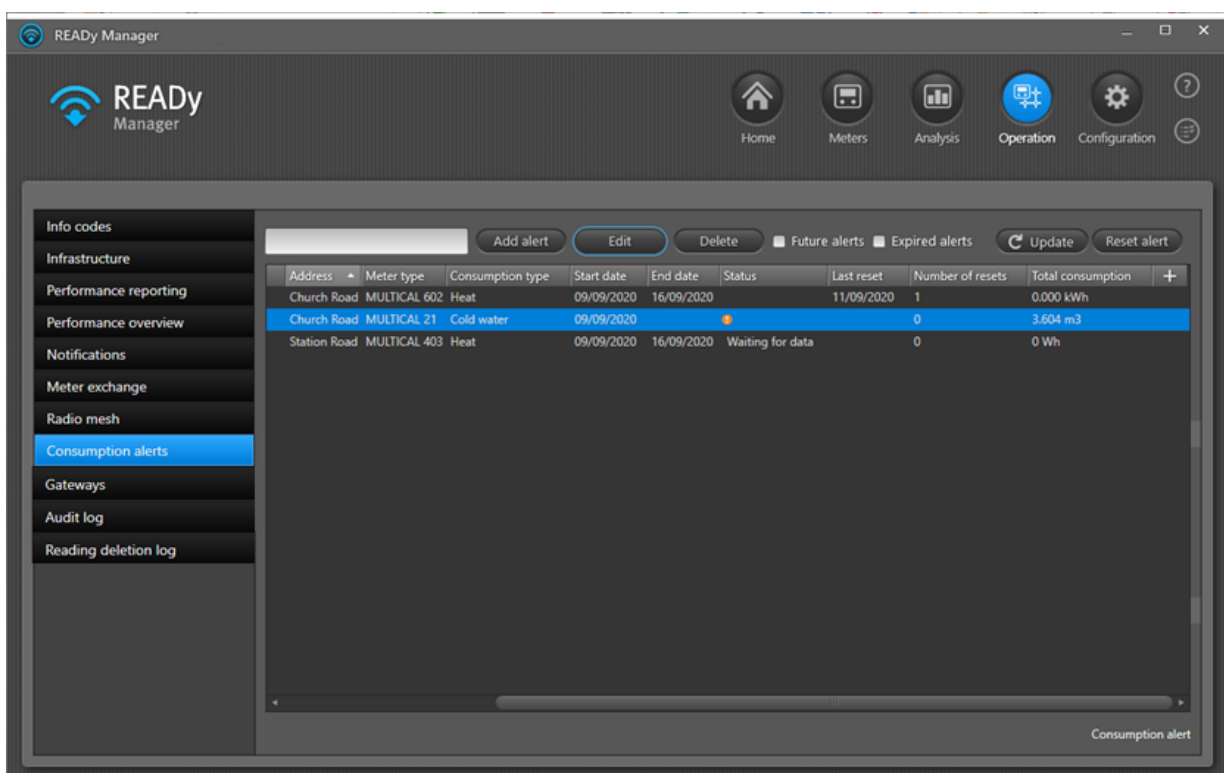
By resetting a consumption alert, you confirm that you have registered the alert and a new alert will be triggered if the consumption limit is exceeded again.

Follow the procedure below to reset a consumption alert:

1. Click  in the upper-right corner of READY Manager to open the **Operation** view.

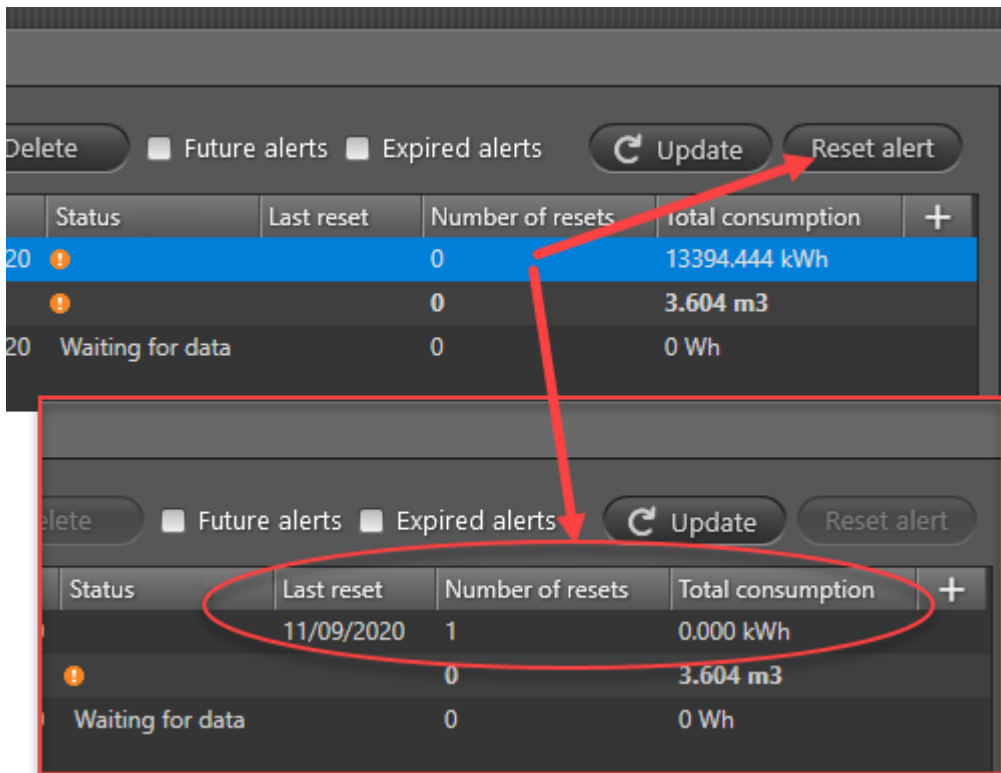


2. Select **Consumption alerts** in the menu to the left.



3. Select the alert in the list that you want to reset.
4. Click the **Reset alert** button above the list.

The time at which you reset the alert is added to the **Last reset** column, and the **Number of resets** column is increased by 1. At the same time, the **Total consumption** column is reset to zero.

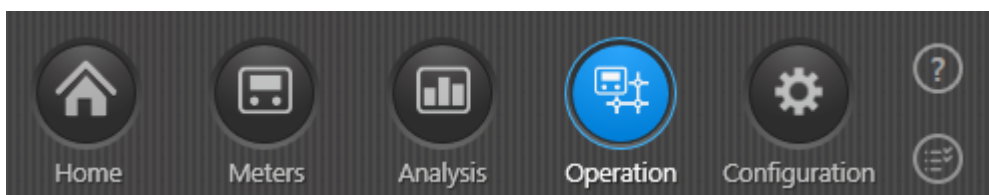


### 8.2.4 Deleting a consumption alert you have set up

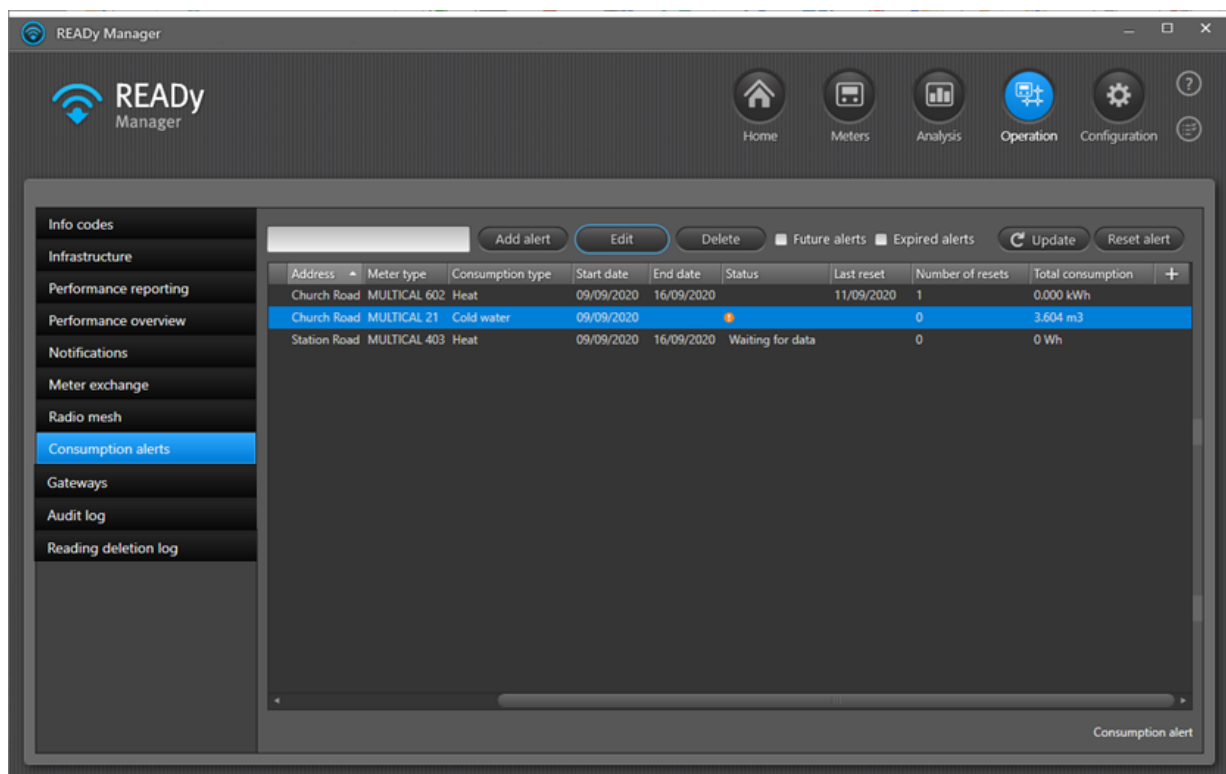
**Note** Deleting means you delete a consumption alert you have set up for a meter. If you just need to reset the alert status, see [Resetting a consumption alert](#).

Follow the procedure below to delete a consumption alert:

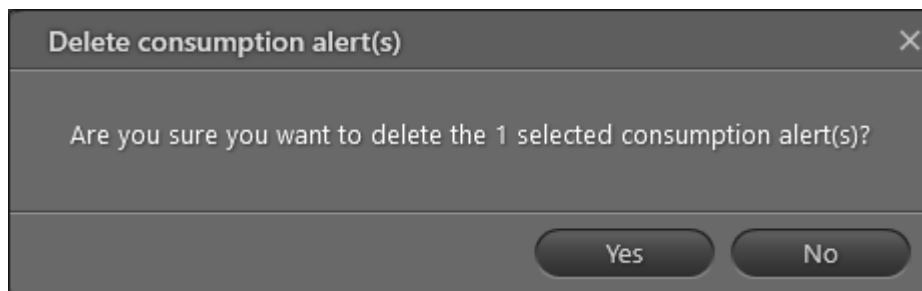
1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Consumption alerts** in the menu to the left.



3. Select the consumption alert in the list that you want to remove from READY Manager.
4. Click the **Delete** button above the list.
5. In the message that appears, click **Yes** to confirm the deletion.

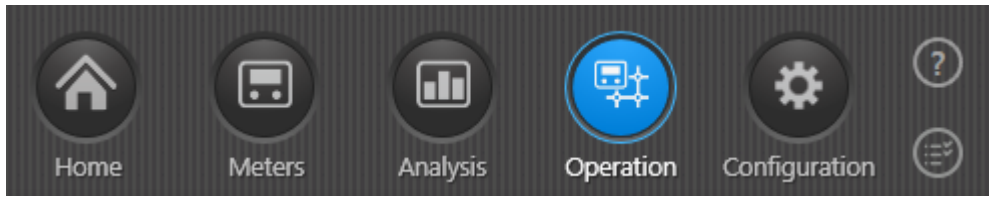


### 8.2.5 Showing/Hiding expired and future alerts

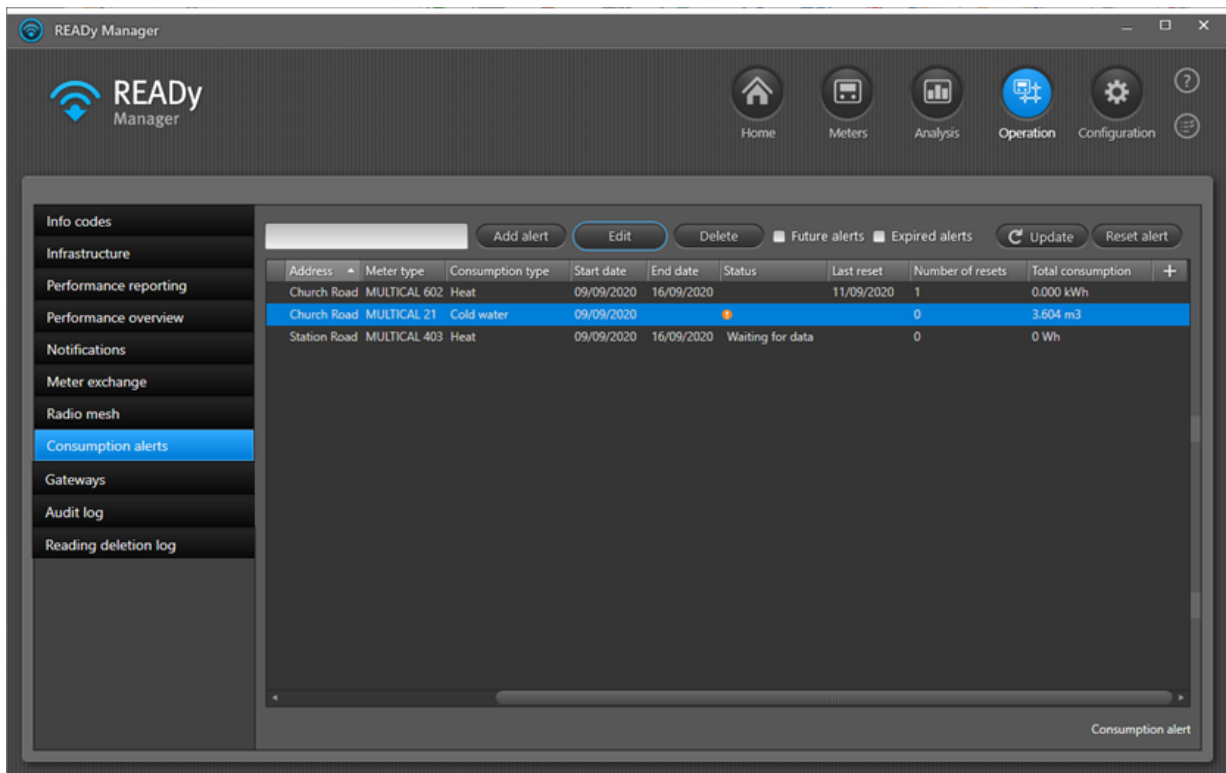
Consumption alerts that are currently active are always displayed in the list of alerts. Inactive alerts, i.e. those that start on a future date or have expired, can be shown or hidden as desired.

Follow the procedure below to show or hide inactive alerts:

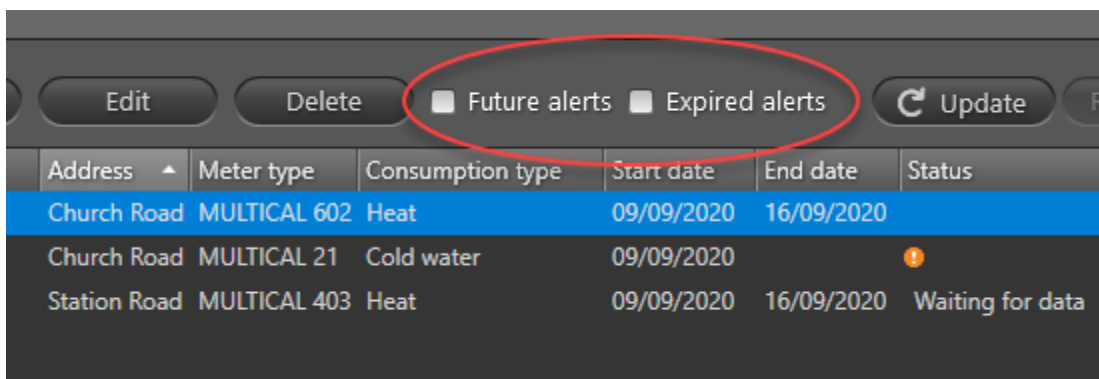
1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Consumption alerts** in the menu to the left.







3. Turn the **Future alerts** and **Expired alerts** check boxes on or off as desired:

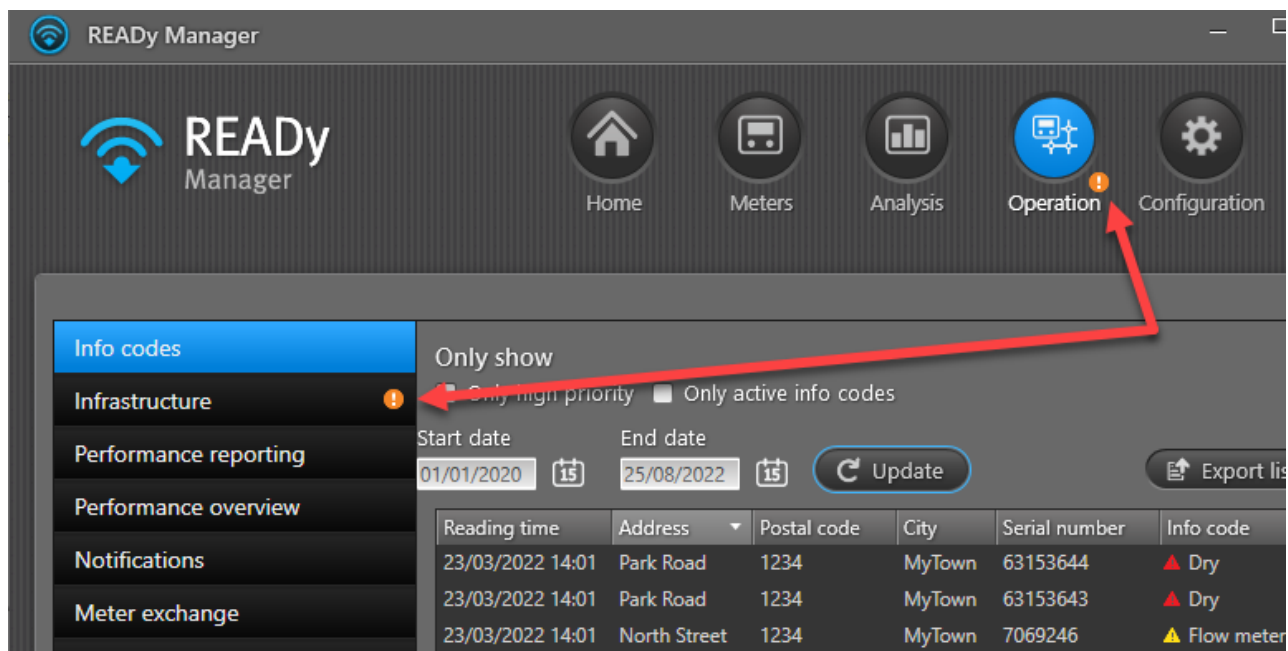


### 8.3 Last contact alerts for collection units

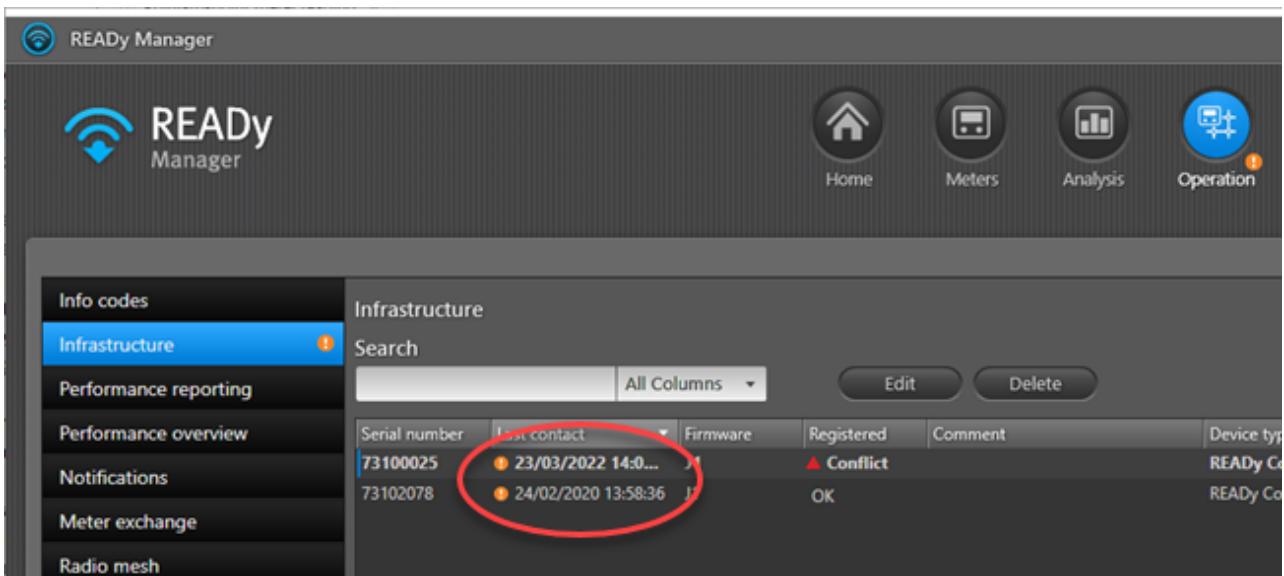
The connection to collection units in your network is automatically checked at regular intervals and an alert is triggered if the last time of contact exceeds a certain time period:

- For collectors, the connection is checked every 20 minutes, and a warning symbol appears  if the last time of contact is 5 hours back in time.
- For 4G bridges, the connection is checked every 4 hours (priority reading) or every day (normal reading), and a warning symbol appears  if the last time of contact is 48 hours back in time.
- For other devices a warning symbol appears  if the last time of contact is 5 hours back in time.

If an alert is triggered, an alert icon  appears on the **Operation** view icon and on the **Infrastructure** menu item:



In the **Infrastructure** view, an alert icon appears next to the **Last contact** timestamp for each collection unit with connection issues:



If you select a collection unit with connection issues, you mute the alert until midnight. Meaning that if you select all collection units with an alert icon, you remove the alert icon from the **Operation** view icon and on the **Infrastructure** menu item until midnight. At midnight, the alert will be triggered again if the connection issue persists.

**Note** If you see "**▲ Conflict**" in the **Registered** field, it means that more READY installations try to register the same collection unit. If so, please contact [Kamstrup support](#).

## 9 Analyzing reading data

---

READY Manager provides various functions which help you analyze your data and troubleshoot your network:

- A visualization view that shows the consumption (and other reading values) of individual meters as a bar chart over a given period of time. Info codes (i.e. notifications such as leakage, burst, etc.) can be added to the bar chart to show possible connections between the consumption and a given meter notification. For details, see [Visualization](#).
- A priority meters tool that lets you upgrade the desired number of meters to priority meters. Priority meters are meters from which you receive hourly readings at 60-minute intervals as opposed to non-priority meters from which you receive either hourly readings every 3 hours or one daily reading per day. For details, see [Priority meters](#).
- A water loss analysis tool for cold water meters that lets you calculate the water loss in the entire network or in selected areas. For details, see [Water loss analysis](#).
- A data comparison tool that lets you compare the reading values for up to 3 meters. For details, see [Data comparison](#).
- A report tool that calculates the total consumption for individual heat and water meters and for all selected meters in the desired time interval. For details, see [Consumption reports](#).
- Reports on cooling performance, inlet temperature and outlet temperature for heat meters, For details, see [Heat reports](#).

### 9.1 Priority meters

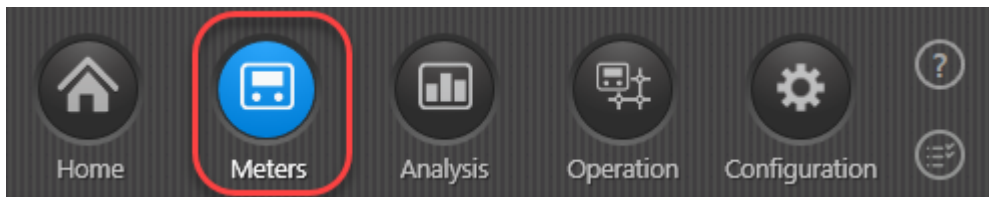
If you have a two-way radio network reading solution (AMI), it is possible to configure one or more of your flowIQ® 2250 and 3250 meters as priority meters. Priority meters let you receive hourly readings every hour as opposed to non-priority meters from which you receive either hourly readings every 3 hours or one daily reading per day.

**Note** Reading data from priority meters are collected more frequently than reading data from other meters. This means that the meter battery lifetime is shorter than for ordinary meters and that the normal battery warranty does not apply to meters that are (or has been) priority meters.

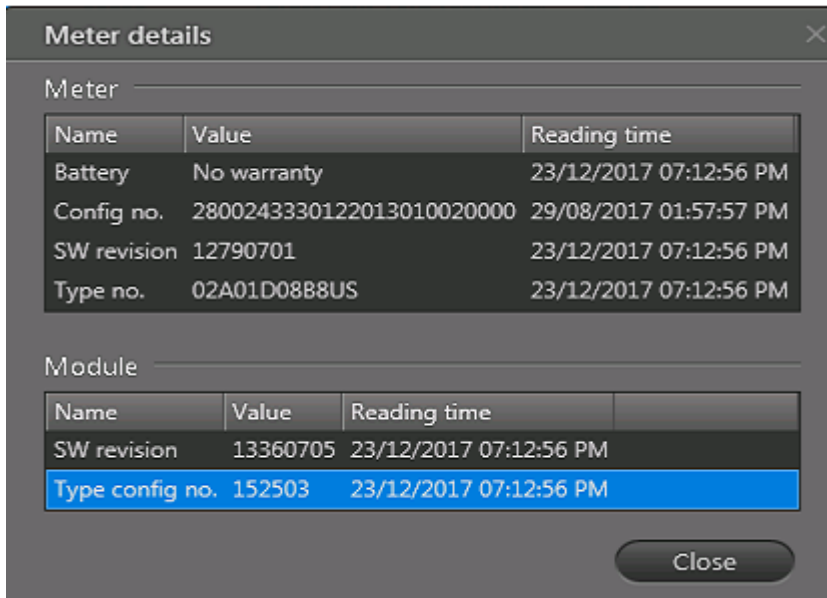
A meter is a priority meter if you configure it as such (by uploading a priority configuration file to the meter). For details about meter configuration, see [Updating reading method, interval, data and notification limits](#).

#### How to check if a meter is a priority meter

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, click the meter you want to check, and click the **Details** button that appears above the list:

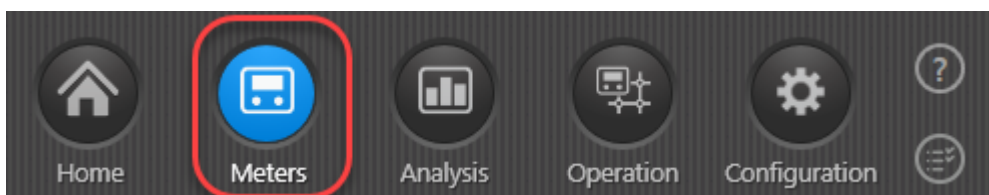


If the **Type config no.** ends with "503", the meter is a priority meter.

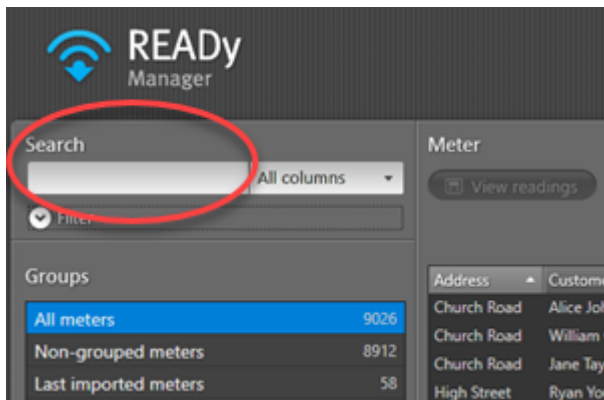
3. Click **Close**.

### How to find priority meters in your system

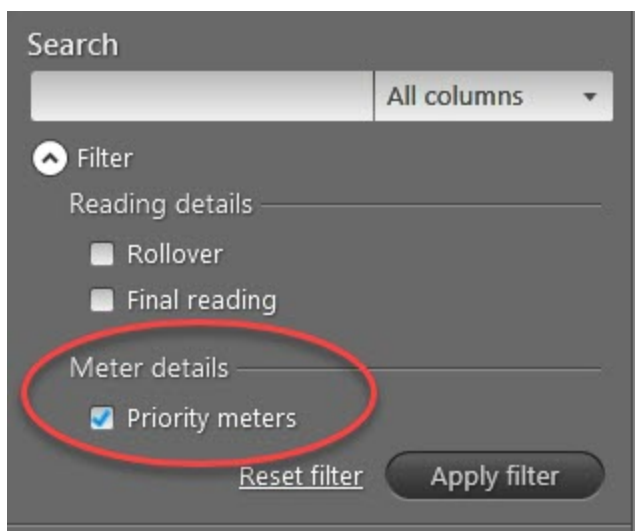
1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the **Groups** area to the left, select "All meters" to search among all meters in the system or select a specific group to only search within this group.
3. Make sure the **Search** field is empty:



4. Click **Filter** below the search to display the filter area, and select **Priority meters**:




5. Click **Apply filter**.  
All priority meters now appear in the list.

## 9.2 Water loss analysis

### Requirements for using water loss analysis

- The water loss analysis is only available for cold water meters.
- To ensure a sufficient amount of data for the calculations, [fixed network meter reading](#) is required to use this feature.

The water loss analysis gives you an overview of the water loss in your entire network or in parts of your network. To open the water loss analysis tool, select **Analysis**  > **Water loss analysis**:




Kamstrup can supply meters in all sizes from 3/4" to DN1200. This means that you can read district and main meters with the same system as the consumption meters. However, if the main/district meters are not read remotely, you can enter the supplied input volume manually. If you enter the supplied volume manually, only the **Year to date** field is updated and NOT the graph view.

## How to calculate the water loss

### Preconditions:

- The water loss analysis is based on meter groups. To calculate the water loss, you must create a meter group with your main and/or district meter(s) and another group with the consumption meters supplied by the main/district meter(s). For details about creating meter groups, see [Creating groups](#).
- The water loss analysis is based on comparison of daily readings, so in order to calculate the water loss for any given day, a reading from that day plus a reading from the day before is required.
- Make sure that the latest meter readings in the selected groups have comparable time stamps. Otherwise the amount of distributed water cannot be compared to the amount of consumed water.

1. Click **Analysis**  in the upper-right corner of READY Manager, and select **Water loss analysis** to the left.

2. Follow Step a or b.

a. If your main/district meter(s) are read remotely:

- In **Calculation basis**, select "Calculated volume".
- In **District meters**, select the meter group containing your main/district meter(s).

Select the main meter(s) if you want to calculate the water loss in the entire network or one or more district meters if you want to calculate the water loss in an area of your network.

- In **Start date** and **End date**, select the period for which you want to see the water loss.

**OR**

b. If your main/district meter(s) are not read remotely:

- In **Calculation basis**, select "Manually entered volume".
- In **Volume pumped out this year m<sup>3</sup>**, enter the amount of water put into the network/area until now this year.

**Note** When you enter the supplied volume manually, only the **Year to date** field is updated and NOT the graph view.

3. In the **Consumption meters** field, select the group of consumption meters supplied by the selected main/district meter(s).

4. Click **Update**.


If your main/district meter(s) are read remotely: The water loss for the selected period is now displayed (both as a percentage and in actual numbers). If data are available, the water loss for the same period last year is also displayed along with the water loss per meter and the water loss until now this year.

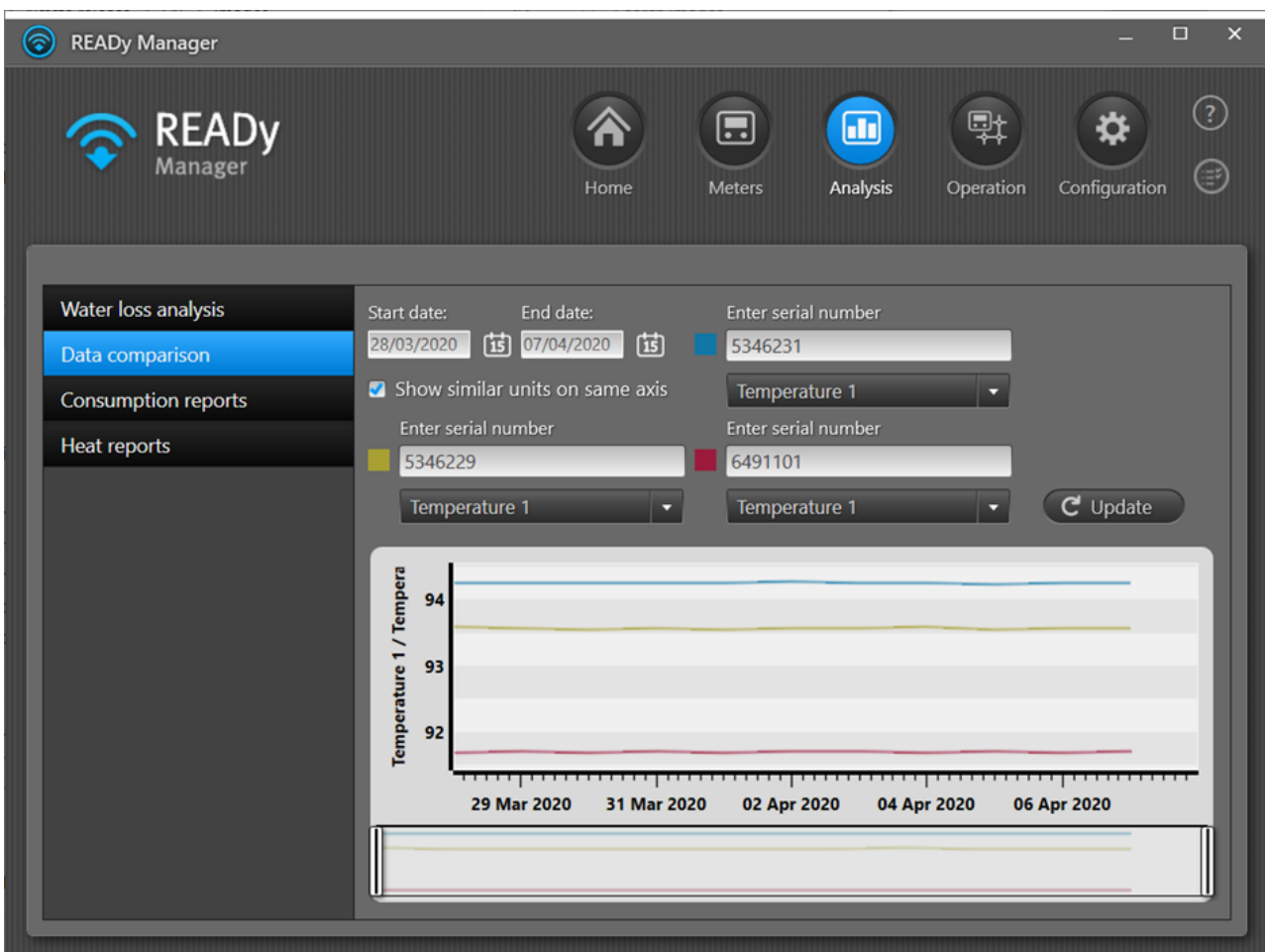
Furthermore, a graph with a blue curve for the main/district meter(s) and a red curve for the consumption meters is also displayed. If you hold the mouse over the graph, a tooltip appears with the exact x and y axis values for that point on the graph. Left- or right-drag to zoom in on the graph, or use the slider below the graph to zoom in or out. Press HOME to return to default view.

If your main/district meter(s) are not read remotely: The water loss until now this year is displayed (both as a percentage and in actual numbers). The graph view is not available.


### 9.3 Data comparison

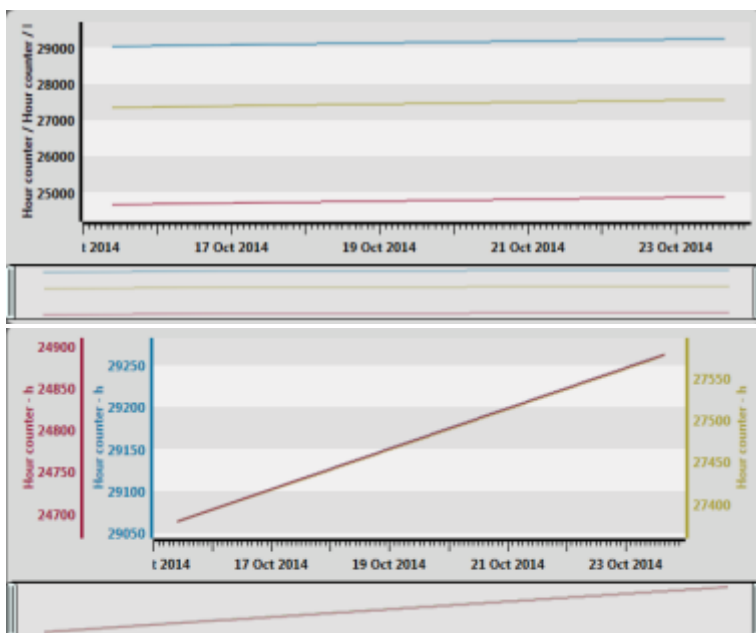
In order to ensure a sufficient amount of data for the calculations, [fixed network meter reading](#) is required to use this feature.

Data comparison lets you compare the reading values for up to 3 meters. To open the data comparison tool, select **Analysis**  > **Data comparison**:



## How to compare reading values

1. Click **Meters**  in the upper-right corner of READY Manager.
2. In the list of meters, select the 2 or 3 meters whose reading values you want to compare.
3. Right-click your selection and choose **Compare data**.  
The data comparison tool now opens with the serial numbers of the selected meters filled in.
4. In the **Start date** and **End date** fields, select the period for which you want to compare reading values.
5. Below each meter field, select the reading value you want to compare.
6. Select **Show similar units on same axis** if you want to show similar units on the same y axis (left image below), or clear the selection in this check box to have a separate y axis for each meter (right image below):



7. Click **Update**.

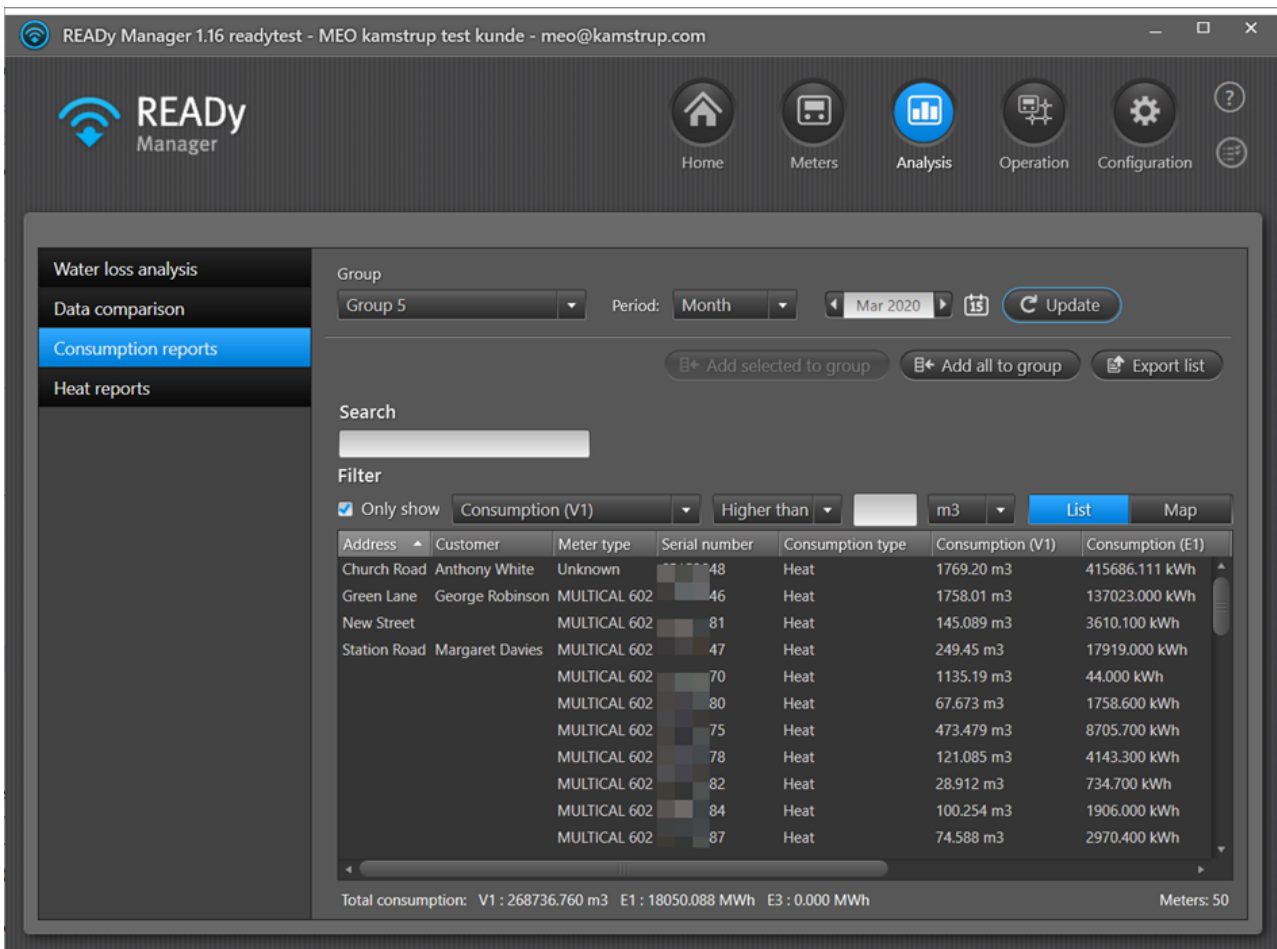
A graph with a curve for each meter now appears. If you hold the mouse over the graph, a tooltip appears with the exact x and y axis values for that point on the graph. Left- or right-drag to zoom in on the graph, or use the slider below the graph to zoom in or out. Press HOME to return to default view.

## 9.4 Consumption reports

The consumption reports tool calculates the total consumption for your heat and water meters in the desired time interval. Both the total consumption for each meter and for all selected meters are shown.

Furthermore, you can set up a consumption limit and only include the meters with a consumption above or below the specified limit in your report. For example if you want to identify installations with unusually high or zero consumption. If desired you can add them to a group for further investigation or export the report to use the information outside READY Manager.

To open the report tool, select **Analysis**  > **Consumption reports**:



**Hint** Double-click a meter in the report window to see all readings for the selected meter in the selected period including [consumption graphs](#).

The units of measurement used in the list are the same as those you have set up in system settings. For details, see [Units of measurement](#).

### How to create a report

1. In **Group**, select the group of meters for which you want to generate a report, or select "All meters".
2. Select "Custom" in the **Period** field and then the desired start and end dates. Or select "Day", "Month" or "Year" and then the date/month/year for which you want to create a report.
3. Click the **Update** button.  
Follow step 4 and/or 5 to filter the list of meters.
4. To only include certain meters in your report, enter the text/numbers that identifies these meters in the **Search** field.
5. To only include meters with a consumption above or below a certain limit, select the **Only show** check box and then select the desired type of consumption and limit.

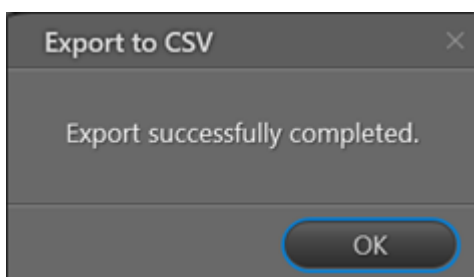
The total consumption for each meter is shown in the list. The total consumption for all meters is shown below the list.

To see the meters on a map, click the **Map** button above the list on the far right.

### How to export a report

Follow the procedure below to export the report information currently shown in the **Consumption reports** window:

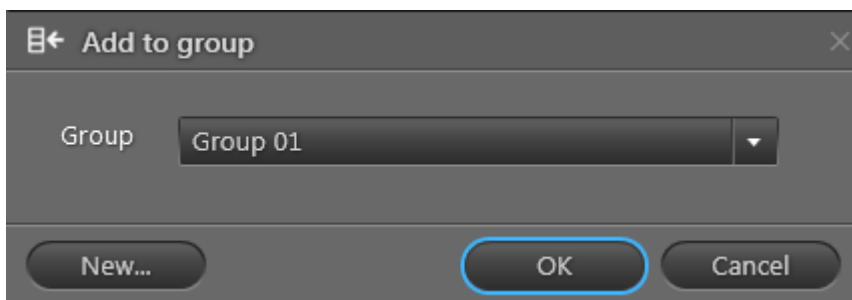
1. Click the **Export list** button.
2. In the window that opens, select a location and a name for your export file. Click **Save**.
3. Click **OK** in the message that appears when the export is completed:



The exported information is in CSV format and can be opened in, for example, Microsoft Excel.

### How to add selected or all meters to a group

1. Click **Add selected to group** (only selected meters in the list are included in the group) or **Add all to group** (all listed meters are included in the group).
2. In the window that appears, select the group you want to add the meters to, or click the **New** button to create a new group and add the meters to this group.

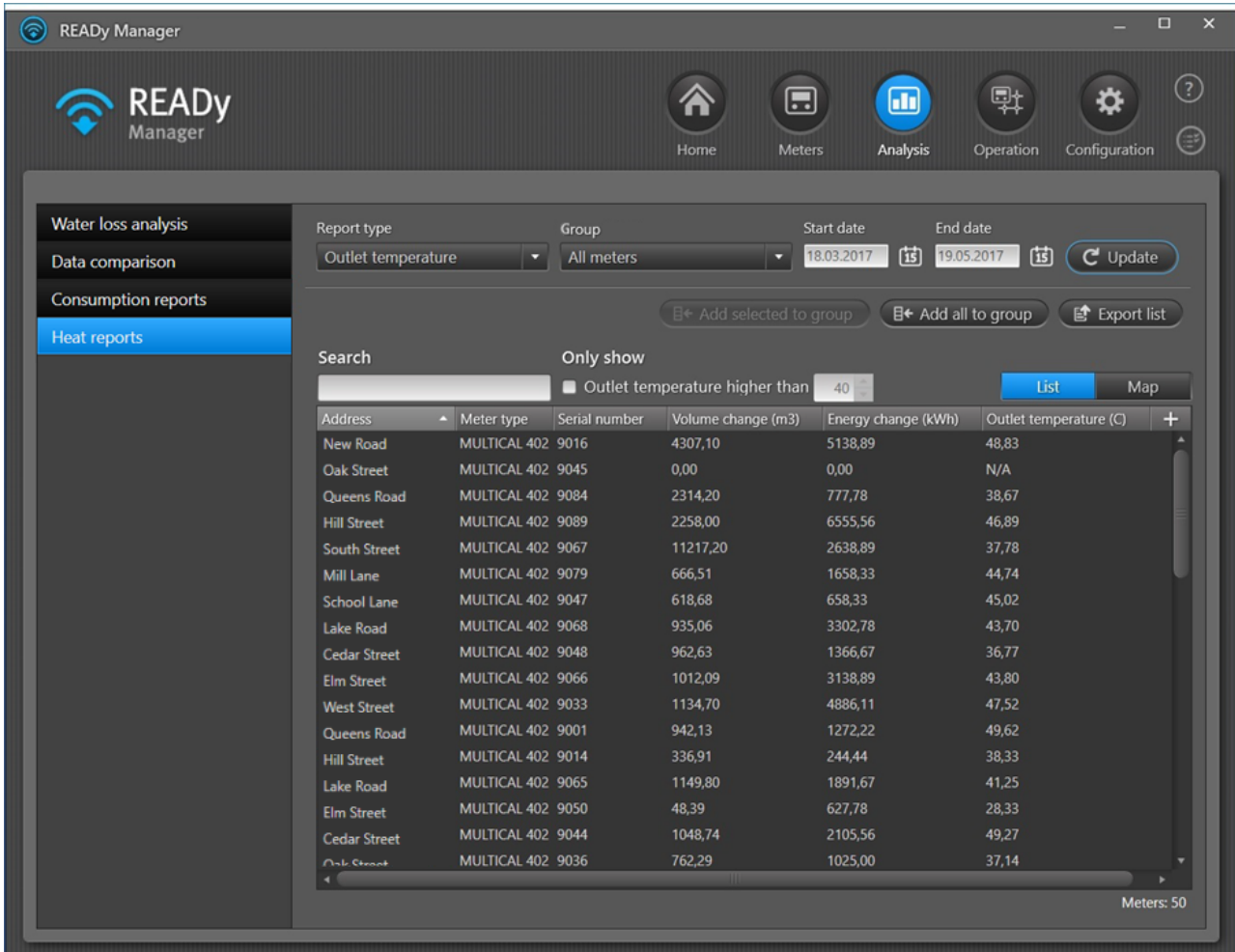


3. Click **OK**

## 9.5 Heat reports

**Note** To create heat reports, the registers Volume 1, Energy 8, Energy 9 and Energy 1 must have been read in the selected time interval and at the same time (meaning that, in order to compare the values of the different registers, they must have close to identical time stamps).

You can generate reports on cooling performance, inlet temperature and outlet temperature for your heat meters in READY Manager. To open the heat reports tool, select **Analysis** > **Heat reports**:



### How to create a report

1. In **Report type**, select the type of report you want to create.

You can choose between the following report types (click for details):

[Cooling performance report](#)

[Inlet temperature report](#)

[Outlet temperature report](#)

2. In **Group**, select the group of meters for which you want to generate a report, or select "All meters".
3. Select the interval for which you want to create a report in the **Start date** and **End date** fields.
4. Click the **Update** button.

The individual meters are listed at the bottom of the window. Use the search field to filter the list.

To see selected meters on a map, e.g. to see if problems are related to a specific area, click the **Map** button above the list on the far right.

## How to export a report

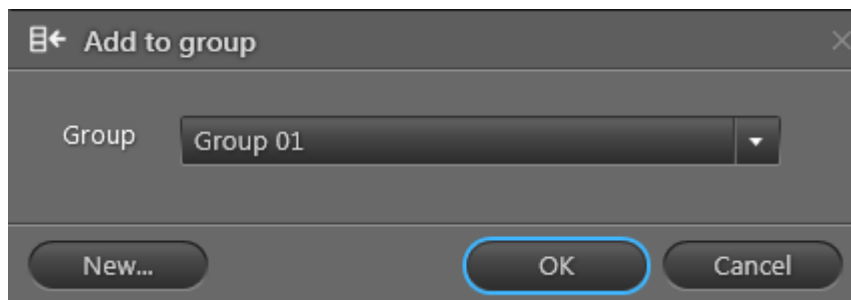
Follow the procedure below to export the report information currently shown in the **Heat reports** window:

1. Click the **Export list** button.
2. In the window that opens, select a location and a name for your export file. Click **Save**.

The exported information is in CSV format and can be opened in, for example, Microsoft Excel.

## How to add selected or all meters to a group

1. Click **Add selected to group** (only selected meters in the list are included in the group) or **Add all to group** (all listed meters are included in the group).
2. In the window that appears, select the group you want to add the meters to, or click the **New** button to create a new group and add the meters to this group.

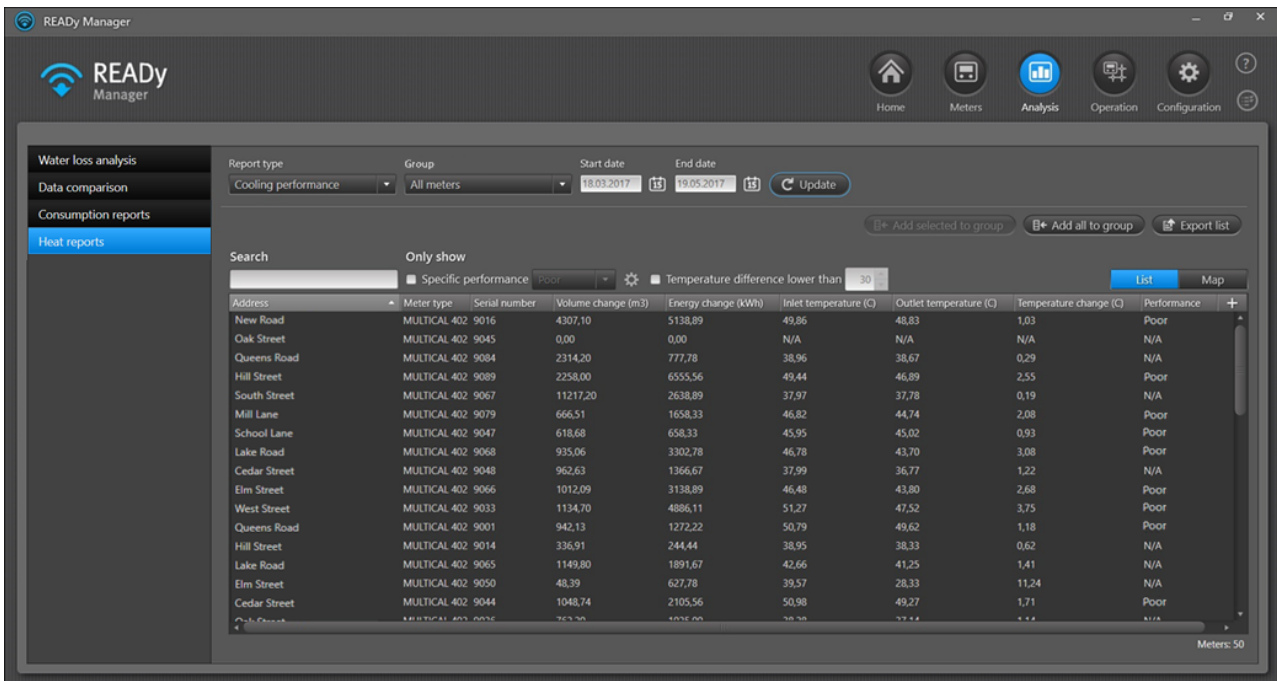


3. Click **OK**

### 9.5.1 Cooling performance report

The cooling performance report shows all meters in the selected group for which the registers Volume 1, Energy 8, Energy 9 and Energy 1 have been read in the selected time interval.

For the volume 1 register, a minimum flow of 1 m<sup>3</sup> is required in the selected period.



For each meter the following information is shown:

Information	Description
Address, ZIP code and City	Shows the address at which the meter is installed.
Meter type	Shows the type of meter, e.g. MULTICAL 602.
Serial number	Shows the meter serial number.
Volume change (m3)	Shows the volume change from first to last reading in the selected period.
Energy change (kWh)	Shows the energy change from the first to the last reading in the selected period. "N/A" means that the meter has no energy change.
Inlet temperature (C)	Shows the average inlet temperature for the selected time period.
Outlet temperature (C)	Shows the average outlet temperature for the selected time period.
Temperature change (C)	Shows the difference between inlet temperature and outlet temperature.
Performance	Shows whether the performance is good or poor.

### Filtering options

If you only want to see meters with a low temperature difference, click **Temperature difference lower than** and select the temperature difference you consider as low to the right of the check box.



If you only want to see meters with a specific performance, click **Specific performance** and select the performance that interest you in the field to the right of the check box.

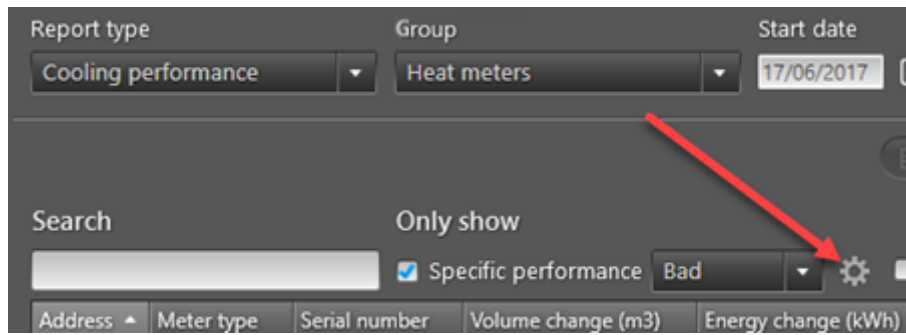
## Definition of good and poor performance

By default, a good cooling performance is set to an outlet temperature of up to 35 degrees if the inlet temperature is 65 degrees or more. If the inlet temperature is below 65 degrees, an outlet temperature up to 42 degrees is allowed (depending on how much the inlet temperature is below 65 degrees).

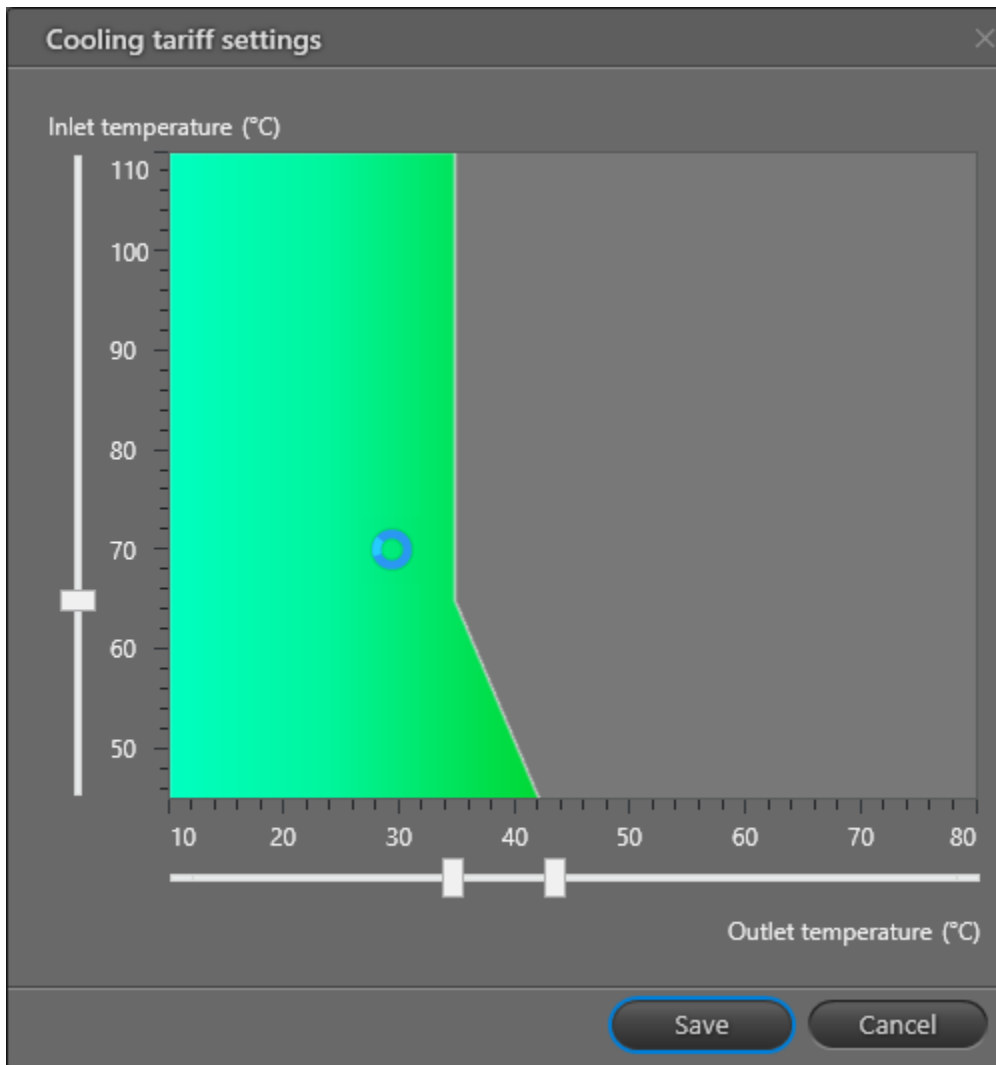
If you want to change the definition of good and poor performance, follow the procedure below:

## How to change the definition of good and poor cooling performance

1. In the **Analysis**  > **Heat reports** window, make sure that "Cooling performance" is selected in the **Report type** field.
2. Click the settings  icon next to the **Specific performance** check box:



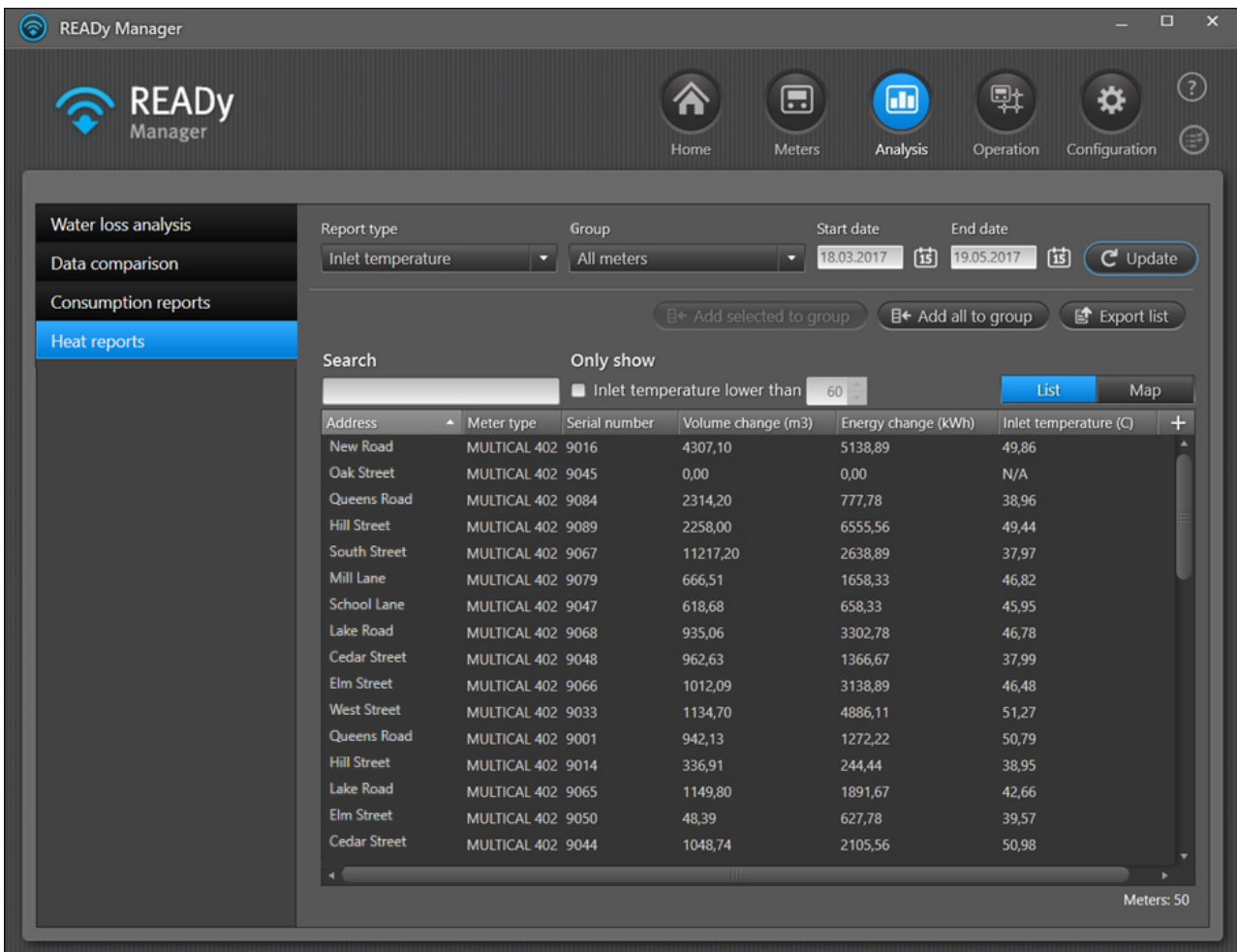
3. To set the reference inlet temperature, drag the slider on the y-axis (vertical) to the desired position:



4. To set the maximum outlet temperature for the reference inlet temperature (and above), drag the leftmost slider on the x-axis to the desired position.
5. To set a maximum outlet temperature for an inlet temperature below the reference inlet temperature, drag the rightmost slider on the x-axis to the desired position.

### 9.5.2 Inlet temperature report

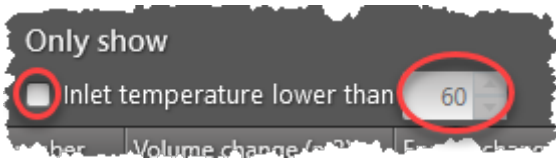
The Inlet temperature report shows all meters in the selected group for which the registers Volume 1 and Energy 8 have been read in the selected time interval.



For each meter the following information is shown:

Information	Description
Address, ZIP code and City	Show the address at which the meter is installed.
Meter type	Shows the type of the meter, e.g. MULTICAL 602.
Serial number	Shows the serial number of the meter.
Volume change (m3)	Show the volume change from the first to the last reading.
Energy change (kwh)	Shows the energy change for the register Energy 1 from the first to the last reading. "N/A" means that the meter has no energy change.
Inlet temperature (C)	Shows the average inlet temperature in the period.

If you only want to see meters with an inlet temperature below a certain limit, click **Inlet temperature lower than** and select the desired inlet temperature limit in the field to the right of the check box:



### 9.5.3 Outlet temperature report

The outlet temperature report shows all meters in the selected group for which the registers Volume 1 and Energy 9 have been read in the selected time interval.

READY Manager

Home Meters Analysis Operation Configuration

Water loss analysis  
Data comparison  
Consumption reports  
Heat reports

Report type: Outlet temperature | Group: All meters | Start date: 18.03.2017 | End date: 19.05.2017 | Update

Search:  | Only show:  Outlet temperature higher than 40 | List | Map

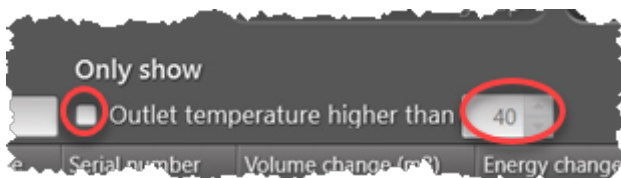
Address	Meter type	Serial number	Volume change (m3)	Energy change (kWh)	Outlet temperature (C)
New Road	MULTICAL 402	9016	4307,10	5138,89	48,83
Oak Street	MULTICAL 402	9045	0,00	0,00	N/A
Queens Road	MULTICAL 402	9084	2314,20	777,78	38,67
Hill Street	MULTICAL 402	9089	2258,00	6555,56	46,89
South Street	MULTICAL 402	9067	11217,20	2638,89	37,78
Mill Lane	MULTICAL 402	9079	666,51	1658,33	44,74
School Lane	MULTICAL 402	9047	618,68	658,33	45,02
Lake Road	MULTICAL 402	9068	935,06	3302,78	43,70
Cedar Street	MULTICAL 402	9048	962,63	1366,67	36,77
Elm Street	MULTICAL 402	9066	1012,09	3138,89	43,80
West Street	MULTICAL 402	9033	1134,70	4886,11	47,52
Queens Road	MULTICAL 402	9001	942,13	1272,22	49,62
Hill Street	MULTICAL 402	9014	336,91	244,44	38,33
Lake Road	MULTICAL 402	9065	1149,80	1891,67	41,25
Elm Street	MULTICAL 402	9050	48,39	627,78	28,33
Cedar Street	MULTICAL 402	9044	1048,74	2105,56	49,27
Oak Street	MULTICAL 402	9036	762,29	1025,00	37,14

Meters: 50

For each meter the following information is shown:

Information	Description
Address, ZIP code and City	Show the address at which the meter is installed.
Meter type	Shows the type of the meter, e.g. MULTICAL 602.
Serial number	Shows the serial number of the meter.
Volume change (m3)	Show the volume change from the first to the last reading.
Energy change (kWh)	Shows the energy change for register E1 from the first to the last reading. "N/A" means that the meter has no energy change.
Outlet temperature (C)	Shows the average outlet temperature in the period.

If you only want to see meters with an outlet temperature above a certain limit, click **Outlet temperature higher than** and select the desired outlet temperature limit in the field to the right of the check box:



## 10 Exporting reading data

---

You can export meter readings and logged data from READY Manager.

Meter readings can be exported either manually or automatically. Furthermore, you can either use Kamstrup's predefined formats or define your own export format.

### What do you want to do?

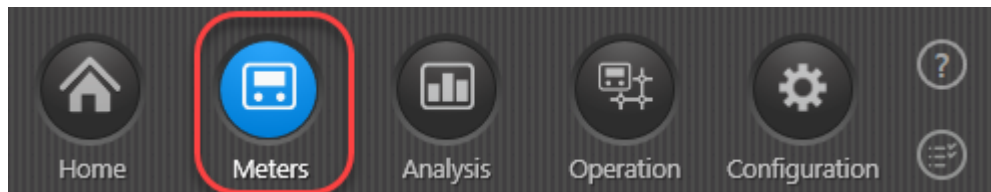
- [Export reading data manually](#)
- [Export reading data automatically](#)
  
- [Create or edit export formats](#)
- [Delete export formats](#)
- [See information about predefined export formats](#)
  
- [Export logged data for a single meter](#)

### 10.1 Manually exporting reading data

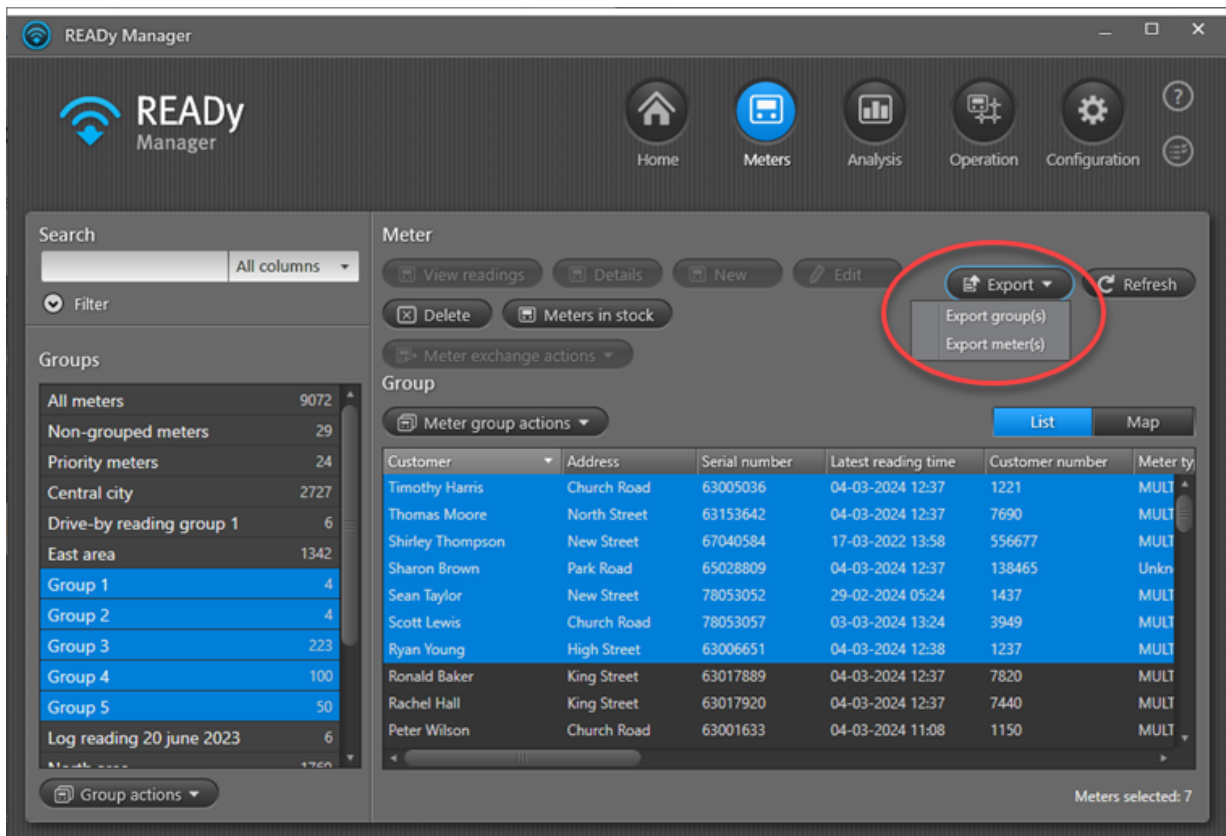
**Note** To export meter readings from a single meter or meter group from the **Home** view, see [Export data from single meter or group](#).

Follow the steps below to export data from selected meters or meter groups:

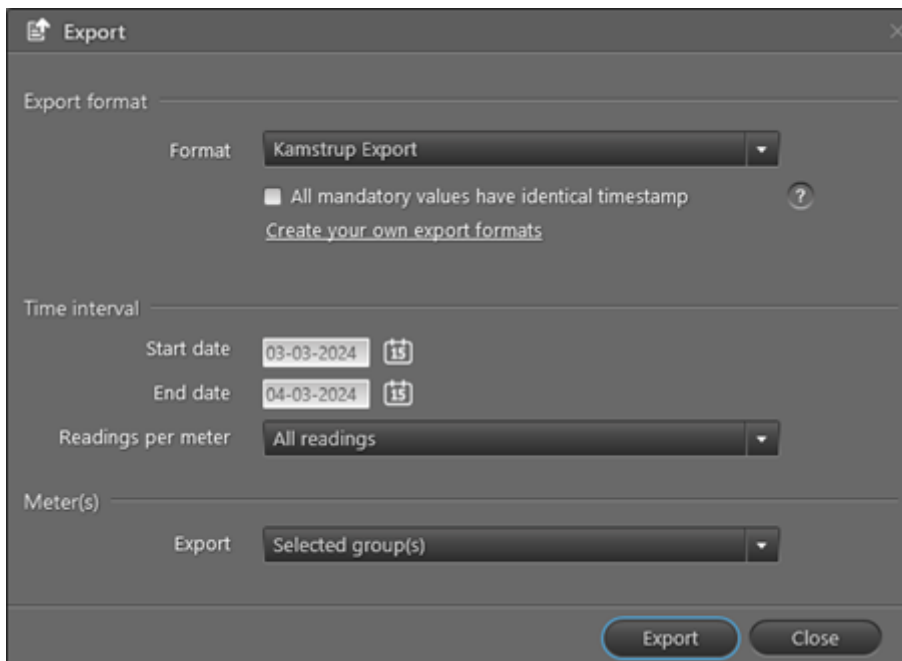
1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. Select the meter(s) or meter group(s) for which you want to export data.
3. Select **Export > Export group(s)** or **Export meter(s)**:

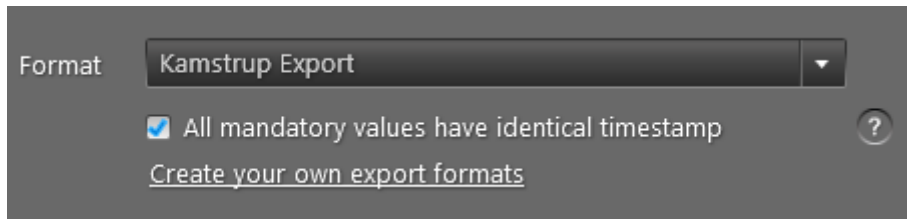


4. In **Format**, select the export format you want to use.



**Note** If you select an export format with [mandatory values](#) AND you select 'All readings' in the **Readings per meter** field, an **All mandatory values have identical timestamp** check box appears. If you select this check box, you make sure that only readings with

all mandatory values are exported and thereby avoid lines in your export file with missing values:



5. In **Start date** and **End date**, select the period for which you want to export data.

6. In **Readings per meter**, select which readings you want to export for each meter.

You can choose to export all readings in the selected time interval, only the first or the latest reading, or readings that you have marked as [final readings](#) (if any).

If you use the "KMD EXPORT FU66502Q - Periodisk" format, you can also choose to always export timestamps in normal time (and not switch between normal and summer time).

7. In **Export**, select whether you want to export data from the currently selected meters or currently selected meter groups in the **Meters** view.


8. Click **Export**.

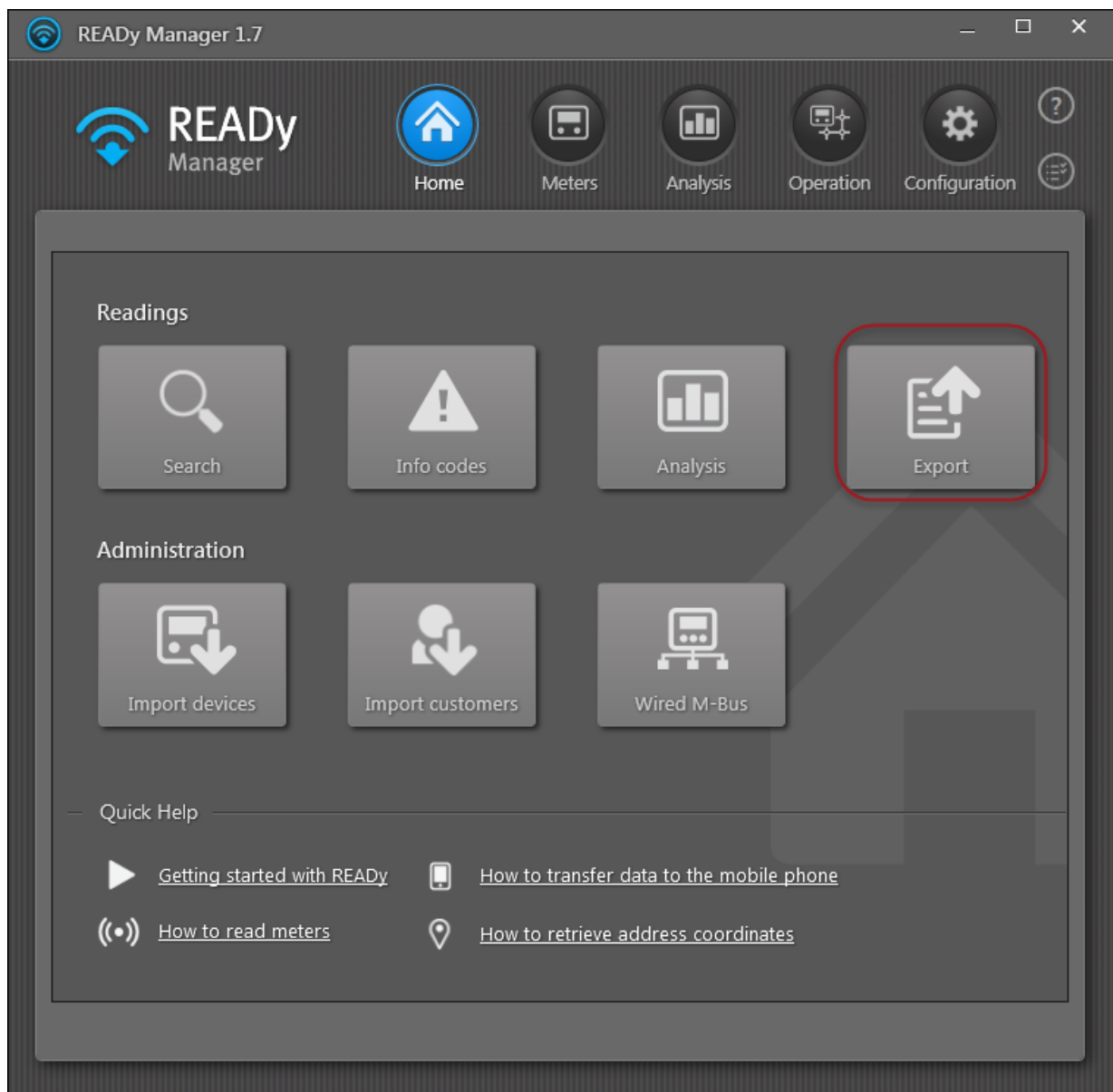
9. Specify a location, a file type and a name for your export file. Click **Save**.

The export task is now added to your task list. Go to the task list to see the result of your export. For details, see [Task list](#).

### 10.1.1 Export data from single meter/group

Use the following procedure to manually export reading data from a single meter or meter group:

1. Click **Home**  in the upper-right corner of READY Manager. Click **Export**.



2. In **Format**, select the export format you want to use.

**Note** If you select an export format with [mandatory values](#) AND you select 'All readings' in the **Readings per meter** field, an **All mandatory values have identical timestamp** check box appears. If you select this check box, you make sure that only readings with all mandatory values are exported and thereby avoid lines in your export file with missing values:

3. In **Start date** and **End date**, select the period for which you want to export data.
4. In **Readings per meter**, select which readings you want to export for each meter.

You can choose to export all readings in the selected time interval, only the first or the latest reading, or readings that you have marked as [final readings](#) (if any).

If you use the "KMD EXPORT FU66502Q - Periodisk" format, you can also choose to always export timestamps in normal time (and not switch between normal and summer time).


5. In **Export**, select whether you want to export data for a meter group or a single meter.

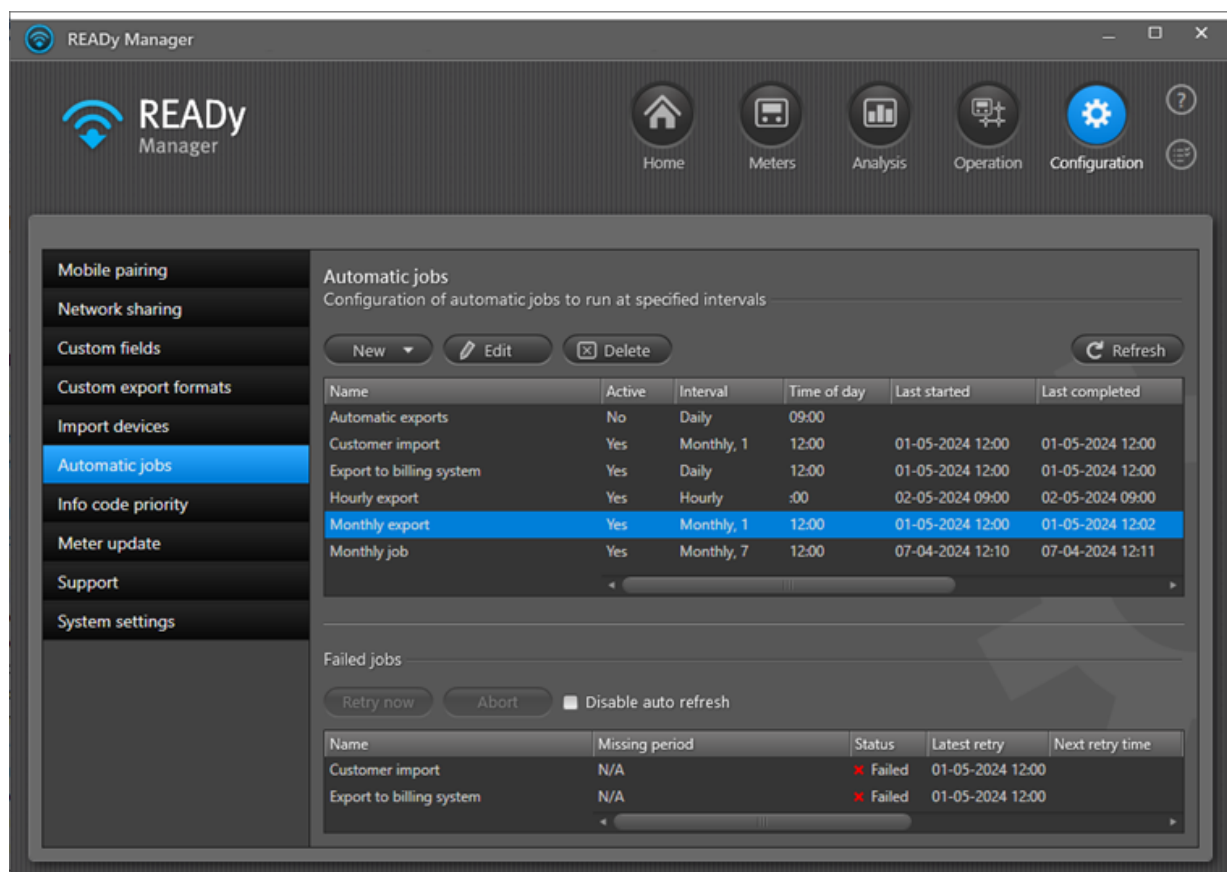
6. Follow step a or b:
  - a. In **Group**, select the group of meters whose data you want to export.
 OR
  - b. In **Meter**, enter the address, serial number or customer number of the meter whose data you want to export.
7. Click **Export**.
8. Specify a location, a file type and a name for your export file. Click **Save**.

The export task is now added to your task list. Go to the task list to see the result of your export. For details, see [Task list](#).

## 10.2 Automatically exporting reading data

Use the following procedure to automatically export reading data at regular intervals:

1. Click **Configuration**  in the upper-right corner of READY Manager. Click **Automatic jobs**:



2. Click **New > Export**.
3. In **Name**, enter a name for the automatic export.

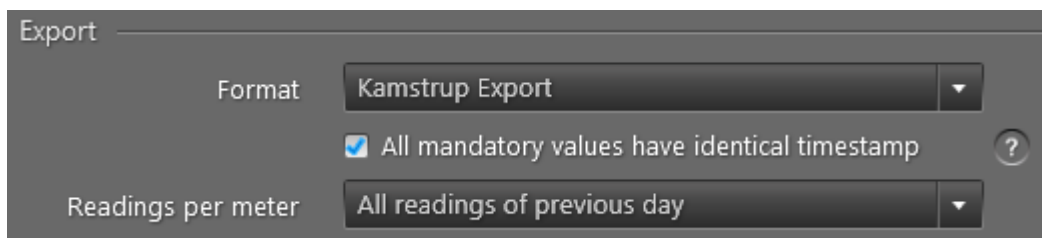
4. In **Interval**, select the time interval between each export (hourly, daily, weekly, monthly, every 2 months, quarterly or yearly).
  - For hourly export, select the time each hour at which you want to export data.
  - For daily export, select the time of the day at which you want to export data.
  - For weekly and monthly export, select the time of day and day of week/month on which you want to export data.
  - For export every 2 months, select the time of day and day of month on which you want to export data. Then select if you want to export data in uneven months (select 'January') or even months (select 'February').
  - For quarterly export, select the time of day and day of month on which you want to export data. Then select 'January' to export data in January, April, July and October, 'February' to export data in February, May, August and November or 'March' to export data in March, June, September and December.
  - For yearly export, select the time of day, day of month and month of year in which you want to export data.

5. Select **Active** to activate the export to take place at the specified time.

If the check box is cleared, the export is deactivated and will not take place.

6. In **Format**, select the export format you want to use.

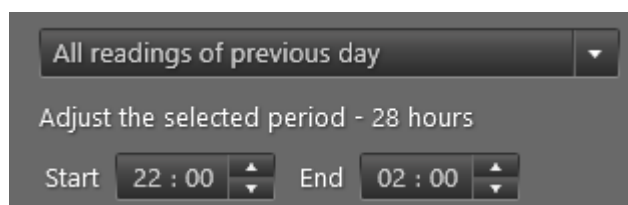
**Note** If you select an export format with [mandatory values](#) AND you select 'All readings of xxx' in the **Readings per meter** field, an **All mandatory values have identical timestamp** check box appears. If you select this check box, you make sure that only readings with all mandatory values are exported and thereby avoid lines in your export file with missing values:



7. In **Readings per meter**, select which readings you want to export for each meter: all readings, the first reading, the latest reading, final readings (if any) or all readings since last export.

For hourly export, you export the readings of the previous hour. If you select the **Include the last 24 hours** check box, the system includes the last 24 hours when searching for readings to export.

For daily export, you can export the first or latest reading of the *current* day. Otherwise you export the readings of the previous day (i.e. from midnight to midnight). If you select 'All readings of previous day', you can choose a start time from 22:00 to 02.00 and an end time from 22:00 to 02.00 which means you can shorten or extend the time interval from 20 to 28 hours:



For weekly export, you export the readings of the previous week (i.e. from Monday to Sunday unless you choose another first day of week in the **First day of week** field). You can also export the latest reading of the *current* week.

For monthly export, you export the readings of the previous month (i.e. from 1st to 1st unless you choose another day of the month in the **Day of month** field) or the readings of the current month (i.e. from 1st to the date you select in the **Day of month** field).

For export every 2 months, you export the latest readings of the previous two calendar months, or the latest reading of the current month (i.e. from 1st to the date you select in the **Day of month** field).

For quarterly export, you export the latest readings of the previous three calendar months, or the latest reading of the current month (i.e. from 1st to the date you select in the **Day of month** field).

For yearly export, you export the latest readings of the previous 12 calendar months, or the latest reading of the current month (i.e. from 1st to the date you select in the **Day of month** field).

If you use the "KMD EXPORT FU66502Q - Periodisk" export format, you can choose to always export timestamps in normal time (and not switch between normal and summer time).

8. In **Group**, select the group of meters for which you want to export data.
9. Follow Step a, b or c to select the destination of the exported data.
  - a. To export data to an FTP server
    - In **Destination**, select "FTPS server" or "SFTP server".
    - In **Server**, enter the name of the FTPS or SFTP server.
    - In **File name**, enter a name for the exported file.
    - In **User name**, enter the user name for the FTPS/SFTP server.
    - In **Password**, enter the password for the FTPS/SFTP server.
    - Select if you want to **Allow self-signed server certificate**.
  - b. To export data to an email address (hosted version of READY Manager only)
    - In **Destination**, select "email".
    - In **Email**, enter the email address to which you want to send the reading data.
    - In **Subject**, write the text that you want to appear in the subject field of the email.
    - In **File name**, enter a name for the exported file.
  - c. To export data to a folder on your computer (local installation of READY Manager only)
    - In **Destination**, select "Folder on PC".
    - In **File name**, enter a name for the exported file.
    - Click **Browse** to go to the folder where you want to save the exported file. Click **Save**.
10. In **Add date and time to export file name**, select if the date and time should be added to the name of the exported file.
11. Select **Run job now** if you want to export reading data right away.

If the check box is cleared, the first export will take place at the time selected in Step 4.

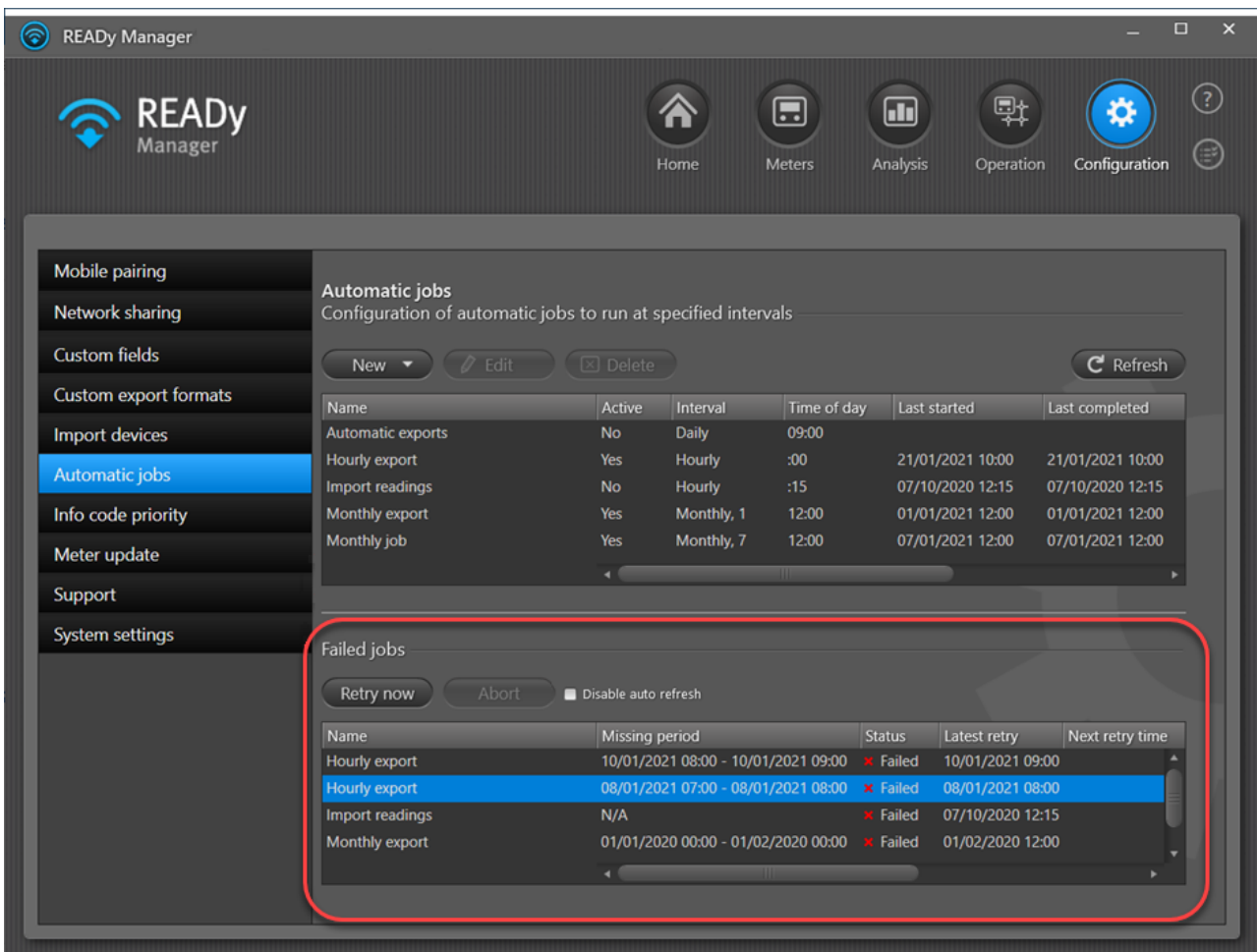
12. Click **Save** to save the automatic export.

**Note** Failed jobs are deleted after 60 days.


**Note** You can sort and change the sequence of the information in the list of automatic exports. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#) and [Sorting the list of meters/customers](#).

### 10.2.1 Retrying automatic exports that fail

If an automatic export job fails, it appears in the list of failed jobs at the bottom of the **Automatic jobs** window:



Follow the procedure below to run an automatic job again:

1. Click **Configuration**  in the upper-right corner of READYy Manager. Click **Automatic jobs**.
2. If desired, turn on the **Disable auto refresh** check box to prevent the continuous update of the **Automatic jobs** view from disturbing your work.
3. In the **Failed jobs** list at the bottom of the window, select the failed job you want to run again.
4. Click the **Retry now** button above the list.

If a retry succeeds, the job automatically disappears from the **Failed jobs** list.

### 10.3 Predefined export formats

The following predefined export formats are available in READY Manager:


- Debatt
- DFF
- EDP Heat
- EDP Water
- EVITA
- Generis
- Kamstrup Export
- Kamstrup Pressure Export
- Kamstrup Vand
- KMD Export
- KMD FAS
- PDO
- SVEFMR
- WebDeb
- WinSam

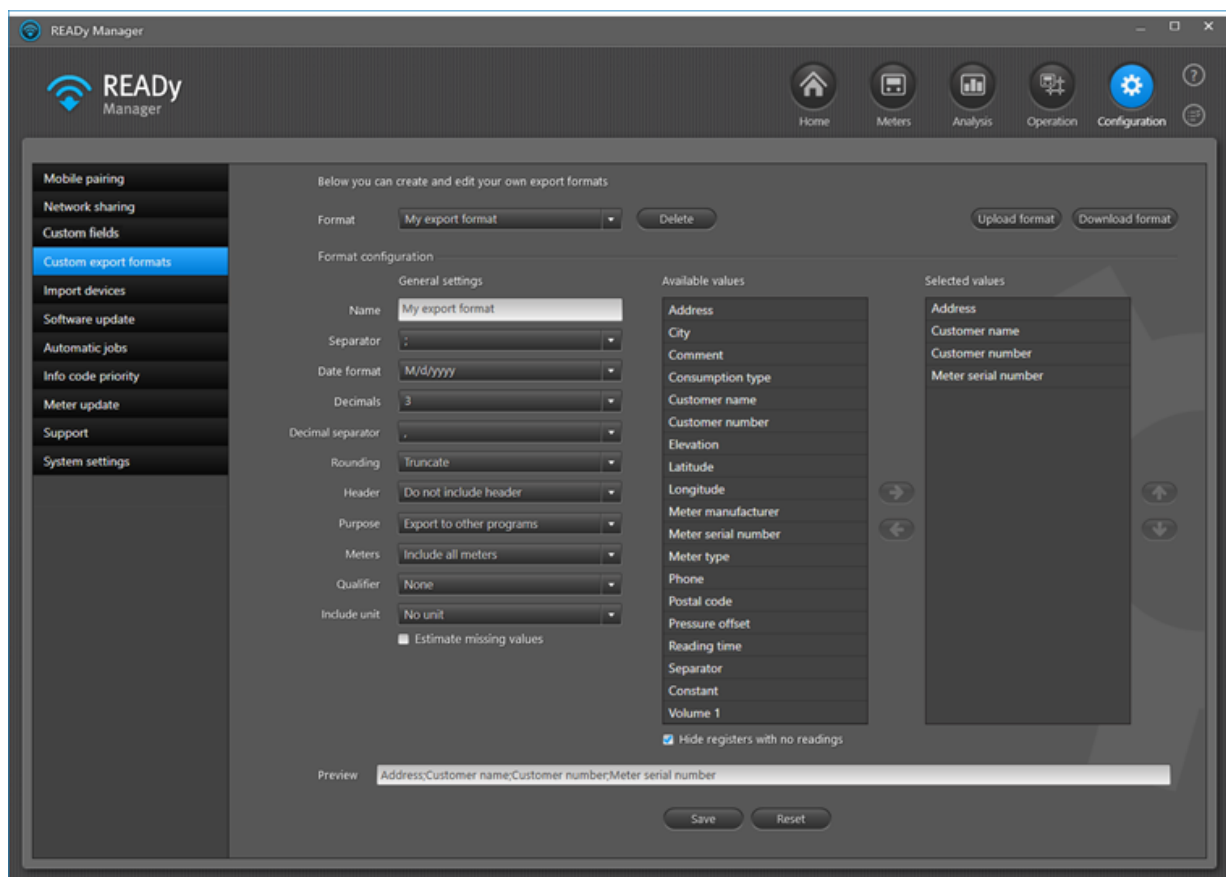
For details about each format, please refer to the corresponding export format specification that can be required from Kamstrup support.

### 10.4 Creating and editing export formats

Use the following procedure to create or edit export formats:

**Note** If you want to create a fixed width format, see [Fixed width export formats](#). If you want to create an XML format, see [XML export formats](#).

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom export formats** to the left.



2. In **Format**, select the format you want to edit, or select "New Custom Format" to create a new export format.
3. In **Name**, specify the name you want to use to identify this export format among other export formats.
4. In **Separator**, select the character you want to insert between all export values.

If you add the "Separator" value from the **Available values** list (see Step 12) an extra separator character will be inserted at this position.

5. In **Date format**, select the format in which you want to show date values.
6. In **Decimals**, select the number of decimals you want your exported values to show, or select "As read" to show the decimals collected when reading the meter, or select "Custom" to be able to select different numbers of decimals for different values.
7. In **Decimal separator**, select if you want to use comma, dot or the separator of the system language as decimal separator.
8. In **Rounding**, select "Round up/down" if you want to round decimal numbers up/down or select "Truncate" if you want to simply remove decimal numbers without rounding.

Example: Original value: 200,1238 MWh, truncated to 3 decimal places: 200,123 MWh or rounded to: 200,124 MWh.

9. In **Header**, select whether or not you want to insert a header row in your export document, or select "Custom" to define your own header and footer.

If you select "Include header" the export document will include a header row listing the names of the included values as shown in the **Preview** field. If you select "Custom", header and footer fields appear in which you can enter the desired header and footer.

10. In **Purpose**, select whether this export format is to be used for export to other programs or whether it is to be used to provide readable data.

For example, exported info codes are shown as text instead of number codes if you select "Export to provide readability".

If you select "Export with multiplier", you can enter a positive number in the **V1 multiplier** field to multiply the volume value (V1 register in the meter) with the specified number. This is primarily used when exporting data to certain billing systems in the United States to enable them to bill water usage in the right unit of volume.

11. In **Meters**, select whether you want to include all meters or only those with readings.
12. In **Qualifier**, select " or ' if the separator character you selected in Step 4 also appears within exported values.

For example, if you select comma (,) as separator in Step 4, and you know that commas may also be used in customer addresses or names (e.g.: Smith, John), you need to select a qualifier to avoid that *Smith, John* is considered as two separate export values instead of one. The qualifier character you select will surround all exported values.

13. In **Include unit**, select whether you want to add units to your export values and, if so, whether to insert units with or without the separator character selected in Step 4.
14. Select **Estimate missing values** if you have a fixed network reading solution and want to fill in missing values based on advanced algorithms.

Up to 5 missing readings in a row can be calculated. However the latest reading is always an actual reading and not a calculated one.

15. Select **Use mandatory values** if you want to make one or more values in your export format mandatory and thereby avoid lines in your export file with missing values.

Mandatory values are ONLY used if your export based on this format is set to export 'all readings' AND you select **All mandatory values have identical timestamp** for the export. Otherwise mandatory values are ignored.

**Note** The **Use mandatory values** field is only visible if you have selected **Only include meters with readings** in the **Meters** field (Step 11).

Follow Steps 16, 17 and 18 as required:

16. To add a value to your export format, select the value in **Available values**, and click the right-arrow button next to the list.

**Hint** Select **Hide registers with no readings** to filter the list of available values so that only used values are shown. This is typically a good idea if you use READY Manager for water meters only, and do not want to see all the registers that apply to heat meters.

**Note** If you select a date value, a window will appear asking you to select a date format.

**Note** If you select **Constant**, a window will appear asking you to name the constant. The constant will be the same for all lines of data in your export file. For example, you may


want to insert constants when exporting to your billing system, e.g. an internal value such as "45" meaning "water meter" in your billing system.

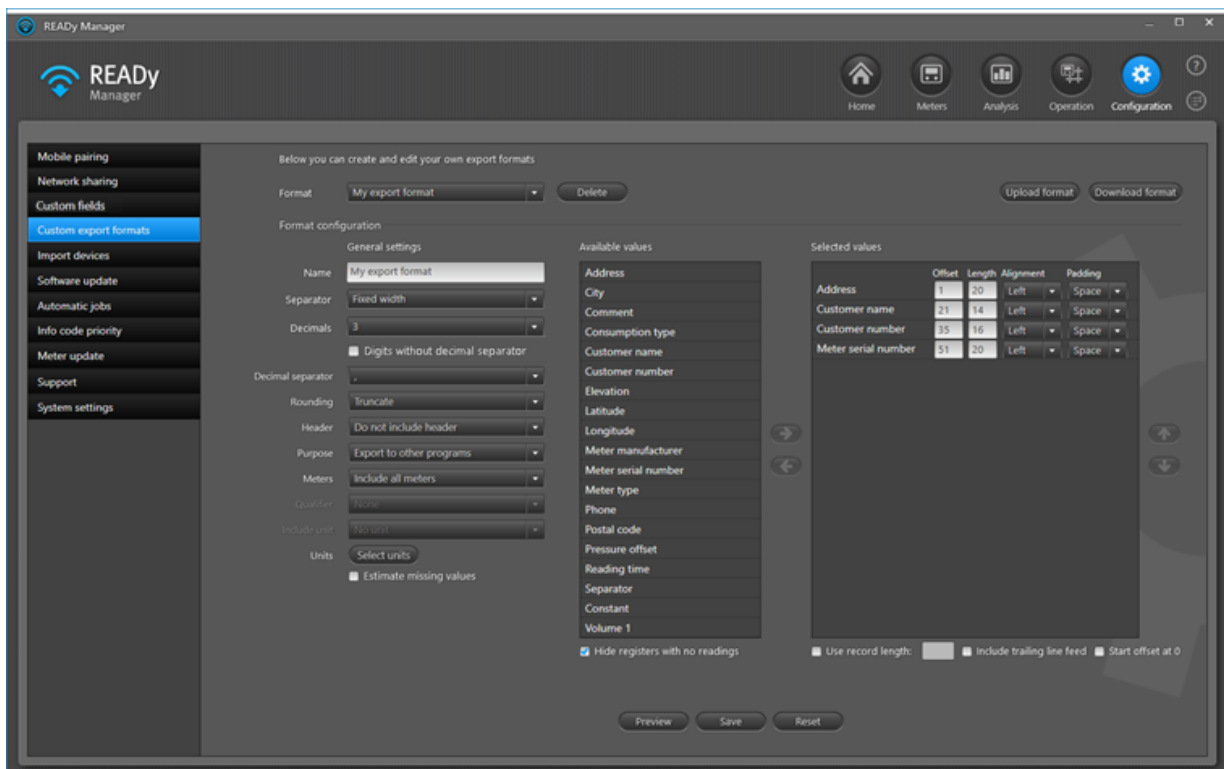
17. To remove a value from your export format, select the value in the **Selected values** list and click the left-arrow button.
18. To change the sequence of exported values, use the up and down arrows to the right of the **Selected values** list.
19. Click **Save**.

### 10.4.1 Fixed width export formats

Data in a fixed-width text file is arranged in rows (records) and columns (properties), with one entry per row. Each column (property) has a fixed width, specified in characters, which determines the maximum amount of data it can contain. No separators are used to separate the fields in the file.

Use the following procedure to create or edit fixed width export formats:

1. Click **Configuration**  in the upper-right corner of READy Manager, and select **Custom export formats** to the left.



2. In **Format**, select the format you want to edit, or select "New Custom Format" to create a new export format.
3. In **Name**, specify the name you want to use to identify this export format among other export formats.
4. In **Separator**, select "Fixed width".

If you add the "Separator" value from the **Available values** list (see Step 11) an extra separator character will be inserted at this position.

- In **Decimals**, select the number of decimals you want your exported values to show, or select "As read" to show the decimals collected when reading the meter, or select "Custom" to be able to select different numbers of decimals for different values.

If you select 1 to 4 decimals, you can choose to export values *without* a decimal separator by selecting **Digits without decimal separator**.

- In **Decimal separator**, select if you want to use comma, dot or the separator of the system language as decimal separator.
- In **Rounding**, select "Round up/down" if you want to round decimal numbers up/down or select "Truncate" if you want to simply remove decimal numbers without rounding.

Example: Original value: 200,1238 MWh, truncated to 3 decimal places: 200,123 MWh or rounded to: 200,124 MWh.

- In **Header**, select whether or not you want to insert a header row in your export document. The header row will list the names of the values included in the export document, or select "Custom" to define your own header and footer.
- In **Purpose**, select whether this export format is to be used for export to other programs or whether it is to be used to provide readable data.

If you select "Export with multiplier", you can enter a positive number in the **V1 multiplier** field to multiply the volume value (V1 register in the meter) with the specified number. This is primarily used when exporting data to certain billing systems in the United States to enable them to bill water usage in the right unit of volume.

- In **Meters**, select whether you want to include all meters or only those with readings.
- In **Unit**, click **Select units** to select which unit of measurement that you want to use for energy, volume, pressure, temperature, flow, power and mass values.
- Select **Estimate missing values** if you have a fixed network reading solution and want to fill in missing values based on advanced algorithms.

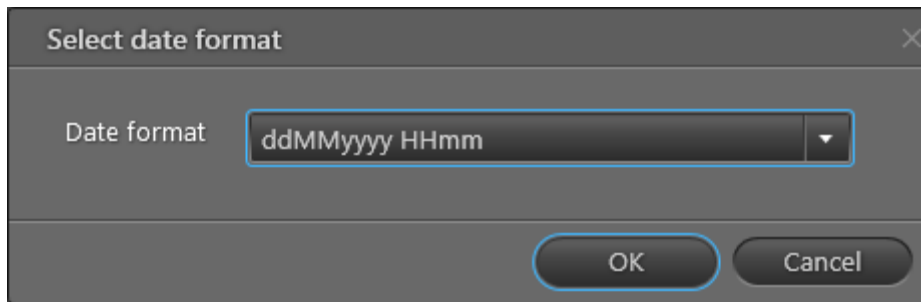
Up to 5 missing readings in a row can be calculated. However the latest reading is always an actual reading and not a calculated one.

Follow Steps 13, 14, 15 and 16 as required:

- To add a value to your export format, select the value in **Available values**, and click the right-arrow button next to the list.

**Hint** Select **Hide registers with no readings** to filter the list of available values so that only used values are shown. This is typically a good idea if you use READY Manager for water meters only, and do not want to see all the registers that apply to heat meters.

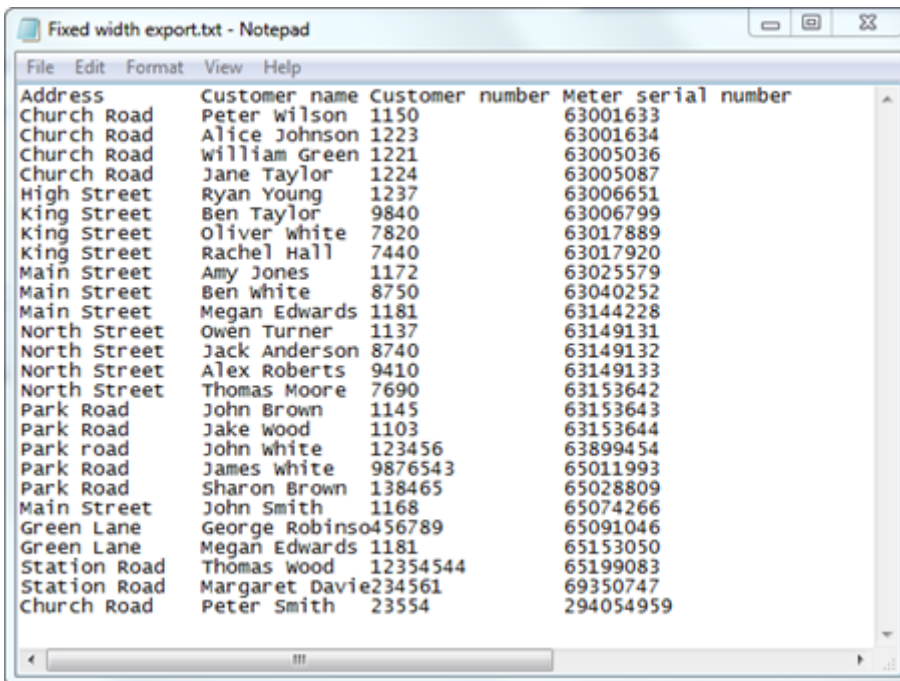
**Note** If you select a date value, a window will appear asking you to select a date format:



**Note** If you select **Constant**, a window will appear asking you to name the constant. The constant will be the same for all lines of data in your export file. For example, you may want to insert constants when exporting to your billing system, e.g. an internal value such as "45" meaning "water meter" in your billing system.

14. For each value in the **Selected values** list specify the following information:
  - a. In **Offset**, enter the character position at which you want the value to start.  
 The offset value is always the offset value + the length of the previous value. The offset of the first value is typically 1. If you want to start your offset numbering sequence at 0, select the **Start numbering at 0** check box below the list.
  - b. In **Length**, enter the number of characters you want to allot to this value (column width)
  - c. In **Alignment**, select whether the value should be left or right aligned within the allotted length, meaning the pad characters can occur on either side of the value.
  - d. In **Padding**, if the value does not use the entire length (number of characters) allotted to it, the unused space can be padded with zeros (select "Zero" in this field) or with empty spaces (select "Space" in this field).
15. If you want your export format to export all data in a single row, i.e. all records are exported as one long line of data, enter the total length for each record, in characters, in the **Use record length** check box.
16. If you want to add an empty line at the end of your export file to indicate the end of the export data, select the **Include trailing line feed** check box.
17. To remove a value from your export format, select the value in the **Selected values** list and click the left-arrow button.
18. To change the sequence of exported values, use the up and down arrows to the right of the **Selected values** list.  
 Remember to change the offset values if you change the sequence.
19. Click **Save**.

### Example of fixed width file




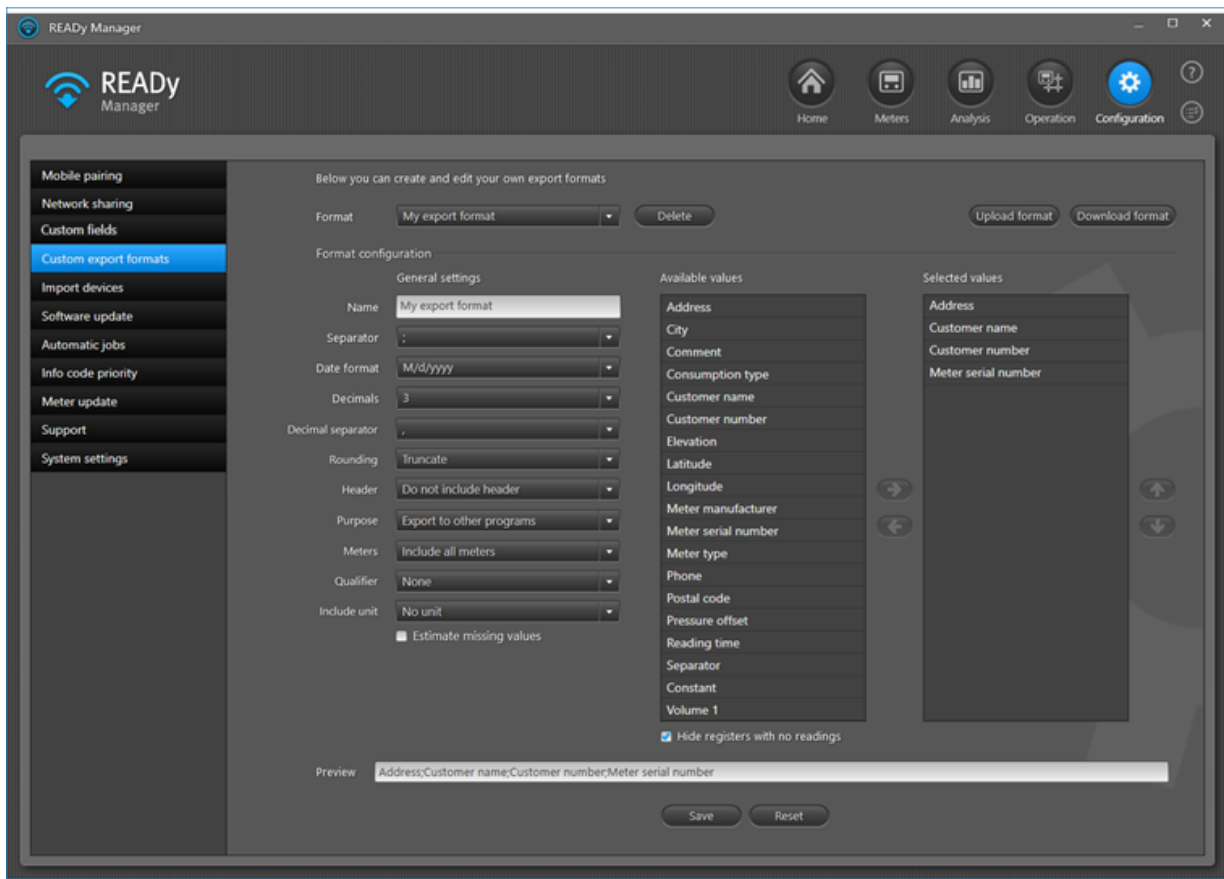
The file is specified by the following:

Column	Value	Offset	Length	Alignment	Padding
1	Address	1	15	Left	Space
2	Customer name	16	14	Left	Space
3	Customer number	30	16	Left	Space
4	Meter serial number	45	20	Left	Space

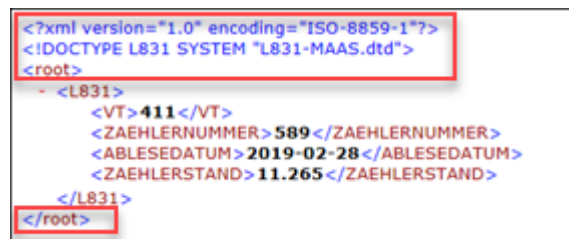
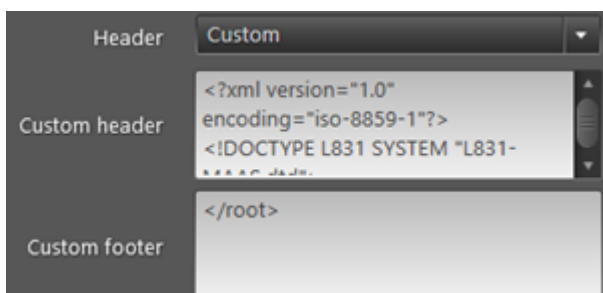
### 10.4.2 XML export formats

Use the following procedure to create or edit XML export formats:

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom export formats** to the left.



2. In **Format**, select the format you want to edit, or select "New Custom Format" to create a new export format.
3. In **Name**, specify the name you want to use to identify this export format among other export formats.
4. In **Separator**, select "No separator".
5. In **Date format**, select the format in which you want to show date values.
6. In **Decimals**, select the number of decimals you want your exported values to show, or select "As read" to show the decimals collected when reading the meter, or select "Custom" to be able to select different numbers of decimals for different values.
7. In **Header**, select "Custom" and enter the desired header and footer in **Custom header** and **Custom footer** - or leave the fields empty.



8. In **Purpose**, select whether this export format is to be used for export to other programs or whether it is to be used to provide readable data.

For example, exported info codes are shown as text instead of number codes if you select "Export to provide readability".

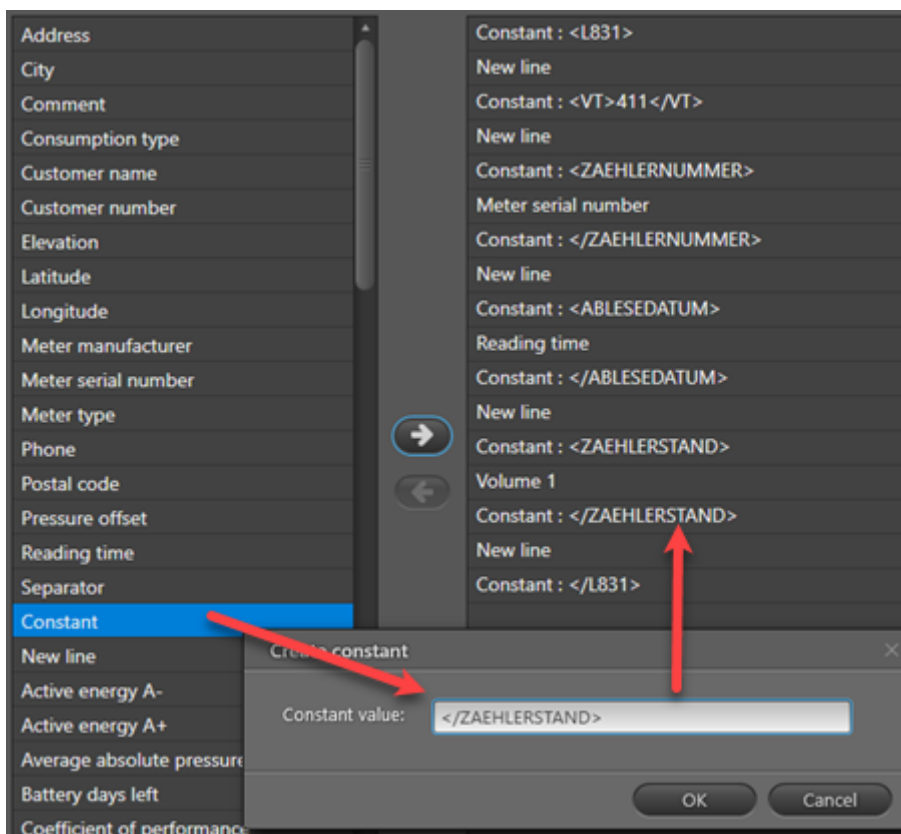
If you select "Export with multiplier", you can enter a positive number in the **V1 multiplier** field to multiply the volume value (V1 register in the meter) with the specified number. This is primarily used when exporting data to certain billing systems in the United States to enable them to bill water usage in the right unit of volume.

9. In **Meters**, select whether you want to include all meters or only those with readings.
10. In **Qualifier**, select "XML escape".
11. In **Include unit**, select whether you want to add units to your export values.
12. Select **Estimate missing values** if you have a fixed network reading solution and want to fill in missing values based on advanced algorithms.

Up to 5 missing readings in a row can be calculated. However the latest reading is always an actual reading and not a calculated one.

Follow Steps 13, 14 and 15 as required:

13. To add a value to your export format, use the "New line" and "Constant" values in **Available values** to create the XML structure (see example below):



```

<?xml version="1.0" encoding="ISO-8859-1"?>
<!DOCTYPE L831 SYSTEM "L831-MAAS.dtd">
<root>
  - <L831>
    <VT>411</VT>
    <ZAEHLERNUMMER>589</ZAEHLERNUMMER>
    <ABLESEDATUM>2019-02-28</ABLESEDATUM>
    <ZAEHLERSTAND>11.265</ZAEHLERSTAND>
  </L831>
  - <L831>
    <VT>411</VT>
    <ZAEHLERNUMMER>589</ZAEHLERNUMMER>
    <ABLESEDATUM>2019-03-01</ABLESEDATUM>
    <ZAEHLERSTAND>11.299</ZAEHLERSTAND>
  </L831>
  - <L831>
    <VT>411</VT>
    <ZAEHLERNUMMER>590</ZAEHLERNUMMER>
    <ABLESEDATUM>2019-02-28</ABLESEDATUM>
    <ZAEHLERSTAND>14.293</ZAEHLERSTAND>
  </L831>
  - <L831>
    <VT>411</VT>
    <ZAEHLERNUMMER>590</ZAEHLERNUMMER>
    <ABLESEDATUM>2019-03-01</ABLESEDATUM>
    <ZAEHLERSTAND>14.335</ZAEHLERSTAND>
  </L831>
</root>


```

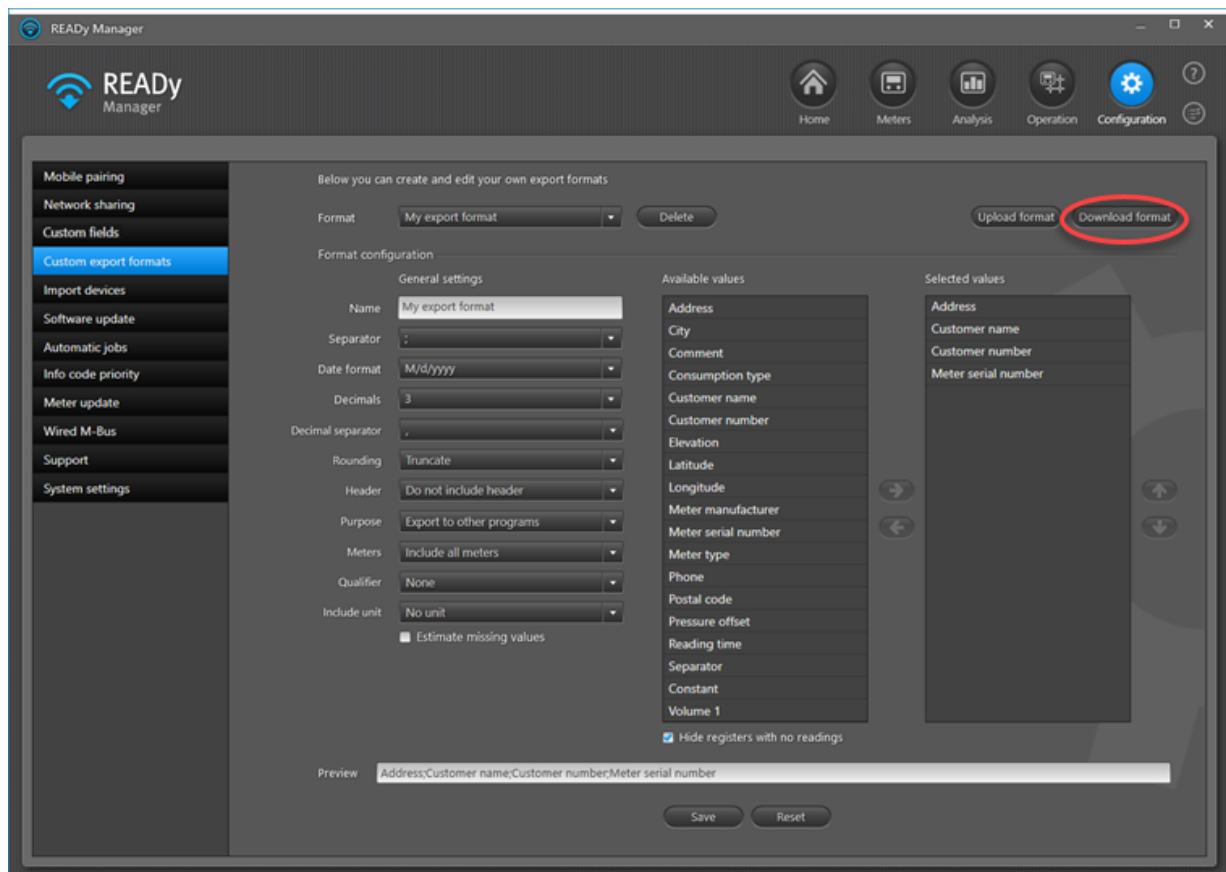
14. To remove a value from your export format, select the value in the **Selected values** list and click the left-arrow button.
15. To change the sequence of exported values, use the up and down arrows to the right of the **Selected values** list.
16. Click **Save**.

### 10.4.3 Sharing export formats

You can share an export format that you have created with other users.


#### How to share an export format with another user

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom export formats** to the left.



2. In **Format**, select the format you want to share.
3. Click **Download format**.
4. Browse for and select the folder where you want to save the format file. Click **Save**.
5. Deliver the format to the other user, e.g. by sending an email with the format file.


#### How to import an export format someone has shared with you

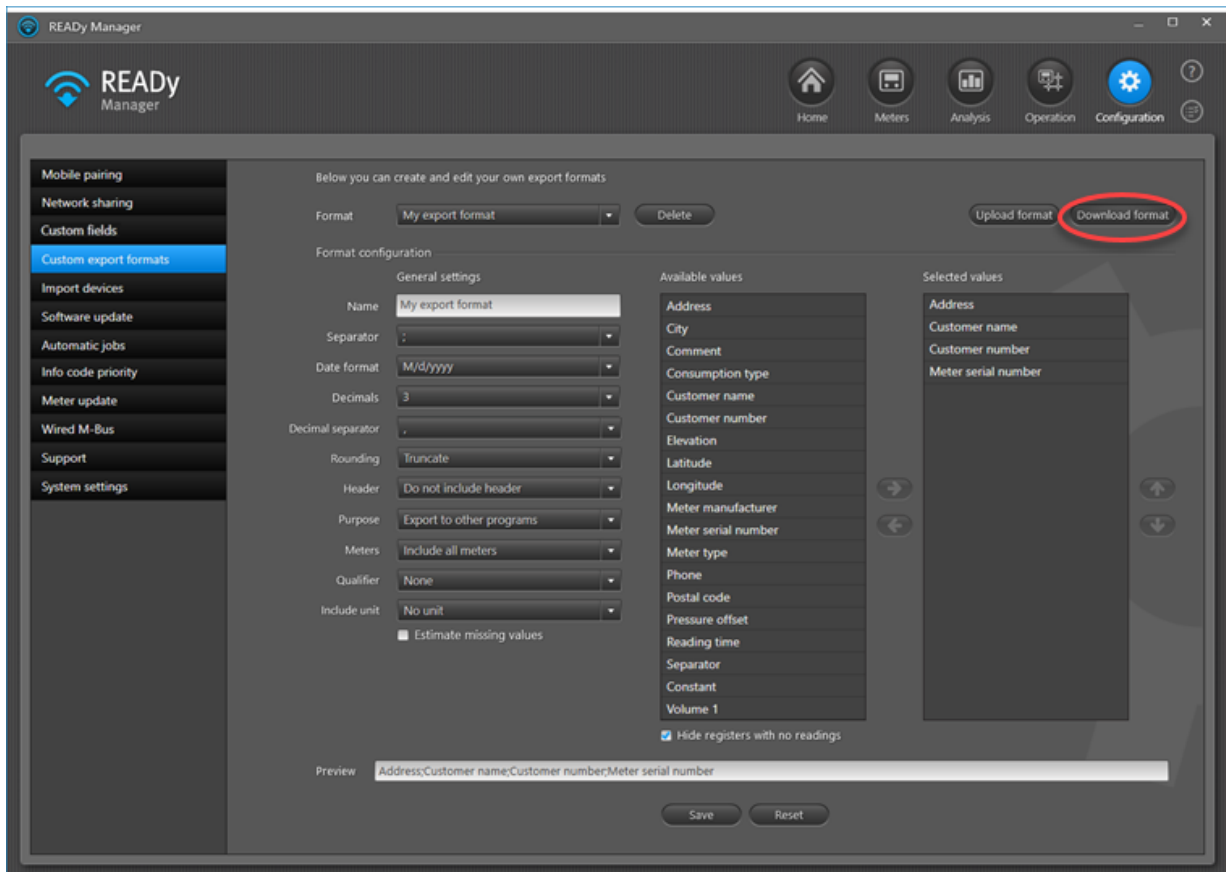
1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom export formats** to the left.
2. Click the **Upload format** button.
3. Browse for and select the format file you have received. Click **Open**.

### 10.4.4 Customized headers in export formats

It is possible to export data with headers that you define.

#### How to customize headers in export formats

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom export formats** to the left.



2. In **Format**, select the format for which you want to create customized headers.
3. Click **Download format**.
4. Browse for and select the folder where you want to save the format file. Click **Save**.
5. Edit the xml file by inserting insert `<HeaderLabel>Custom header</HeaderLabel>` for each export value whose header you want to change (replace "Custom header" with the header you want):

```

<Quamier>None</Quamier>
- <ExportValues>
  - <ExportValue>
    <Type>OtherType</Type>
    <ValueIdentifier>Address</ValueIdentifier>
    <HeaderLabel>My address</HeaderLabel>
    <Offset>0</Offset>
    <Length>15</Length>
    <PaddingAlignment>Left</PaddingAlignment>
    <PaddingSymbol>Space</PaddingSymbol>
  </ExportValue>
  - <ExportValue>
    <Type>OtherType</Type>
    <ValueIdentifier>CustomerName</ValueIdentifier>
    <HeaderLabel>My name</HeaderLabel>
    <Offset>15</Offset>
    <Length>14</Length>
    <PaddingAlignment>Left</PaddingAlignment>
    <PaddingSymbol>Space</PaddingSymbol>
  </ExportValue>
  - <ExportValue>
    <Type>OtherType</Type>
    <ValueIdentifier>CustomerNumber</ValueIdentifier>
    <Offset>30</Offset>
  </ExportValue>


```

**Note** You cannot have two export formats in READY with the same name. So before you upload the format with your new headers, you must either [delete the existing format in READY](#), or you must rename the format with your new headers by editing the name tag at the top of the xml file:

```

<?xml version="1.0" encoding="UTF-8"?>
- <ExportFormat xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.w3.org/2001/XMLSchema http://www.w3.org/2001/XMLSchema.xsd">
  <Name>Header label test 2</Name>
  <IsReadOnly>>false</IsReadOnly>
  <Separator>Fixed width</Separator>
  <DateFormat>dd-MM-yyyy HH:mm</DateFormat>
  <NofDecimals>3</NofDecimals>
  <IncludeHeader>>true</IncludeHeader>
  <IncludeOnlyMetersWithReadings>>false</IncludeOnlyMetersWithReadings>
  <IncludeUnit>>false</IncludeUnit>
  <IncludeSeparatorBetweenValueAndUnit>>false</IncludeSeparatorBetweenValueAndUnit>
  <RecordLength>0</RecordLength>

```


- Upload the format to READY by choosing **Configuration**  > **Custom export formats** > **Upload format**, selecting the format file you just edited and clicking **Open**.

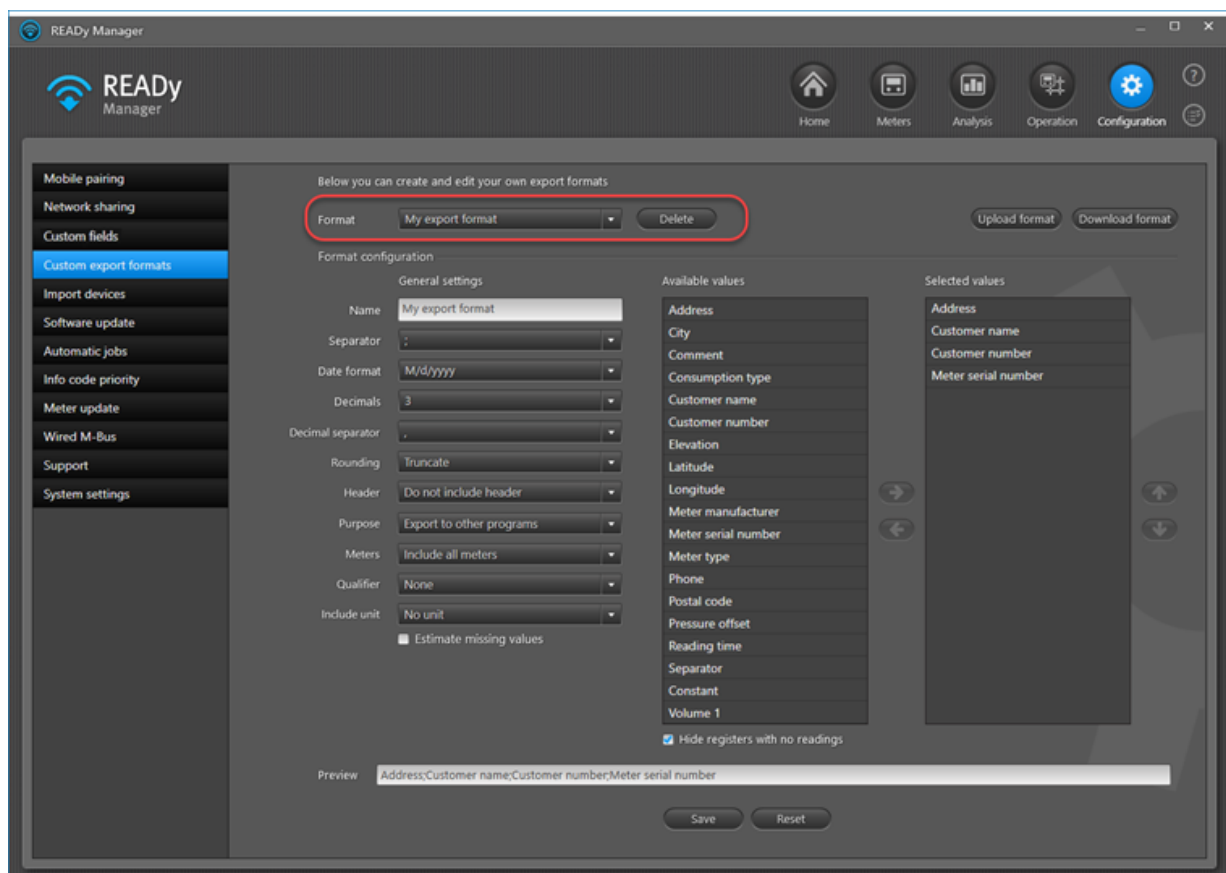
**Note** You will not be able to see the new headers in READY, but when you export data using your edited export format, the new headers are used:

My address	My name	Customer number
Church Road	Alice Johnson	1223
Church Road	William Green	1221
Church Road	Jane Taylor	1224
High Street	Ryan Young	1237
King Street	Ben Taylor	9840
King Street	Oliver White	7820
King Street	Rachel Hall	7440
Main Street	Ben White	8750
Main Street	John Smith	1168
Main Street	Amy Jones	1172
Main Street	Megan Edwards	1181
North Street	Owen Turner	1137
North Street	Jack Anderson	8740

## 10.5 Deleting export formats

Use the following procedure to delete export formats:

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom export formats** to the left.



2. In the **Format** field, select the export format you want to delete.

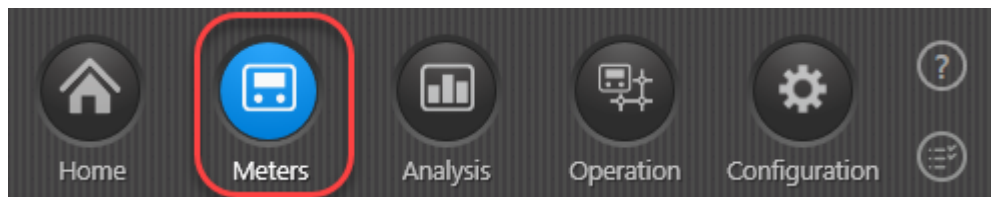
3. Click the **Delete** button next to the **Format** field.

## 10.6 Exporting logged data for a single meter

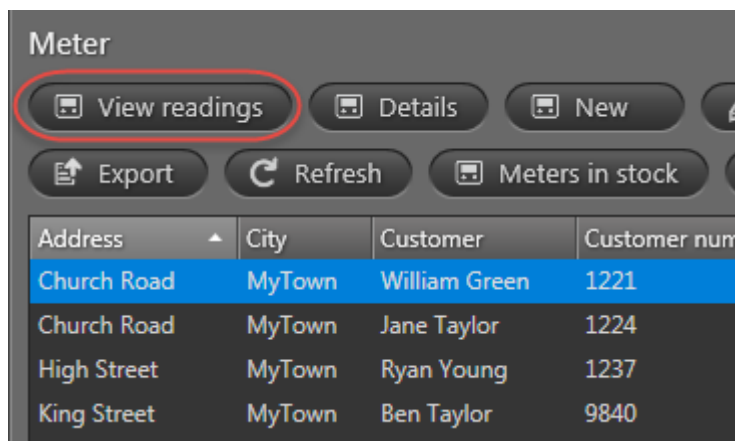
Please note that logged data is only available for a meter if the data has been collected using an optical head on the meter.

Use the following procedure to export all logged data for a meter:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, click the meter whose logged data you want to export.
3. Click the **View readings** button.



4. In the window that appears, select the **Log data** view. Click **Export**:



**Note** You can also generate a report with the logged data currently displayed in the **Log data** view by clicking the **Report** button next to the **Export** button.

## 11 Deleting reading data

---

You can delete readings in READY Manager. For example if former residents request the deletion of their consumption data when they no longer live at an address.

**Important** Meter readings are permanently deleted, meaning that the deletion cannot be undone.

**Note** Deletion of meter readings will affect reports and analysis.

### What do you want to do?

- [Delete one or more meter readings](#)
- [See which readings were deleted, when and by whom](#)
- [Find meters with deleted readings](#)
- [See and change user permissions for deleting readings](#)

If you open the **Readings** view for a meter with deleted readings, the deletion of reading data is clearly indicated:

Joe Taylor, East road

Readings Visualisation Log data

Period: Custom Start date: 01/03/2023 End date: 29/03/2023

A change to/from summer time is present in this view  
**The meter has one or more deleted readings.**

Reading time	Volume 1	Flow 1	Input A	Input B	Temperature 1	Consumption (V1)	Reading details
▲ 21/03/2023 01:07:27	14718.31 m3	1.317 m3/h	0.05 m3	0.06 m3	180.00 C	31.59 m3	
▲ 20/03/2023 01:07:08	14686.72 m3	1.314 m3/h	0.05 m3	0.06 m3	180.00 C	31.60 m3	
▲ 19/03/2023 01:07:26	14655.12 m3	1.317 m3/h	0.05 m3	0.06 m3	180.00 C	31.60 m3	
▲ 18/03/2023 01:07:32	14623.52 m3	1.314 m3/h	0.05 m3	0.06 m3	180.00 C	31.61 m3	
▲ 17/03/2023 01:07:47	14591.91 m3	1.317 m3/h	0.05 m3	0.06 m3	180.00 C	31.61 m3	
▲ 16/03/2023 01:07:52	14560.30 m3	1.317 m3/h	0.05 m3	0.06 m3	180.00 C	94.83 m3	
✘ 15/03/2023 23:59:59							Deleted readings
✘ 14/03/2023 00:00:00							Deleted readings
▲ 13/03/2023 01:07:43	14465.47 m3	1.314 m3/h	0.05 m3	0.06 m3	180.00 C	31.60 m3	
▲ 12/03/2023 01:07:30	14433.87 m3	1.317 m3/h	0.05 m3	0.06 m3	180.00 C	31.61 m3	

Historical data (28/02/2023)

Volume 1 ..... 14971.15 m3  
 Flow 1 ..... 1.317 m3/h  
 Input A ..... 0.05 m3  
 Input B ..... 0.06 m3  
 Temperature 1 ..... 180.00 C  
 Date ..... 29/03/2023  
 Hour counter ..... 88069 h

Logged volume 1 ..... 14969.79 m3  
 Logged input A ..... 0.05 m3  
 Logged input B ..... 0.06 m3

Currently active info codes

▲ Leak in the cold-water system (24/09/2019 12:02:08)

Info codes active at reading time

▲ Leak in the cold-water system

Historical info codes

Mark as final reading

Delete readings Close

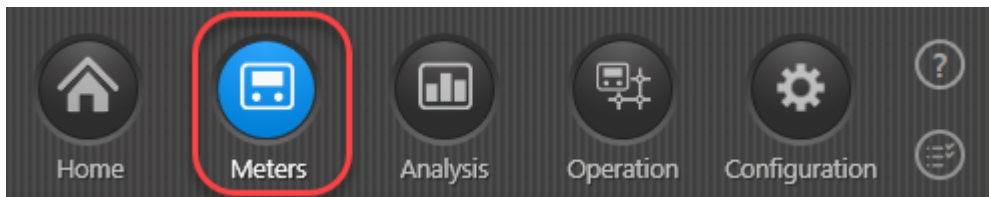
### 11.1 Delete one or more readings

**Important** Meter readings are permanently deleted, meaning that the deletion cannot be undone.

**Note** Deletion of meter readings will affect reports and analysis.

Follow the steps below to delete one or more meter readings:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, double-click the meter whose reading data you want to delete.
3. Click the **Delete readings** button at the bottom of the view.

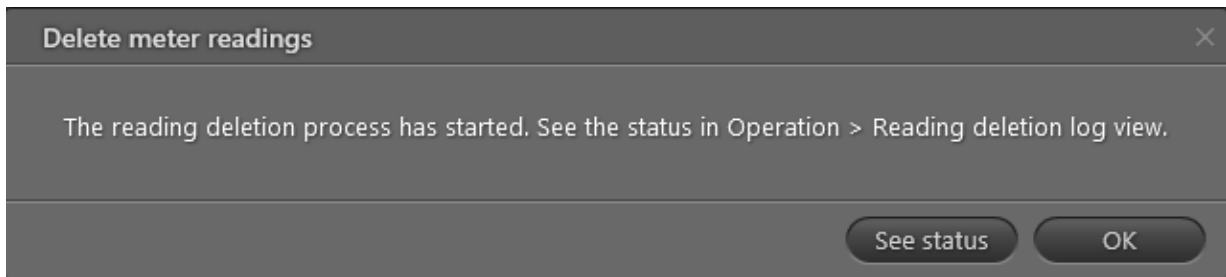
The button is only available if you have permission to delete readings. For details, see [User permissions for deleting reading](#).

4. In **Start date**, enter the first date for which you want to delete all readings.

You can only delete readings for an entire day and not just one or more hourly readings.


5. In **End date**, enter the last date for which you want to delete all readings.
6. Click **Delete**.
7. To confirm the deletion, enter the serial number of the meter for which you want to delete readings, and click **Delete**:

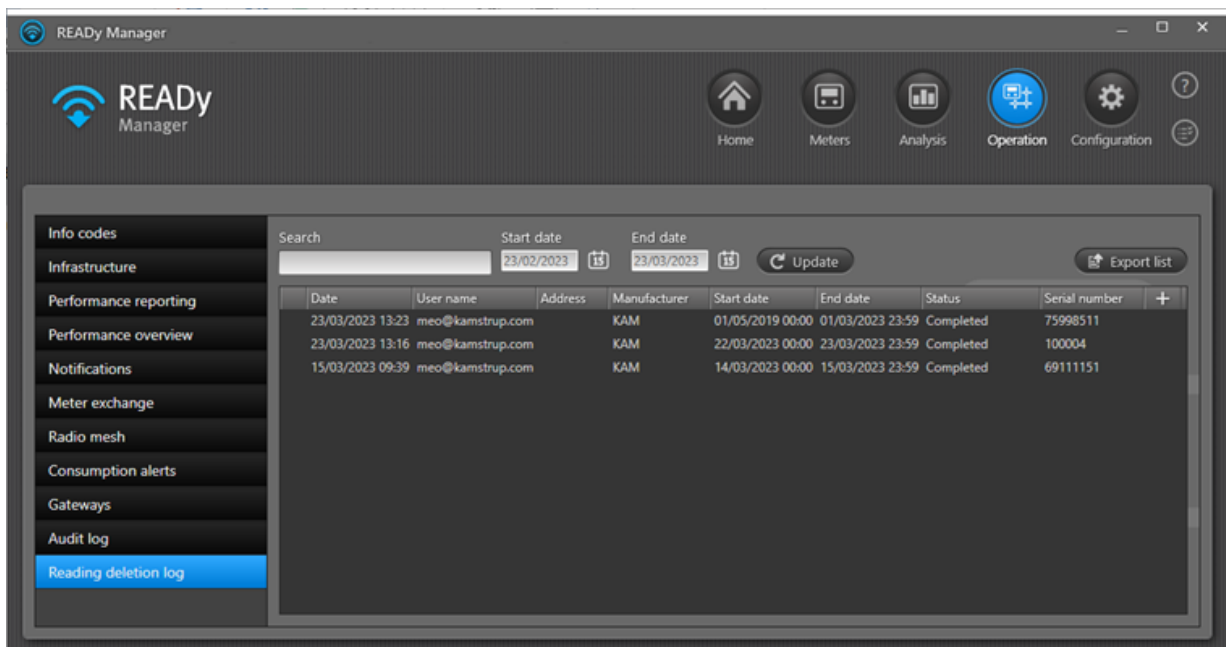
8. Click **OK** to end, or click **See status** to open the **Reading deletion log** view and see the status of the deletion:



### 11.2 See status and log of reading deletions

Deletion of meter readings is logged. You can see the status and log information of reading deletions by following the steps below:

1. Select **Operation**  in the upper-right corner of READY Manager, and then select **Reading deletion log** in the menu to the left:



Follow the steps below as required:

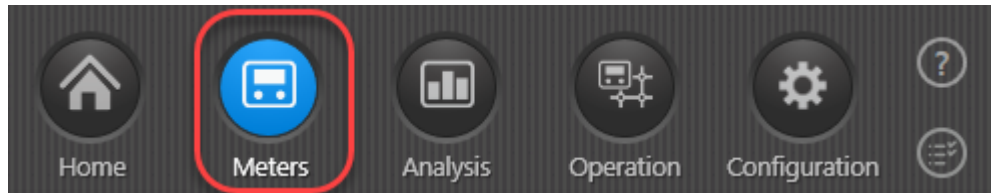
2. Enter a search string in the **Search** field and press ENTER to find all deletions:
  - For a specific meter or address.
  - Performed by a certain user or at a specific date and time.
  - With a specific status.
3. To only show specific deleted reading dates, enter the desired date interval in the **Start date** and **End date** fields, and click **Update**.
4. To export the information currently shown in the **Reading deletion log** window to a CSV file, click **Export list**.

5. To open the **Readings** view for a meter, right-click the desired row in the list and choose **Show meter readings**.

### 11.3 Find meters with deleted readings

Follow the steps below to find meters with deleted readings:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the **Groups** area to the left, select "All meters" to search among all meters in the system or select a specific group to only search within this group.
3. Click **Filter** below the **Search** field to display the filter area and select **Deleted readings**.
4. If desired, you can select **Specific period** and only search for meters with deleted readings in the period you select in the **Start date** and **End date** fields.
5. Click **Apply filter**.

**Search**

All columns ▾

⬆ Filter

Reading details

Rollover

Final reading

Deleted readings

All periods

Specific period

Start date:

End date:

Meter details

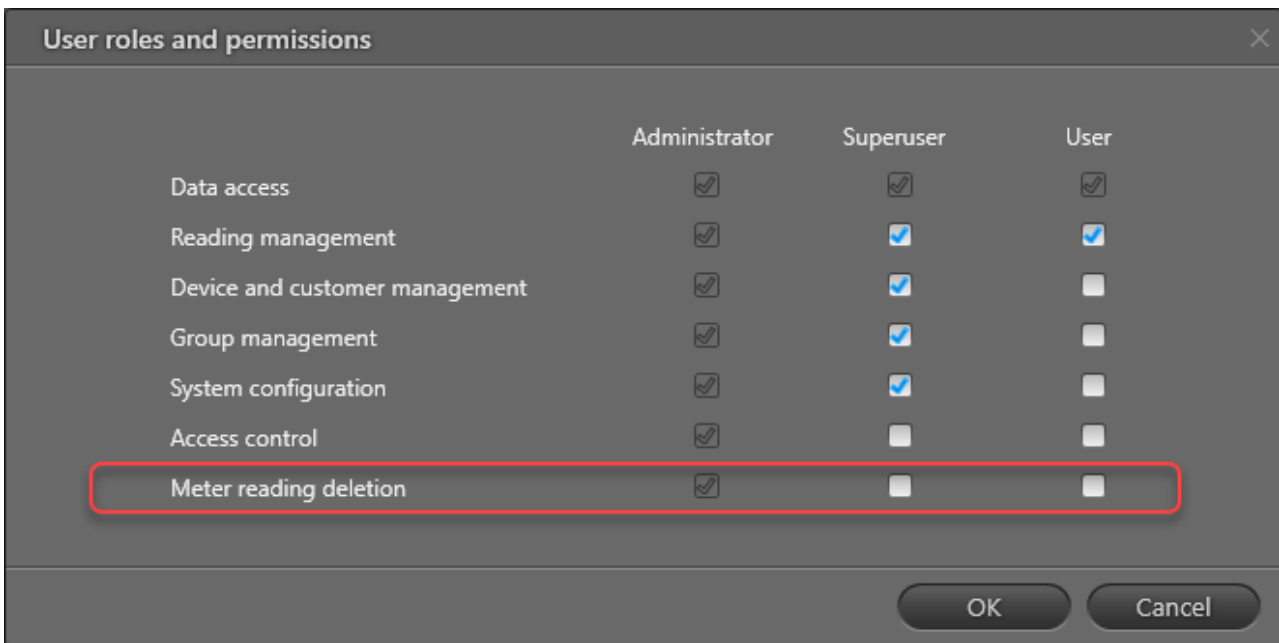
Local units

[Reset filter](#)

All meters with deleted readings now appear in the list.

### 11.4 User permissions for deleting reading

By default, the deletion of meter readings requires administrator rights in READy:



For details on how to change user permissions, see [Changing user and superuser permissions](#).

## 12 Updating meters

---

Depending on the meter type and reading method, it is possible to remotely update meters in the following ways:

- MULTICAL® 403, 603 and 803 and flowIQ® 2200/2250/3250/4200 meters can be updated remotely via READY App.
- MULTICAL® 403, 603 and 803 meters read via a wired M-Bus network can be updated remotely from READY Manager
- flowIQ® 2200, 2250, 3250, 4200 meters read via two-way radio network (AMI) can be updated remotely from READY Manager
- flowIQ® 2200 and 3200 meters read via NB-IoT network can be updated remotely via READY App.

### 12.1 Updating MULTICAL® 403, 603 and 803 meters

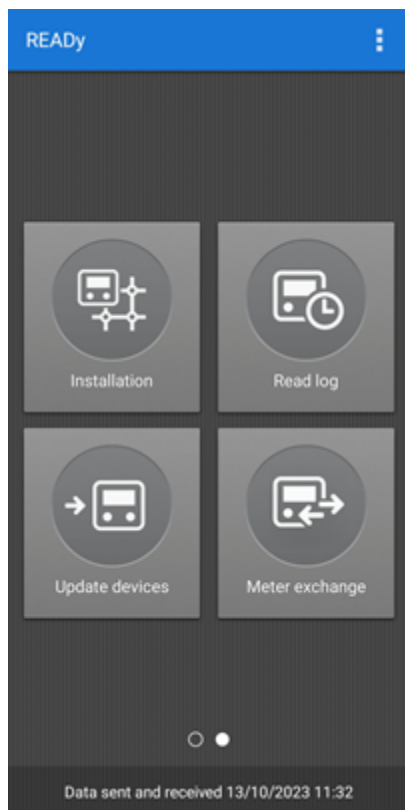
It is possible to update MULTICAL® 403, 603 and 803 meters remotely via READY App. If you read meters via a wired M-Bus network, it is also possible to update MULTICAL® 403, 603 and 803 meters remotely from READY Manager.

#### What do you want to do?

- [Update a MULTICAL® 403/603/803 meter remotely via READY App](#)
- [Update a MULTICAL® 403/603/803 meter in a wired M-Bus network via READY Manager](#)

## How to update MULTICAL® 403/603/803 meters remotely via READY App

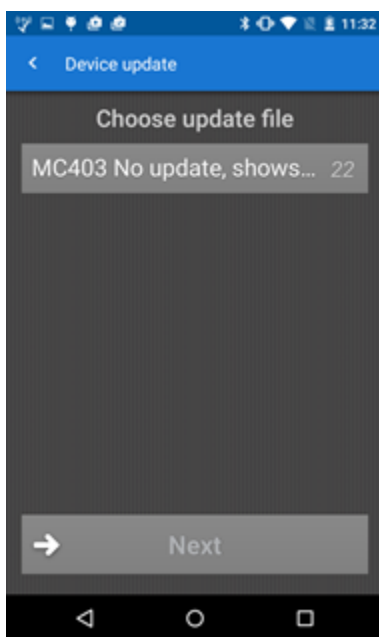
1. In READY Manager, upload the meter update file that you have received from Kamstrup. For details, see [Uploading meter update files](#).
2. Make sure to transfer the meter update file to READY App by pressing **Send/Receive** in READY App.
3. On the road near to the MULTICAL® 403/603/803 installation site, swipe the screen to go to page two of the READY App home screen and tap **Update devices**:



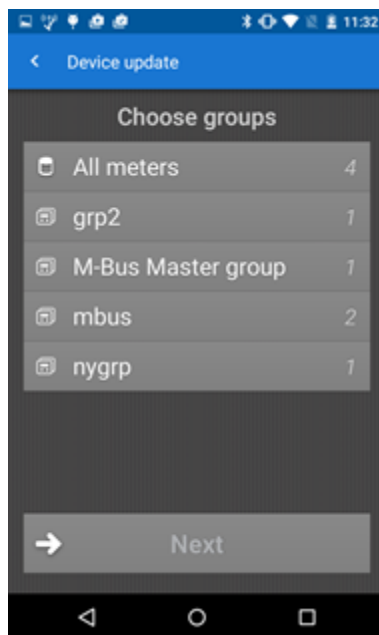
- On the **Select READY Converter** screen that appears, tap the one you want to pair with (see the number on the back of READY Converter to identify the right one):



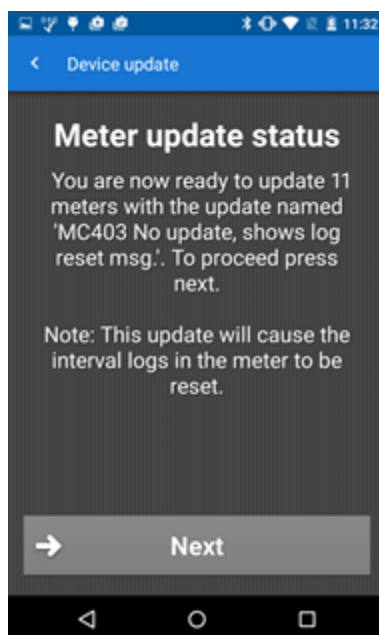
- On the **Device update** screen that appears, select the meter update file (see Step 1) and tap **Next**:



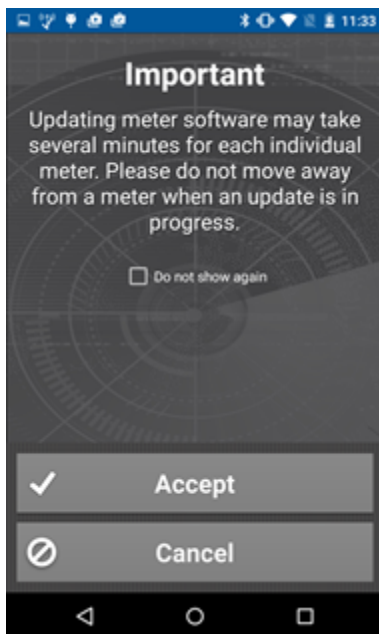
- On the **Choose groups** screen that appears, select the group(s) containing the meter(s) you want to update and tap **Next**:



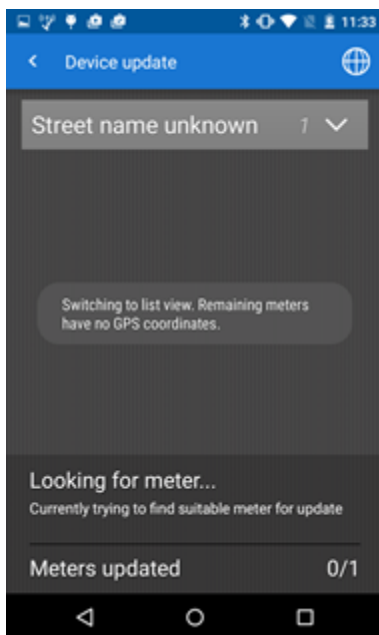
- Read the status message and tap **Next**:



8. Read the important message and tap **Accept**:

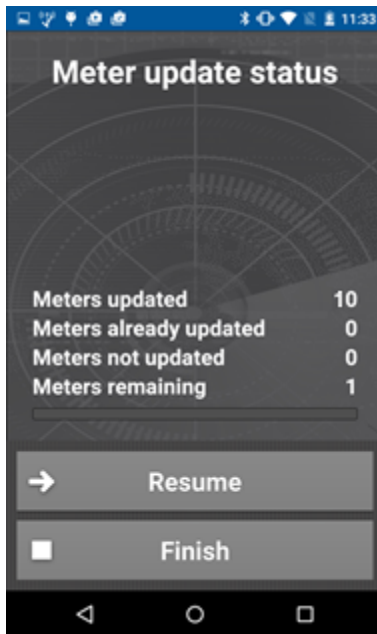


The system now looks for MULTICAL 403/603/803 meters in the selected group(s) that matches the selected meter update file:




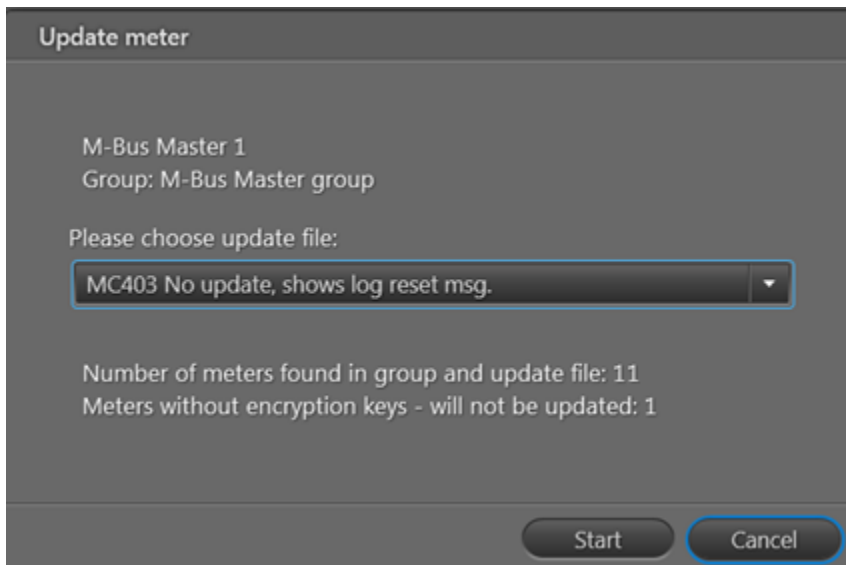
Wait for the meter update to complete.

- On the **Meter update status** screen that appears when the update has been completed, tap **Finish** to end the meter update:

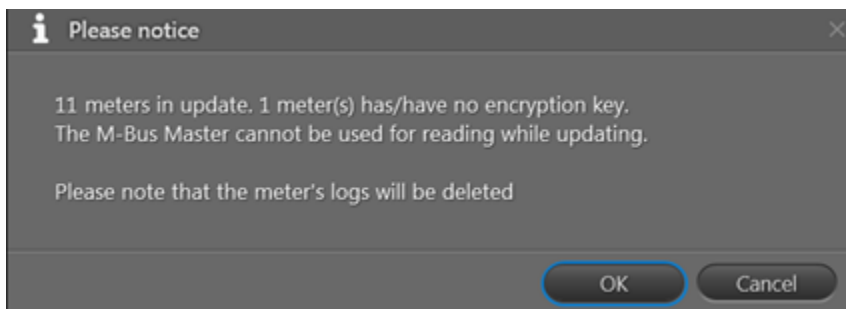


### How to update MULTICAL® 403/603/803 meters in a wired M-Bus network via READY Manager

- In READY Manager, upload the meter update file that you have received from Kamstrup. For details, see [Uploading meter update files](#).
- Click **Configuration**  in the upper-right corner of READY Manager, and select **Wired M-Bus** to the left.
- Select the M-Bus master to which the meter(s) you want to update are connected and click **Update meter**.
- Select the update file from Step 1, and click **Start**:

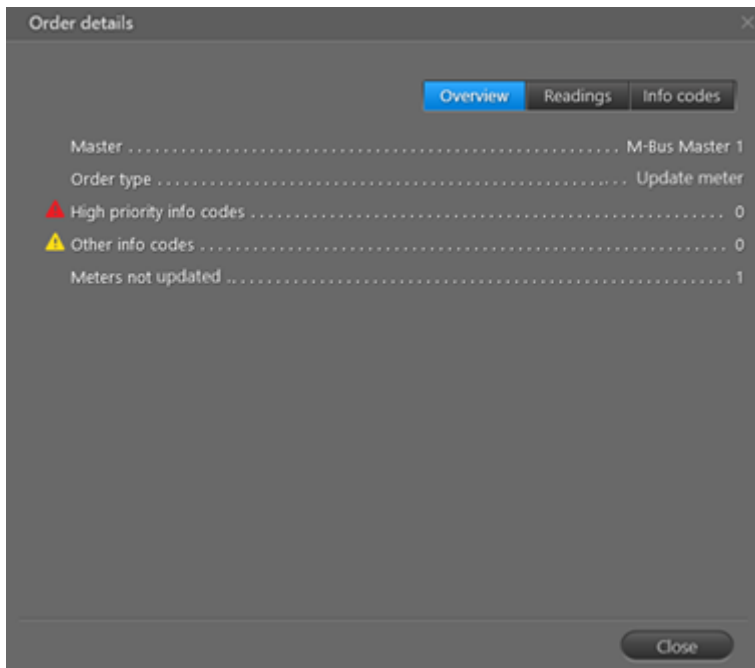


5. In the message that appears, click **OK** to update the MULTICAL<sup>®</sup> 403/603/803 meters that match the serial numbers in the selected update file:

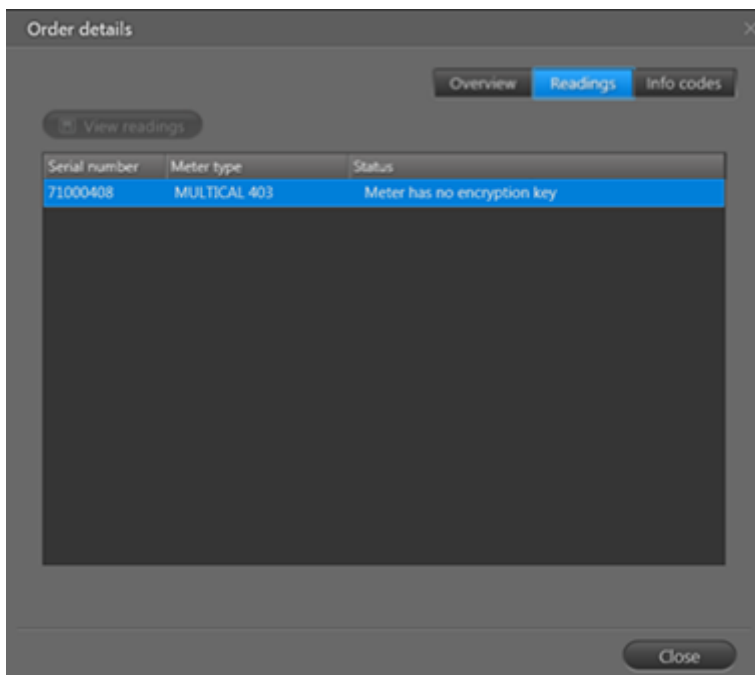


The meter update order now appears in the order list (Click **View orders** or select the **Orders** tab to see the order).

You can see details about a meter update order by selecting it and clicking the **Order details** button:



Meters that have not been updated, if any, are shown when you select **Readings** tab at the top of the window:




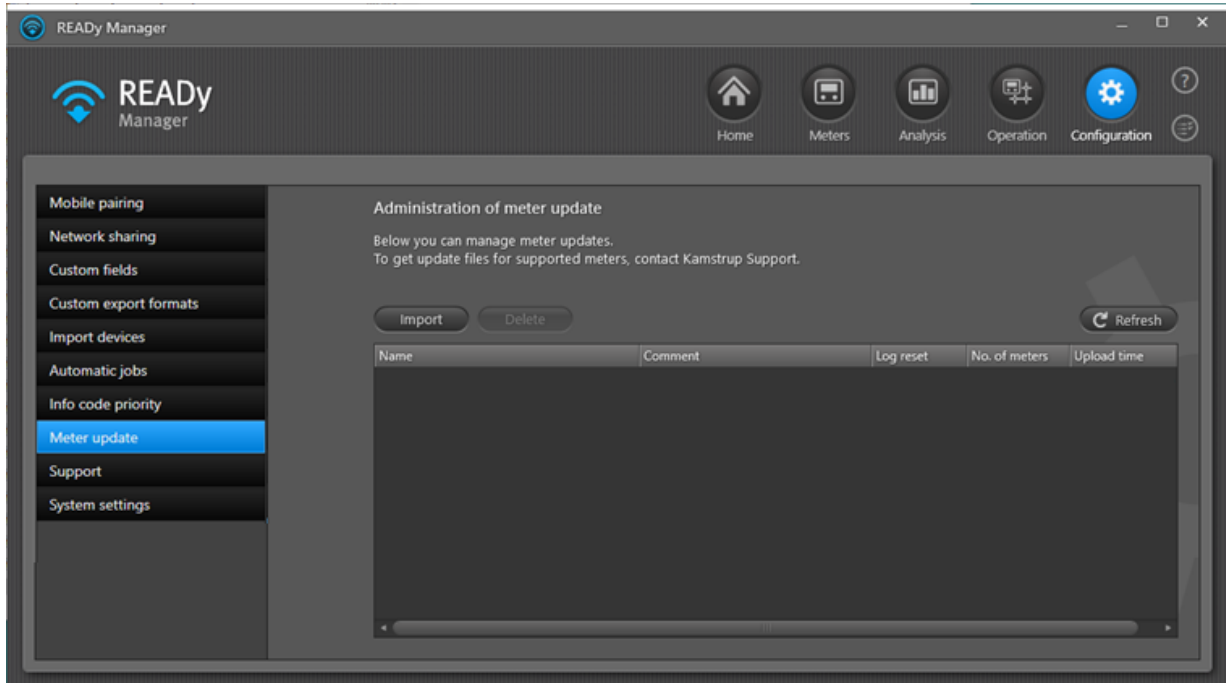
### 12.1.1 Uploading meter update files

Meters of the type MULTICAL® 403, 603 and 803 can be updated remotely from the street using READY App as well as directly from READY Manager if you have a wired M-Bus network.

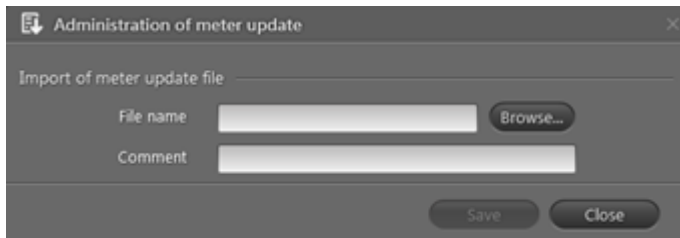
In order to update the meters, you use a meter update file that you receive from Kamstrup and that you import into READY Manager.

Follow the procedure below to import one or more meter update files into READY Manager:

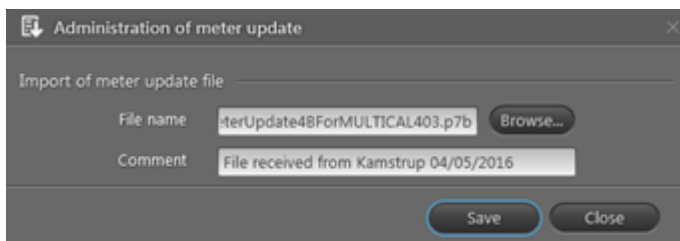
1. Click Configuration  in the upper-right corner of READY Manager, and select **Meter update** to the left:



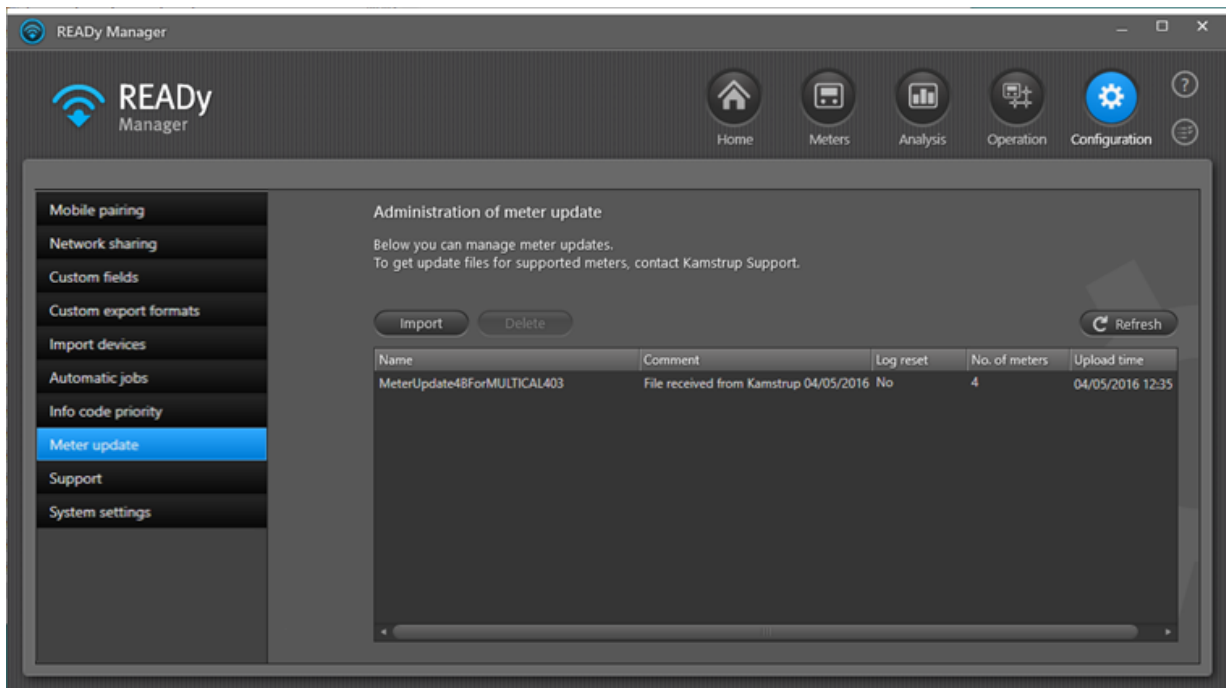
2. Click the **Import** button.
3. In the window that appears, click **Browse**:



4. Browse for and select the meter update file(s) received from Kamstrup. Click **Open**.
5. If desired, enter a comment in the **Comment** field, and click **Save**:



The file is now uploaded and appears in the list:



The following information about the file appears in the list:

Information	Description
Name	The name of the meter update file.
Comment	The comment you entered in Step 5, if any.
Log reset	Indicates whether or not the meter update will cause the meter's log to be reset.
No. of meters	The number of meters to which this update file applies.
Upload time	The time at which the update file was imported into READY Manager.

You can sort and change the sequence of the information in the list. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#) and [Sorting the list of meters/customers](#).

## 12.2 Updating flowIQ® 2200, 2250, 3250 and 4200 meters

Depending on your READY subscription, it is possible to update flowIQ® 2200, 2250, 3250 and 4200 meters remotely with regard to:

- Reading method (drive-by reading via mobile device (AMR) or network reading via collection unit (AMI))
- Collection interval (priority reading or not - only applies to network reading via collection unit (AMI))
- What data to collect (i.e. which meter registers)
- Radio frequency (according to license agreements)
- Notification limits (the limits for receiving notifications on leak, burst, etc.)

The update takes place either via:

- READY App

- or READY Manager if you read meters via a two-way radio network (AMI).

### What do you want to do?

- [Update the reading interval, collected data and notification limits](#)
- [Change the license frequency and reading method](#)
- [Update notification limits only](#)
- [Check which configuration orders that a meter is part of](#)

### 12.2.1 Updating reading method, interval, data and notification limits

Updating the reading method, interval or type of collected data (registers) requires a special configuration file that you receive from Kamstrup. To update the meters, you create a configuration order in READY Manager that includes the configuration file as well as changes to notification limits that you make in READY Manager.


The configuration order can be transferred to one or more meters via:

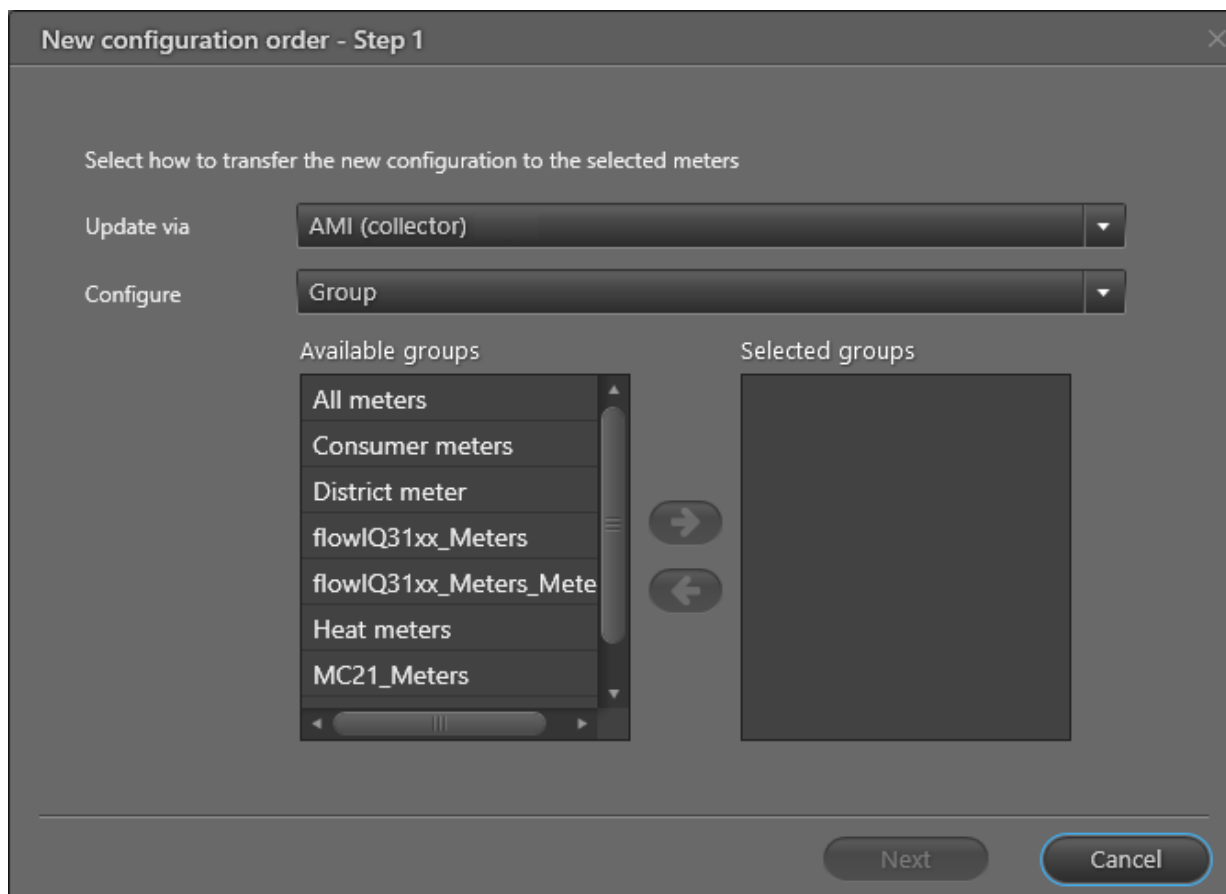
- READY App in which case you transfer the configuration order to your mobile device, and drive around your supply area to update the meters with your mobile device and READY Converter.
- READY Manager in which case the meters are updated automatically. This option requires that your meters are read via collection units in a two-way radio network (AMI).

### What do you want to do?

- [Update flowIQ® 2200, 2250, 3250 and 4200 meters remotely via READY App](#)
- [Update flowIQ® 2200, 2250, 3250 and 4200 meters remotely via READY Manager](#)

### How to update flowIQ® 2200/2250/3250/4200 meters remotely via READY Manager

1. Click **Operation**  in the upper-right corner of READY Manager, and select **Meter configuration** to the left.
2. Click **New Configuration**.
3. In the **Update via** field, select "AMI (collector)":



4. Follow Step a, b or c to select the meter(s) you want to update:

- a. To update one or more meter groups, select "Group" in the **Configure** field, and select the meter group in the **Available groups** list and click the left arrow.

Only configuration options that apply to all meters in the group can be updated. If the meters have no configuration options in common, it is not possible to update the selected meter group.

- b. To update a specific meter, select "Single meter" in the **Configure** field, and enter the meter serial number or address in the **Meter** field.

When you start entering the address/serial number, a list of meters appears and you can select the right one.

- c. To update all meters of a specific meter type, select "Meter type" in the **Configure** field, and select the desired meter type in the **Meter type** drop-down list.

5. Click **Next**.

6. In **Order**, select 'New configuration order' to create a new order from scratch or select a previously saved configuration order.

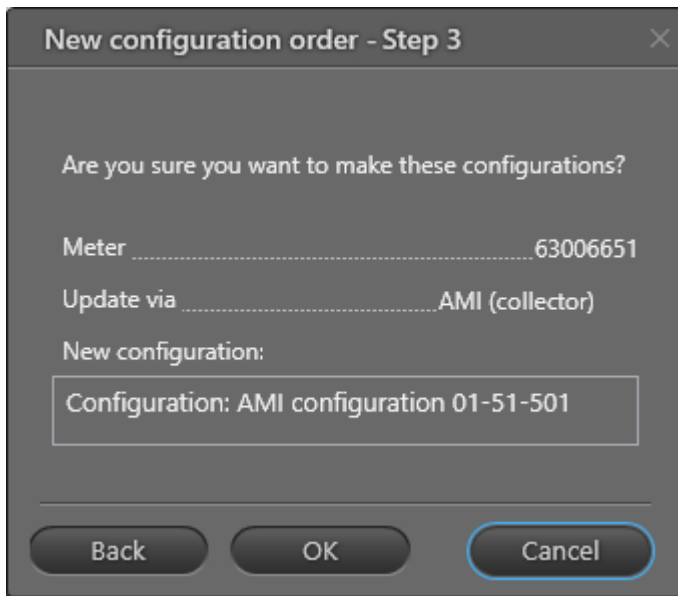
Follow Steps 7 to 11 if you want to create a new configuration order or change the settings of an existing one. Otherwise go to Step 12.

7. In **Order name**, enter a name for the configuration order:

8. In **Configuration file**, select the configuration file specifying reading method, interval and/or type of data.

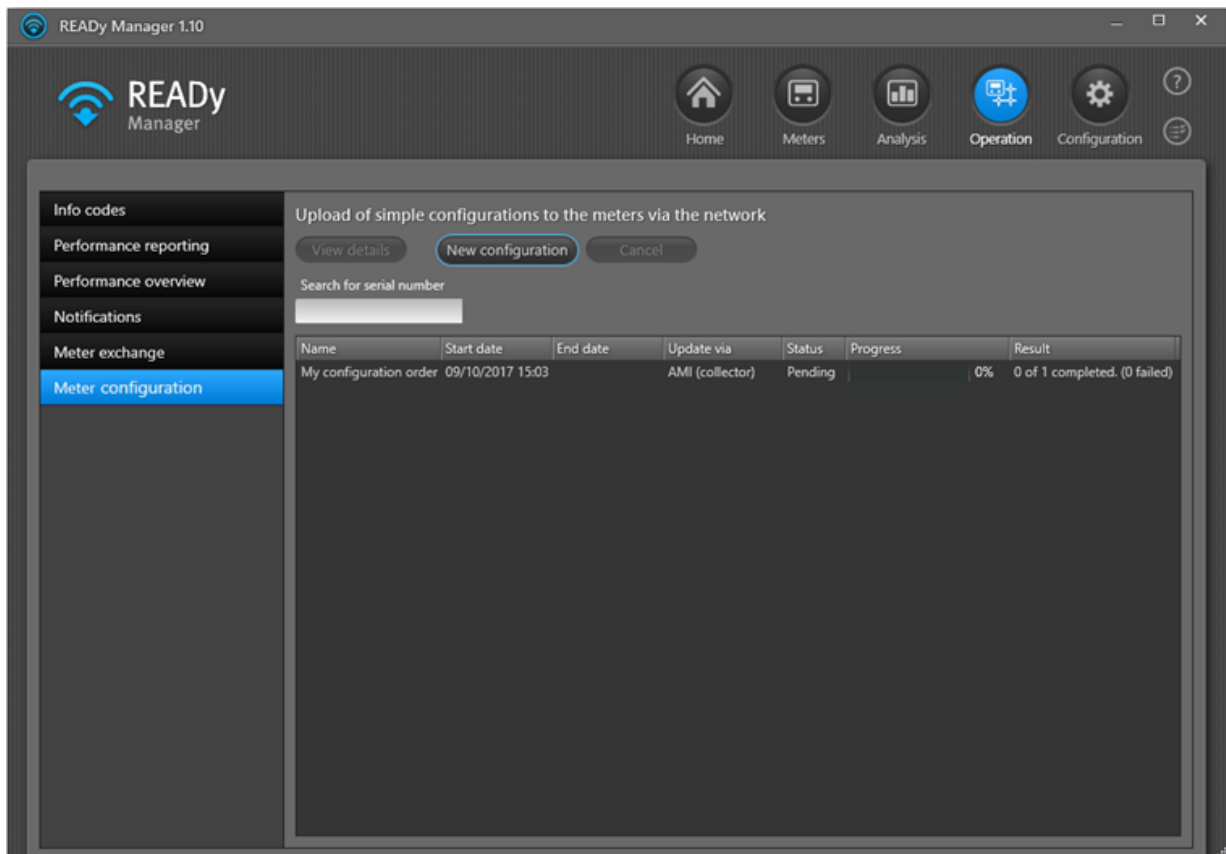
The configuration file is created by Kamstrup and may contain configuration of reading method (AMI or AMR), reading interval (priority metering) and type of registers collected.

9. In the **Notification limits** area, select the limits for receiving information about the listed meter events (info codes).
10. In **Comment**, enter any additional information about the configuration order if desired.
11. If you want to save the configuration order to reuse it later on, click **Save as order template**.
12. Click **Next**.
13. Click **OK** to save the configuration order and start updating the selected meter(s):



14. In the message that appears, click **OK** to start updating the selected meter(s):

The meter configuration order now appears in the order list:



You can see details about a meter configuration order by selecting it and clicking the **View details** button:

Details
✕

---

My configuration order

---

Order details

Status ..... Pending

Start date ..... 09/10/2017 15:03

End date .....

New configuration ..... Configuration: AMI configuration 01-51-501

Comment .....

---

Meters

Total ..... 1

Failed ..... 0

Pending ..... 1

Succeeded ..... 0

Update via READY App
Add all to group

Failed
Succeeded
Pending

Meter	Address	Parameter failed	Parameter Success	

OK

Meters that have not been updated, if any, are shown when you select the **Failed** tab at the bottom of the window:

Click **Add all to group** to create a new group with the failed meters, e.g. to create a new configuration order with these meters.

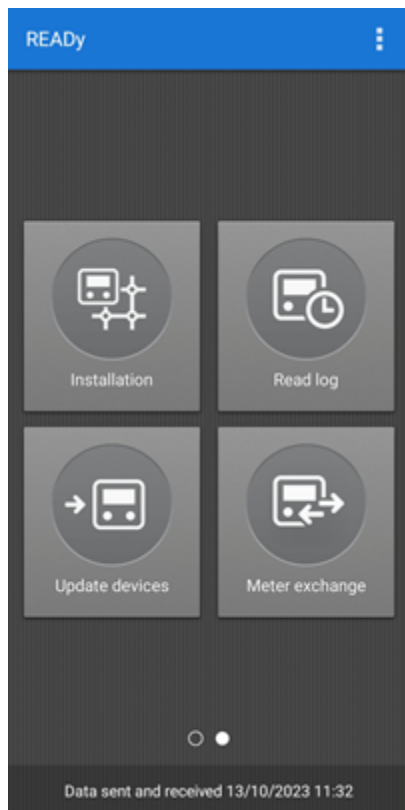
Click **Update via READY App** to create a configuration order for READY App. For details, see below:

### How to update flowIQ® 2200/2250/3250/4200 meters remotely via READY App

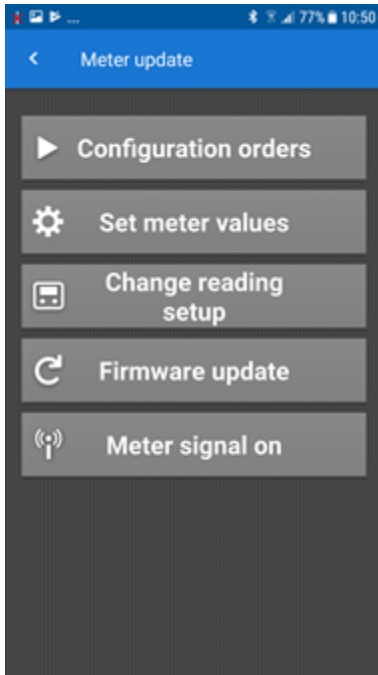
1. If you have not yet created a configuration order for updating the meters, follow the procedure "How to update flowIQ® 2200, 2250, 3250 and 4200 meters remotely via READY Manager" above, and make sure to select "AMR (mobile device)" in the **Update via** field in Step 3.

Alternatively, you can click **Update via READY App** in the **Details** window to create a configuration order with failed meters.

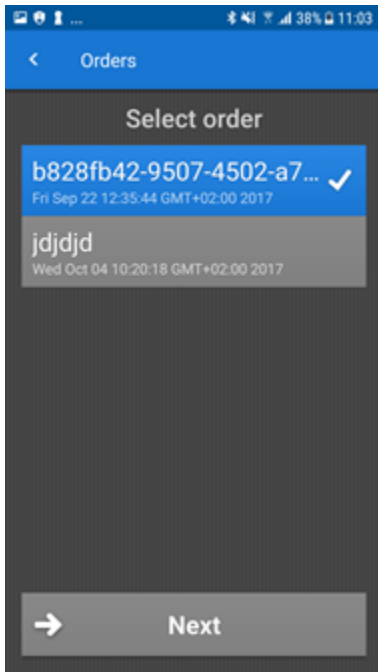
2. Make sure to transfer the configuration order(s) to READy App by pressing **Send/Receive** in READy App. For details, see [Transferring latest data to mobile app](#).
3. On the road near to the flowIQ® 2200/2250/3250/4200 installation site, make sure that READy Converter is turned on.
4. Swipe the screen to go to page two of the READy App home screen and tap **Update devices**:



- On the **Meter update** screen that appears, tap **Configuration orders**:




- Select the configuration order(s) created in READY Manager and tap **Next**:



READY App now starts configuring the meters in the selected order(s):



You can switch to map view by clicking  in the upper-right corner of the screen. The meters will disappear from the list/map as they are updated:



7. On the **Order status** screen that appears when the update has been completed, tap **Finish** to end the meter update:

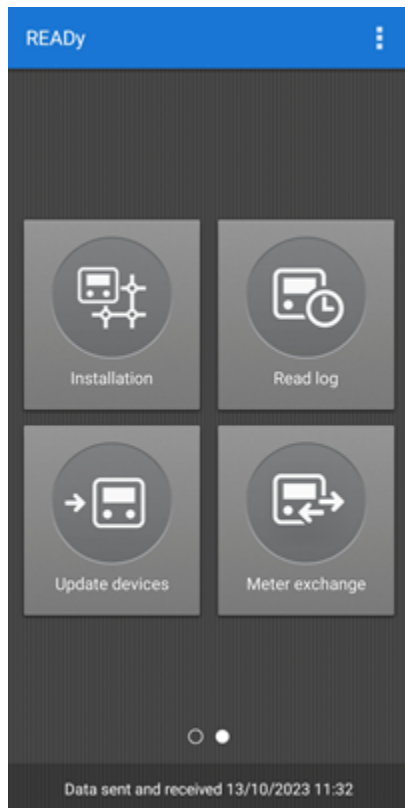


### 12.2.2 Changing radio frequency for communication with meters

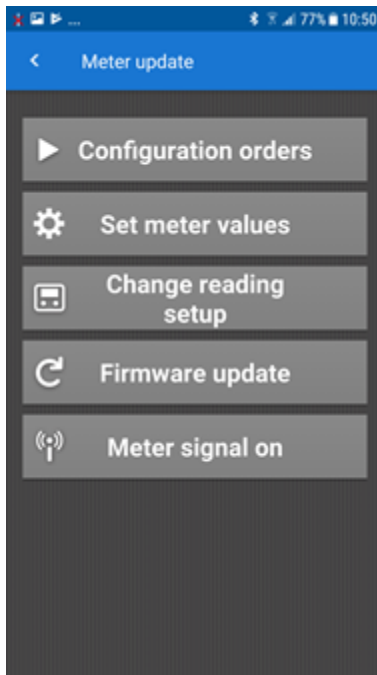
If you need to change the radio frequency used for communicating with your flowIQ® 2200/2250/3250/4200 meters, you can do so by using READY App. In order to change the frequency, you also need a configuration file from Kamstrup defining the reading method and possibly reading interval and collected data. These files are also used when creating configuration orders in READY Manager (for details, see [Updating reading method, interval, data and notification limits](#)).

## How to change the radio frequency via READY App

1. On the road near to the flowIQ® 2200/2250/3250/4200 installation site, make sure that READY Converter is turned on.
2. Swipe the screen to go to page two of the READY App home screen and tap **Update devices**:



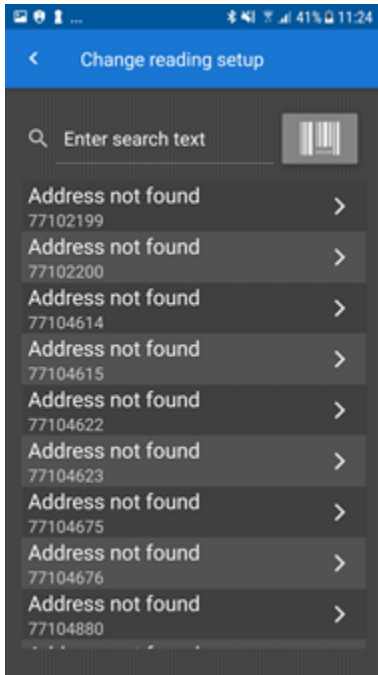
- On the **Meter update** screen that appears, tap **Change reading setup**:



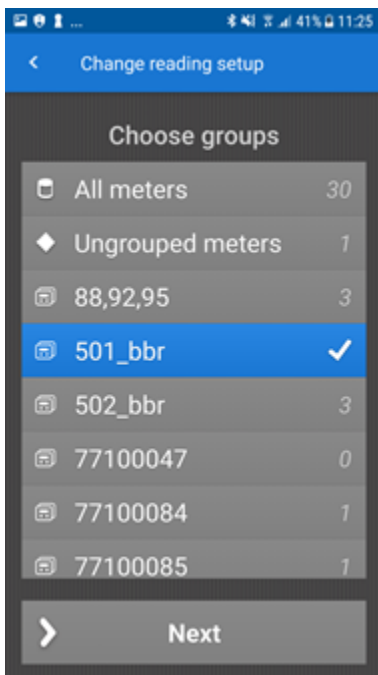
- Follow Step 4a or 4b to select the meter or group of meters you want to update:



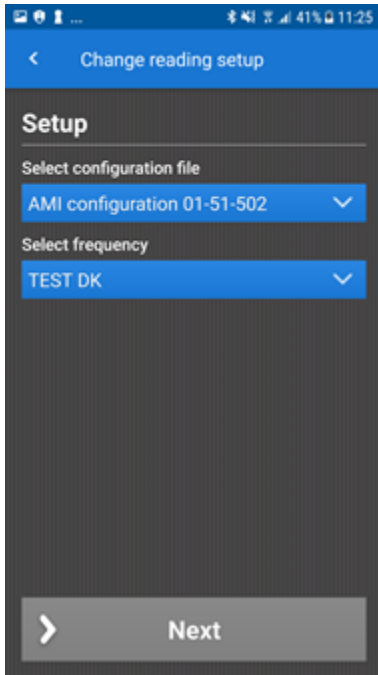
- a. To select a meter, click **Single meter** and select the meter (use the search field to quickly locate it if desired):



- b. To select one or more groups, click **Group** and select the desired group(s). Click **Next**:




5. Select the configuration file from Kamstrup and the frequency license, and click **Next**:



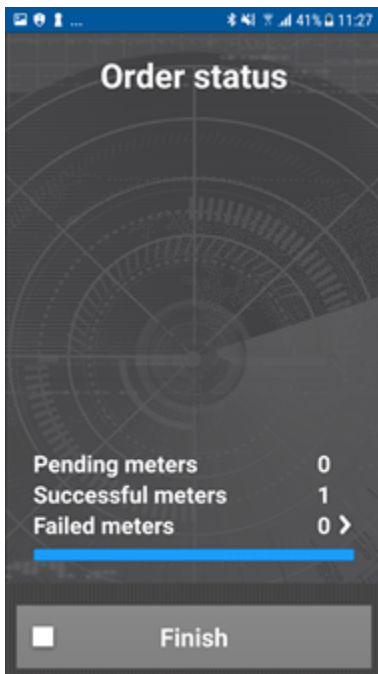
READy App now starts configuring the meters in the selected order(s):



You can switch to map view by clicking  in the upper-right corner of the screen. The meters will disappear from the list/map as they are updated:



- On the **Order status** screen that appears when the update has been completed, tap **Finish** to end the meter update:



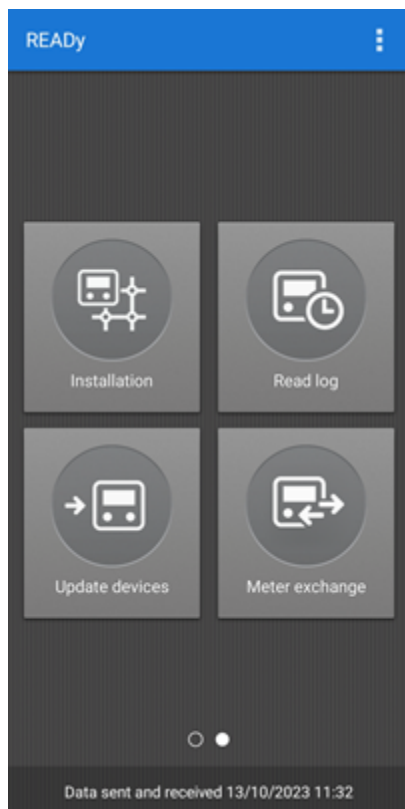
### 12.2.3 Updating notification limits only

You can update notification limits (i.e. change the limits for when you want to receive notifications of leak, burst, etc.) for flowIQ® 2200/2250/3250/4200 meters in two ways:

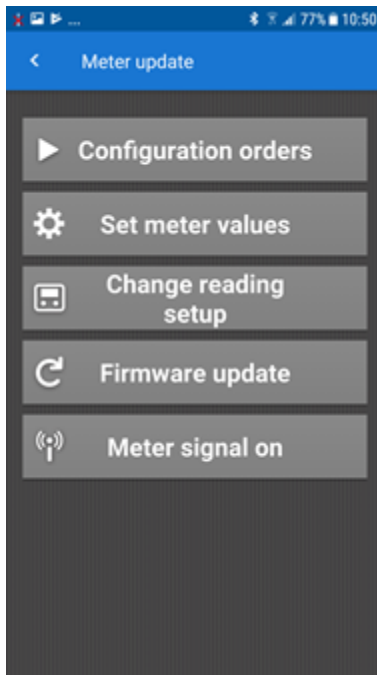
- You can create a configuration order with the new limits and update the meter(s) via READY App or READY Manager. For details, see [Updating reading interval, collected data and notification limits](#).
- You can update only the notification limits by using READY App (see below)

#### How to update notification limits via READY App

1. On the road near to the flowIQ® 2200/2250/3250/4200 installation site, make sure that READY Converter is turned on.
2. Swipe the screen to go to page two of the READY App home screen and tap **Update devices**:



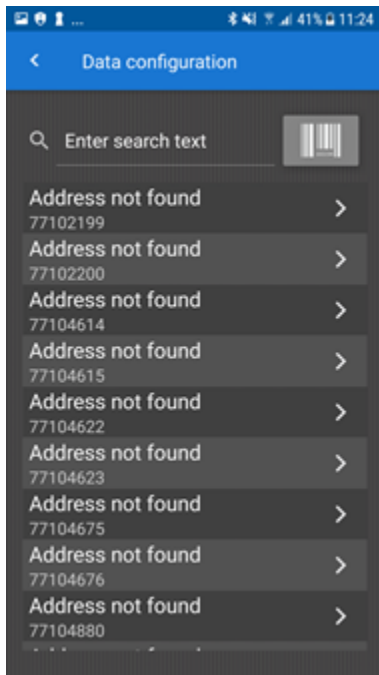
3. On the **Meter update** screen that appears, tap **Set meter values**:



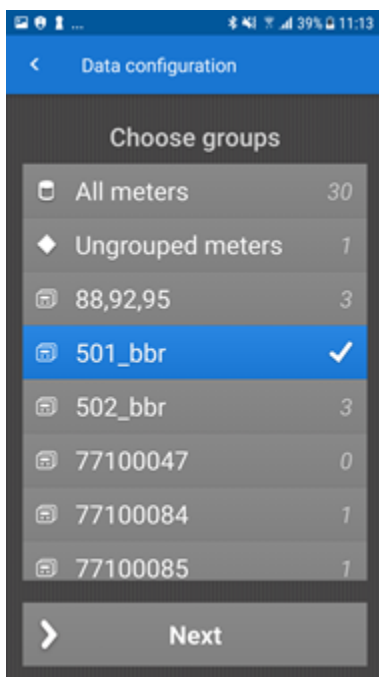
4. Follow Step 4a or 4b to select the meter or group of meters you want to update:



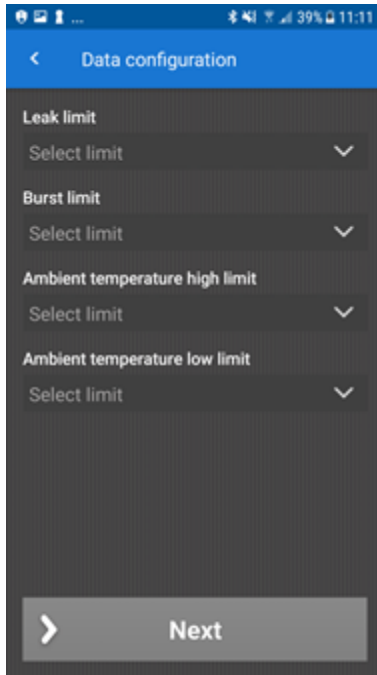
- a. To select a meter, click **Single meter** and select the meter (use the search field to quickly locate it if desired):



- b. To select one or more groups, click **Group** and select the desired group(s). Click **Next**:




- Select the limits for the desired notifications, and click **Next**:



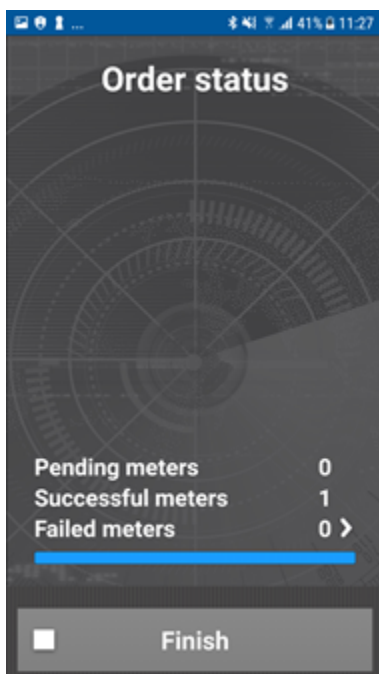
READY App now starts configuring the selected meter(s):



You can switch to map view by clicking  in the upper-right corner of the screen. The meters will disappear from the list/map as they are updated:



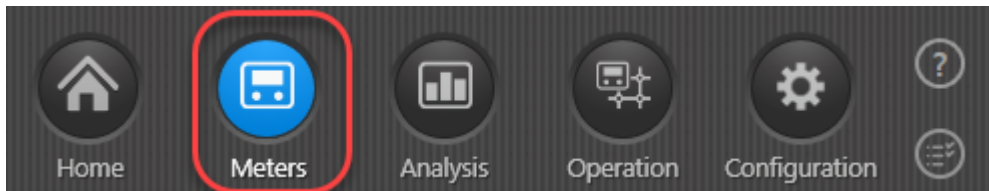
6. On the **Order status** screen that appears when the update has been completed, tap **Finish** to end the meter update:



## 12.2.4 Checking which configuration orders a meter is part of

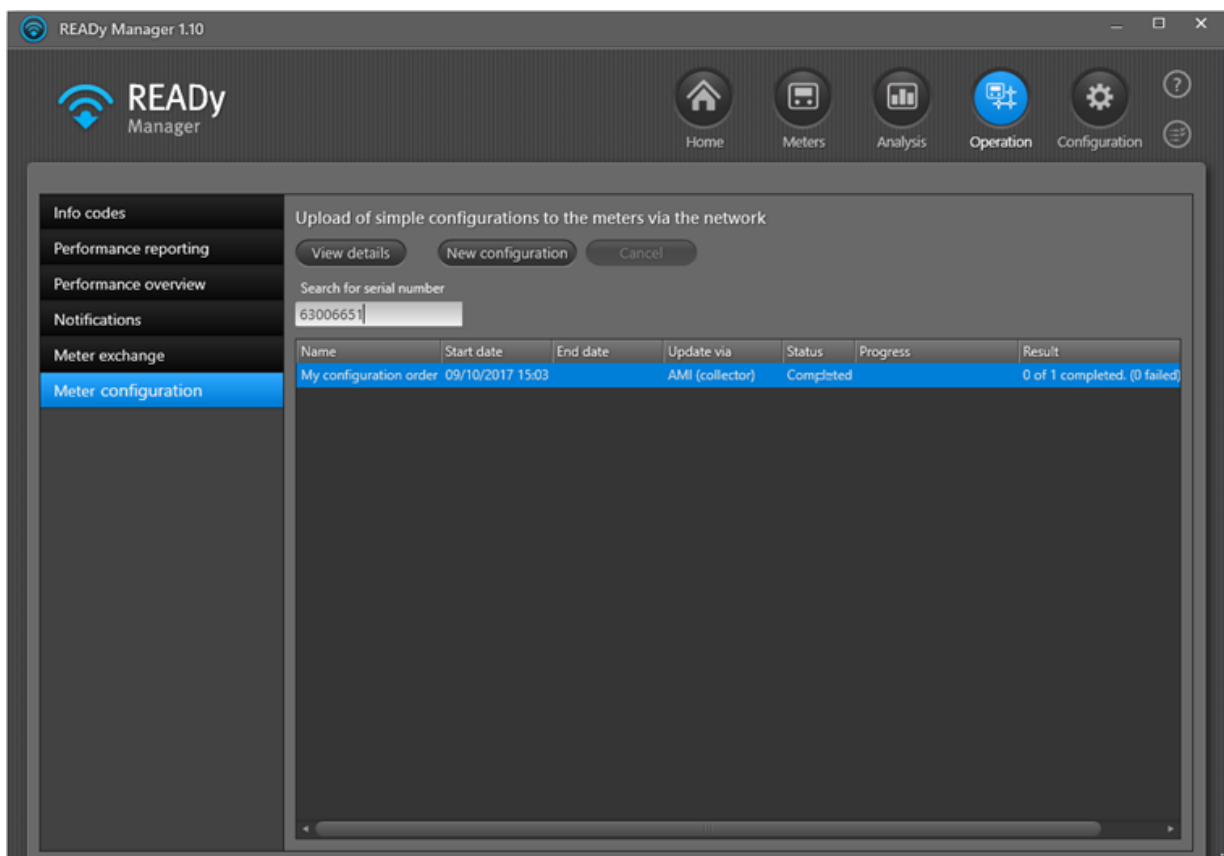
Follow the procedure below to see which configuration orders that include the current meter:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. Right-click the meter for which you want to see the configuration orders and choose **Show configuration orders** in the menu that appears.

The **Meter configuration** view now opens and shows a list of all configuration orders that the meter is part of:



**Hint** If you are already in the **Meter configuration** view, enter the serial number of the meter in the search field to see the list of configuration orders for that meter.

You can sort and change the sequence of the information in the list. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#) and [Sorting the list of meters/customers](#).

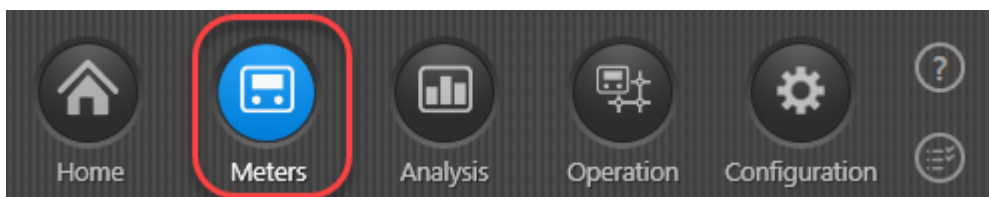
### 12.2.5 Reading interval and battery warranty

If you have a two-way radio network reading solution (AMI), it is possible to define some of your flowIQ® 2250 and 3250 meters as priority meters. Reading data from priority meters are collected more frequently than reading data from other meters. This means that the meter battery lifetime is shorter than for ordinary meters and that the normal battery warranty does not apply to meters that are (or has been) priority meters.

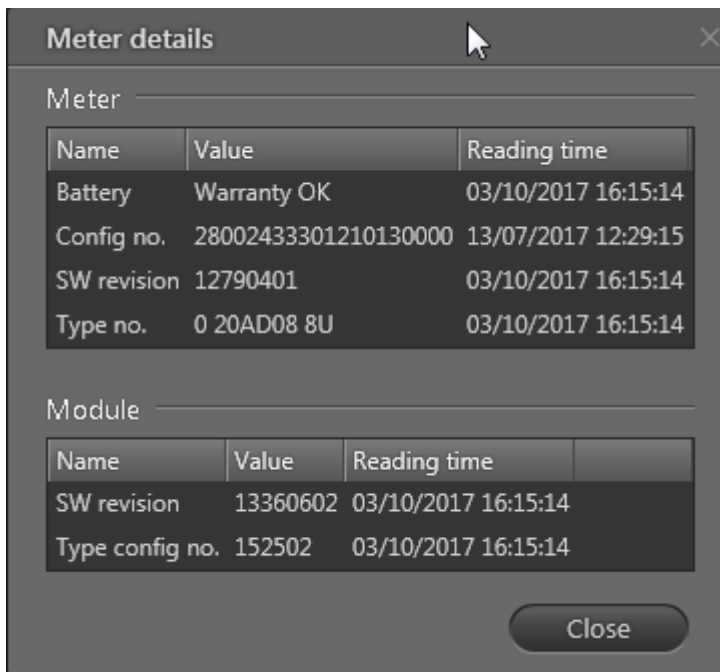
Follow the procedure below to see if the battery warranty applies to a meter or not:

#### How to check if the battery warranty applies to a meter

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, click the meter you want to check, and click the **Details** button that appears above the list:



If the "Battery" value is "Warranty OK", the battery warranty applies. If the battery value says "No warranty" the meter is (or has previously been) a priority meter, and the battery warranty no longer applies.

3. Click **Close**.

## 12.3 Updating NB-IoT meters

**Note** If you have received a meter (firmware) update file from Kamstrup, follow the instructions found [here](#).

It is possible to update flowIQ® 2200 and 3200 meters read in an NB-IoT network with regard to:

- Reading interval (hourly values collected once per day or 15-minute values collected four times per day)
- Notification limits (the limits for receiving notifications on leak, burst, etc.)

The update takes place via READY App in one of the following ways:

- You can select the desired reading interval and notification limits directly in READY App and update the meter(s)
- You can create a configuration order beforehand in READY Manager with the correct reading interval and/or notification settings and update the meters with this configuration order.

**Note** If you want to update more meters and want to change both the reading interval *and* the notification limits at the same time, make sure to create a configuration order.

### What do you want to do?

- [Create a configuration order with preselected reading interval and/or notification limits](#)
- [Select a reading interval in READY App and update one or more meters](#)
- [Select notification limits in READY App and update one or more meters](#)
- [Check which configuration orders that a meter is part of](#)

### 12.3.1 Creating a configuration order for NB-IoT meters


You can create a configuration order that sets the reading interval and notification limits for one or more flowIQ® 2200 and 3200 meters read in an NB-IoT network.

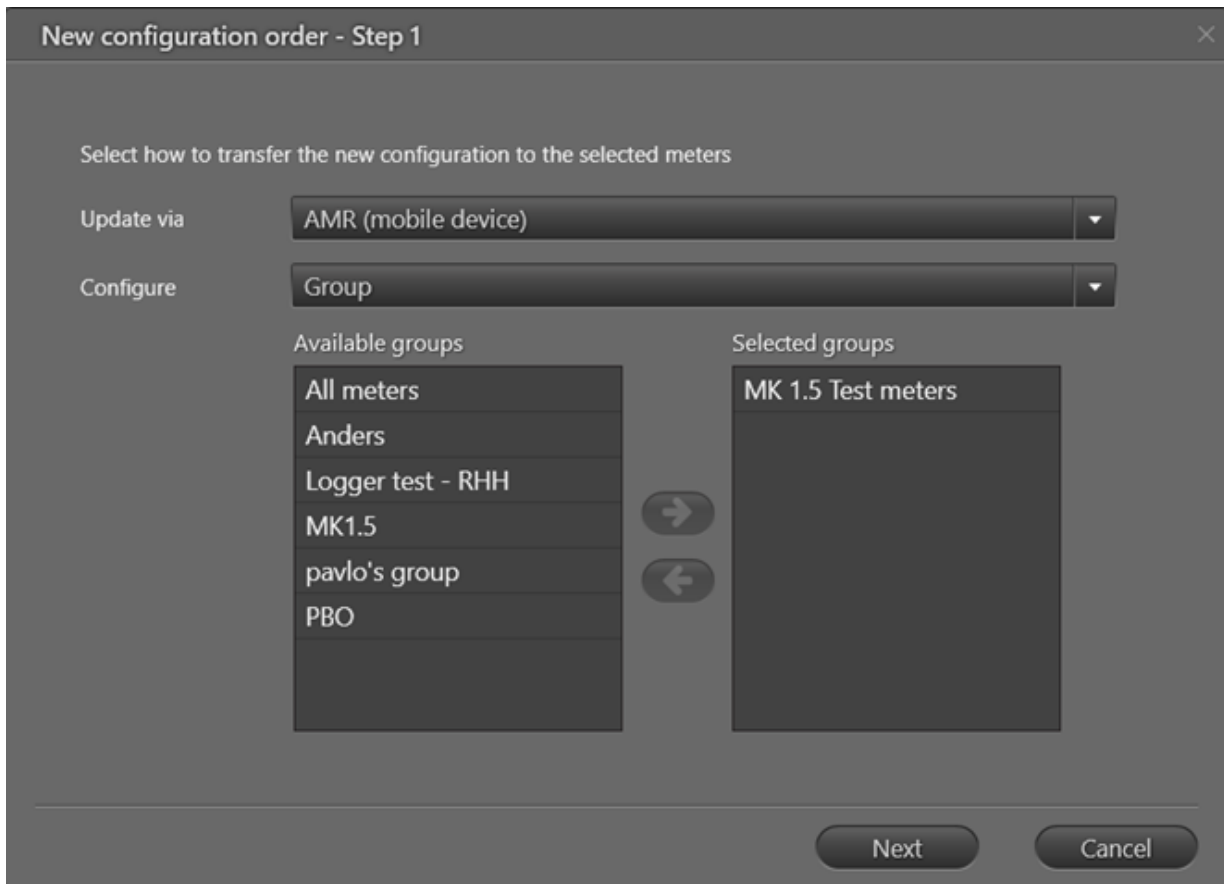
Once created, you transfer the configuration order to READY app and drive around your supply area to update the selected meters with your mobile device and READY Converter.

### What do you want to do?

- [Create a configuration order](#)
- [Transfer the configuration order to READY App and update the meter\(s\)](#)

### How to create a configuration order in READY Manager

1. Click **Operation**  in the upper-right corner of READY Manager, and select **Meter configuration** to the left.
2. Click **New Configuration**.
3. In the **Update via** field, select "AMR (mobile device)":



4. Follow Step a, b or c to select the meter(s) you want to update:
  - a. To update one or more meter groups, select "Group" in the **Configure** field, and select the meter group in the **Available groups** list and click the left arrow.  
  
Only configuration options that apply to all meters in the group can be updated. If the meters have no configuration options in common, it is not possible to update the selected meter group.
  - b. To update a specific meter, select "Single meter" in the **Configure** field, and enter the meter serial number or address in the **Meter** field.  
  
When you start entering the address/serial number, a list of meters appears and you can select the right one.
  - c. To update all meters of a specific meter type, select "Meter type" in the **Configure** field, and select the desired meter type in the **Meter type** drop-down list.
5. Click **Next**.
6. In **Order**, select 'New configuration order'.
7. In **Order name**, enter a name for the configuration order:

New configuration order - Step 2

Create a configuration order by making one or more selections below

Order

Order name

Reading setup

Select a configuration file specifying reading method, interval and/or data

Configuration file

Notification limits

Select the limits for receiving notification of meter events (info codes)

Leak

Burst

Min. temperature

Max temperature

Comment

Save as order template

- In **Configuration file**, select "Mode 1..." to receive hourly values once per day, or select "Mode 3..." to receive 15-minute values four times per day:

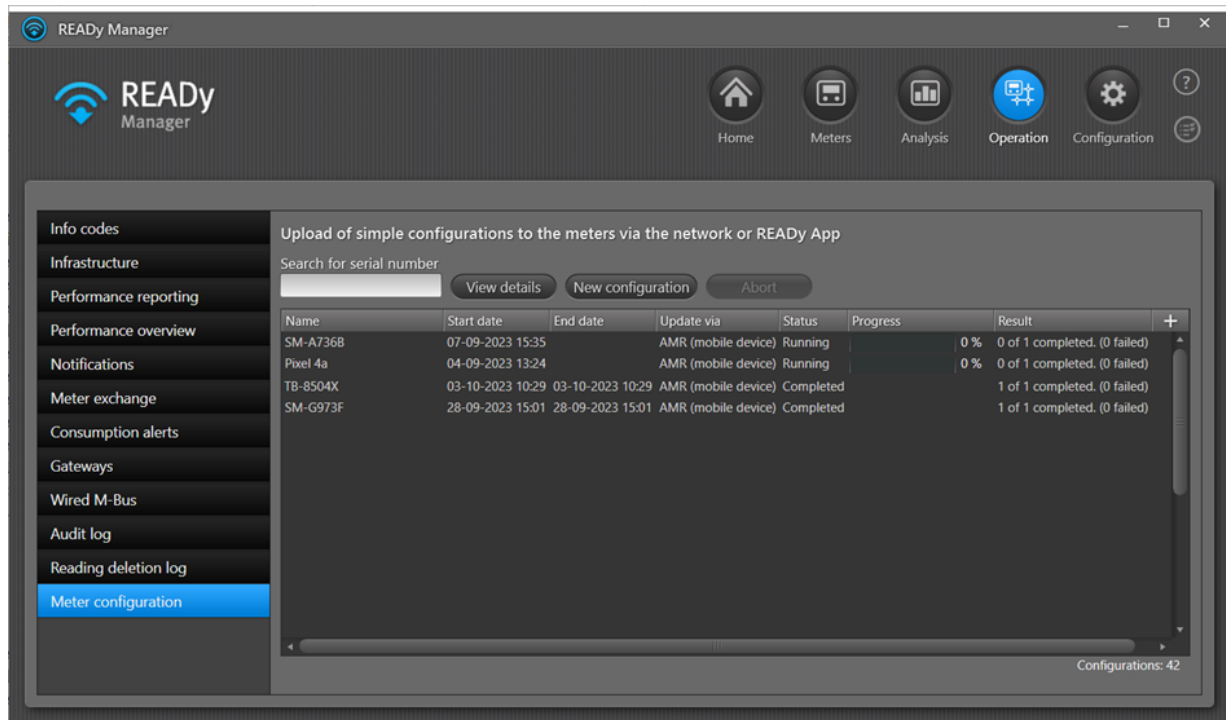
Configuration file

Notification limits

- In the **Notification limits** area, select the limits for receiving information about the listed meter events (info codes).
- In **Comment**, enter any additional information about the configuration order if desired.
- If you want to save the configuration order to reuse it later on, click **Save as order template**.

12. Click **Next**.
13. Click **OK** to save the configuration order.

The meter configuration order now appears in the order list:

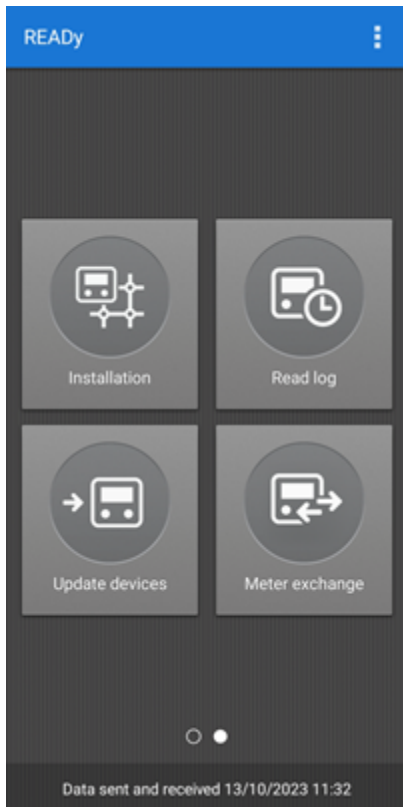


## How to update NB-IoT meters remotely via READY App using a configuration order from READY Manager

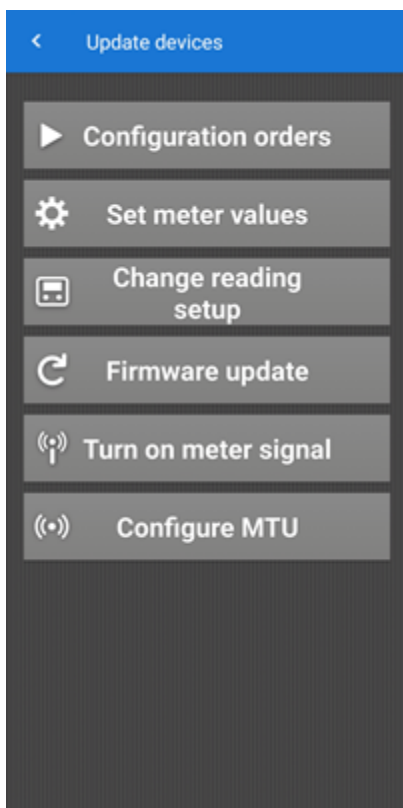
Precondition: If you have not yet created a configuration order for updating the meters, follow the procedure "How to create a configuration order in READY Manager" above.

1. Make sure to transfer the configuration order to READY App by pressing **Send/Receive** in READY App.
2. On the road near to the flowIQ® 2200/3200 installation site, make sure that READY Converter is turned on and [paired to READY App](#).

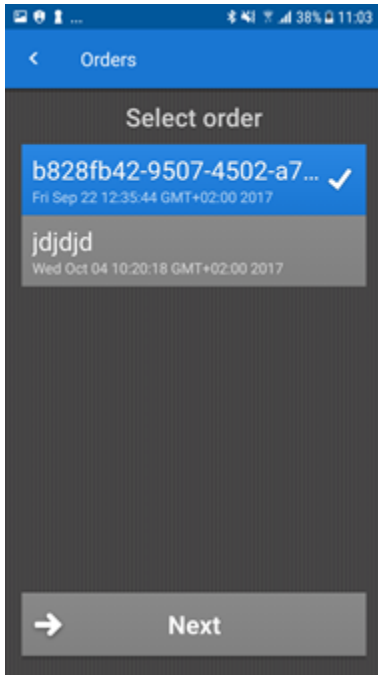
3. Swipe the screen to go to page two of the READY App home screen and tap **Update devices**:



4. On the **Update devices** screen that appears, tap **Configuration orders**:




- Select the configuration order created in READY Manager and tap **Next**:



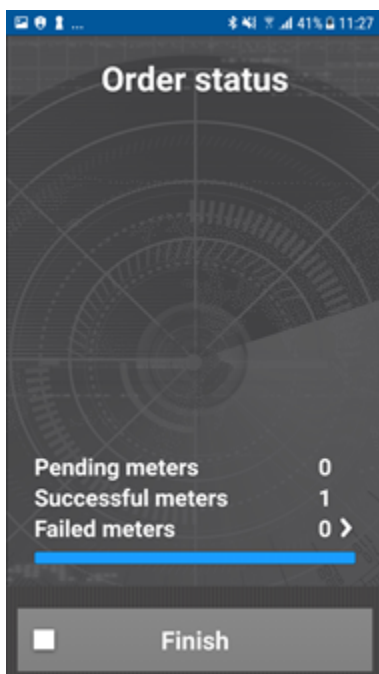
READY App now starts configuring the meters in the selected order:



You can switch to map view by clicking  in the upper-right corner of the screen. The meters will disappear from the list/map as they are updated:



6. On the **Order status** screen that appears when the update has been completed, tap **Finish** to end the meter update:



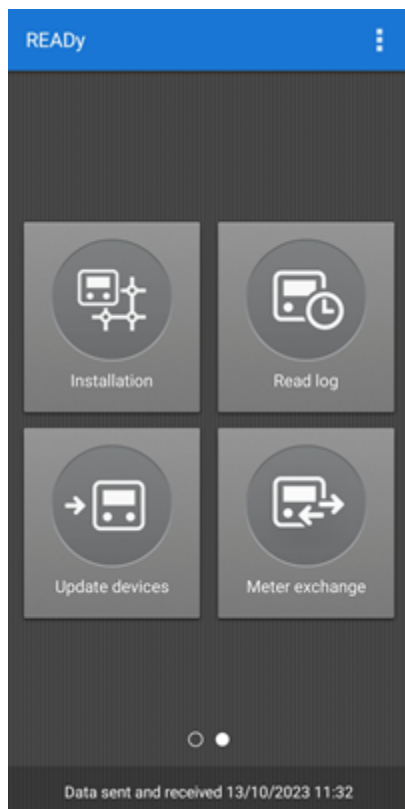
### 12.3.2 Updating reading interval of NB-IoT meters

You can update the reading interval for flowIQ® 2200 and 3200 meters read in a NB-IoT network in two ways:

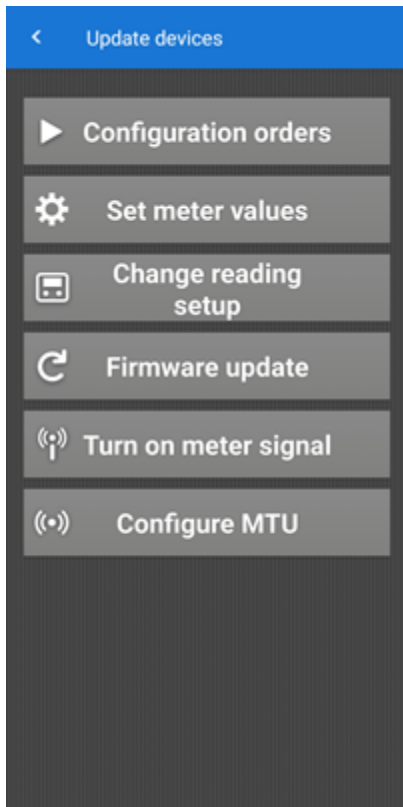
- You can create a configuration order beforehand in READY Manager with the new reading interval and update the meter(s) via READY App. For details, see [Creating a configuration order for NB-IoT meters](#).
- You can set the new reading interval directly in READY App (see below)

#### How to change the reading interval via READY App

1. On the road near to the flowIQ® 2200 or 3200 installation site, make sure that READY Converter is turned on and [paired to READY App](#).
2. Swipe the screen to go to page two of the READY App home screen and tap **Update devices**:



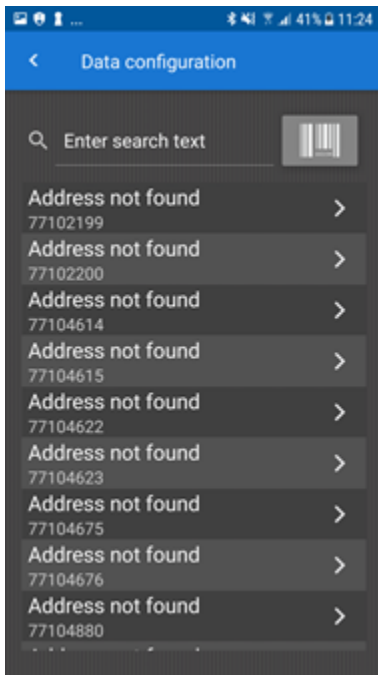
- On the **Update devices** screen that appears, tap **Change reading setup**:



- Follow Step 4a or 4b to select the meter or group of meters you want to update:



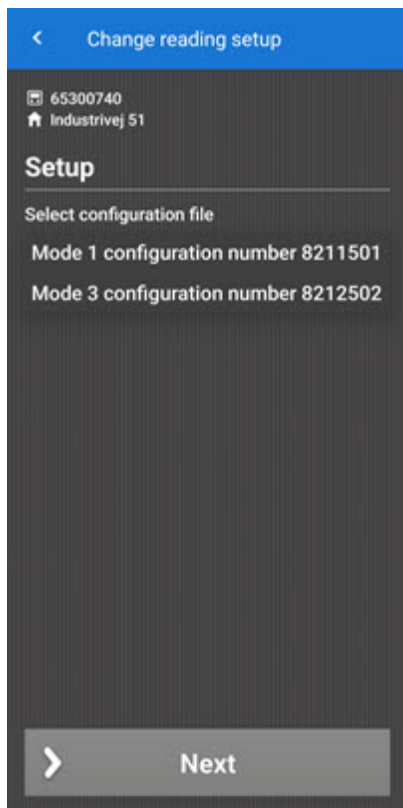
- a. To select a meter, click **Single meter** and select the meter (use the search field to quickly locate it if desired):



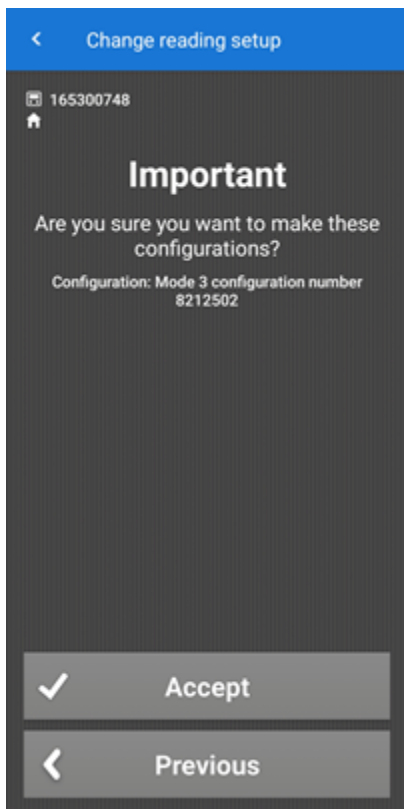
- b. To select one or more groups, click **Group** and select the desired group(s). Click **Next**:



5. Select "Mode 1" to receive hourly values once per day, or select "Mode 3" to receive 15-minute values four times per day. Then tap **Next**:




6. Tap **Accept**:



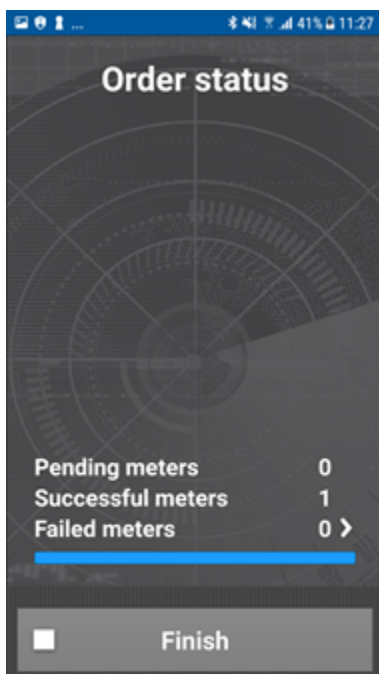
READY App now starts configuring the selected meter(s):



You can switch to map view by clicking  in the upper-right corner of the screen. The meters will disappear from the list/map as they are updated:



7. On the **Order status** screen that appears when the update has been completed, tap **Finish** to end the meter update:



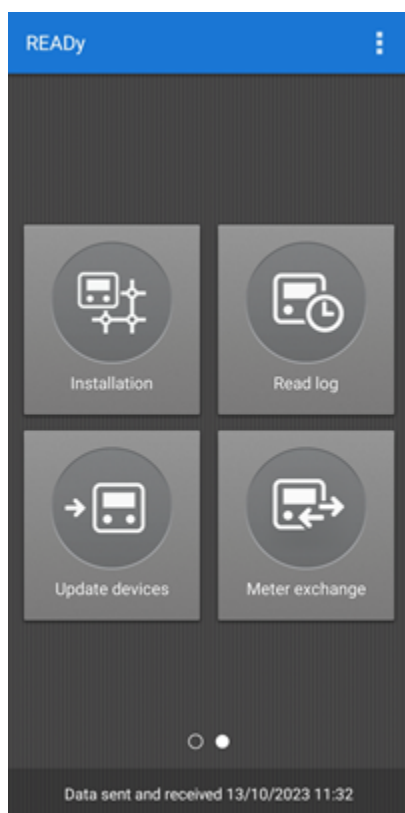
### 12.3.3 Updating notification limits for NB-IoT meters

You can update notification limits (i.e. change the limits for when you want to receive notifications of leak, burst, etc.) for flowIQ® 2200 and 3200 meters read in a NB-IoT network in two ways:

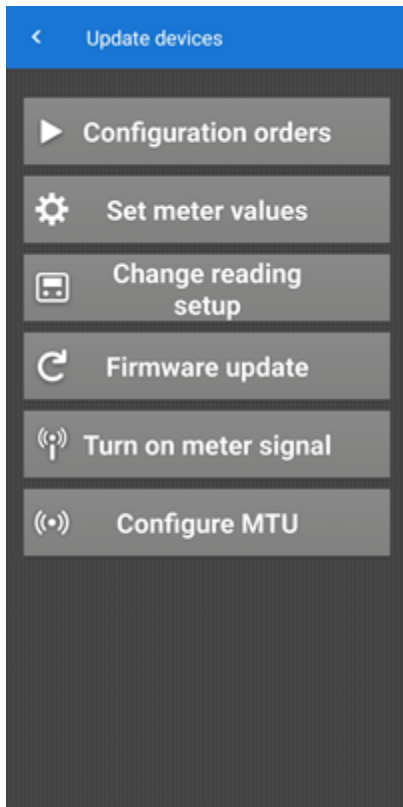
- You can create a configuration order with the new limits and update the meter(s) via READY App. For details, see [Creating a configuration order for NB-IoT meters](#).
- You can set the new notification limits directly in READY App (see below)

#### How to update notification limits via READY App

1. On the road near to the flowIQ® 2200 or 3200 installation site, make sure that READY Converter is turned on and [paired to READY App](#).
2. Swipe the screen to go to page two of the READY App home screen and tap **Update devices**:



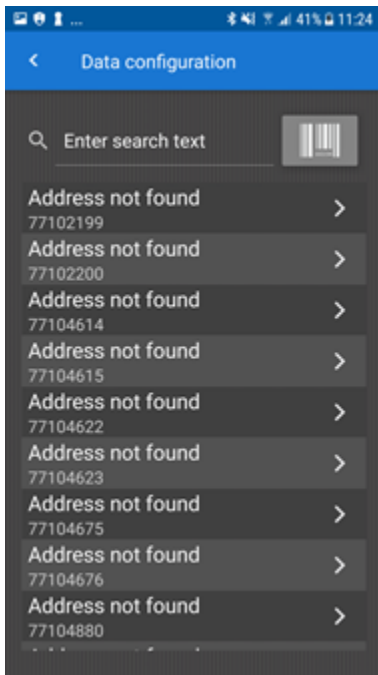
3. On the **Update devices** screen that appears, tap **Set meter values**:



4. Follow Step 4a or 4b to select the meter or group of meters you want to update:



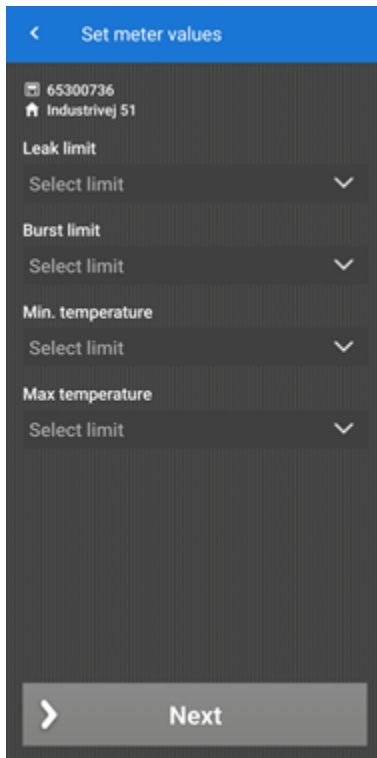
- a. To select a meter, click **Single meter** and select the meter (use the search field to quickly locate it if desired):



- b. To select one or more groups, click **Group** and select the desired group(s). Click **Next**:




- Select the limits for the desired notifications, and click **Next**:



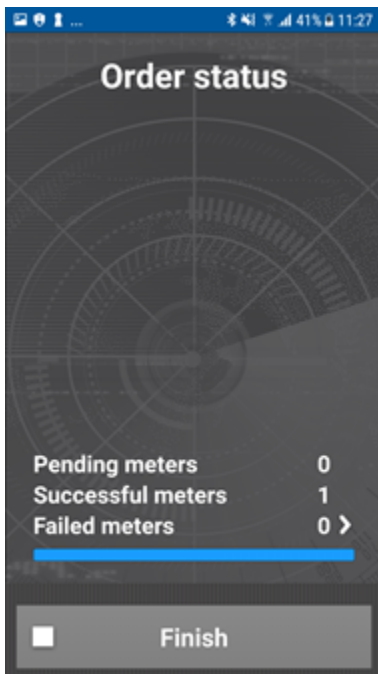
READy App now starts configuring the selected meter(s):



You can switch to map view by clicking  in the upper-right corner of the screen. The meters will disappear from the list/map as they are updated:



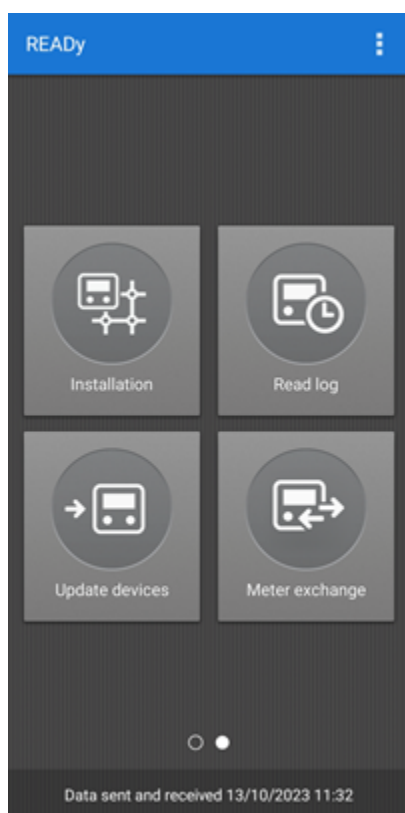
- On the **Order status** screen that appears when the update has been completed, tap **Finish** to end the meter update:



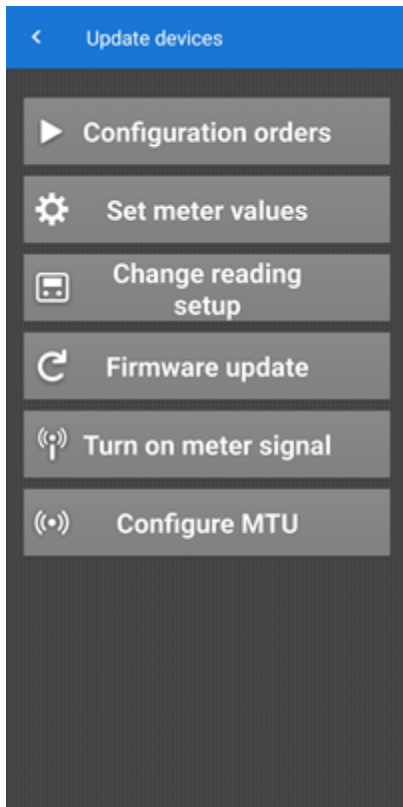
### 12.3.4 Update via update file from Kamstrup

Follow the procedure below to update an NB-IoT flowIQ® 2200 or 3200 meter with a firmware update file from Kamstrup:

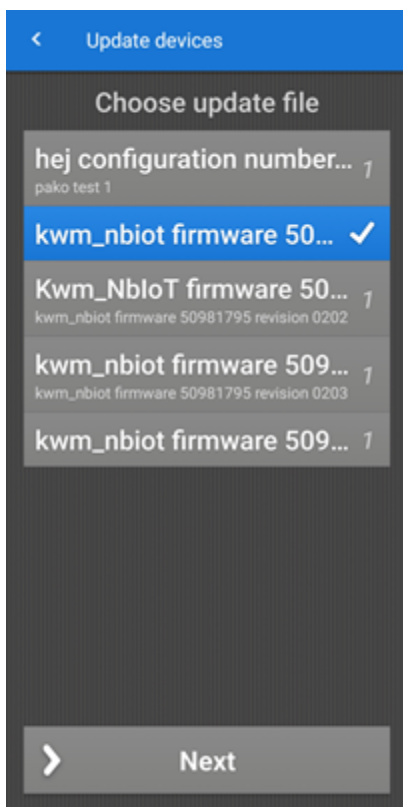
1. In READY Manager, upload the meter update file that you have received from Kamstrup. For details, see [Uploading meter update files](#).
2. Make sure to transfer the meter update file to READY App by pressing **Send/Receive** in READY App.
3. On the road near to the flowIQ® 2200/3200 installation site, make sure that READY Converter is turned on and [paired to READY App](#).
4. Swipe the screen to go to page two of the READY App home screen and tap **Update devices**:



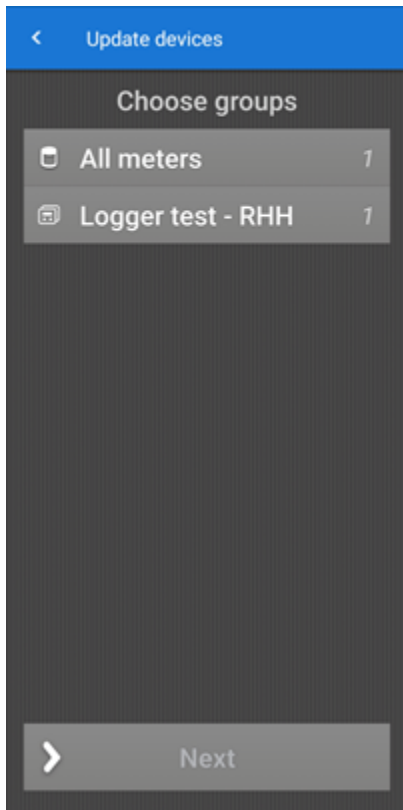
- On the **Update devices** screen that appears, tap **Firmware update**:



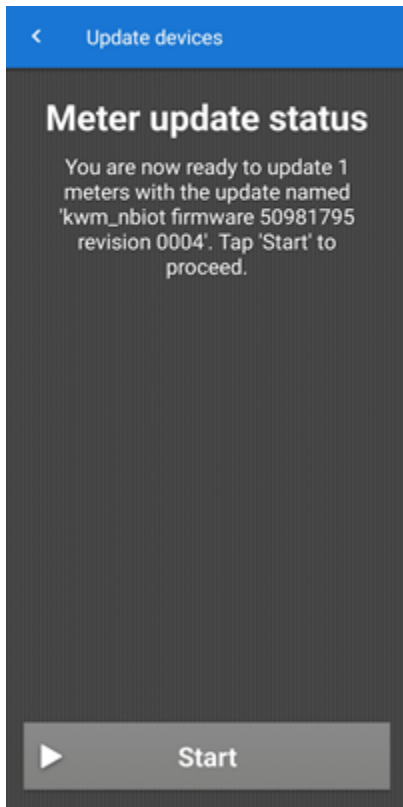
- select the meter update file (see Step 1) and tap **Next**:



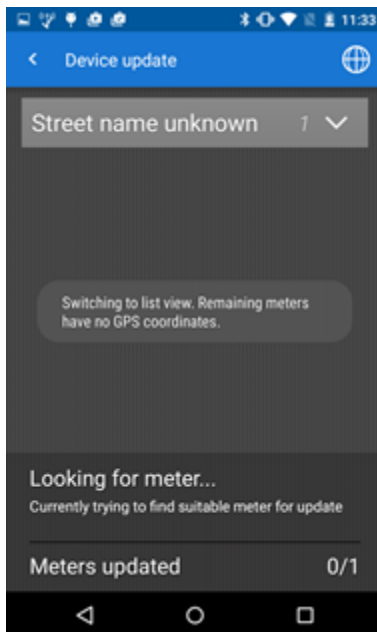
- On the **Choose groups** screen that appears, select the group(s) containing the meter(s) you want to update and tap **Next**:



8. Read the status message and tap **Start**:



The system now looks for flowIQ® 2200 and 3200 meters in the selected group(s) that matches the selected meter update file:



Wait for the meter update to complete.

- On the **Meter update status** screen that appears when the update has been completed, tap **Finish** to end the meter update:




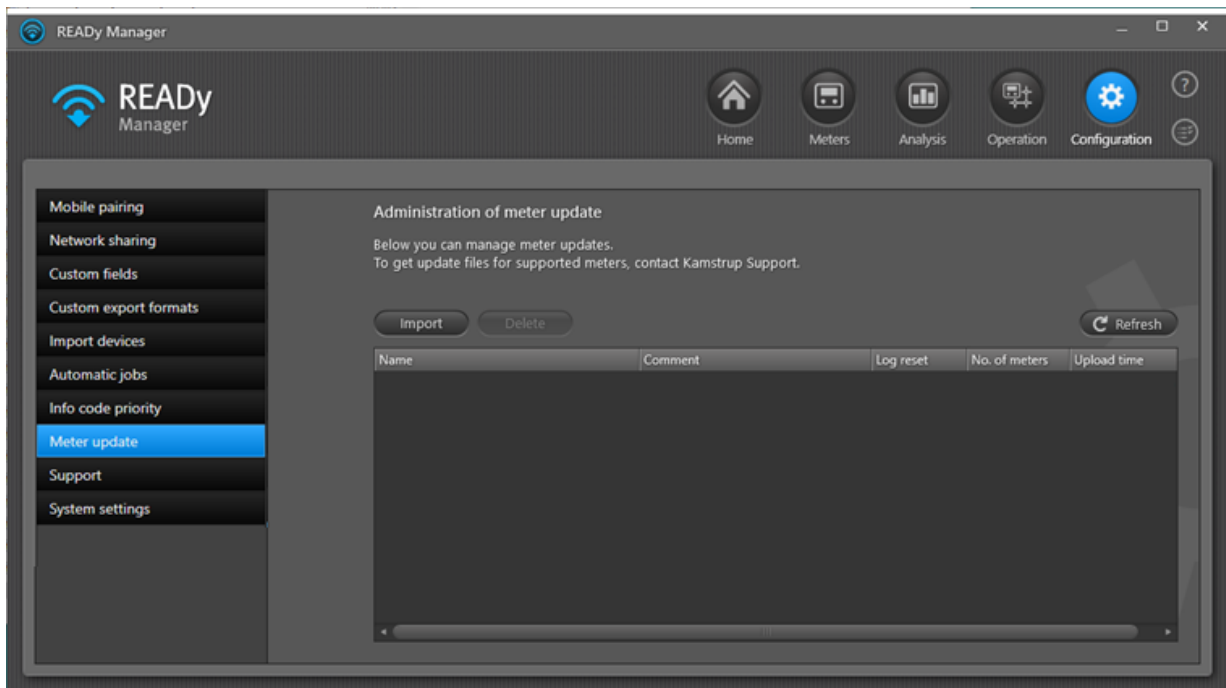
#### 12.3.4.1 Uploading meter update file for NB-IoT meters

NB-IoT meters of the type flowIQ® 2200 and 3200 can be updated remotely from the street using READY App and a meter update file that you receive from Kamstrup.

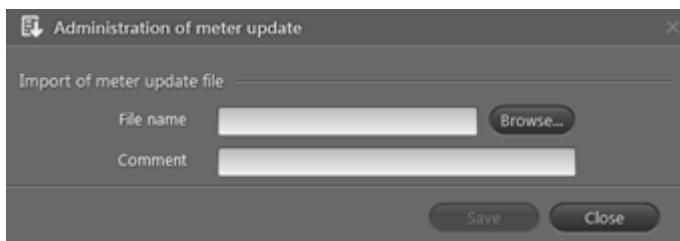
In order to use the update file, you must import it into READY Manager first.

Follow the procedure below to import one or more meter update files into READY Manager:

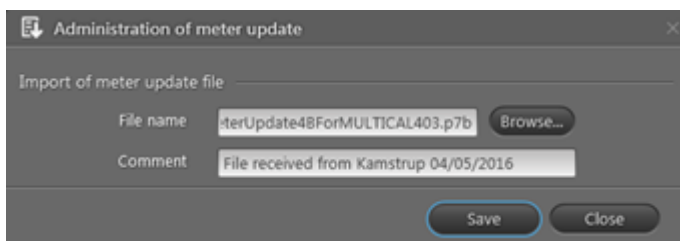
- Click Configuration  in the upper-right corner of READY Manager, and select **Meter update** to the left:



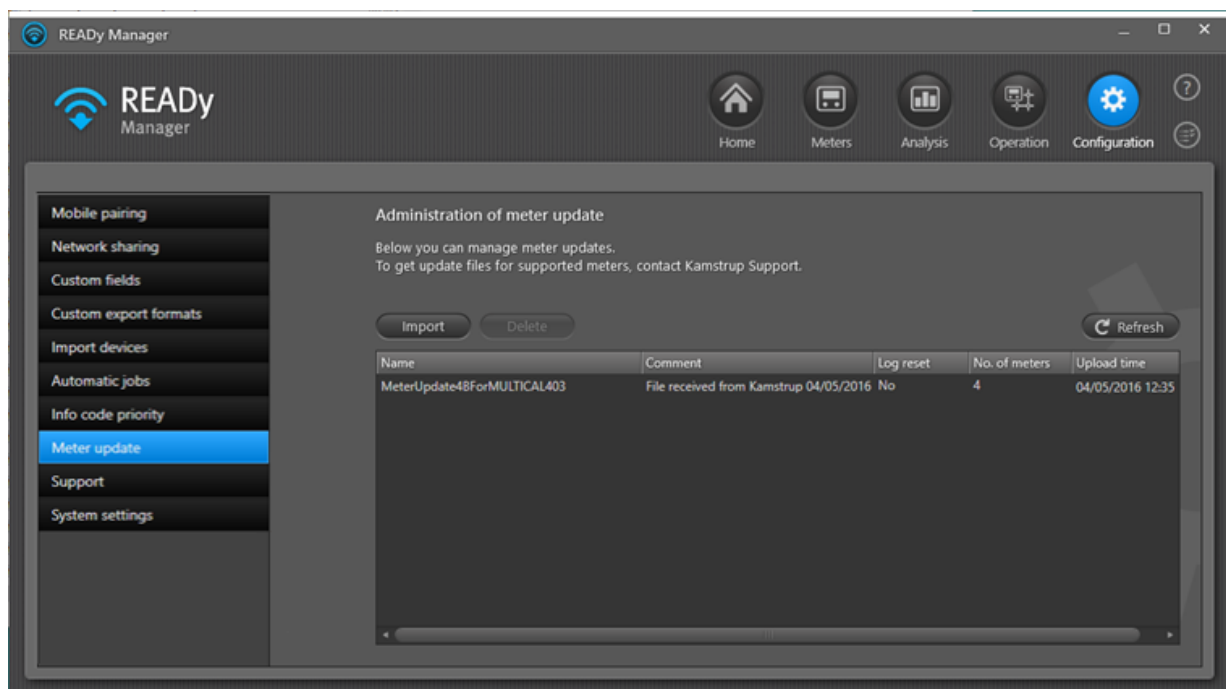
2. Click the **Import** button.
3. In the window that appears, click **Browse**:



4. Browse for and select the meter update file(s) received from Kamstrup. Click **Open**.
5. If desired, enter a comment in the **Comment** field, and click **Save**:



The file is now uploaded and appears in the list:



The following information about the file appears in the list:

Information	Description
Name	The name of the meter update file.
Comment	The comment you entered in Step 5, if any.
Log reset	Indicates whether or not the meter update will cause the meter's log to be reset.
No. of meters	The number of meters to which this update file applies.
Upload time	The time at which the update file was imported into READY Manager.

You can sort and change the sequence of the information in the list. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#) and [Sorting the list of meters/customers](#).

## 13 Meter exchange

---

**Note** The meter exchange feature is an add-on to READY and requires a special subscription.

If a meter is going to be replaced by another meter, for example if:

- the meter is broken
- a sample test is going to be conducted on a number of meters and the meters are not reinstalled at the same installation point as before,

you can register the meter exchange in READY Manager in two ways:

1. You can register the meter exchange information directly in READY Manager
2. You can register the meter exchange via READY App during the meter exchange at the customer address, and send the information to READY Manager.

### What do you want to do?

- [Replace a meter with another meter in READY Manager](#)
- [Replace a meter with another meter via READY App](#)

You can also exchange a meter in two steps, i.e. first remove the old meter and then add the new meter later on:

- [Remove a meter from a customer address](#)
- [Add a meter to a customer address](#)

When you exchange a meter, the new meter must be available in the list of meters in stock:

- [Add meters to the list of meters in stock](#)

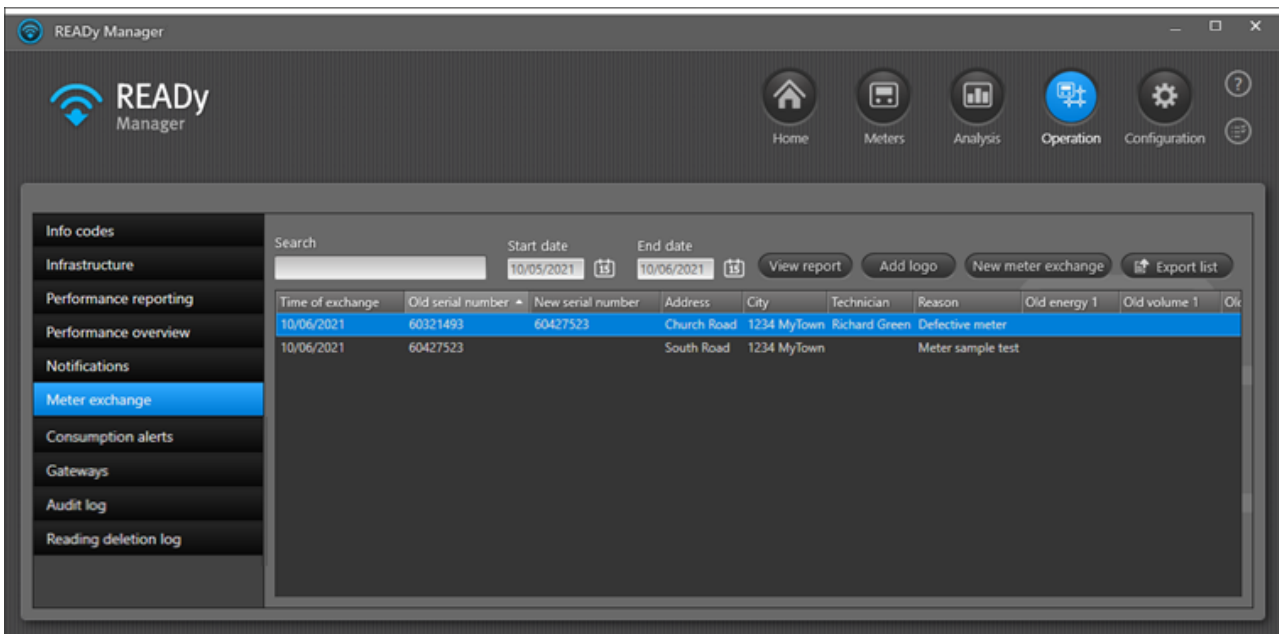
If needed, a customer receipt for the meter exchange can be created:

- [Create a customer receipt for the meter exchange](#)
- [Add your logo to a customer receipt](#)
- [Remove a logo from customer receipts](#)

It is also possible to export a list of the meter exchanges registered in READY:

- [Export list of meter exchanges](#)

You find a list of meter exchanges by selecting **Operation** view  in the upper-right corner of READY Manager, and then selecting **Meter exchange** in the menu to the left.

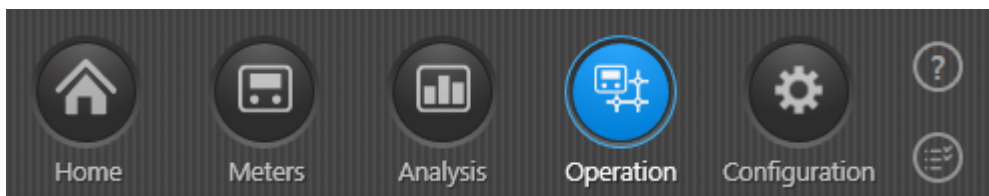


You can sort, change the sequence and show/hide the information in the list of meter exchanges. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#), [Sorting the list of meters/customers](#) and [Show and hide information in Meters view](#).

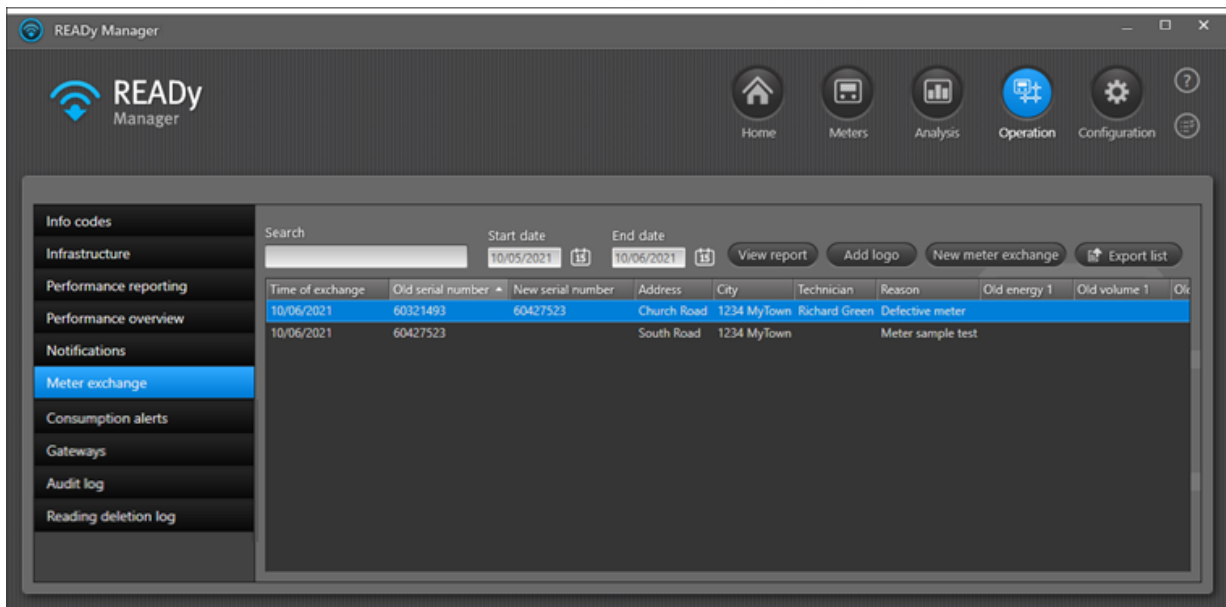
### 13.1 Replacing meters in READY Manager

Follow the procedure below to replace a meter with another meter:

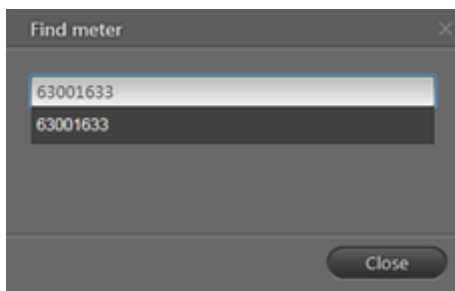
1. Click  in the upper-right corner of READY Manager to open the **Operation** view.




2. Select **Meter exchange** in the menu to the left.



3. Click **New meter exchange**.
4. In the window that appears, start entering the serial number or address of the meter that is going to be replaced by another meter:



You find the serial number of the meter in the **Meters**  view. You can copy the serial number of a meter by right-clicking the meter and choosing **Copy serial number** in the menu that appears.

5. In the list of meters/addresses that appears, select the one you want to replace, and click **Exchange meter**.
6. In the window that appears, enter the date for the replacement in the **Date** field:

**Meter exchange**

Installation

Customer Thomas Wood

Customer number 12354544

Address Station Road,

City MyCity

Time of exchange

Date 22/09/2016

Old meter

Serial number 60000100

Meter type MULTICAL 402

New meter

Enter the serial number of a meter in stock

Serial number 65199083

Meter type MULTICAL 602

Details

Reason for exchange Defective meter

Technician Richard Green

Comment

Images Insert Remove

Save Cancel

7. In **Serial number**, start entering the serial number of the new meter, and select it in the list of meters in stock that appears.
8. In **Reason for exchange**, select the reason that applies.
9. In **Technician**, enter the name of the technician that replaces the meter.
10. If desired, add a comment related to the meter exchange and up to 5 images of the replacement.
11. Click **Save**.

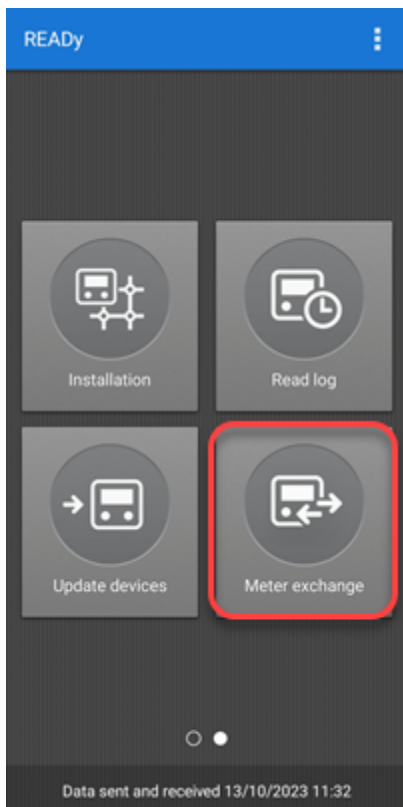
The meter exchange now appears in the list of meter exchanges.

## 13.2 Replacing meters via READY App

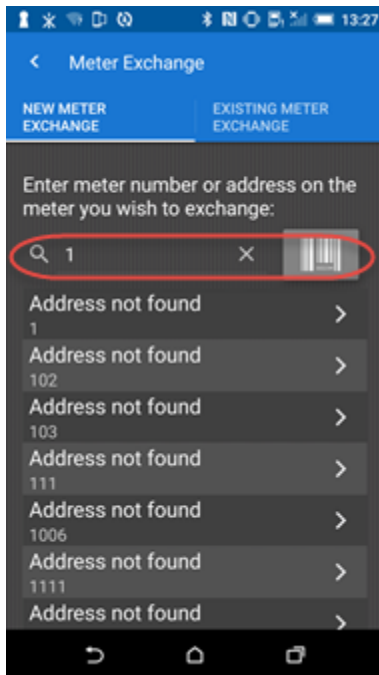
**Note** If you are located in the United States, see [Installing and removing meters in the United States](#).

Follow the procedure below to replace a meter with another meter using READY App:

1. Before going to the installation site: Make sure the new meter has been imported into READY Manager. (For details, see [Importing meters \(and collection units\)](#).)
2. In READY App, tap **Send/Receive** to transfer information about the new meter to READY App.
3. Swipe the screen to go to page two of the READY App home screen and tap **Meter exchange**:





4. Follow Step a or b to find the meter you want to replace:

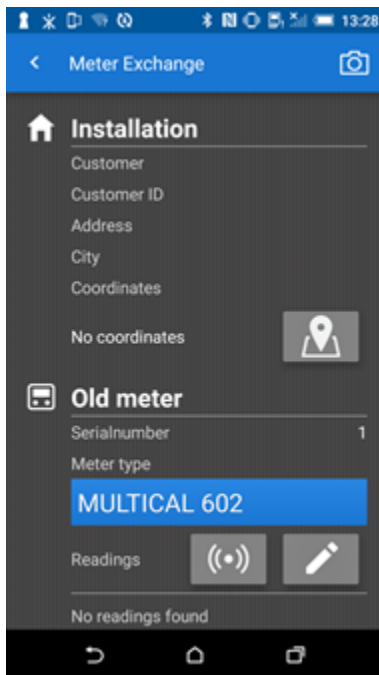


- a. If you are right next to the meter you want to replace, tap the bar code icon rightmost in the search field, and scan the bar code of the meter.

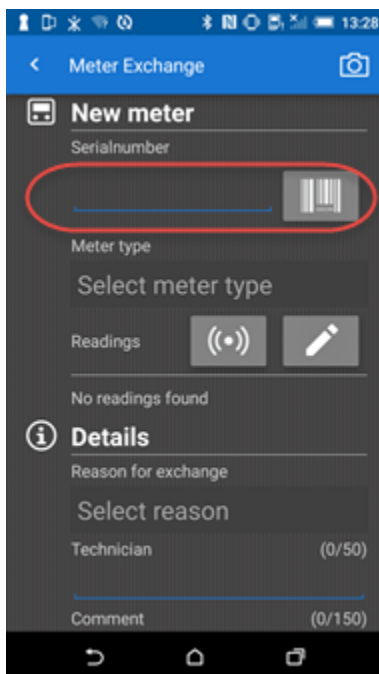
**OR**

- b. In the list of meters that appears, select the one you want to replace (use the search field to quickly locate it if desired).

5. On the **Meter exchange** screen, tap  to automatically read the current meter readings using READY Converter, or tap  to manually enter the readings of the old meter:





6. Follow Step a or b to find the new meter that is replacing the old meter:

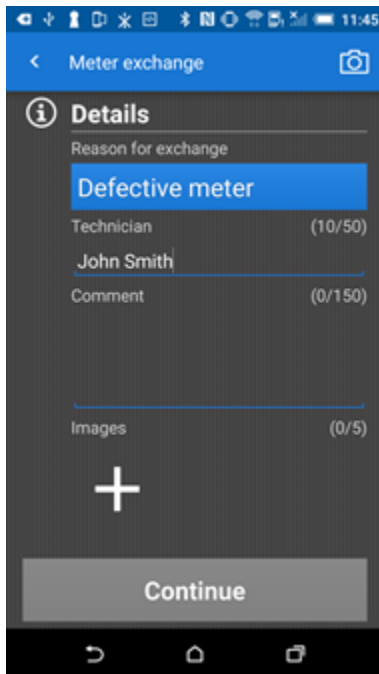


- a. If you are right next to the new meter that is to replace the old meter, tap the bar code icon rightmost in the search field, and scan the bar code of the new meter.

**OR**

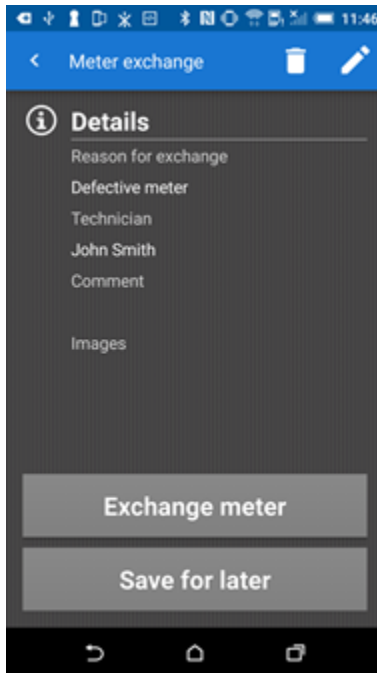
- b. In the list of meters in stock that appears when you start typing, select the new meter.

7. On the **Meter exchange** screen, tap  to automatically read the current meter readings using READy Converter, or tap  to manually enter the readings of the new meter:
8. In **Reason for exchange**, select the reason that applies:

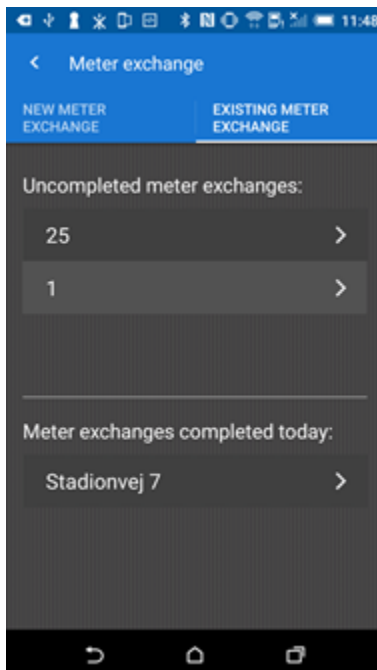


9. In **Technician**, enter the name of the technician exchanging the meter.
10. In **Comment**, enter a comment on the meter exchange if desired.
11. Tap the plus (+) sign to attach up to 5 images of the meter exchange if desired.
12. Tap **Continue**.

- Verify that the exchange data are correct, and tap **Exchange meter** to start the meter exchange and transfer the exchange data to READY Manager, or tap **Save for later** to save the exchange data and exchange the meter at a later time:



If you tap **EXISTING METER EXCHANGE** at the top of the window, you will see an overview of completed and pending exchanges:

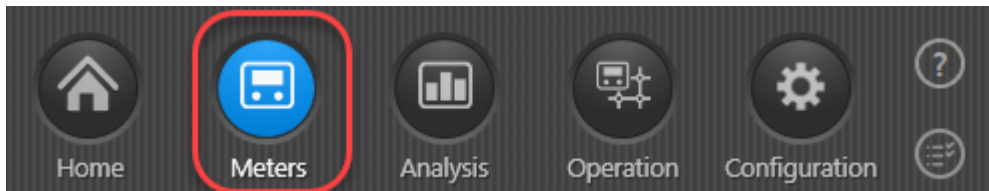


When you transfer data to READY Manager, all meter exchanges that are more than 24 hours old disappear from the **EXISTING METER EXCHANGE** overview.

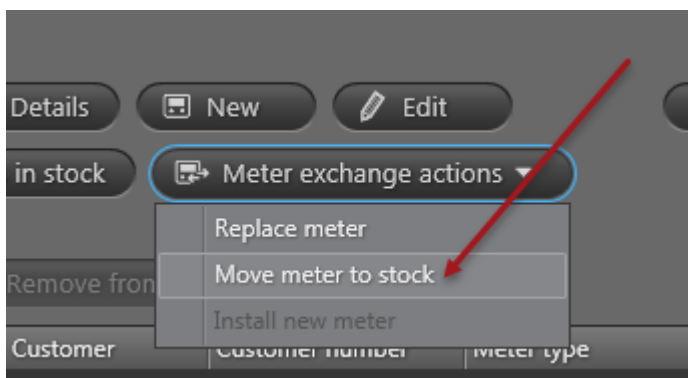
### 13.3 Removing a meter from a customer address

Use the following procedure to remove a meter from a customer address:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, click the customer address from which you want to remove the meter.
3. Click the **Meter exchange actions** button above the list, and select **Move meter to stock**:



4. In the window that appears, enter the date for the removal in the **Date** field:

**Removal of old meter**

**Installation**

Customer Robert Jones

Customer number 345675443

Address Kings Road,

City MyCity

**Time of meter removal**

Date 22/09/2016

**Old meter**

Serial number 63804656

Meter type MULTICAL 21

**Details**

Reason for exchange Meter sample test

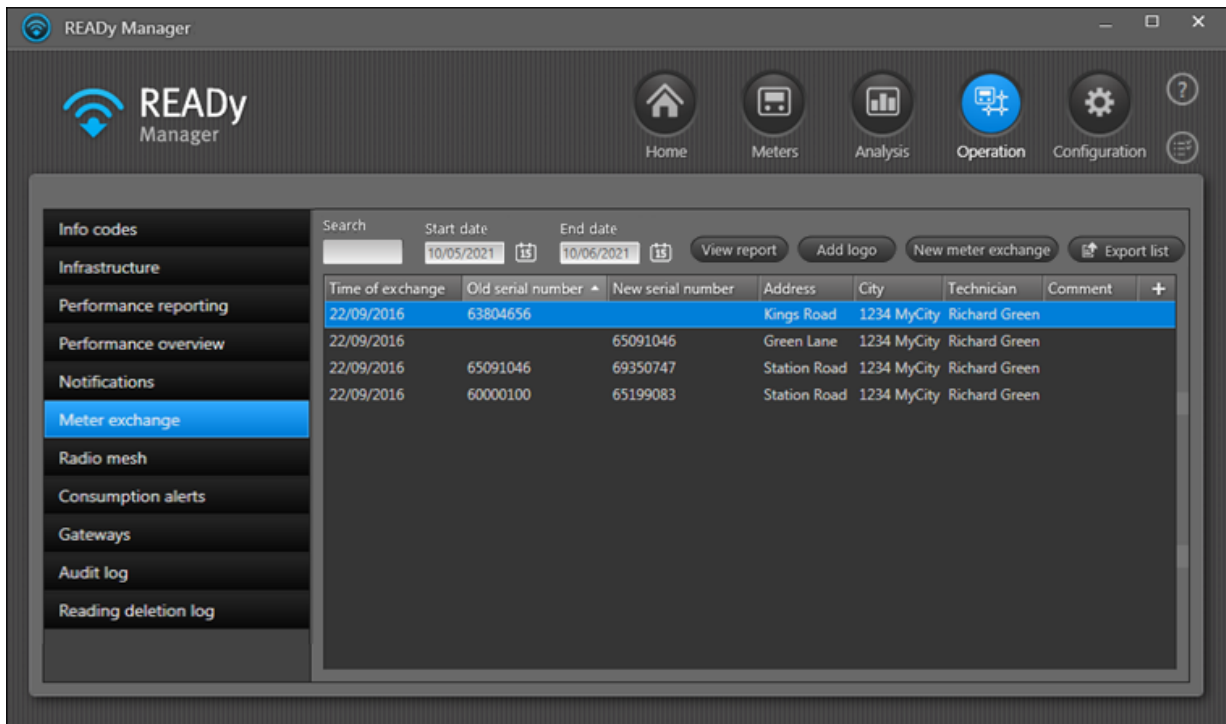
Technician Richard Green

Comment

Images

5. In **Reason for exchange**, select the reason that applies.
6. In **Technician**, enter the name of the technician that removes the meter.
7. If desired, add a comment related to the meter removal and up to 5 images of the removal.
8. Click **Save**.

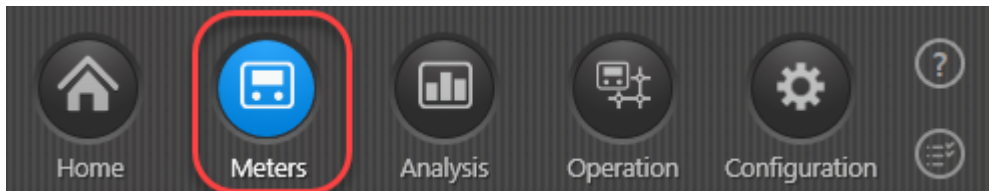
The meter removal now appears in the list of meter exchanges.



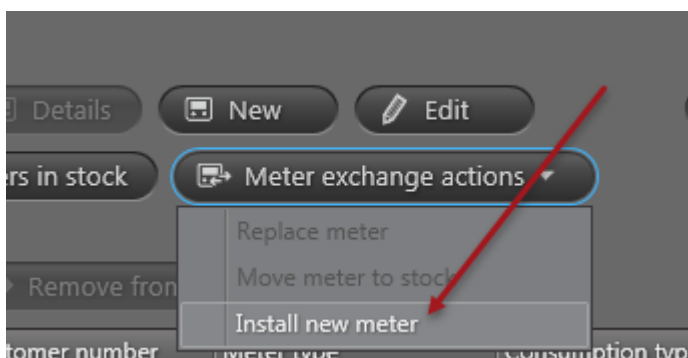
### 13.4 Adding a meter to a customer address

Use the following procedure to add a meter to a customer address:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.




2. In the list of meters, click the customer address at which you want to add a meter.
3. Click the **Meter exchange actions** button above the list, and select **Install new meter**:



- In **Serial number**, start entering the serial number of the new meter, and select it in the list of meters in stock that appears:

- If desired, enter the name of the technician installing the new meter in the **Technician** field.
- If desired, add a comment related to the meter installation and up to 5 images of the installation.
- Click **Save**.

The meter installation now appears in the list of meter exchanges that appears if you select the **Operation** view  in the upper-right corner of READY Manager, and select **Meter exchange** in the menu to the left:

The screenshot shows the READY Manager web interface. The top navigation bar includes icons for Home, Meters, Analysis, Operation, and Configuration. The left sidebar contains a menu with items like Info codes, Infrastructure, Performance reporting, Performance overview, Notifications, Meter exchange (highlighted), Radio mesh, Consumption alerts, Gateways, Audit log, and Reading deletion log. The main content area displays a table of meter exchange records with columns for Time of exchange, Old serial number, New serial number, Address, City, Technician, and Comment. The table contains three rows of data.

Time of exchange	Old serial number	New serial number	Address	City	Technician	Comment
22/09/2016	65091046	65091046	Green Lane	1234 MyCity	Richard Green	
22/09/2016	65091046	69350747	Station Road	1234 MyCity	Richard Green	
22/09/2016	60000100	65199083	Station Road	1234 MyCity	Richard Green	

### 13.5 Adding meters to the list of meters in stock

When you want to replace an existing meter or add a meter to a customer address where no meter is currently installed, you must choose a meter from the list of meters in stock.

New meters you acquire and import into READY are automatically added to the list of meters in stock. Previously used meters that you want to reuse, must be added to the stock list in READY.

To move a meter from a customer address to the stock list without deleting the customer, see [Removing a meter from a customer address](#).

### 13.6 Creating a customer receipt for the meter exchange

You can create a customer receipt for the meter exchange. An example of a meter exchange receipt is shown below:

**kamstrup**

Rose White  
Church Road  
1234 MyTown

Customer number                      222333

We have been to your address on 10/06/2021 13:23 to replace your meter.  
Reason for exchange: Defective meter

Old meter		New meter	
Meter serial number	60321493	Meter serial number	60427523
Model	MULTICAL 401	Model	MULTICAL 403

Comment

Technician  
Richard Green

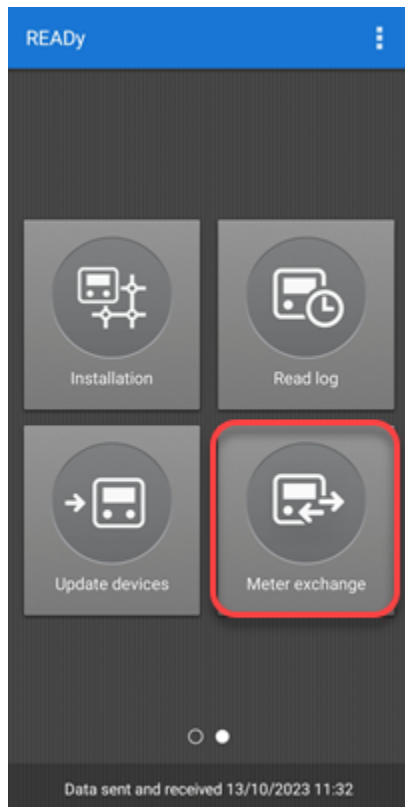
Signature \_\_\_\_\_

Follow the procedures below to create a customer receipt in READY App or in READY Manager:

## How to create a customer receipt in READYy App

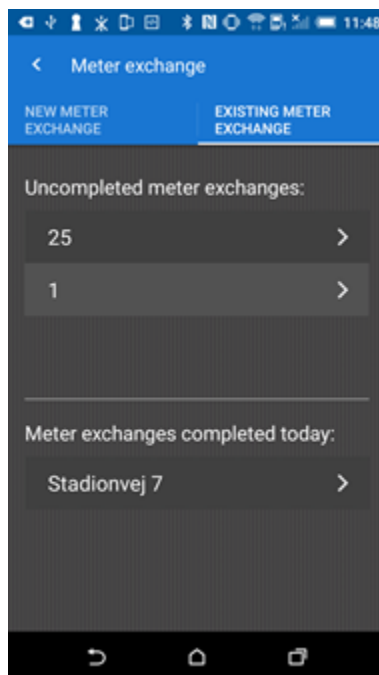
**Note** All meter exchanges that are more than 24 hours old disappear from READYy App, when you transfer data to READYy Manager. You can then create the receipt in READYy Manager instead.

1. Swipe the screen to go to page two of the READYy App home screen and tap **Meter exchange**:

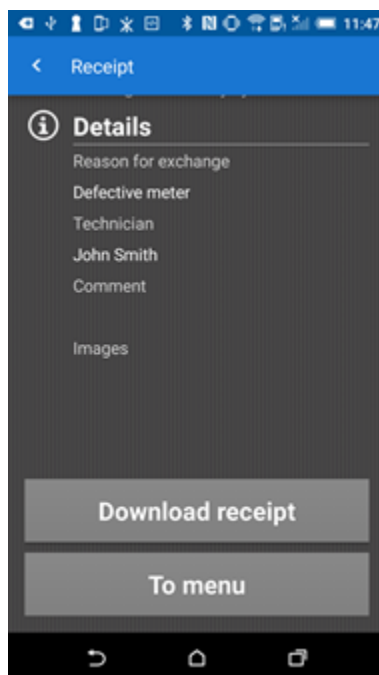


2. Select **EXISTING METER EXCHANGES** at the top of the window.

- In the list of existing meter exchanges, select the desired meter exchange in the list of completed exchanges:



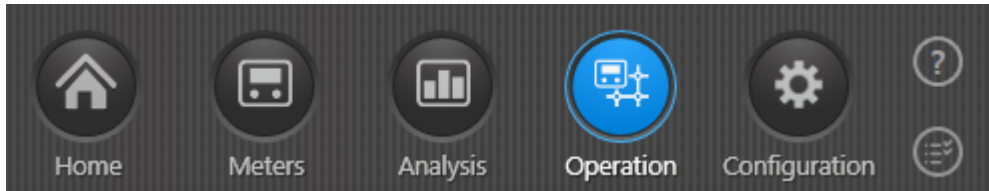
- Scroll to the button of the receipt that appears, and tap **Download receipt**.



The receipt is in PDF format. You can now deliver it to your customer, e.g. via your email.

## How to create a customer receipt in READY Manager

1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Meter exchange** in the menu to the left.
3. In the list of meter exchanges, select the one for which you want to create a receipt, and click **View report**.

- At the bottom of the meter exchange report that appears, Select **Include images** if you want to include installation images in the receipt.
- Click **Save PDF**:

**Meter exchange report**
✕


Installation: Kamstrup Road 7	Time of exchange: 08-12-2022
Old meter _____	New meter _____
Manufacturer _____	Manufacturer KAM
Serial number _____	Serial number 80441347
Meter type Unknown	Meter type MULTICAL 603
Energy 1 value _____	Energy 1 value _____
Volume 1 value _____	Volume 1 value _____
Energy 3 value _____	Energy 3 value _____
Hour counter _____	Hour counter _____

---

Details

Reason for exchange	Defective meter
Technician	Richard Green
Comment	

Images


 Include images

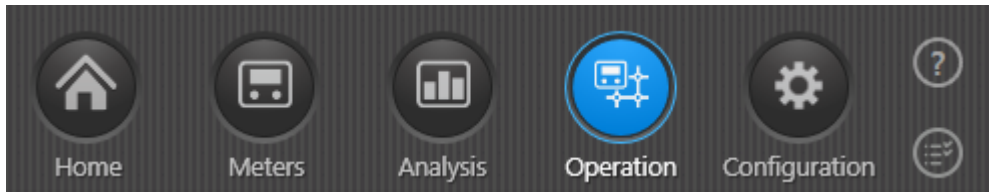
Save PDF
Save image
Edit
Close

You can now deliver the receipt to the customer, e.g. via your email.

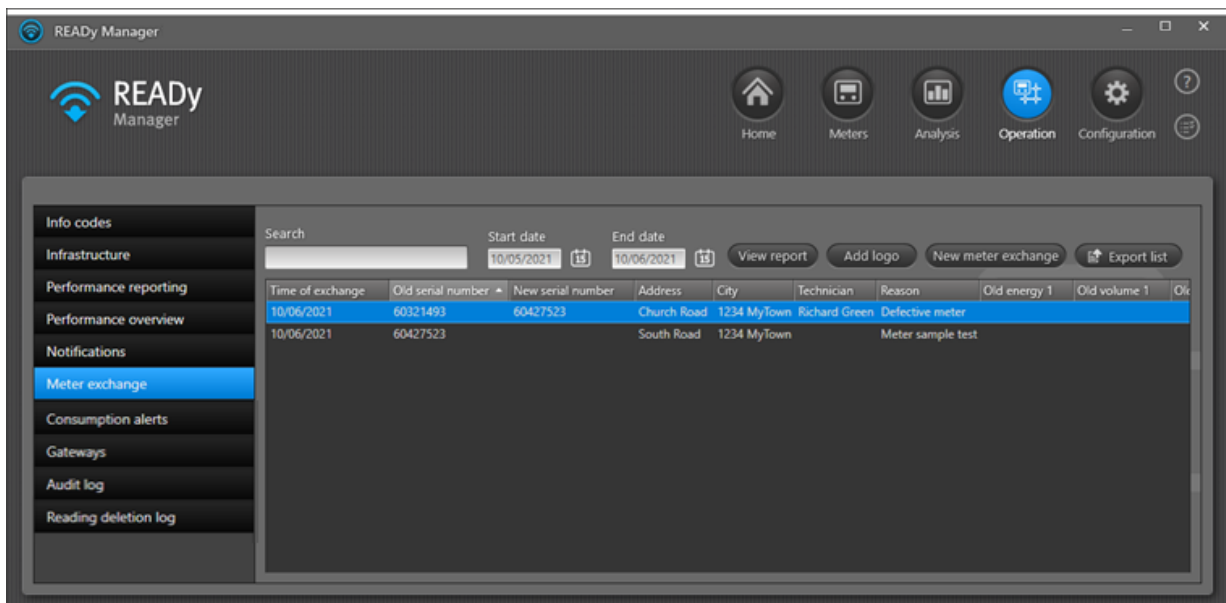
### 13.6.1 Adding your logo to a customer receipt

Follow the procedure below to add your own logo to a customer receipt for the meter exchange:

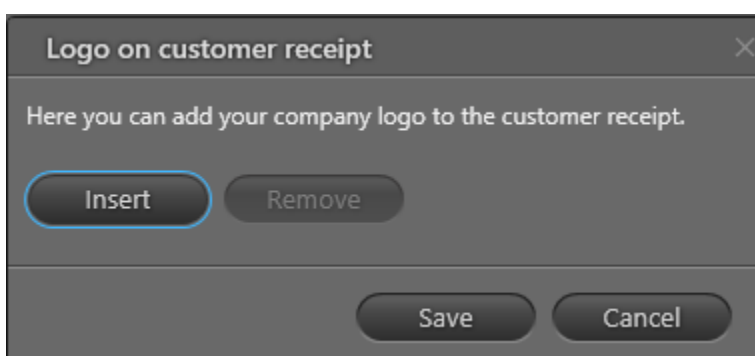
1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



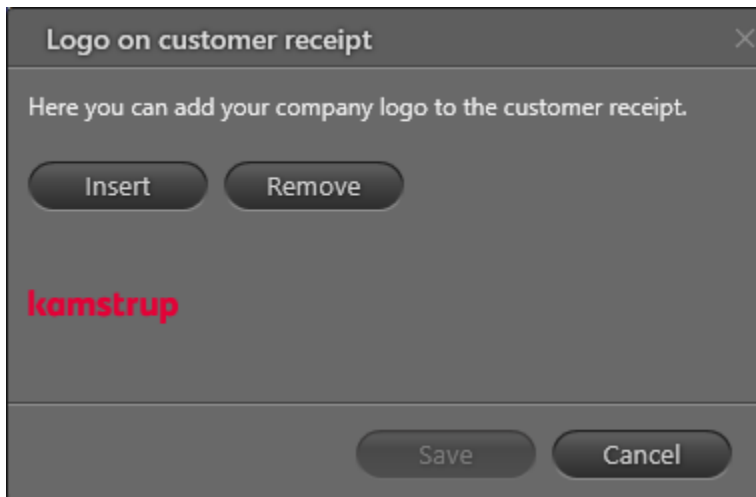
2. Select **Meter exchange** in the menu to the left. Then click the **Add logo** button.



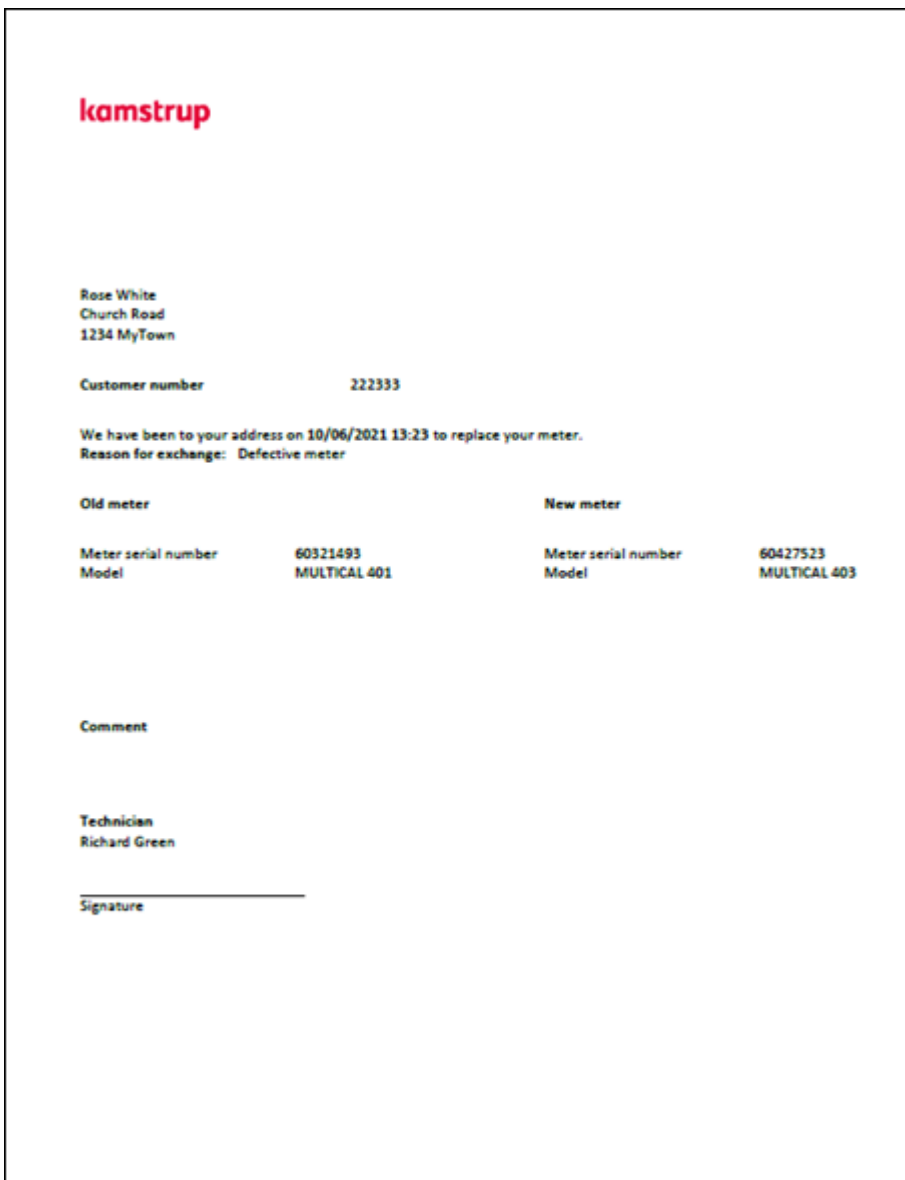
3. In the window that appears, click **Insert**:



4. Browse to and select the logo you want to add. Click **Open**.  
The logo must be in PNG format with a maximum size of 1024 kb.  
It is only possible to add one logo.
5. Click **Save**:



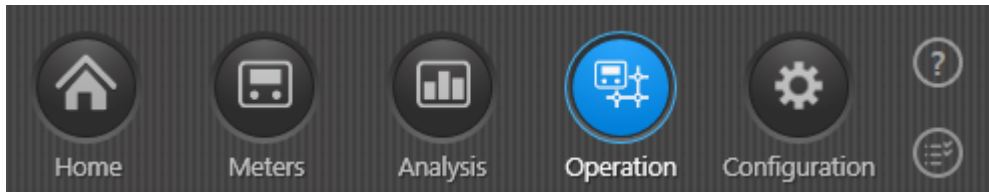
The logo is now inserted at the top of customer receipts you create:



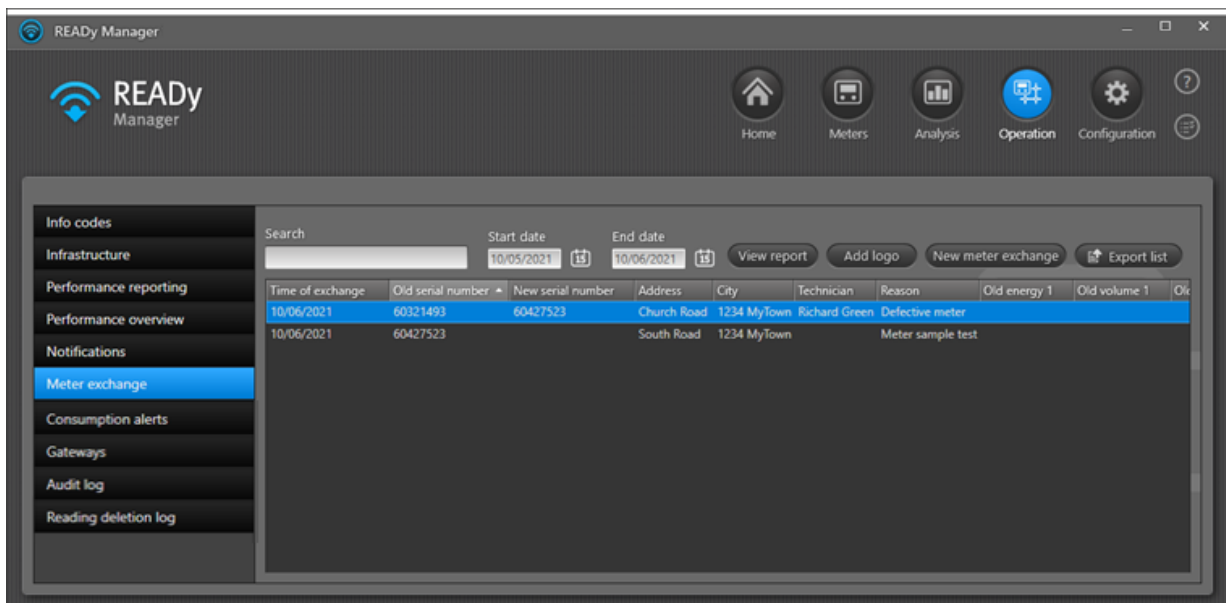
### 13.6.2 Removing a logo from customer receipts

Follow the procedure below to remove your logo from meter exchange receipts:

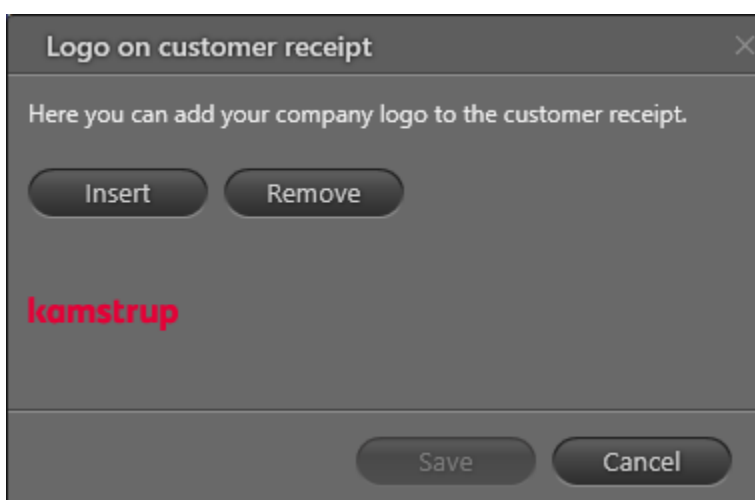
1. Click  in the upper-right corner of READY Manager to open the **Operation** view.



2. Select **Meter exchange** in the menu to the left. Then click the **Add logo** button.



3. In the window that appears, click **Remove**:

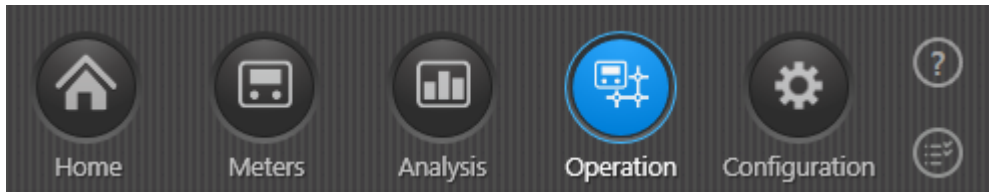


4. Click **Save**.

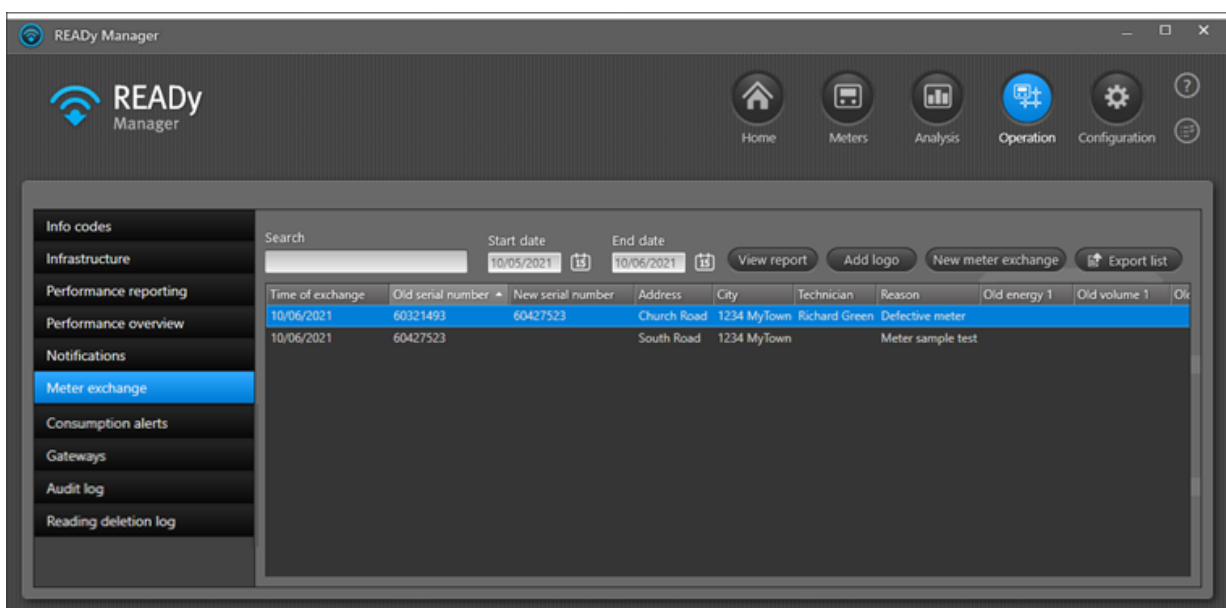
### 13.7 Exporting list of meter exchanges

Follow the procedure below to export the list of meter exchanges currently shown in the **Meter exchange** list:

1. Click  in the upper-right corner of READY Manager to open the **Operation** view.

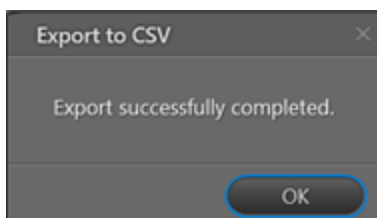


2. Select **Meter exchange** in the menu to the left.



Make sure the list contains the meter exchanges you want to export by using the search field and/or selecting a start date and an end date as desired.

3. Click the **Export list** button.
4. In the window that opens, select a location and a name for your export file. Click **Save**.
5. Click **OK** in the window that appears:



The exported information is in CSV format and can be opened in, for example, Microsoft Excel.

## 14 Pressure sensors and offset pressure

---


For meters of the type Kamstrup PressureSensor, it is possible to indicate a pressure offset. The pressure offset relates to Kamstrup PressureSensor in water supply applications.


Most barometric pressure sensors measure the absolute pressure of a location and do not account for the elevation above sea level. Since barometric pressure is conventionally reported (in weather reports, etc.) as an adjusted value referenced to sea level elevation, this may cause readings to appear artificially low, particularly at high elevations. To reference sensor readings to sea level elevation, a barometric pressure offset may be set.

To set a barometric pressure offset, the value of the offset must first be determined. This can be estimated by using an online calculator or table found on the Internet.

Once the offset value has been identified, the value can be entered manually in READY Manager. Alternatively, the value can be imported based on GPS lookup via My Kamstrup.

### How to find the offset pressure function in READY Manager

1. Click **Meters**  in the upper-right corner of READY Manager.
2. Right-click a meter of the type Kamstrup PressureSensor and choose **Edit**.
3. Specify the pressure offset either by clicking **Get offset** to automatically retrieve the pressure offset via My Kamstrup based on the map coordinates, or by entering the pressure offset manually in the **Correct pressure based on the following offset** field.

 Edit meter ✕

Installation Current Alternatives

Address

ZIP code

City

GPS longitude

GPS latitude

Comment

Customer

Name

Customer number

Phone no.

Meter

Meter type

Consumption type

Manufacturer

Serial number

Configuration

Correct pressure based on the following offset  bar

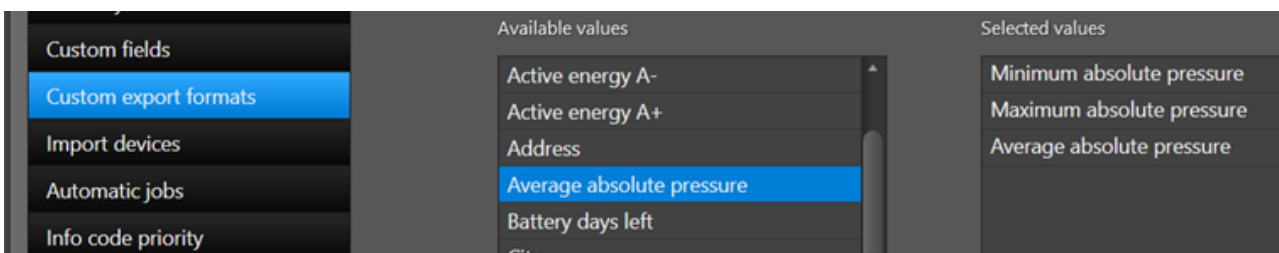
Get offset from GPS coordinates

## Absolute and relative pressure values in READY Manager

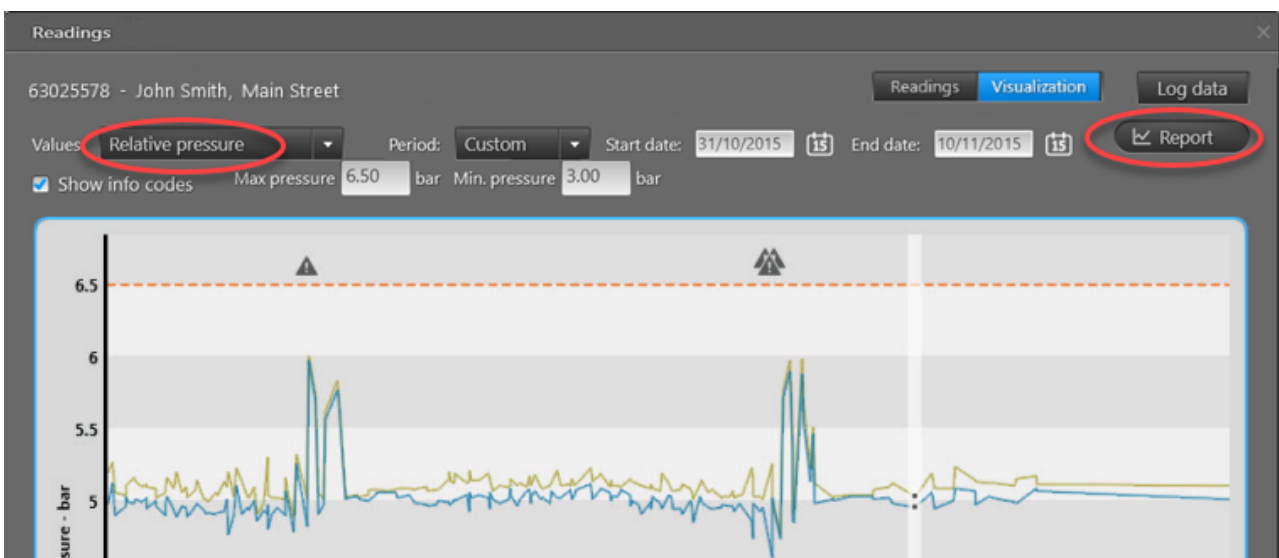
You can see both relative and absolute pressure values for a pressure sensor in the [Readings](#) window:

Data for current reading	
Minimum relative pressure	13.157 bar
Maximum relative pressure	13.187 bar
Average relative pressure	13.167 bar
Minimum absolute pressure	14.17 bar
Maximum absolute pressure	14.20 bar
Average absolute pressure	14.18 bar
Hour counter	7058 h

Absolute pressure values can be added to your [export format](#) and exported from READY Manager:



Relative pressure values can be shown on a [graph](#) in the **Readings** window and you can create a report of the values in the graph:



## 15 Dis- and reconnecting water supply

---

It is possible to remotely disconnect and reconnect water supply by installing valves in your network. Depending on local legislation, you may for instance want to disconnect the water supply to consumers that refuse to pay their bills.

### What do you want to do?

- [Install valves in your network](#)
- [Check the status of a valve in your network](#)
- [Disconnect water supply](#)
- [Reconnect water supply](#)
- [Update the valve with new features](#)
- [Replace a valve](#)

### 15.1 Installing valves in your network

1. Import encryption keys for your new valves in READY Manager.

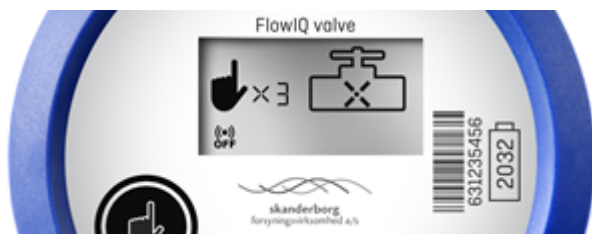
For details, see [Importing meter \(and collector\) information](#).

2. Install the valves at the installation sites.

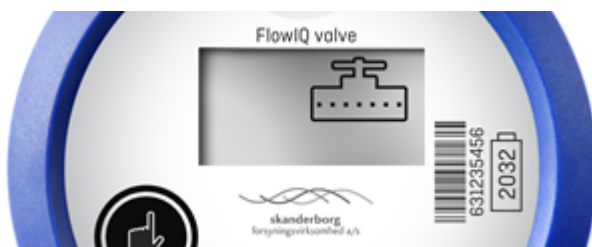
For details about installing the valves, see the documentation that came with your valves.

3. Tap the valve display three times to activate the radio and the flow.

Before you tap the display of the valve, it will look like this:



The number "3" counts down for each time you tap the display, and after the third tap the display will look like this (meaning that the radio and flow are now enabled):



## 15.2 Checking the status of a valve in your network

It is possible to see the status of a valve in both READY Manager and READY App.

In READY Manager, a valve can be in one of the following states:

Valve state	Description
Open	The valve is open.
Closed	The valve is closed.
Waiting for consumer	The valve is closed but will open or go to a throttle state when the consumer activates the flow (by tapping the valve display).
Throttle	The valve is not entirely closed but allows a minimum flow to pass.
At set point	The valve is not completely open but at a preconfigured state between completely open and completely closed.

In READY App, a valve can be in one of the following states (additional intermediate states are shown when moving from one state to another):

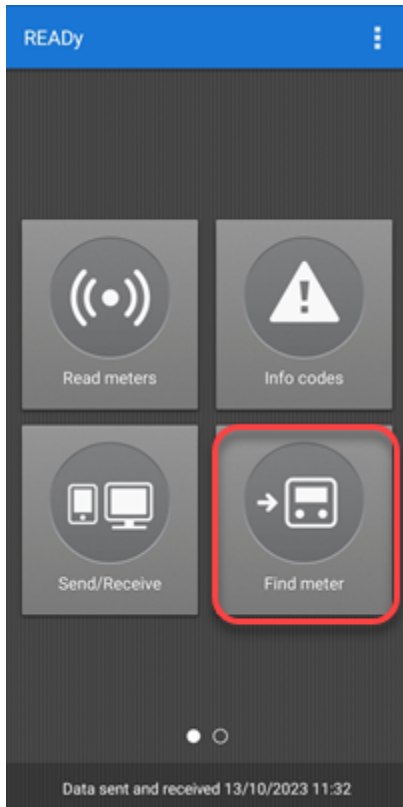
Valve state	Description
Open	The valve is open.
Closed	The valve is closed.
Opening	The valve is going from a closed state to an open state.
Closing	The valve is going from an open state to a closed state.
Closed waiting to open	The valve is closed but will open when the consumer activates the flow (by tapping the valve display).
Closed waiting to throttle	The valve is closed but will go to a throttle state when the consumer activates the flow (by tapping the valve display).
Throttle open	The valve is in throttling state. The flow is restricted to a minimum flow.
Throttle opening	The valve is moving from a closed state to a throttling state.
Throttle close	The valve is completely closed.
Throttle closing	The valve is moving from a throttling state to a closed state.
Going to set point	Going from a closed state to a preconfigured state between completely open and completely closed.
At set point	The valve is not completely open but at a preconfigured state between completely open and completely closed.
Descaling	The valve is descaling. This is an automatic cleaning process performed at regular intervals.

### What do you want to do?

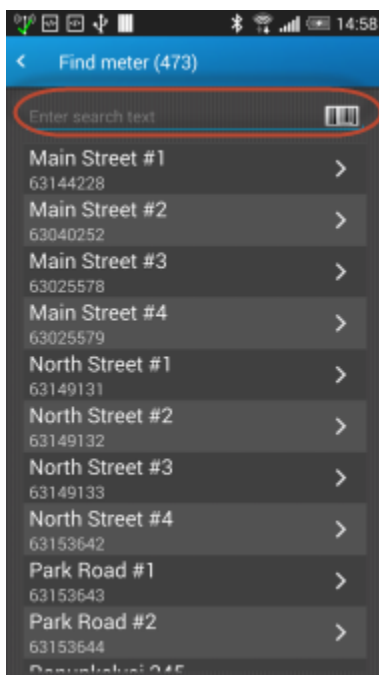
- [See the status of a valve in READY App](#)
- [See the status of a valve in READY Manager](#)
- [Get an up-to-date status of a valve in READY Manager](#)


### How to see the status of a valve in READY App

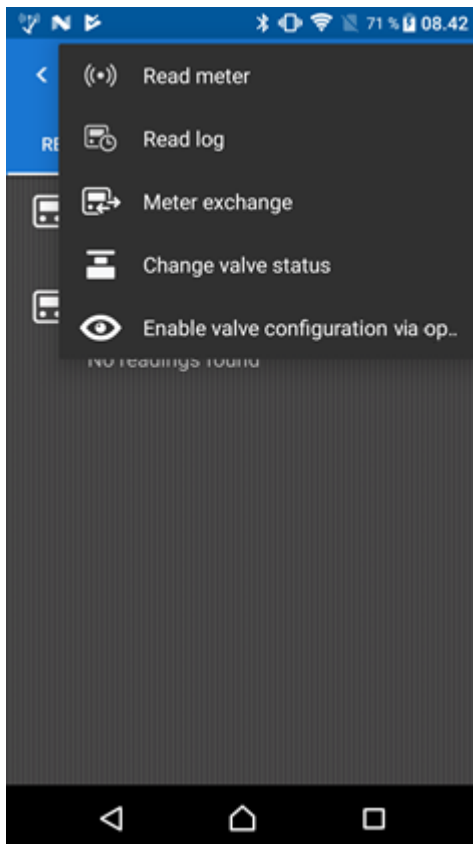
1. Make sure that READY Converter is turned on.
2. On the smartphone/tablet, tap **Find meter** in READY App.



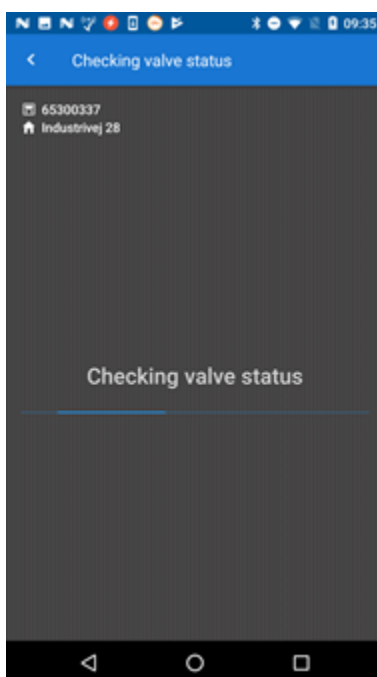
3. Enter the serial number or address of the valve for which you want to see the status:



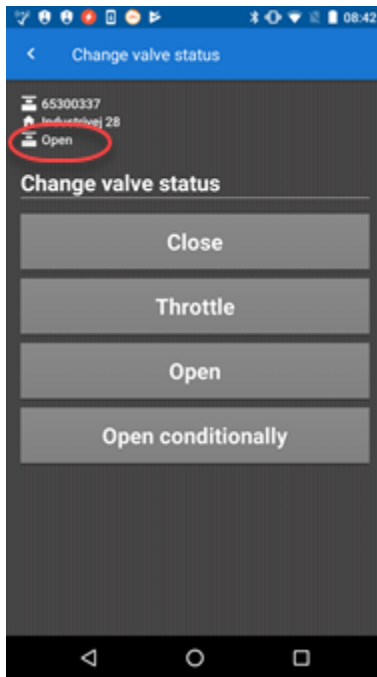
- On the **Device details** screen, tap the details menu  in the upper-right corner. Tap **Change valve status**:




READY App now checks the status of the valve:



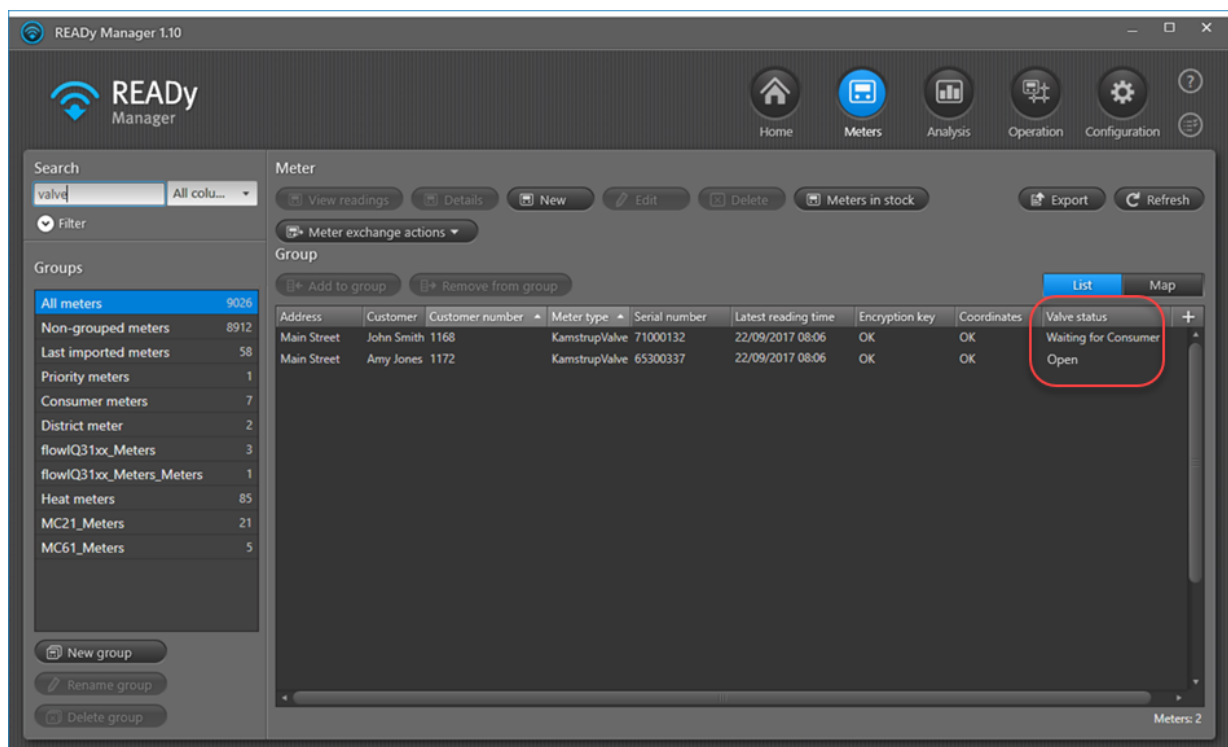
The current status appears at the top of the screen:



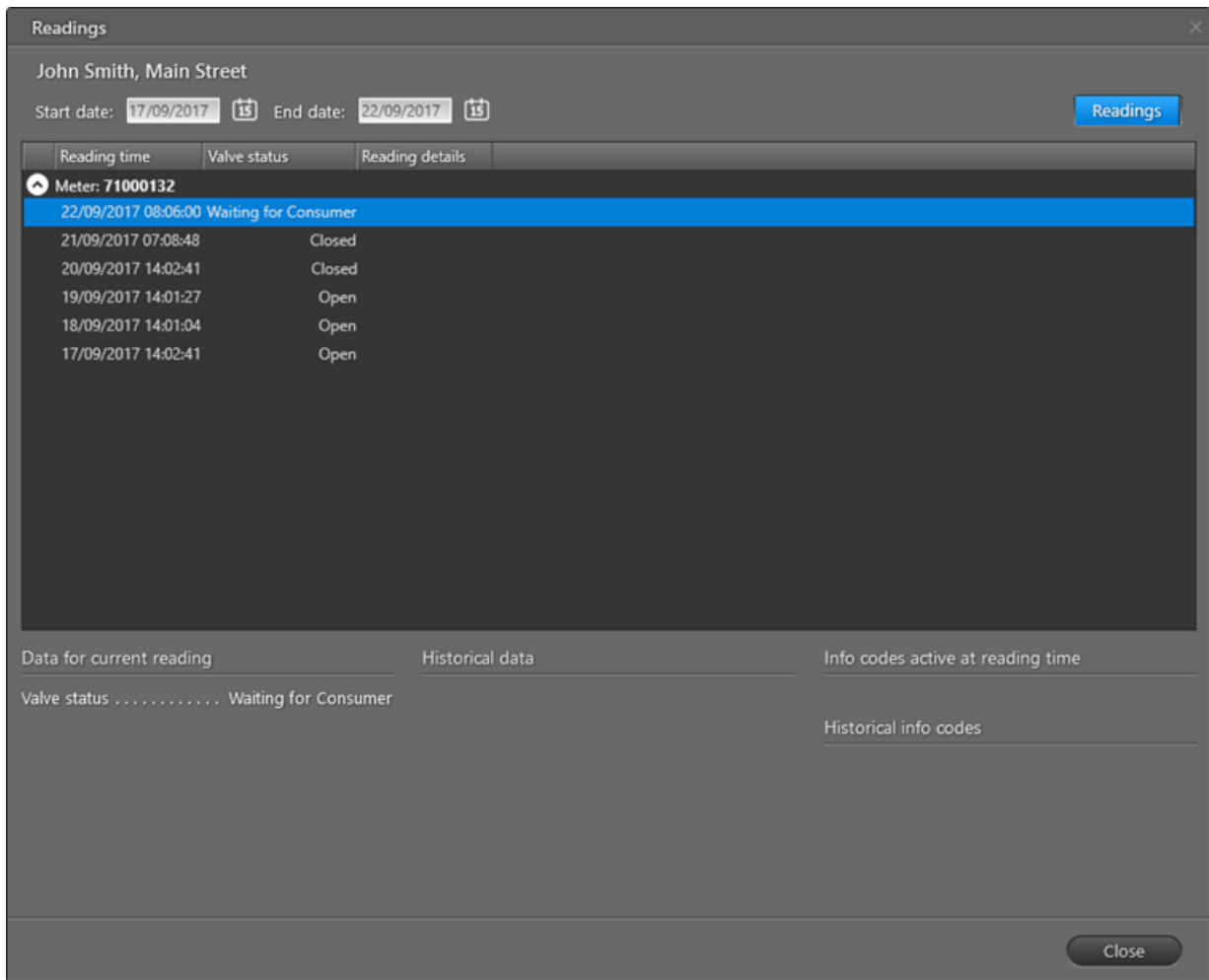
### How to see the status of a valve in READY Manager

1. Click **Meters**  in the upper-right corner of READY Manager.
2. In the **Search** field, enter the address or serial number of the valve whose status you want to see.

The status of the latest reading is shown in the **Valve status** column:



3. Select the valve in the list and choose **View readings** to see the valve status of previous readings:



4. Click **Close** to return to the **Meters** view.

### How to get an up-to-date status of a valve in READY Manager

If you have changed the status of a valve at the installation site using READY Converter and READY App but you have left the installation site of the valve before the change of state has been completed, READY App has not yet registered the new state and you have not been able to transfer the new state to READY Manager.

If you have a fixed network reading solution, simply wait for the next automatic reading of the valve, and the status will be updated automatically in READY Manager.

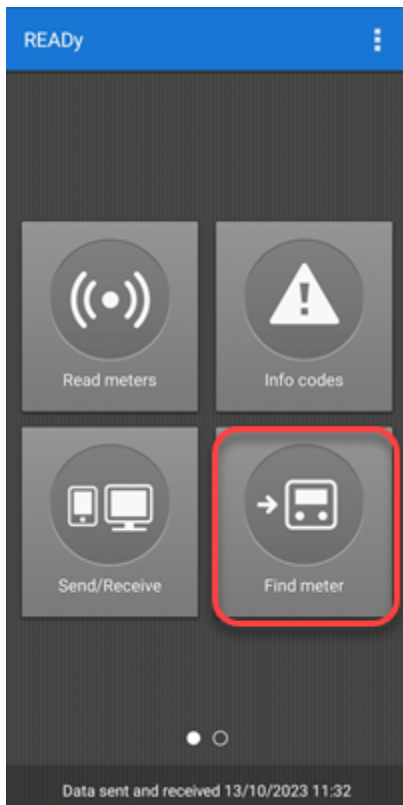
If you have a drive-by reading solution, go to the installation site of the valve, check the status of the valve and transfer the information to READY Manager. For details, see [How to see the status of a valve in READY App](#) and [Transferring reading data from mobile app to PC](#).

### 15.3 Disconnecting water supply

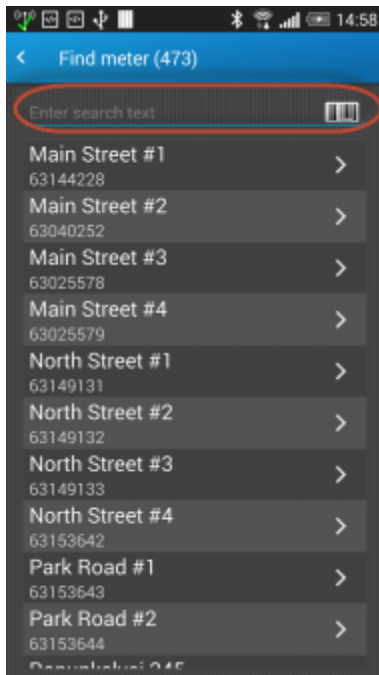
If valves are installed in your network, you can disconnect the water supply to a consumer, for example due to lack of payment (if allowed by local legislation).


Use the following procedure to disconnect the water supply to a consumer:

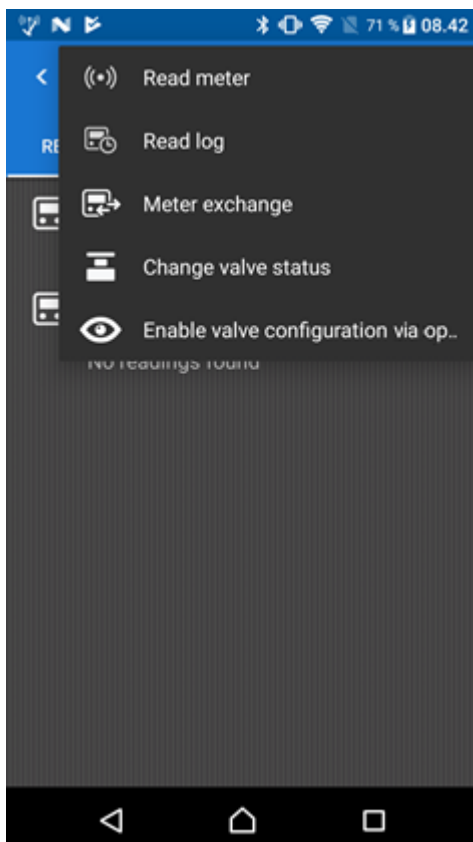
1. Make sure that READy Converter is turned on.
2. On the smartphone/tablet, tap **Find meter** in READy App.



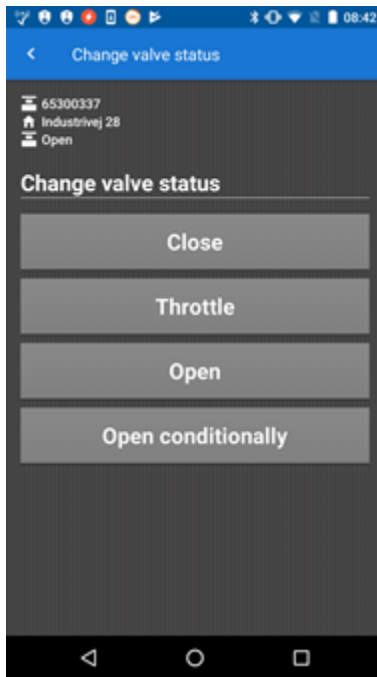
3. Enter the serial number of the valve that controls the water supply to the consumer:



4. On the **Device details** screen, tap the details menu  in the upper-right corner. Tap **Change valve status**:



5. Tap **Close** to disconnect the water completely, or tap **Throttle** to reduce the flow to a minimum:



'Throttle' is typically used if regulations do not allow you to cut off the supply 100% but require you to leave a minimum flow.

6. Tap **OK** to confirm you want to close the valve.

7. Wait while the status is changing, and press **Done** when the status has changed:



If you do not wait until the status has changed, you will not be able to see the new valve status in READY Manager.

8. Go to the home screen of READY App and press **Send/Receive** to send the new valve status to READY Manager.

Follow Step 9 if required.

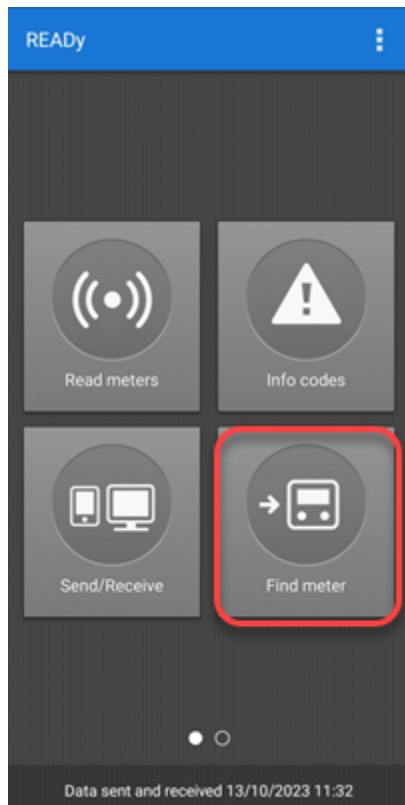
9. Before you leave the address of the consumer, leave a note informing the consumer that the supply has been disconnected.

## 15.4 Reconnecting water supply

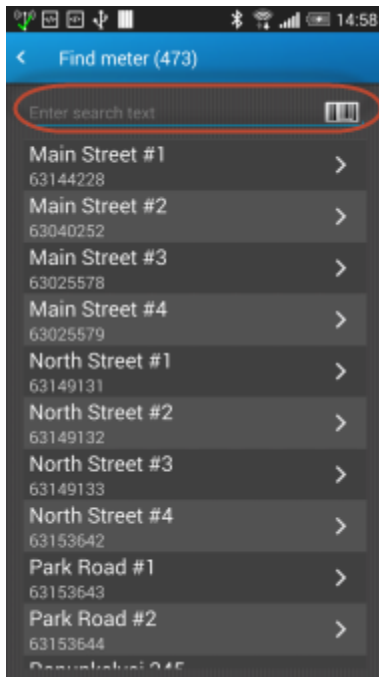
If valves are installed in your network, you can reconnect the water supply to a consumer for example after reception of payment.


Use the following procedure to reconnect the water supply to a consumer:

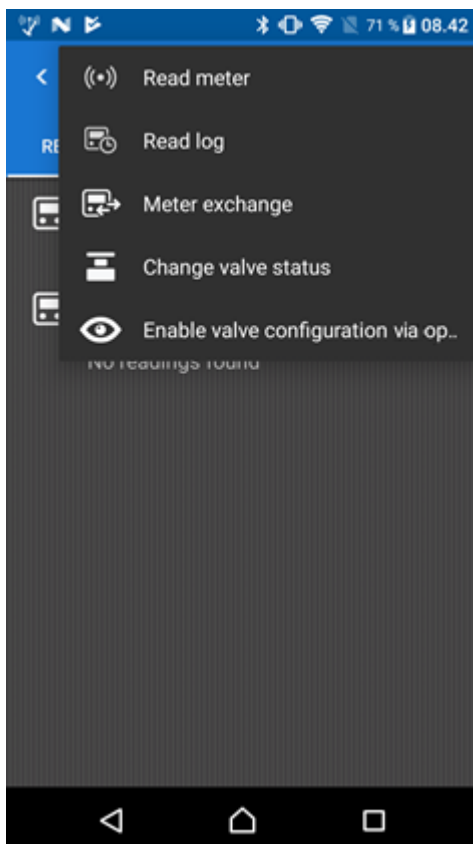
1. Make sure that READy Converter is turned on.
2. On the smartphone/tablet, tap **Find meter** in READy App.



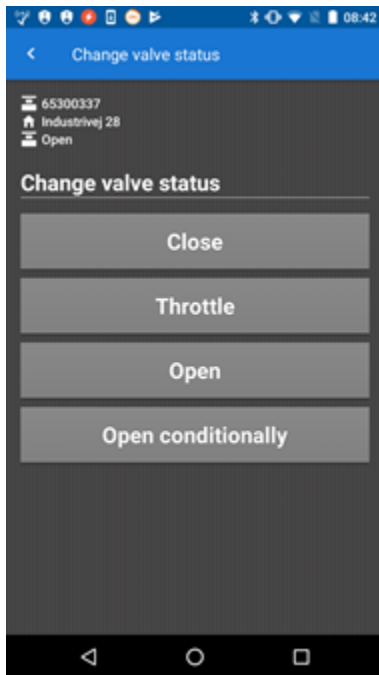
3. Enter the serial number of the valve that controls the water supply to the consumer:



4. On the **Device details** screen, tap the details menu  in the upper-right corner. Tap **Change valve status**:



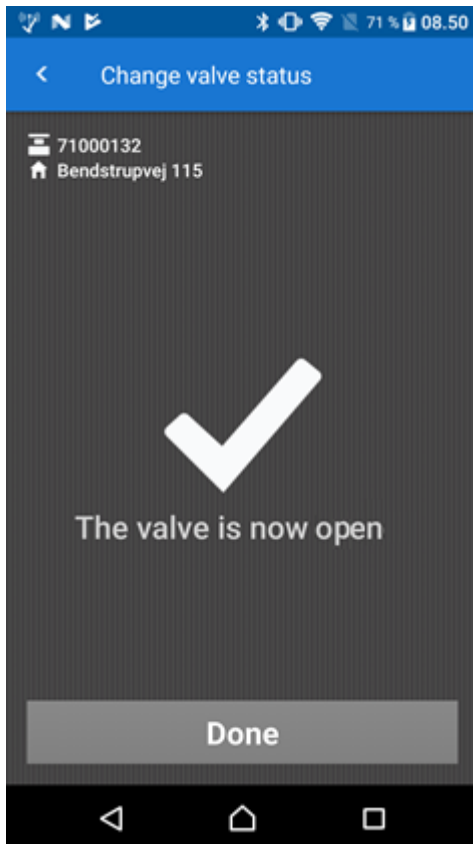
5. Tap **Open** to reconnect the water right away, or tap **Open conditionally** to enable the consumer to reconnect the water when he or she is ready:



You may for instance want to open the valve conditionally if you are not sure that the consumer has turned off all taps in the house after discovering that no water was available. Or if the consumers are travelling and might not want to turn on the water before their return.

6. Tap **OK** to confirm you want to open the valve.

7. Wait while the status is changing, and press **Done** when the status has changed:



If you do not wait until the status has changed, you will not be able to see the new valve status in READY Manager.

8. Go to the home screen of READY App and press **Send/Receive** to send the new valve status to READY Manager.

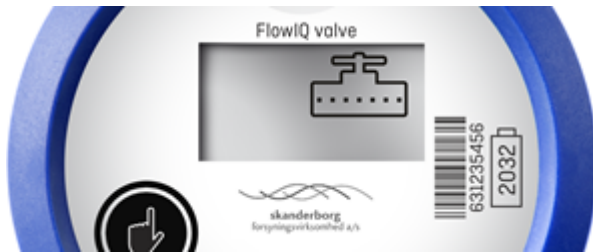
Follow Step 10 if you selected **Open conditionally**.

9. Before you leave the address of the consumer, make sure to leave a note informing the consumer to tap the valve display three times to activate the flow.

Before the consumer taps the display of the valve, it will look like this:



The number "3" counts down for each time the consumer taps the display, and after the third tap the display will look like this (meaning that the flow is now enabled):



### 15.5 Updating the valve with new features

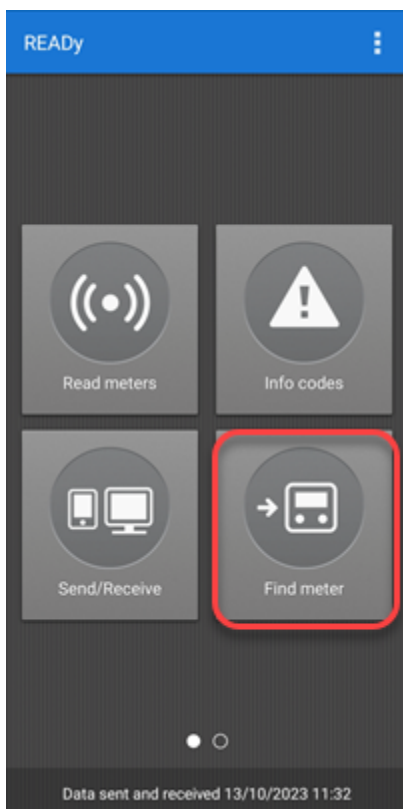
In order to update a valve, new firmware must be uploaded to the valve using an optical head



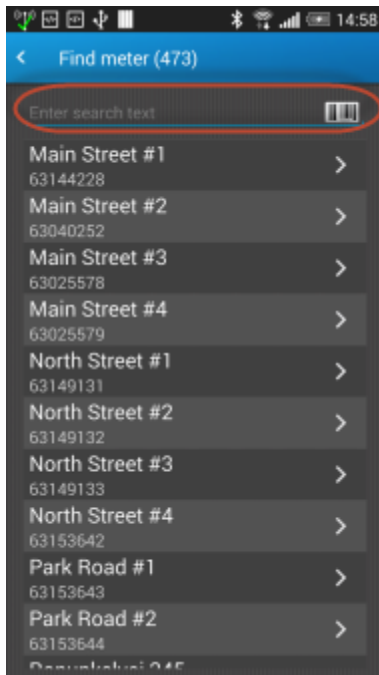
with the valve.


#### How to update a valve

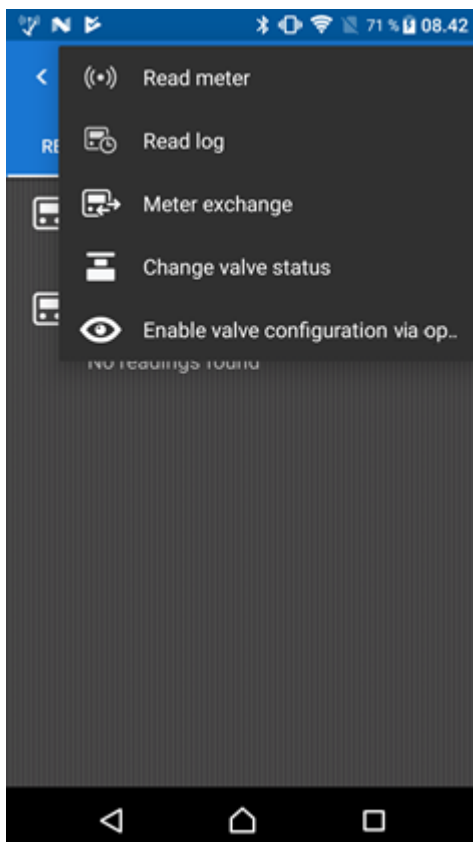
1. Standing next to valve, make sure that READY Converter is turned on.
2. On the smartphone/tablet, tap **Find meter** in READY App.




3. Enter the address or serial number of the valve you want to update:



4. On the **Device details** screen, tap the details menu  in the upper-right corner. Tap **Enable valve configuration via optical head**:



5. Turn on the optical head.

6. On your smartphone/tablet, tap  in the upper-right corner of READY App.
7. Tap **Pair with reader device**.
8. In the list of optical heads that appears, tap the one you want to pair with (see the number on the optical head to identify the right one).

READY App and the optical head are paired when the light on the optical head turns blue, and when the optical head you selected in the list in READY App turns blue and has a check mark next to it.

9. Place the optical head on the valve.



10. Use METERTOOL to update the valve

For details on how to use METERTOOL, see separate documentation for this product.

## 15.6 Replacing valves

If you want to replace a valve, for example if it is jammed, you can do so in the same way as you exchange meters. For details, see [Meter exchange](#).

**Note** Remember to tap the valve display three times after installing the new valve to activate the radio and flow. For details, see [Installing valves in your network](#) .

## 16 Dis- and reconnecting heat supply

---

For MULTICAL® 403, 603 and 803 meters read in a wired M-Bus network, it is possible to remotely disconnect and reconnect the heat supply from READY Manager. You may for instance want to disconnect the heat supply due to non-payment, energy saving, maintenance or detection of a leakage.

The heat supply is cut off by remotely operating a normally open or normally closed valve that is connected to the heat meter.

Initially you need to set up whether the valves installed in your network for disconnecting and reconnecting the flow are of the type “Normally open” or “Normally closed”. For details, see [Initial setup of valve type](#).

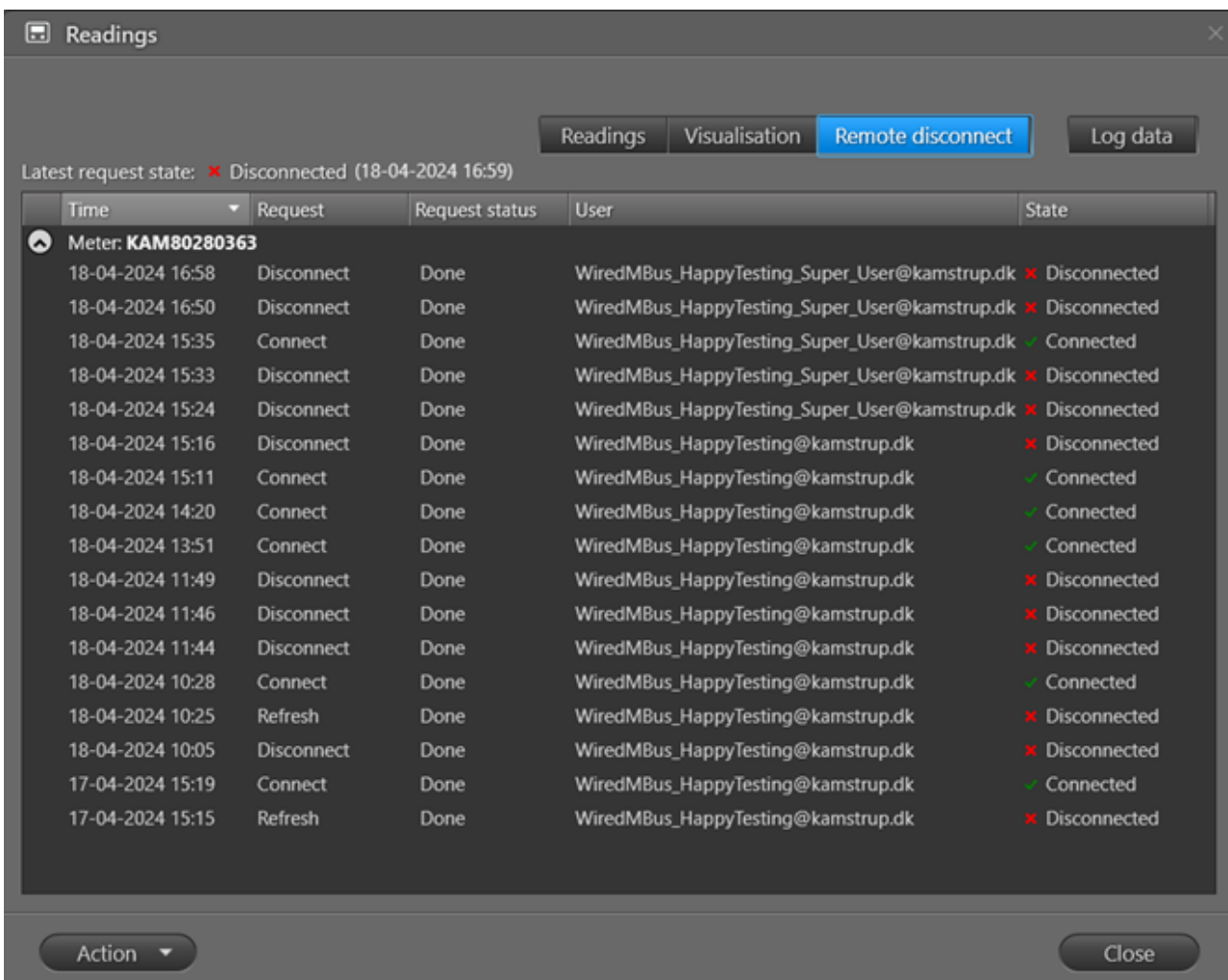
For security reasons, a maximum limit for disconnection/reconnection requests per time period is set up in the system. If needed, you can change the default setting or temporarily override it. For details, see [Changing maximum limit for \(dis\)connection requests](#).

### What do you want to do?

- [Disconnect the heat supply](#)
- [Reconnect the heat supply](#)
- [Cancel a disconnection or reconnection request](#)
- [Check if the heat supply is connected or disconnected](#)

### Overview of disconnection/reconnection status and history for a meter

You open the remote disconnect overview by right-clicking the meter in the **Meters** view and choosing **View readings**. In the **Readings** window that appears, select the **Remote disconnect** tab:




The overview shows a list of the disconnection/reconnection requests that have been made until now.

The state of your latest request is shown above the list. It is also shown in the **Remote disconnect** column in the **Meters** view. To get an up-to-date state, see [Checking if heat supply is connected or disconnected](#).

The following information is shown for each request in the list:

Meter property	What it means
Time	The time at which you sent the request.
Request	The type of heat supply request. One of the following: <ul style="list-style-type: none"> <li>• <b>Disconnect:</b> A request for disconnection of the heat supply.</li> <li>• <b>Connect:</b> A request for connection of the heat supply.</li> <li>• <b>Refresh:</b> A request for checking if the heat supply is currently connected or disconnected.</li> <li>• <b>Auto-detect:</b> An automatic request run at the first meter reading.</li> </ul>
Request status	The current status of the request. One of the following: <ul style="list-style-type: none"> <li>• <b>Pending:</b> In a local READY installation, this state means the request was created but not yet initiated. In a hosted READY solution, this state is</li> </ul>

Meter property	What it means
	<p>displayed until the request is completed (i.e. the "In progress" state is not used).</p> <ul style="list-style-type: none"> <li>• <b>In progress:</b> The request is being processed.</li> <li>• <b>Done:</b> The request has been successfully completed.</li> <li>• <b>Canceled:</b> The request was canceled in 'pending' or 'progress' state.</li> <li>• <b>Error:</b> The request failed. (Probably because the meter is temporarily unavailable. Try again later).</li> </ul> <p>If an <u>auto-detect request</u> ends in error, the meter configuration may be wrong. Contact Kamstrup or place an optical head on the heat meter and use METERTOOL to make sure that the meter is configured for "controlled outputs" by setting the PP configuration to 99.</p>
User	The user that made the request.
State	The result of the request, i.e. the heat supply is either <b>Connected</b> or <b>Disconnected</b> .

As the requests for heat supply status are sent via the wired M-Bus network, you can also see the requests and their status in the wired M-Bus job list that you find when you select **Operation**  > **Wired M-Bus**.


You can sort and change the sequence of the information in the list. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#) and [Sorting the list of meters/customers](#).

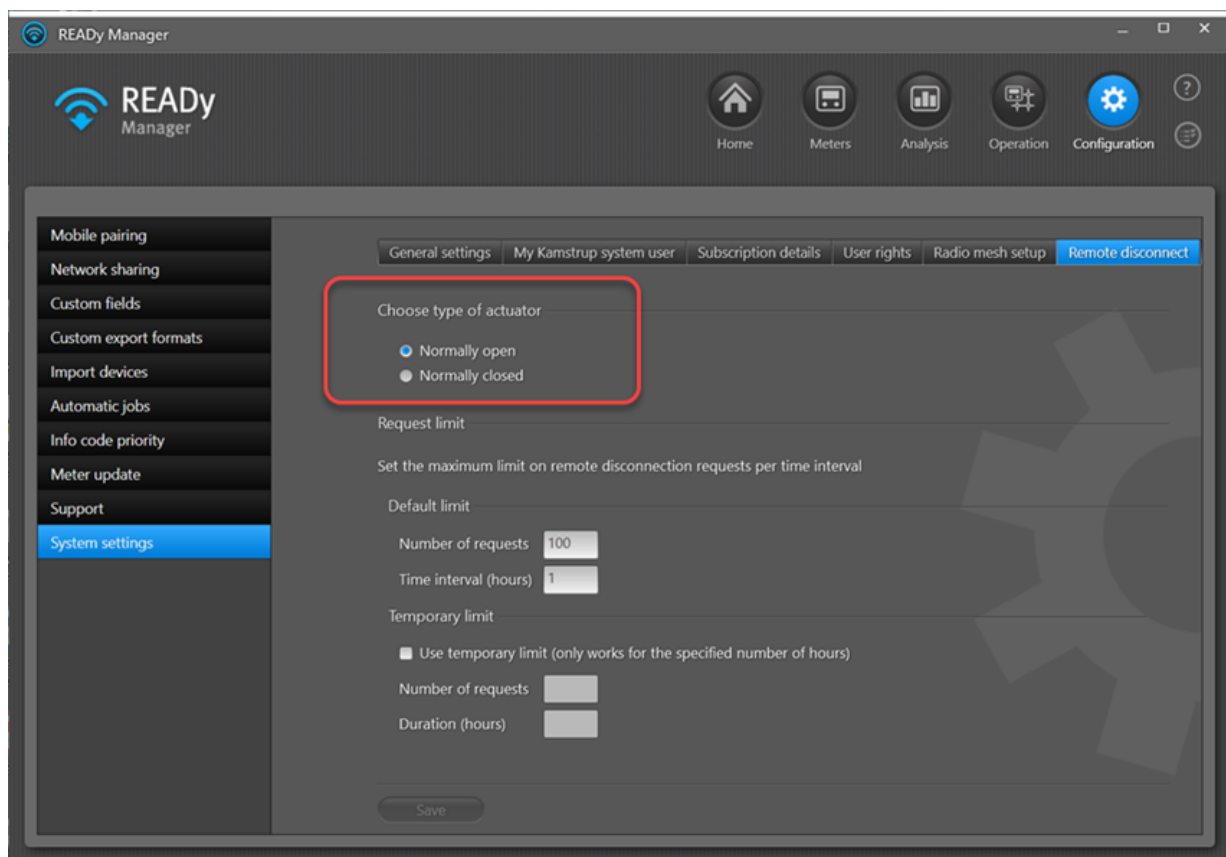
### 16.1 Initial setup of valve type

Initially you need to set up whether the valves installed in your network for disconnecting and reconnecting the heat supply are of the type "Normally open" or "Normally closed".

The setting applies to all valves used for disconnecting/reconnecting the supply. Meaning you have to connect the same type of valve to all the meters.

#### How to set up the type of valves used in your network

1. Click **Configuration**  in the upper-right corner of READy Manager.
2. Select **System settings** in the menu to the left. Then select the **Remote disconnect** tab:



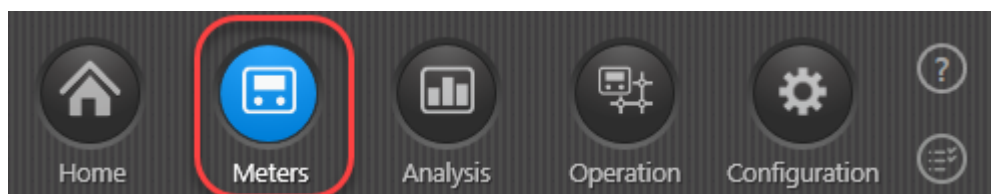
3. Select **Normally open** or **Normally closed** depending on the type of valves used in your network.

## 16.2 Disconnecting heat supply

If a valve is connected to the heat meter, you can disconnect the heat supply to a consumer, for example due to non-payment.

Use the following procedure to disconnect the heat supply to a consumer:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, double-click the meter for which you want to disconnect the heat supply.
3. Select the **Remote disconnect** tab.
4. Click the **Actions** button in the bottom-left corner, and choose **Disconnect flow** in the menu that appears:

Readings

Latest request state: ✘ Disconnected (18-04-2024 16:59)

Time	Request	Request status	User	State
<b>Meter: KAM80280363</b>				
18-04-2024 16:58	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✘</span> Disconnected
18-04-2024 16:50	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✘</span> Disconnected
18-04-2024 15:35	Connect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 15:33	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✘</span> Disconnected
18-04-2024 15:24	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✘</span> Disconnected
18-04-2024 15:16	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✘</span> Disconnected
18-04-2024 15:11	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 14:20	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 13:51	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 11:49	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✘</span> Disconnected
18-04-2024 11:46	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✘</span> Disconnected
18-04-2024 11:44	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✘</span> Disconnected
18-04-2024 10:28	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 10:25	Refresh	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✘</span> Disconnected
18-04-2024 10:05	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✘</span> Disconnected
17-04-2024 15:19	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
17-04-2024 15:15	Refresh	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✘</span> Disconnected

Action

- Refresh meter details
- Reconnect flow
- Disconnect flow**
- Cancel flow request
- Delete readings

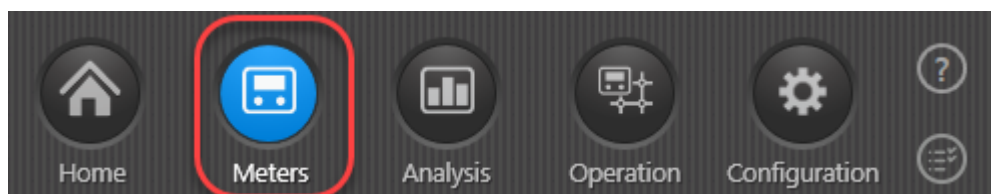
Close

The disconnection request now appears in the list. When the **Request status** column changes to "Done", the heat supply is disconnected.

### 16.3 Reconnecting heat supply

Use the following procedure to reconnect a previously disconnected heat supply to a consumer:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, double-click the meter for which you want to reconnect the heat supply.

3. Select the **Remote disconnect** tab.
4. Click the **Actions** button in the bottom-left corner, and choose **Reconnect flow** in the menu that appears:

The screenshot shows the 'Readings' window with the following data table:

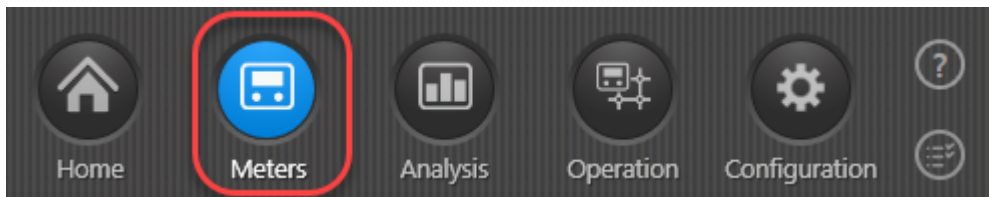
Time	Request	Request status	User	State
<b>Meter: KAM80280363</b>				
18-04-2024 16:58	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	Disconnected
18-04-2024 16:50	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	Disconnected
18-04-2024 15:35	Connect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	Connected
18-04-2024 15:33	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	Disconnected
18-04-2024 15:24	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	Disconnected
18-04-2024 15:16	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	Disconnected
18-04-2024 15:11	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	Connected
18-04-2024 14:20	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	Connected
18-04-2024 13:51	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	Connected
18-04-2024 11:49	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	Disconnected
18-04-2024 11:46	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	Disconnected
18-04-2024 11:44	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	Disconnected
18-04-2024 10:28	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	Connected
18-04-2024 10:25	Refresh	Done	WiredMBus_HappyTesting@kamstrup.dk	Disconnected
18-04-2024 10:05	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	Disconnected
17-04-2024 15:19	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	Connected
17-04-2024 15:15	Refresh	Done	WiredMBus_HappyTesting@kamstrup.dk	Disconnected

The reconnection request now appears in the list. When the **Request status** column changes to "Done", the heat supply is reconnected.

## 16.4 Checking if heat supply is connected or disconnected

Use the following procedure to check if the heat supply to a consumer is connected or disconnected:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, double-click the meter for which you want to see if the heat supply is connected or disconnected.
3. Select the **Remote disconnect** tab.
4. Click the **Actions** button in the bottom-left corner, and choose **Refresh meter details** in the menu that appears:

Readings

Latest request state: ✖ Disconnected (18-04-2024 16:59)

Time	Request	Request status	User	State
<b>Meter: KAM80280363</b>				
18-04-2024 16:58	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 16:50	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 15:35	Connect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 15:33	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 15:24	Disconnect	Done	WiredMBus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 15:16	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 15:11	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 14:20	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 13:51	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 11:49	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 11:46	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 11:44	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 10:28	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 10:25	Refresh	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 10:05	Disconnect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
17-04-2024 15:19	Connect	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
17-04-2024 15:15	Refresh	Done	WiredMBus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected

Action

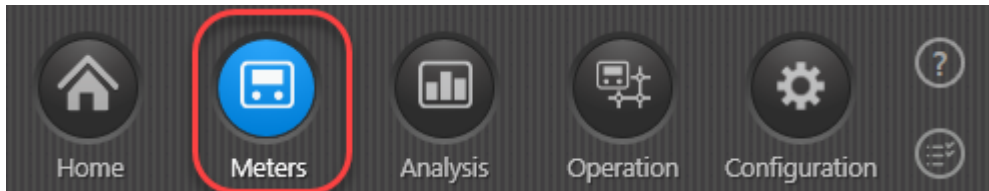
- Refresh meter details
- Reconnect flow
- Disconnect flow
- Cancel flow request
- Delete readings

The request for heat supply status now appears in the list. When the **Request status** column changes to "Done", the **State** column shows the actual heat supply status.

## 16.5 Canceling a disconnection or reconnection request

It is possible to cancel a disconnection or reconnection request before it has been completed in the following way:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, double-click the meter for which you want to cancel the disconnection/reconnection request.
3. Select the **Remote disconnect** tab.
4. In the list of requests, select the one you want to cancel.
5. Click the **Actions** button in the bottom-left corner, and choose **Cancel flow request** in the menu that appears:

Readings

Latest request state: ✖ Disconnected (18-04-2024 16:59)

Time	Request	Request status	User	State
Meter: <b>KAM80280363</b>				
18-04-2024 16:58	Disconnect	Done	WiredMbus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 16:50	Disconnect	Done	WiredMbus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 15:35	Connect	Done	WiredMbus_HappyTesting_Super_User@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 15:33	Disconnect	Done	WiredMbus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 15:24	Disconnect	Done	WiredMbus_HappyTesting_Super_User@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 15:16	Disconnect	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 15:11	Connect	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 14:20	Connect	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 13:51	Connect	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 11:49	Disconnect	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 11:46	Disconnect	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 11:44	Disconnect	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 10:28	Connect	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
18-04-2024 10:25	Refresh	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
18-04-2024 10:05	Disconnect	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected
17-04-2024 15:19	Connect	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: green;">✔</span> Connected
17-04-2024 15:15	Refresh	Done	WiredMbus_HappyTesting@kamstrup.dk	<span style="color: red;">✖</span> Disconnected

Action

- Refresh meter details
- Reconnect flow
- Disconnect flow
- Cancel flow request**
- Delete readings

Close


**Note** The request can only be canceled when it has the 'Pending' status (see current status in the **Request status** column).

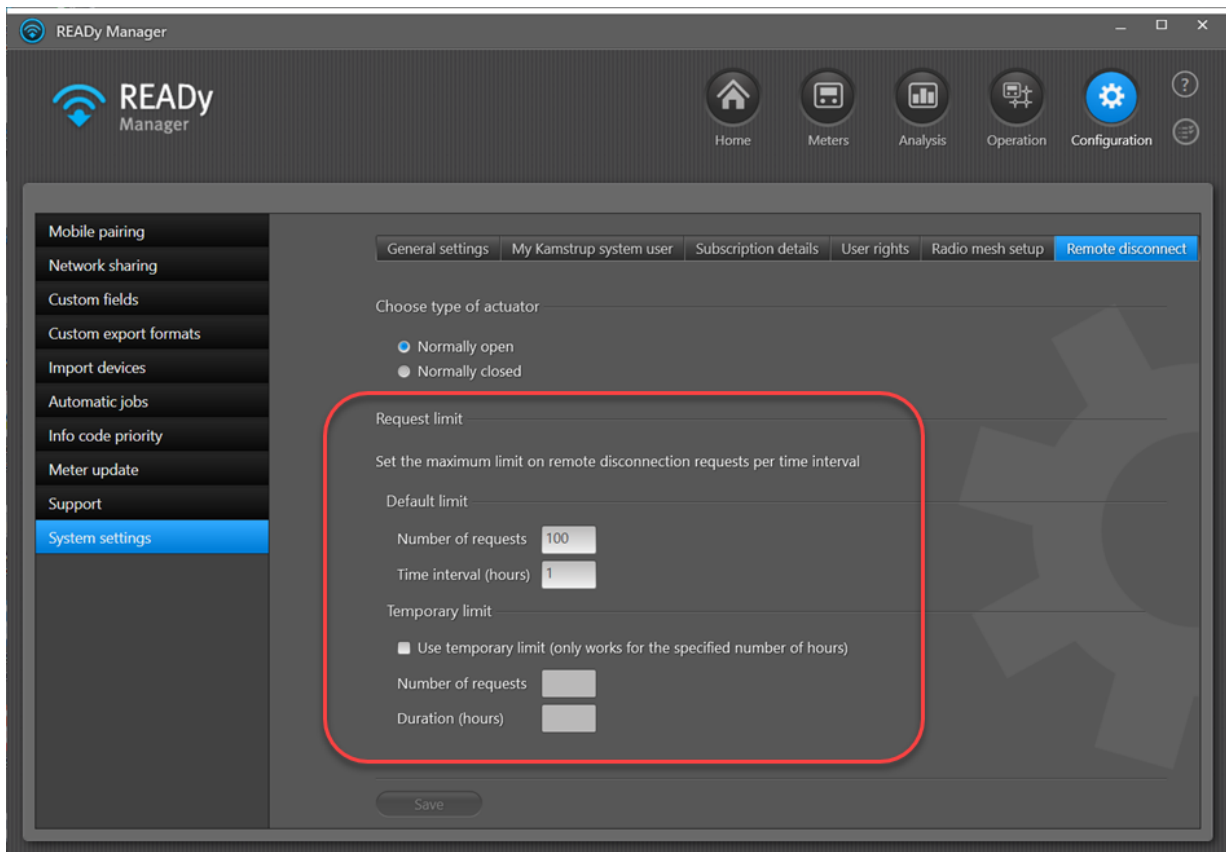
## 16.6 Changing maximum limit for (dis)connection requests

For security reasons, a maximum limit for disconnection/reconnection requests per time period is set up in the system.

If needed, you can change the default setting or temporarily override it.

### How to change the maximum limit for (dis)connection requests

1. Click **Configuration**  in the upper-right corner of READY Manager
2. Select **System settings** in the menu to the left. Then select the **Remote disconnect** tab:




3. Follow step a or b:
  - a. To change the default settings, enter how many requests (**Number of requests**) you want to allow during a given number of hours (**Time interval (hours)**).
  - OR
  - b. To temporarily override the default settings, enter how many requests (**Number of requests**) you want to temporarily allow for the next x hours (**Duration (hours)**).

After the specified duration, the temporary limit is automatically deactivated, and you return to the default limit.
4. Click **Save**.

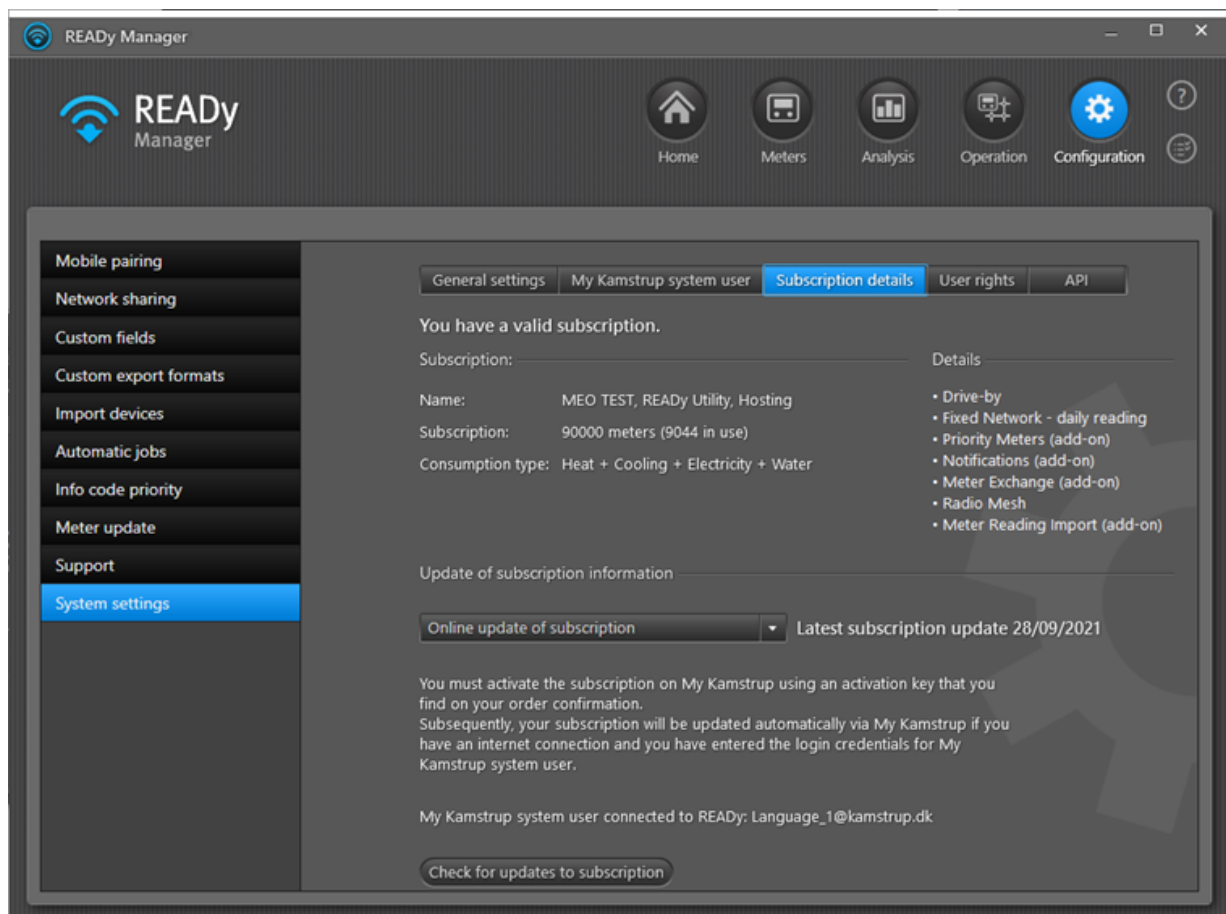
## 17 Subscription handling

Your subscription to READY is handled via My Kamstrup, and your subscription information is automatically updated each time you start READY Manager provided that you have [entered the system user credentials for My Kamstrup](#) in READY Manager and that you are connected to the Internet.

Use the following procedure to see subscription information and update the information about your subscription for READY Manager without restarting READY Manager or without connection to the Internet:

1. Click **Configuration**  in the upper-right corner of READY Manager, and then select **System settings** in the menu to the left. Select the **Subscription details** tab at the top of the window.

Information about your subscription now appears:



2. To update your subscription information follow Step a or b:
  - a. If your PC has access to the Internet:
    - In the drop-down list, select "Online update of subscription".

You can see the time of the latest subscription update to the right of the drop-down list. **Not updated yet** appears if you have not yet been connected to Subscription Manager on My Kamstrup.

- Click **Check for updates to subscription**.
- In the window that appears, enter the system user credentials for My Kamstrup:

My Kamstrup

Please enter the email address and password of the My Kamstrup system user.

Email

Password

[Create new user](#)

[Forgot my password](#)

OK Cancel

- Click **OK**.

OR

b. If your PC has no access to the Internet:

- In the drop-down list, select "Offline update of subscription".

Update of subscription information

Offline update of subscription ▼ Not updated yet.

To activate changes to your subscription, you must download a subscription file from My Kamstrup. If it is the first time you activate your subscription both the computer ID and the activation key are needed. The activation key can be found on your order confirmation.

Computer ID: BFEBFBFF000206A7DK-MEO-8460P

You can download your subscription file at [service.kamstrup.dk](http://service.kamstrup.dk) and upload it into READY Manager here

Choose file

- Send the computer ID that appears in this window to Kamstrup Customer Service together with the activation key that you find on your order confirmation from Kamstrup.
- Download the subscription file that you receive from Kamstrup at [service.kamstrup.dk](https://service.kamstrup.dk).
- Click **Choose file**.
- In the window that appears, browse to and select the subscription file you have downloaded and click **Open**.

## 17.1 My Kamstrup system user credentials

My Kamstrup system user credentials are used for:

- Automatic lookup of address information and map coordinates for map display. For details, see [Finding address coordinates and checking addresses](#).
- Automatic import of new meters and collection units from My Kamstrup. For details, see [Automatically importing information for new devices](#).
- Automatic subscription updates from My Kamstrup. For details, see [Subscription handling](#).

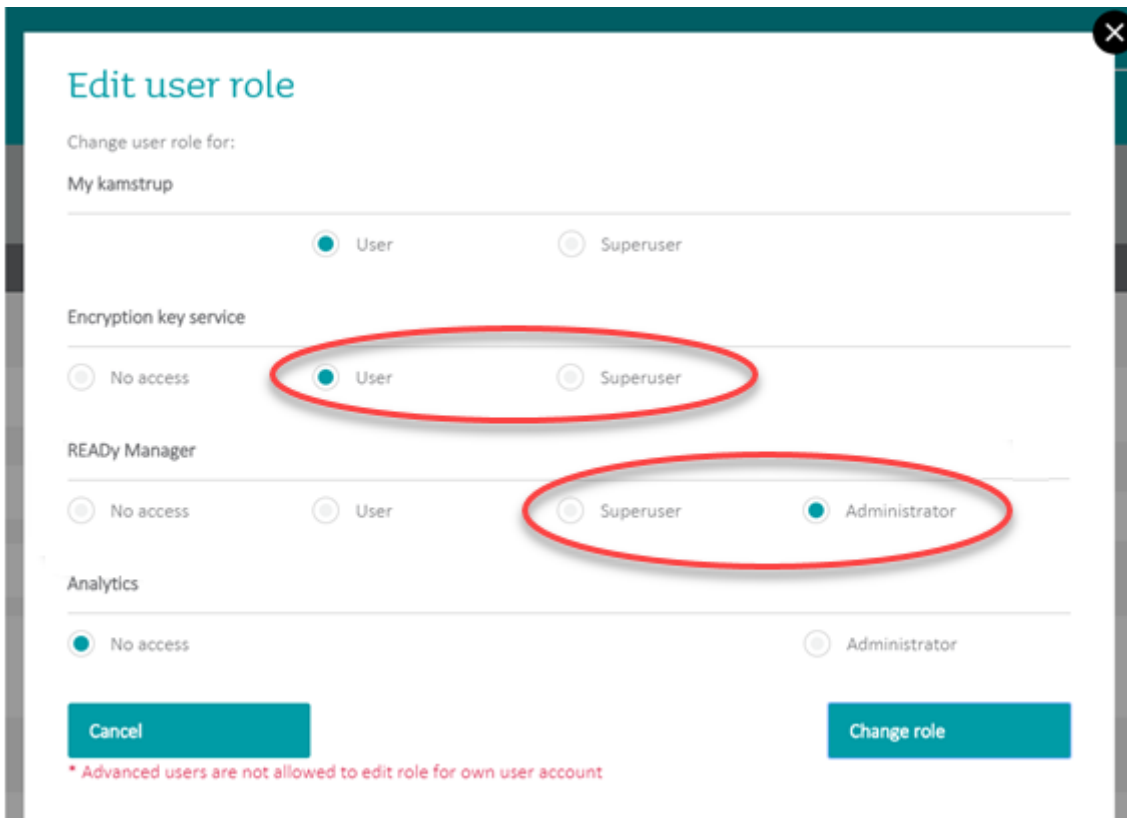
If you try to start any of these actions and you have not yet entered the system user credentials for My Kamstrup, a window will appear asking you to enter them.

### Which My Kamstrup user credentials qualify as system user credentials?

The My Kamstrup credentials that you enter as system user credentials must fulfill two criteria:

- They must have user or superuser rights to Encryption Key Service (the service that handles the meter encryption keys).
- They must have superuser or administrator rights to READY.

The user rights of each My Kamstrup user can be checked on My Kamstrup (if in doubt, please contact the My Kamstrup superuser in your organization):



**Hint** Once you have entered the system user credentials in READY, make sure to press **Save login** (see screenshot below). In this way, they are saved in the system, and you do not have to specify them again.

**How do I enter, change or remove system user credentials for My Kamstrup?**

If you want to enter, change or remove the system user credentials for My Kamstrup, click

**Configuration**  in the upper-right corner of READY Manager, select **System settings** in the menu to the left and then select the **My Kamstrup system user** tab at the top of the window:

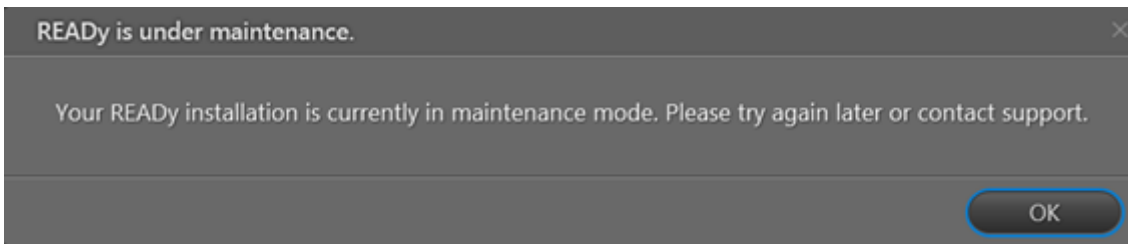
The screenshot shows the READY Manager web interface. At the top left, the title bar reads "READY Manager". The main header features the "READY Manager" logo and a navigation bar with icons for Home, Meters, Analysis, Operation, and Configuration (which is highlighted in blue). A help icon is also present. On the left side, a sidebar menu lists various system settings, with "System settings" highlighted in blue. The main content area is titled "My Kamstrup system user" and contains a login form. The form includes tabs for "General settings", "My Kamstrup system user", "Subscription details", and "User rights". Below the tabs, a message asks the user to enter the email address and password of the My Kamstrup system user. The "Email" field contains "MyEmail@kamstrup.dk" and the "Password" field contains "\*\*\*\*\*". There are "Save login" and "Remove login" buttons. At the bottom of the form, there are links for "Create new user" and "Forgot password?". A large gear icon is visible in the background of the main content area.

## 18 Updating READY Manager

---

### Hosted version of READY Manager (hosting agreement with Kamstrup)


If you have opted for a hosting solution for your READY setup, the update takes place automatically. When Kamstrup is updating READY Manager, the following message appear:

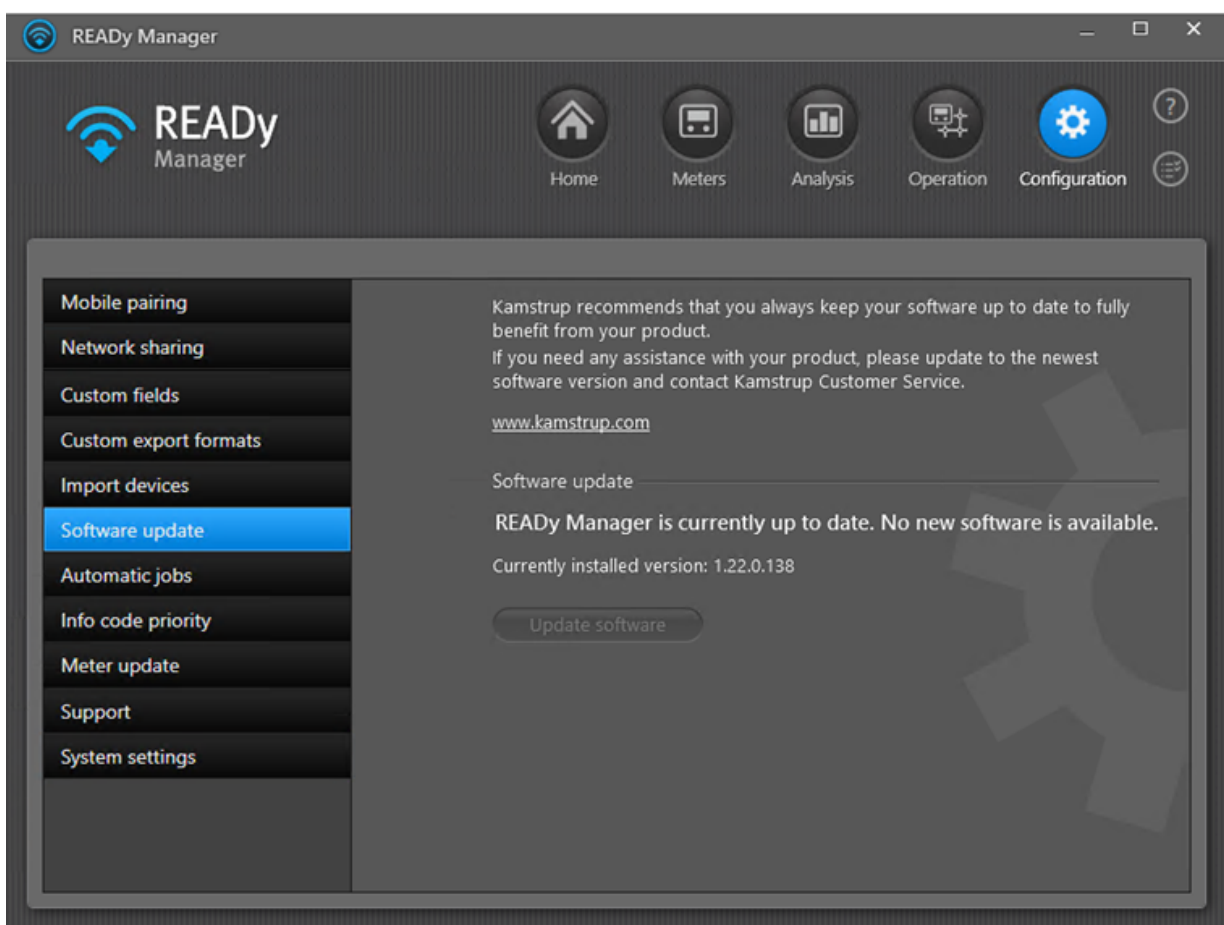


1. Click **OK** and wait for the update to complete. Then log in again.

### Local installation of READY Manager (support agreement with Kamstrup)

Use the following procedure to update READY Manager to a newer version:

1. Click **Configuration**  in the upper-right corner of READY Manager and then select **Software update** in the menu to the left.



2. Click **Update software**.


If the **Update software** button is unavailable, it means that your software is already up to date.

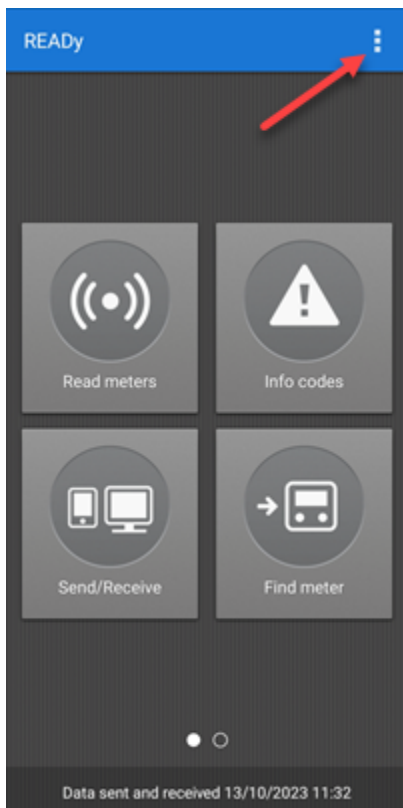
## 19 Updating READY App

---


If you have set up automatic update of READY App, you do not have to do anything - the update takes place automatically. If not, or if you are in doubt, follow the procedure below:

### How to update READY App

1. Open READY App on your mobile device (smartphone or tablet).
2. Tap  in the upper-right corner:





3. Tap **About** in the menu that appears.
4. Tap **Check for update**.


Google Play Store  now opens with READY App.

5. Tap **Update**.

If you do not see an **Update** button, READY App is already up-to-date.

### How to set up automatic update of READY App

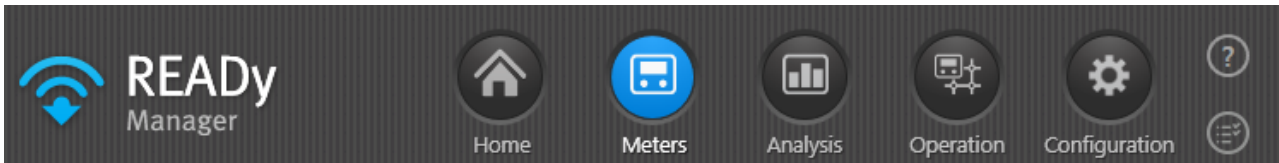
1. On your smartphone or tablet, open Google Play Store .
2. Tap Menu .

3. Tap **My apps & games**.
  4. Select READy App.
  5. Tap More .
  6. Tap **Enable auto update** to select it (a check mark appears in the box).
- READy App will update automatically when updates are available.

## 20 READY Manager main window overview

---

The contents of the READY Manager main window depend on which icon you select in the upper-right corner of the window:





You can choose between the following main views:

- A [Home view](#) for accessing core functions: Searching for meters/customers, displaying meter info codes, analyzing reading data, exporting reading data and importing meter and customer information.
- A [Meters view](#) for accessing meter and customer information including reading data.
- An [Analysis view](#) for analyzing reading data and troubleshoot your network.
- An [Operation view](#) for getting an overview and being notified of meter events (info codes), checking meter reading performance and exchanging meters.
- A [Configuration view](#) for handling various configurations in relation to mobile devices, subscriptions, collection units, export, import, software update, meter event priority, meter configuration and support assistance.

**Note** Depending on your [user rights in READY Manager](#), you may have access to only a subset of the available functions.

In addition to the main views icons, the READY Manager main window has two additional icons:

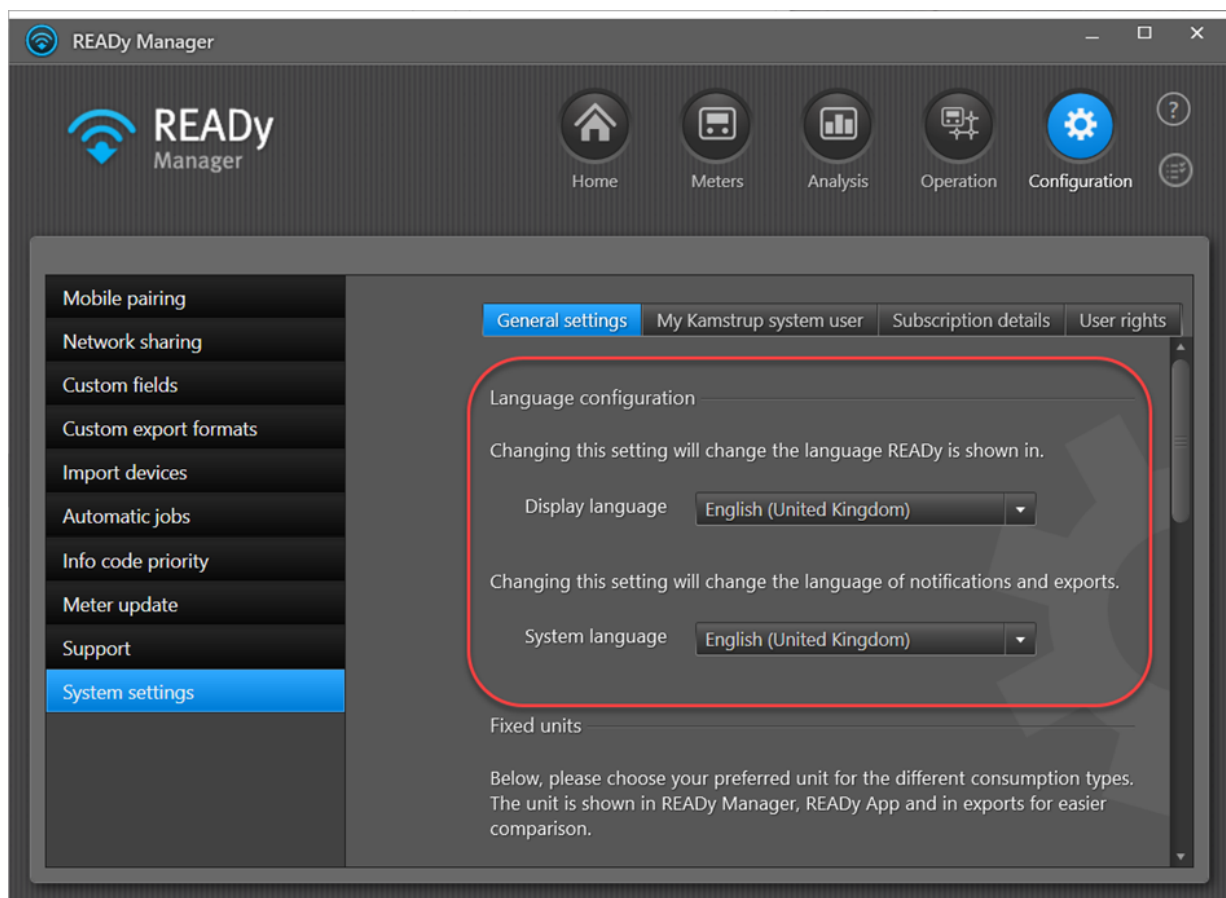
- A question mark icon  that opens the online help window.
- A list icon  that opens a [list of import and export tasks](#) that you have initiated.

### 20.1 Changing language

Follow the procedure below to change the language in READY. You can change:

- the language of all text in READY Manager (display language)
- the language of notifications (if you have the Notifications add-on) and exports that are sent from READY (system language).

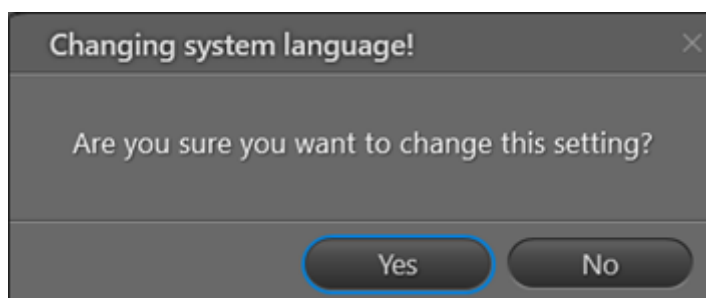
1. Select **Configuration**  > **System settings** > **General settings** > **Language configuration**:



Follow step 2 and/or 3 as required.

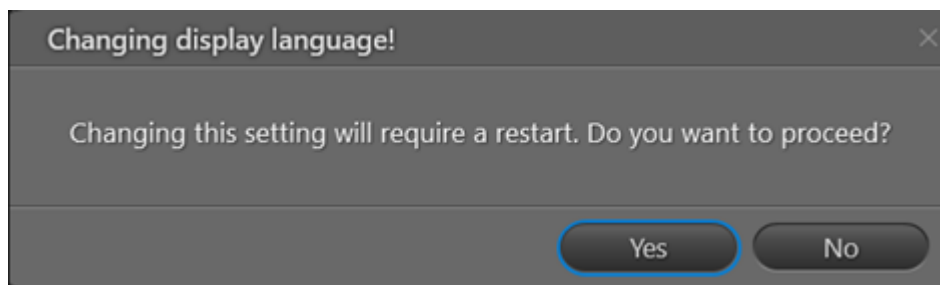
2. To change the language of [meter event notifications](#) and exports:

- Select the desired language in **System language**.
- Click **Yes** to confirm your change:



3. To change the language of all text in READY Manager:

- Select the desired language in **Display language**.
- Click **Yes** to restart READY Manager:



## 20.2 User rights in READY Manager


**Note** User roles and rights only apply to hosted versions of READY Manager. If you do not have a hosting solution for your READY, all users have access to all functionality in READY Manager.

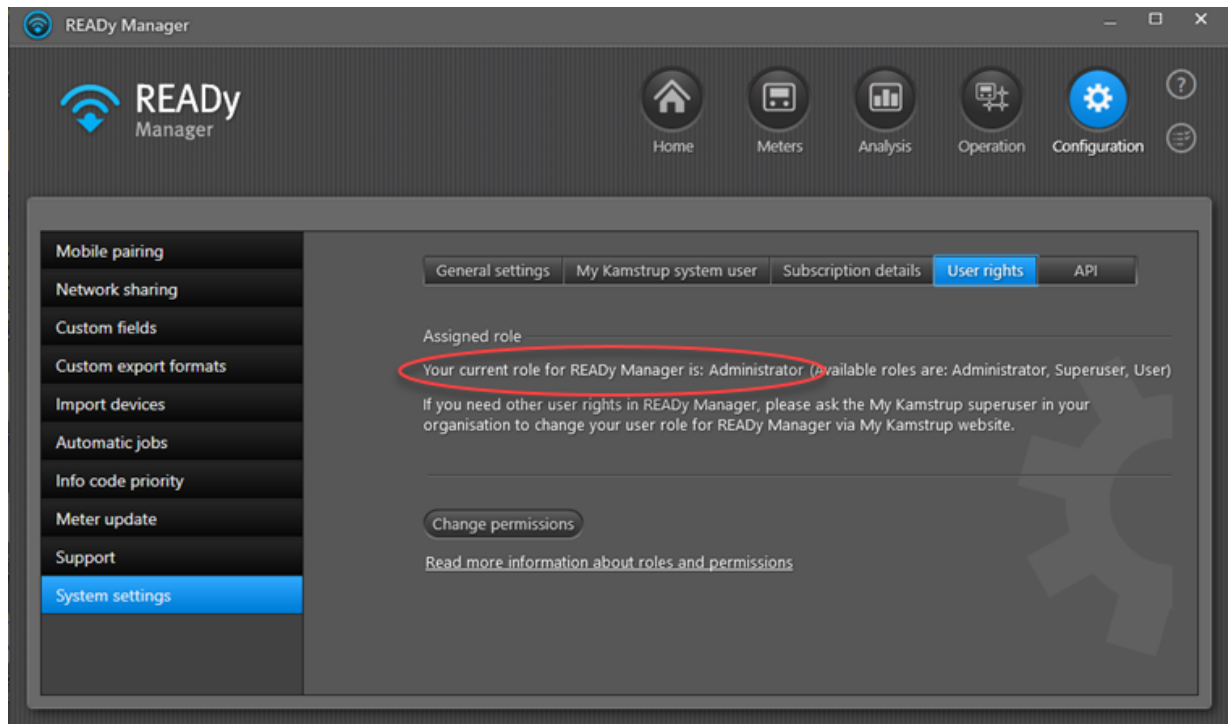
User roles are used to customize the user interface of READY Manager so that only features relevant to the tasks you perform in READY are available to you.

The following user roles exist:

Name of user role	Description
User	By default, this role allows you to view meters and other data and to export information from READY Manager. You will <i>not</i> be able to import, configure, create, edit or delete data.
Superuser	By default, this role allows you to access all functionality in READY Manager except for deleting meter readings and changing the permissions of user roles.
Administrator	This role allows you to access all functionality in READY Manager including deleting meter readings and changing the permissions of user roles.

### How to see your current user role in READY Manager

1. Select **Configuration**  > **System settings** > **User rights**:



## How to change your user role in READY Manager

Your READY Manager user role is attached to the My Kamstrup login that you use when you log in to READY Manager.

If you need to change your user role, you must ask the My Kamstrup superuser in your organization to go to the My Kamstrup website and change your user role:

**Edit user role**

Change user role for:  
My kamstrup

User  Superuser

Encryption key service

No access  User  Superuser

**READY Manager**

No access  User  Superuser  Administrator

Analytics

No access  Administrator

**Cancel** **Change role**

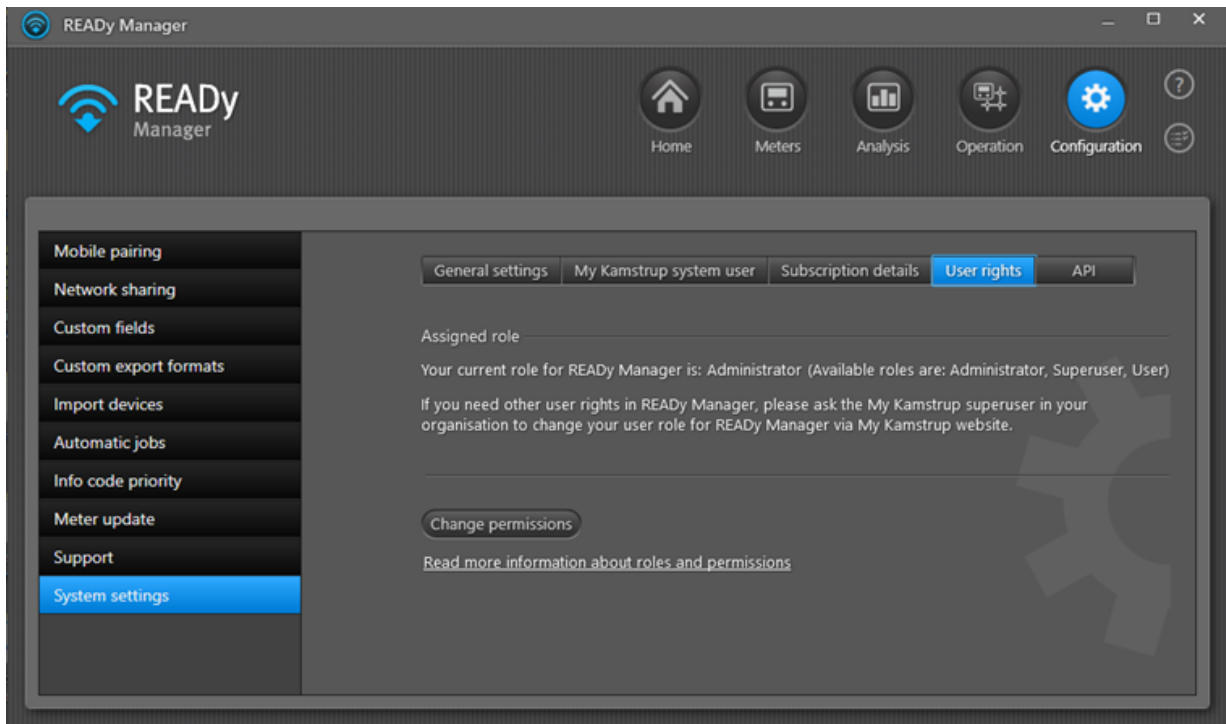
\* Advanced users are not allowed to edit role for own user account

### 20.2.1 Changing user and superuser permissions

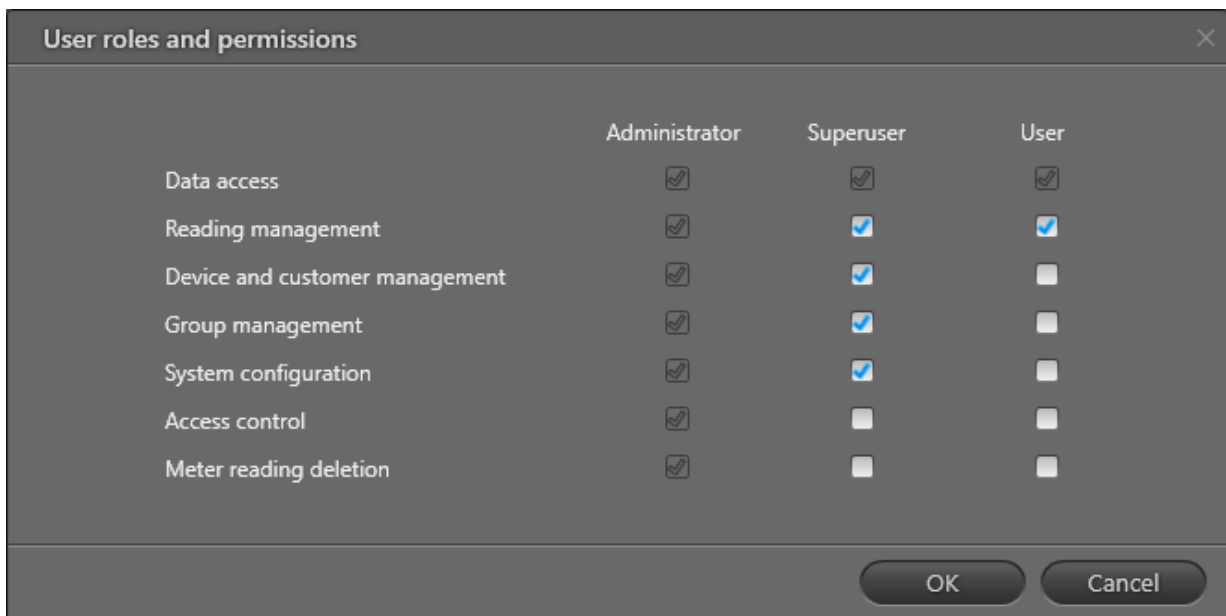
**Note** Only READY users with the role "Administrator" are allowed to change the permissions of users and superusers in READY.

#### How to change user and superuser permissions in READY Manager

1. Select **Configuration**  > **System settings** > **User rights**, and click **Change permissions**:



2. Select the permissions you want to grant the "Superuser" or "User" role, and clear the selection of permissions you want to remove:



**Data access** permissions let you:

- View data (meters, meter readings, water loss analysis, data comparisons, heat reports, info codes, performance reports, performance overview and support information)
- Export data
- Create performance reports

**Reading management** permissions let you create, edit and delete manual readings.

**Device and customer management** permissions let you:

- Import customers, meters and collection units
- Exchange meters
- View, edit and delete collection units
- View and delete gateways
- Update meters
- Share your data collection network with other organizations

**Group management** permissions let you create, edit and delete groups.

**System configuration** permissions let you:

- Create, edit and delete notifications
- Create, revoke and rename mobile pairings with READY
- Create and delete custom export formats
- Create, edit and delete automatic jobs
- Configure info code priorities
- Edit fixed unit settings

**Access control** permissions let you change user role permissions (as described in this procedure).

**Meter reading deletion** permissions let you delete meter readings.

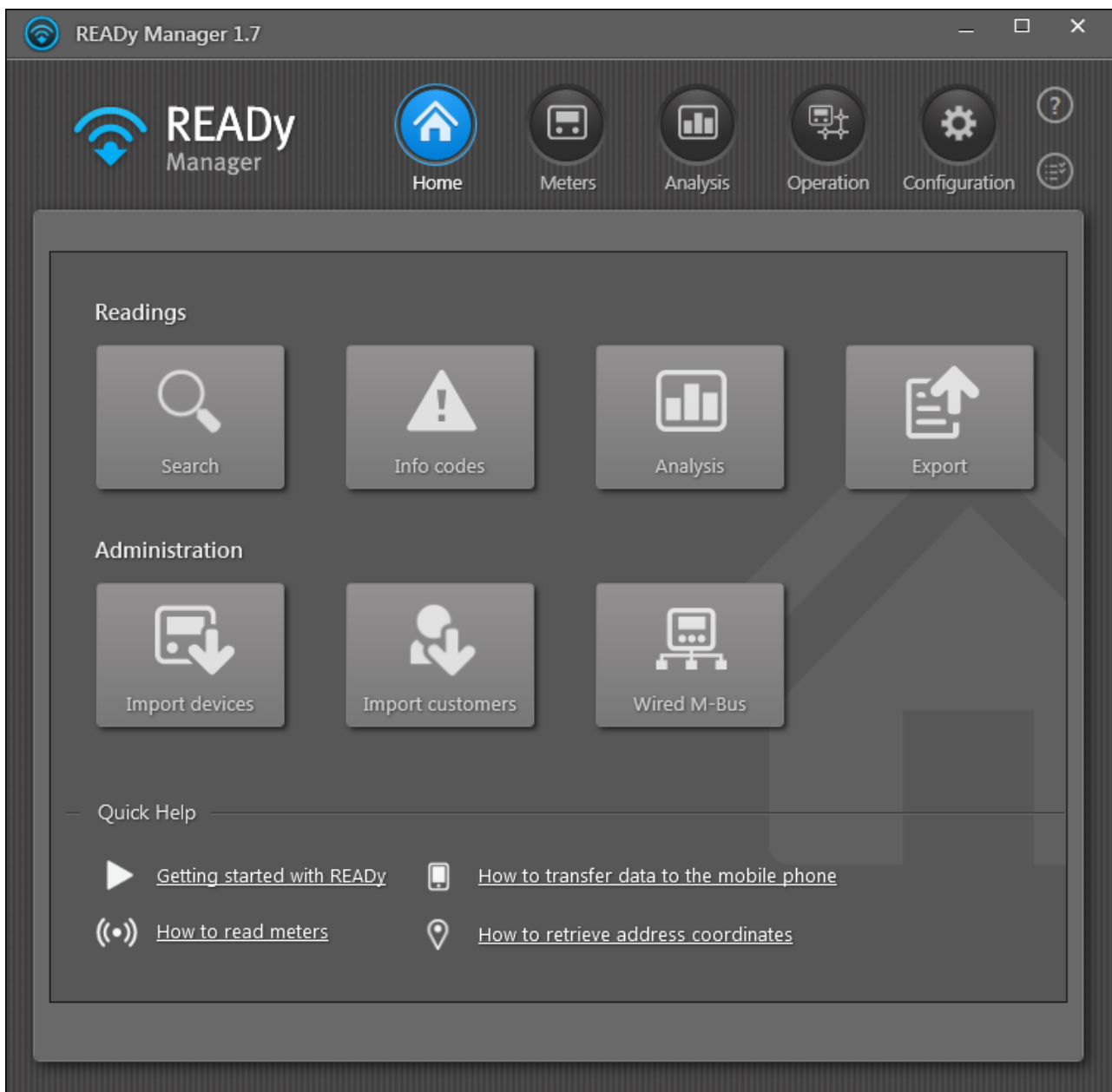
3. Click **OK**.

## 20.3 Home view

The **Home** view lets you:

- [search for meters/customers](#)
- [see meter info codes](#)
- [analyze reading data](#)
- [export reading data](#)
- [import customer information](#)
- [import meter information](#)
- read meters in wired M-Bus network

You open the **Home** view by clicking **Home**  in the upper-right corner of READY Manager:

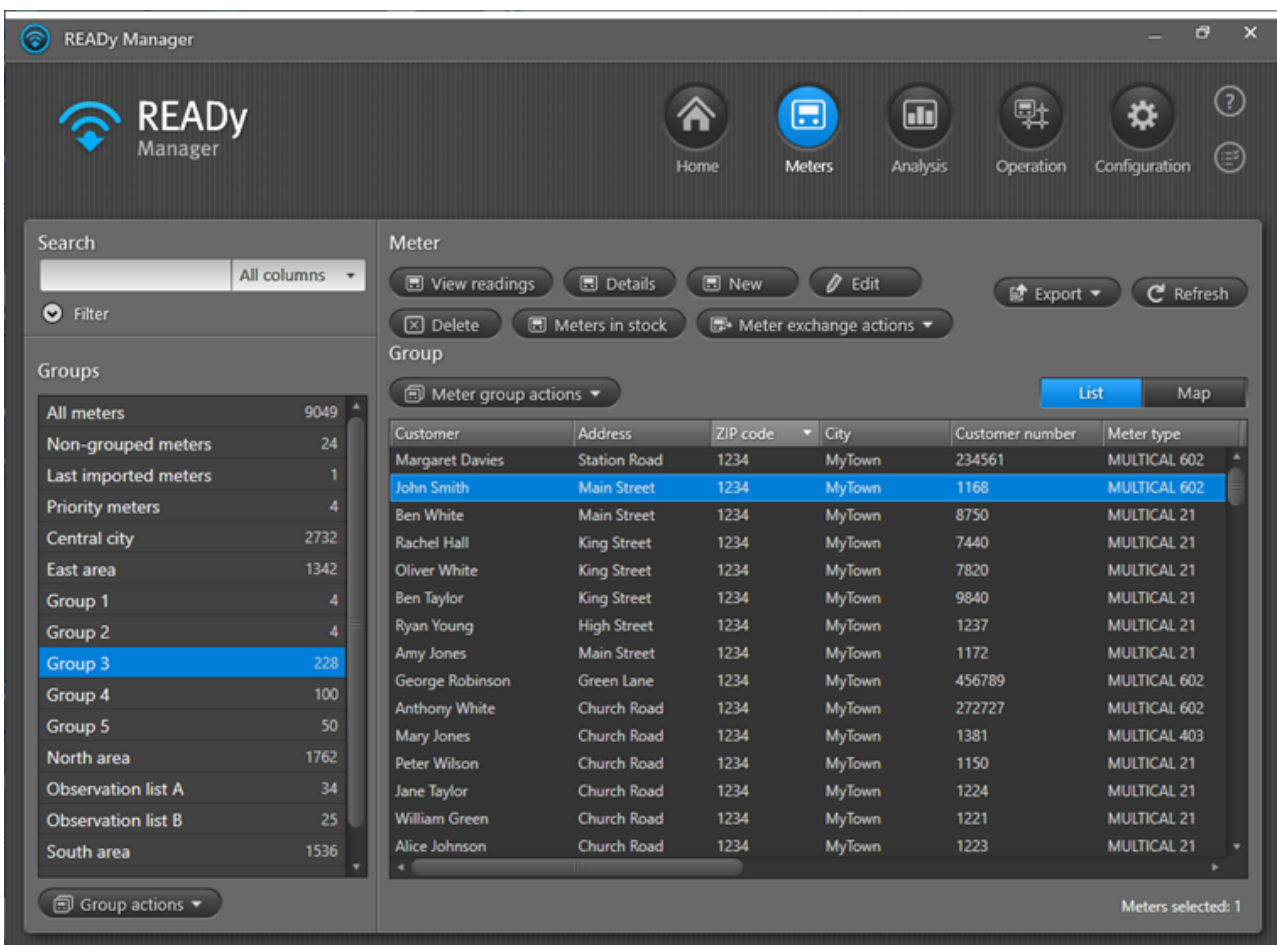


## 20.4 Meters view

The **Meters** view lets you:


- see meters in a list and on a map.
- see, create, delete and edit meter and customer information.
- see, create, delete, edit and rename meter groups.
- see readings for a specific meter
- export reading data to other systems
- search for meters and customers.

You open the **Meters** view by clicking **Meters**  in the upper-right corner of READYy Manager:





- The **Search** area in the upper-left corner lets you search for specific meters and customers. The items corresponding to your search criteria are displayed in the meter list to the right.
- The **Meter** buttons above the meter list let you create, edit and delete meter/customer information, see readings for a specific meter and see the list of meters in stock. If you have the Meter Exchange add-on, you can also exchange meters.
- The **Meter group actions** button above the meter list lets you add meters to groups and remove them again.
- The **Export** button lets you export reading data to other systems.
- The **Refresh** button lets you update the meter list with recent changes.
- The **List** and **Map** buttons let you display meters in a list or on a map.
- The **Groups** area to the left displays a list of all meter groups that have been created. When you select one or more groups, meters belonging to this/these group(s) are shown in the meter list or the map to the right. The **Group actions** button below the list of groups lets you create, rename and delete groups.
- The meter list displays all meters/customers belonging to the selected group or corresponding to the search criteria specified in the **Search** field (one row per meter/customer). The number of meters in the list (or number of selected meters, if any) is shown below the list. If you double-click a meter/customer, readings for the meter installed at this customer address (and for meters

previously installed at this customer address) will be shown. When you right-click one or more meters/customers in the list, a menu with the following commands appear:

Command	What it does
Add to group	Adds selected meter(s) to a new or an existing group.
Add to all groups	Adds selected meter(s) to all user-defined groups
Edit groups for meter	Lets you add and remove the currently selected meter to and from any group that you have created.
Remove from group	Removes selected meter(s) from the current group.
Remove from all groups	Removes selected meter(s) from all groups and adds them to the <b>Non-grouped meters</b> group.
View readings	Show all readings for a selected meter.
Edit	Lets you edit meter/customer information.
Delete	Deletes a meter/customer.
Copy serial number	Copies the serial number of the selected meter. You can paste it into the desired location, e.g. another program or an <b>Enter serial number</b> field in the <b>Data comparison</b> window.
Copy address	Copies the address of the selected meter. You can paste it into the desired location, e.g. another program.
Compare data	Opens the <b>Data comparison</b> window with the selected meters (up to 3 meters can be selected for comparison).
Allow lookup of all coordinates	Goes to <b>Configuration</b>  > <b>System settings</b> > <b>General settings</b> where you can set up the system to automatically search for address coordinates via My Kamstrup. For details, see <a href="#">Finding address coordinates and checking addresses</a> .
Search for coordinates	Searches for address coordinates for the selected meters.

The following information is shown for each meter in the list:

Meter property	What it means
Address	Street name and house number of the meter installation.
ZIP code	ZIP code of the meter installation.
City	City of the meter installation.
Customer	The name of the customer.
Customer number	The unique identification of the customer.
Phone no.	The telephone number of the customer.
Comment	A comment about the customer or meter installation.
Meter type	Kamstrup meter type, e.g. MULTICAL® 21.
Consumption type	The meter consumption type, e.g. heat, cold water or pressure.
Manufacturer	An identification of the manufacturer of the meter. The ID consists of 3 capital letters (A-Z), for example: KAM, KAA, KAS, KAW or KMB equals Kamstrup INV, MEI, PMG, SEN or SPX equals Sensus DGM, DME or MDE equals Diehl.
Serial number	Kamstrup's unique identification of the meter.

Meter property	What it means
Latest reading time	The last time the meter was read. If you subscribe to the Meter exchange add-on, this field becomes empty at the time you exchange the old meter with a new one. The first time you read the new meter, this time will appear as the latest reading time in this field.
Encryption key	Status of the import of meter encryption key. "OK" means the encryption key has been imported and "-" means it has not yet been imported. The encryption key is required to be able to read a meter and is part of the meter information imported for a meter.
Coordinates	Status of the search for meter address information. "OK" means the address information has been found. "-" means that the search failed because neither ZIP code nor city information has been specified. "Not found" means that the search was not successful. "Alternative addresses found" means that more than one address match was found. (To select the right one, right-click the meter in the <b>Meters</b> view, and choose <b>Edit</b> in the menu that appears.)
Meter number	Shows your own meter number, if any. The meter number must be delivered to Kamstrup when ordering new meters and will be included in the meter encryption file (KEM file) when importing new meters into READY.
Groups	Shows which groups the meter is part of.
No. of groups	Shows the number of groups to which the meter belongs.
Current info code	Indication of currently active info codes (meter events). A red triangle  means that high priority info codes are registered. A yellow triangle  means that normal priority info codes are registered. For details about prioritizing info codes, see <a href="#">Prioritizing info codes</a> .

- The map displays all meters belonging to the selected group(s). If you pause the mouse cursor over a meter, information about this meter appears in a pop-up window:

READY Manager

Home Meters Analysis Operation Configuration

Search

All colu... Filter

Groups

All meters	560
Non-grouped meters	522
Last imported meters	141
Priority meters	1
Consumer meters	7
District meter	2
flowQ31xx_Meters	3
flowQ31xx_Meters_Meters	0
MC21_Meters	21
MC61_Meters	5

New group Rename group Delete group

Meter

View readings Details New Export Refresh

Edit Delete Meters in stock

Meter exchange actions

Group

Add to group Remove from group List Map

Map Satellite

65028809 Sharon Brown Park Road MULTICAL 62 Warm water

Display meters Display collection units

Google

Meters without coordinates: 514, Meters with coordinates: 46

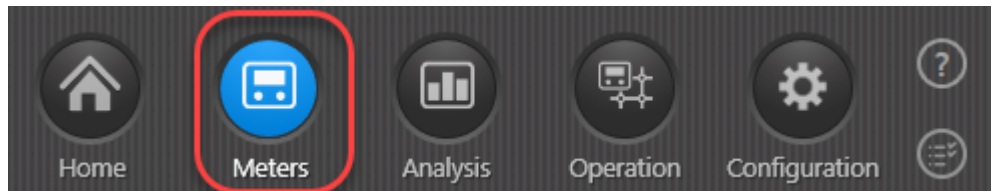
## What do you want to do?

- [Create a new meter/customer](#)
- [Edit meter/customer information](#)
- [Delete a meter/customer](#)
- [Search for a meter/customer](#)
- [Sort the list of meters/customers](#)
- [Change the order of information in Meters view](#)
- [Show and hide information in Meters view](#)
- [See readings for a specific meter](#)
- [Exporting reading data to other systems](#)
- [Create a new group](#)
- [Delete a group](#)
- [Rename a group](#)
- [Add meter\(s\) to a group](#)
- [Remove meter\(s\) from a group](#)

### 20.4.1 Sorting the list of meters/customers

Use the following procedure to sort the list of meters/customers in **Meters** view:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. Click a column header to sort the meters/customers according to the information in that column.
3. Shift+click another column header to select a secondary sort criteria.

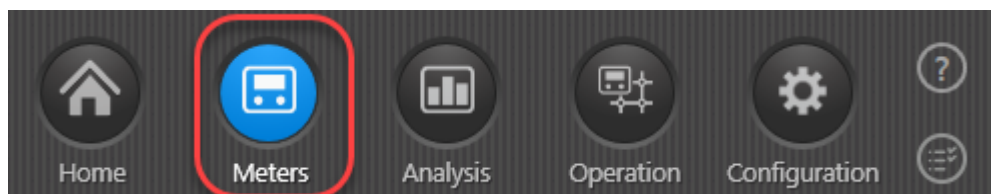
For example, addresses could be sorted using the city as primary sort criteria, and the street as secondary sort criteria.

If you click or shift+click a column header repeatedly, you switch between ascending and descending sorting order in that column.

### 20.4.2 Changing the order of information in Meters view

Use the following procedure to change the order of the information in **Meters** view:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.

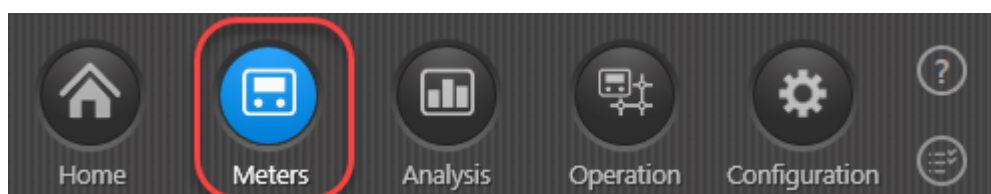


2. Left-drag a column header to another position.

### 20.4.3 Show and hide information in Meters view

Use the following procedure to show and hide information in **Meters** view:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.

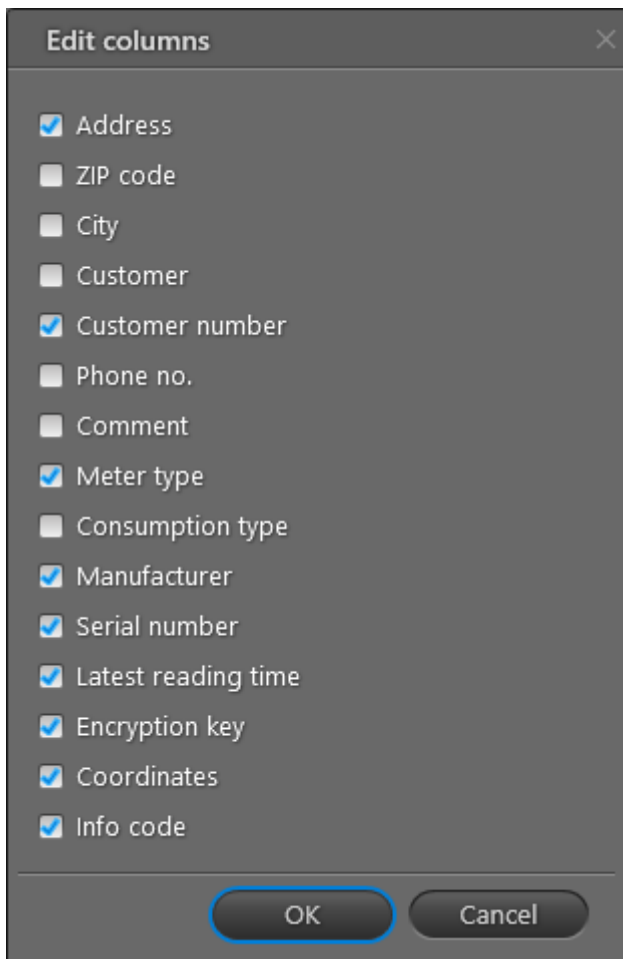


2. Right-click a column header and choose:

- a. **Hide column** to hide the current column.

OR

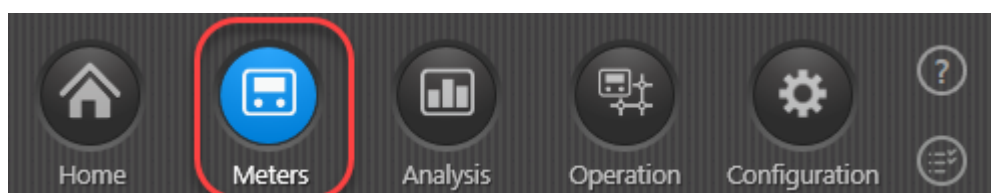
- b. **Edit columns** to open a window in which you select the information you want to show and clear the selection of the information you want to hide. Click **OK**.



### 20.4.4 Search for meters/customers

Use the following procedure to find specific meters or customers:

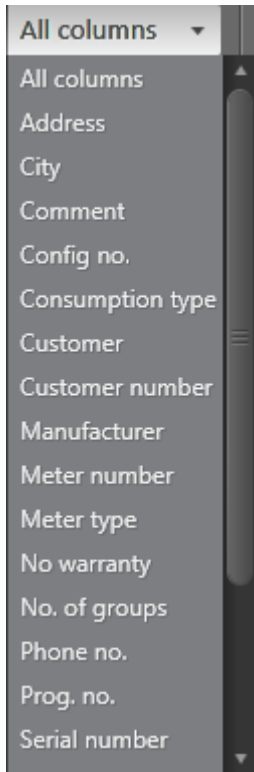
1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



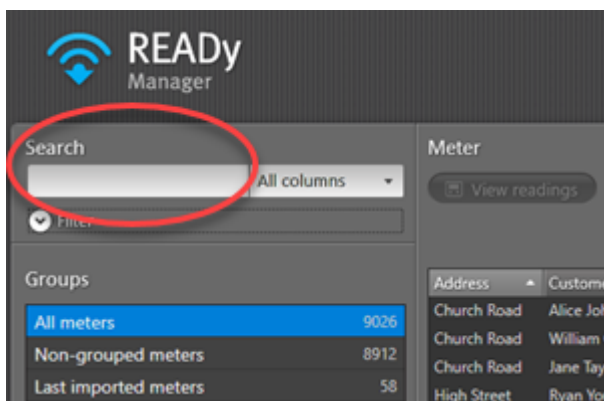
2. In the **Groups** area to the left, select "All meters" to search among all meters/customers in the system or select a specific group to only search within this group.

- To search within all types of information, select "All columns" in the list to the right, or select a specific type of information to only search within this type of information.

You can search within a number of the information types in the **Meters** view plus most of the information types in the [Meter details](#) window:



- In the **Search** field in the upper-left corner, enter the text and/or numbers you want to search for:



**Note** To find two or more specific meters, enter their meter serial numbers separated by comma or copy the meter serial numbers from Microsoft Excel and paste them into the search field.

- Click **Filter** below the **Search** field to display the filter area and select or deselect the following options as desired:

- To find rolled over meters, select **Rollover** and, if desired, a specific time period. Then click **Apply filter**.
- To find meters with final readings, select **Final reading** and, if desired, a specific time period. Then click **Apply filter**.
- To find meters with deleted readings, select **Deleted readings** and, if desired, a specific time period. Then click **Apply filter**.
- To find meters with meter-specific units of measurement, select **Local units**. Then click **Apply filter**.
- To find priority meters, select **Priority meters** and click **Apply filter**.

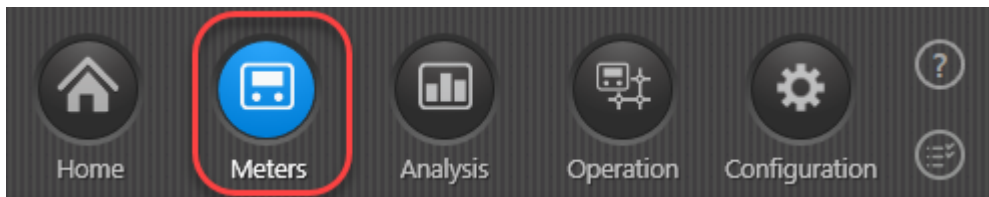
All meters/customers that match your search now appear in the list.

**Note** READY Manager remembers selections you make in the filter area until you click **Reset filter**. If you collapse the filter area without resetting the filter, the filter is still active although you cannot see it. It may therefore be a good idea to always reset the filter area when you have finished searching, or to expand the filter area each time you use the search field to make sure the filter options match the search you want.

## 20.4.5 Creating a new meter/customer

Use the following procedure to create a new meter/customer entry in the meter list:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. Click the **New** button above the meter list.

New readings Details **New** Edit Delete Meters in

New installation

Installation

Current Alternatives

Address line 1

Address line 2

ZIP code  State

City

GPS longitude  Edit on map

GPS latitude  Search for coordinates

Comment

Customer

Name

Customer number

Phone no.

Meter

Meter type

Consumption type

Manufacturer

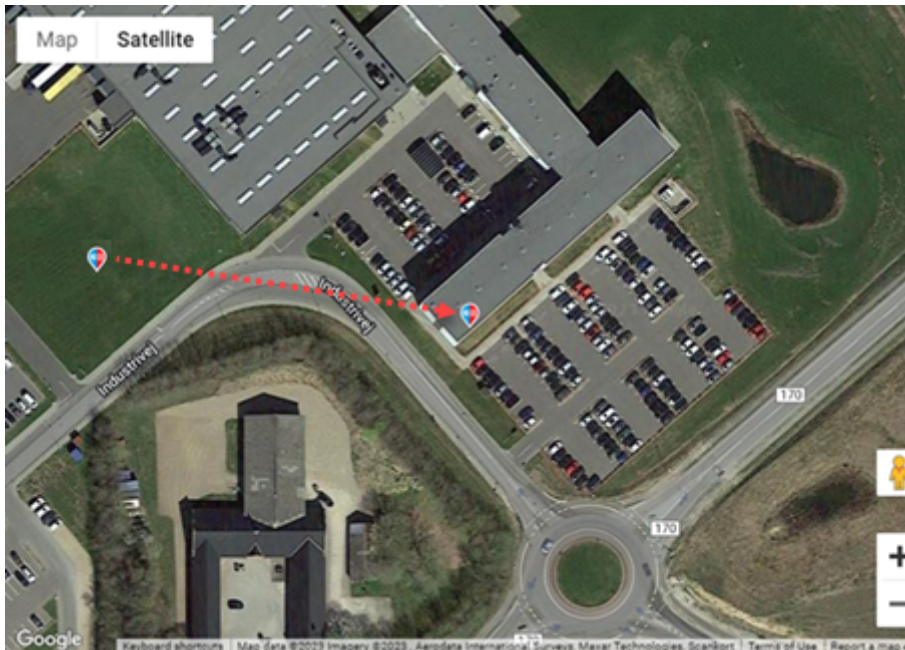
Serial number

Save Close

3. Fill in the installation, customer and meter details.
4. If you want to automatically search for map coordinates and check the specified address, click **Search for address**.

**Note** In order to work, you must enter the system user credentials for My Kamstrup. Furthermore, you must allow the system to search for address information. For details, see [Finding address coordinates and checking addresses](#).

5. If you want to check that the meter is placed at exactly the right position:
  - a. Click **Edit on map** to open a map view with the meter:
  - b. If required, you can drag the meter to the right position:



- c. Click **OK**.

The map coordinates are now updated to the new position.

6. If you want to use other units of measurement for this meter (in READY and exports) than the default units, select the desired units.

Local units for a meter are only used if the corresponding global unit is set to the default value "As set in meter". For details, see [Units of measurement](#).

If the new meter is a pressure sensor (a meter of the type "Kamstrup PressureSensor"), follow Step 6. Otherwise proceed to Step 7.

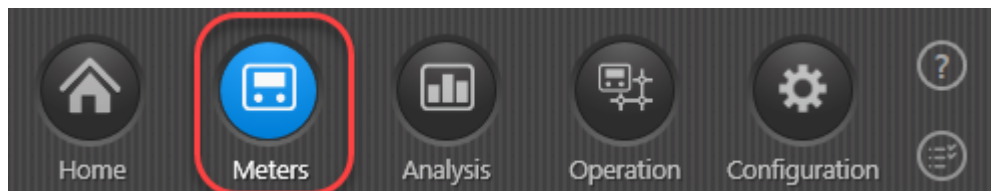
7. Specify the pressure offset either by clicking **Get offset** to automatically retrieve the pressure offset based on the map coordinates, or by entering the pressure offset manually in the associated field:

8. Click **Save**.

### 20.4.6 Editing meter/customer information

Use the following procedure to edit customer/meter information:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, click the meter whose meter/customer information you want to edit.
3. Click the **Edit** button above the list.

4. Change the desired information.

**Note** Once reading data have been received for a meter, the serial number can no longer be changed. Likewise, the manufacturer ID is automatically inserted or overwritten and can no longer be changed.

5. Click **Save**.

### 20.4.7 Adding custom information to meter/customer

You can add your own information about meters and customers to the Meters view. In order to do that you need to create a custom field first.

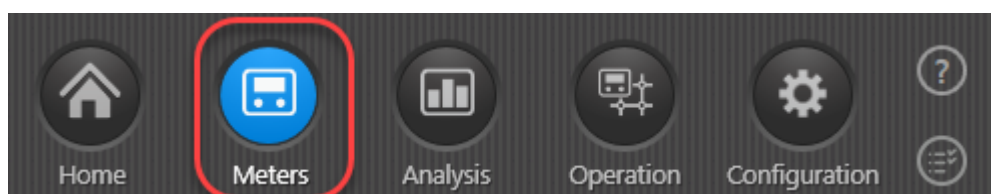
For details about creating a custom field, see [Adding a custom field to the Meters view](#).

Once you have created the custom field, you enter information into the field by editing the information of the meter/customer in question. For details, see [Editing meter/customer information](#).

### 20.4.8 Deleting a meter/customer

Use the following procedure to delete a meter (including customer information and meter readings):

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, click the meter(s) you want to delete.

The customer information attached to the meter will be deleted along with the meter. If you only want to delete the customer information, follow the [Editing customer/meter information](#) procedure and delete the text in the customer fields.

3. Click the **Delete** button above the list.

The customer information attached to the meter will be deleted, and the meter will be removed from the **Meters** view and moved to the list of meters in stock.

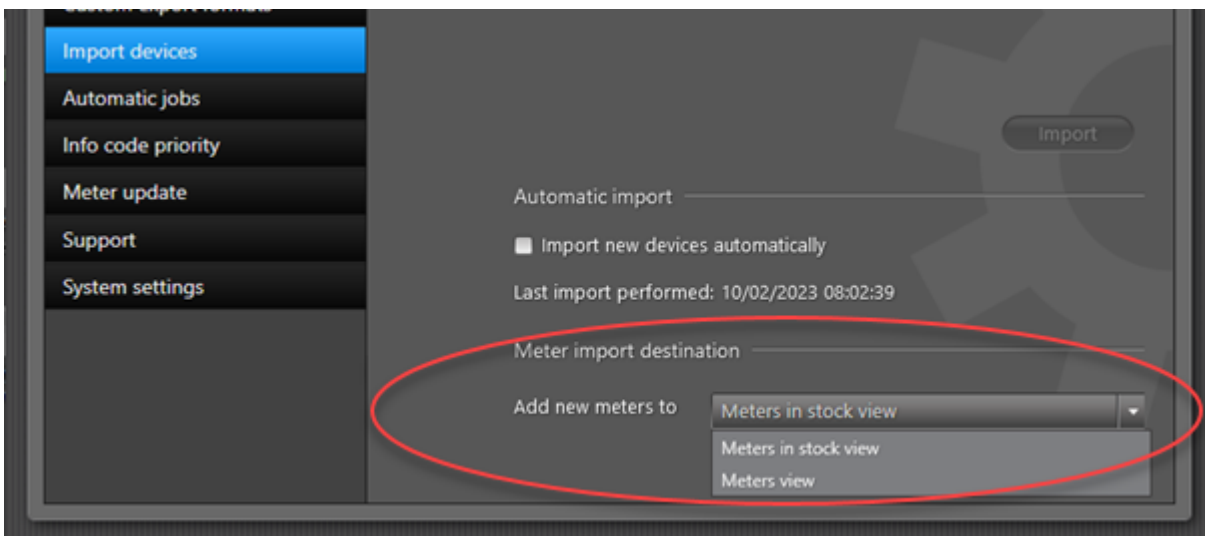
4. In the window that appears, click **Yes** to confirm the deletion.
5. Click **Meters in stock** to open the list of meters in stock.
6. Select the meter you just deleted in the **Meters** view, and click **Delete**.

**Important** All readings for the selected meter(s) will be deleted.

7. In the window that appears, click **Yes** to confirm the deletion.

### 20.4.9 Moving meters in stock to Meters view

New meters you import into READY Manager are automatically added to the list of meters in stock if you have set up your import function to do so (meters in stock do not count as “subscription metering points” meaning that you will not exceed the maximum number of meters in your subscription by having new meters in stock):

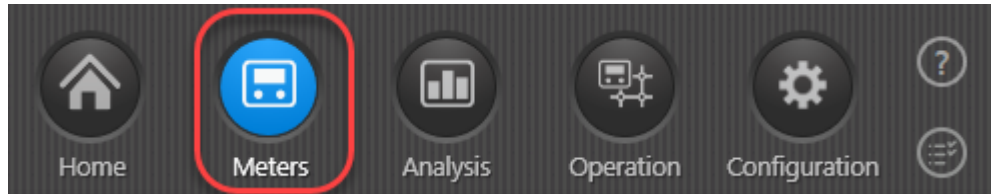


The meters are automatically moved from the list of meters in stock to the **Meters** view when the meter’s serial number is attached to an installation address by [importing a CIS \(Customer Information System\) file into READY](#). However, you can also manually move new meters in stock to the **Meters** view.

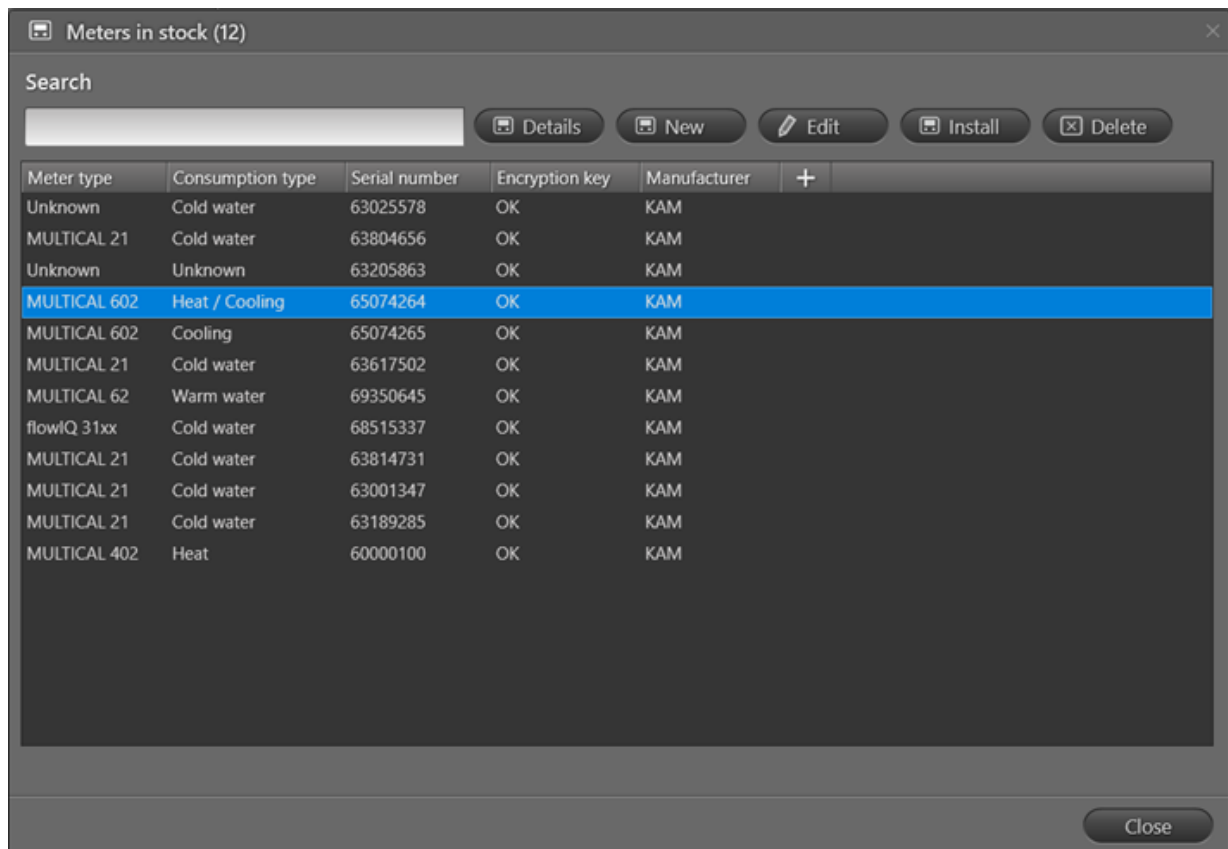
**Note** If the meter is not a new meter but a previously used meter that has a reading history, you cannot move it to the **Meters** view again. If you have the Meter Exchange add-on to READY, you can use its functions to reuse old meters. For details, see [Meter exchange](#).

## How to move meters in stock to the Meters view

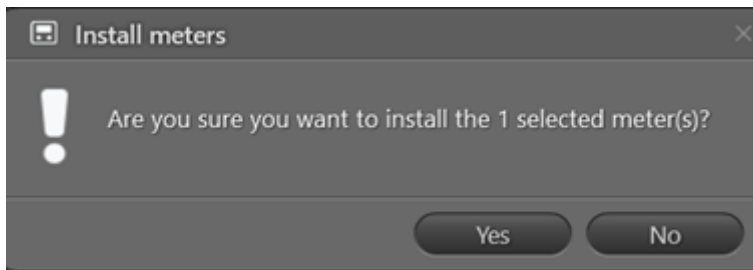
1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. Click the **Meters in stock** button above the list.
3. In the list of meters in stock that appears, select the meter(s) you want to move to the **Meters** view:



4. Click the **Install** button above the list.
5. In the message that appears, click **Yes** to confirm:



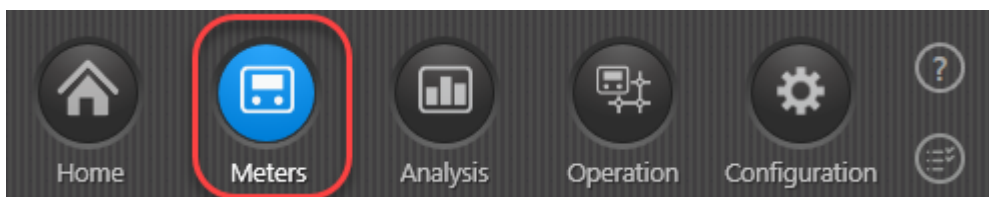
- Click **OK** in the message that appears when the meters have been moved.

### 20.4.10 Details on meter configuration

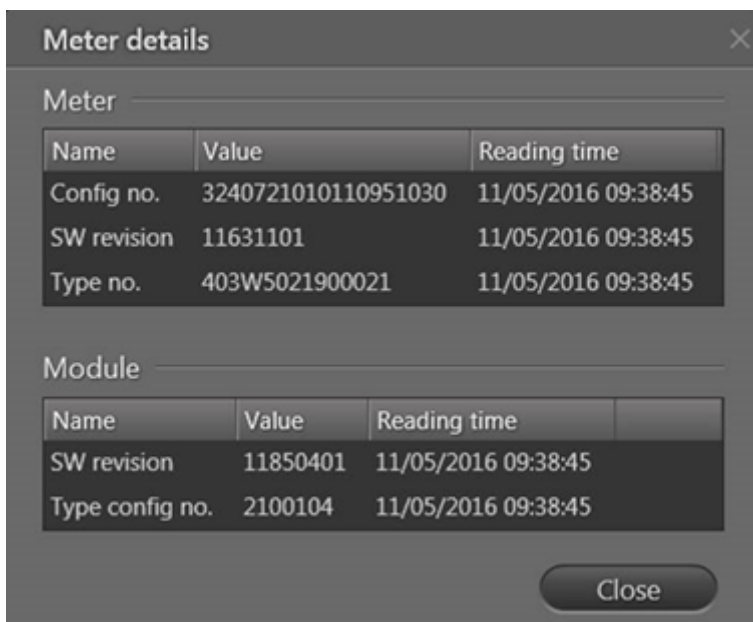
If you want to know the exact configuration of a meter (or a module in the meter), e.g. if it has the right or newest configuration software, follow the procedure below:

#### How to see configuration details on a meter

- Click  in the upper-right corner of READY Manager to open the **Meters** view.



- Select the meter for which you want to see the exact configuration information, and click the **Details** button that appears above the list:



**Name** tells you what kind of configuration data it is.

**Value** is the configuration data. Note that the exact meaning of the configuration and type numbers can be found in the Technical description document for the meter in question:

**3.2 Configuration numbers**

The software configuration of MULTICAL® 403 is defined on the basis of the configuration number. Below you see an overview of the meter's configuration number. Each part of the configuration number is described in more detail in the following paragraphs.

	A	B	CCC	DDD	EE	FF	GG	L	N	PP	RR	T	VVVV
<b>Flow sensor position</b>													
Inlet	3												
Outlet	4												
<b>Measuring unit</b>													
G		2											
l/h		3											
MWh		4											
<b>Flow sensor coding</b> (See paragraph 3.2.3)			CCC										
<b>Display</b> (See paragraph 3.2.4)				DDD									
<b>Tariffs</b>													
No active tariff					00								
Power tariff					11								
Flow tariff					12								
15-12 tariff					13								
Inlet tariff					14								
Outlet tariff					15								
Time controlled tariff					18								
Heat/cooling volume tariff					20								
PD-tariff					21								
<b>Pulse inputs A and B</b> (See paragraph 3.2.6)						FF	GG						
<b>Integration mode</b>													
Adaptive mode (4-64 s.)								1					
Normal mode (32 s.)								2					
Fast mode (4 s.)								3					
<b>Cold water leak detection (inputs A and B)</b>													
OFF									0				
30 min. without pulses									1				
only hour without pulses									2				
Two hours without pulses									3				
<b>Pulse duration of pulse outputs C and D</b>													
32 ms										95			
100 ms (0.1 s.)										96			
<b>Controlled output</b> (Output controlled by data commands)													
										99			
<b>Data logger profile</b> (See paragraph 3.2.11)											RR		
<b>Encryption level</b>													
Common key												2	
Individual key												3	
<b>Customer label</b> (See paragraph 3.2.13)													XXXX

Extract of a page in the Technical description for MULTICAL® 403.

**Reading time:** The time at which the displayed meter configuration data was read. The meter configuration data are read before the meter leaves Kamstrup (reading time says "Read at factory") and subsequently during meter updates and log readings.

3. Click **Close** to close the window again.

### Mixed fluid values

For the mixed fluid meters, MULTICAL® 603M and 803M, read via wired M-Bus or two-way wireless M-Bus (converter or optical head), 'fluid type' and 'concentration' values are also shown in the **Meter details** window:

Meter details		
Meter		
Name	Value	Reading time
Config no.	34100210142424500951030000	21.10.2019 10:00:59
Concentration	10	21.10.2019 10:00:59
Fluid type	10	21.10.2019 10:00:59
SW revision	15750029	21.10.2019 10:00:59
Type no.	603M2M1C1120022	21.10.2019 10:00:59

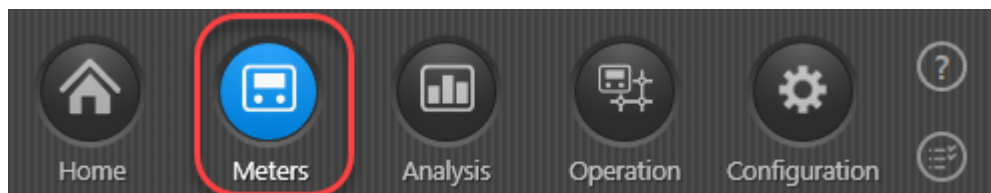
Module		
Name	Value	Reading time
SW revision	11851101	21.10.2019 10:00:59
Type config no.	2200801	21.10.2019 10:00:59

Close

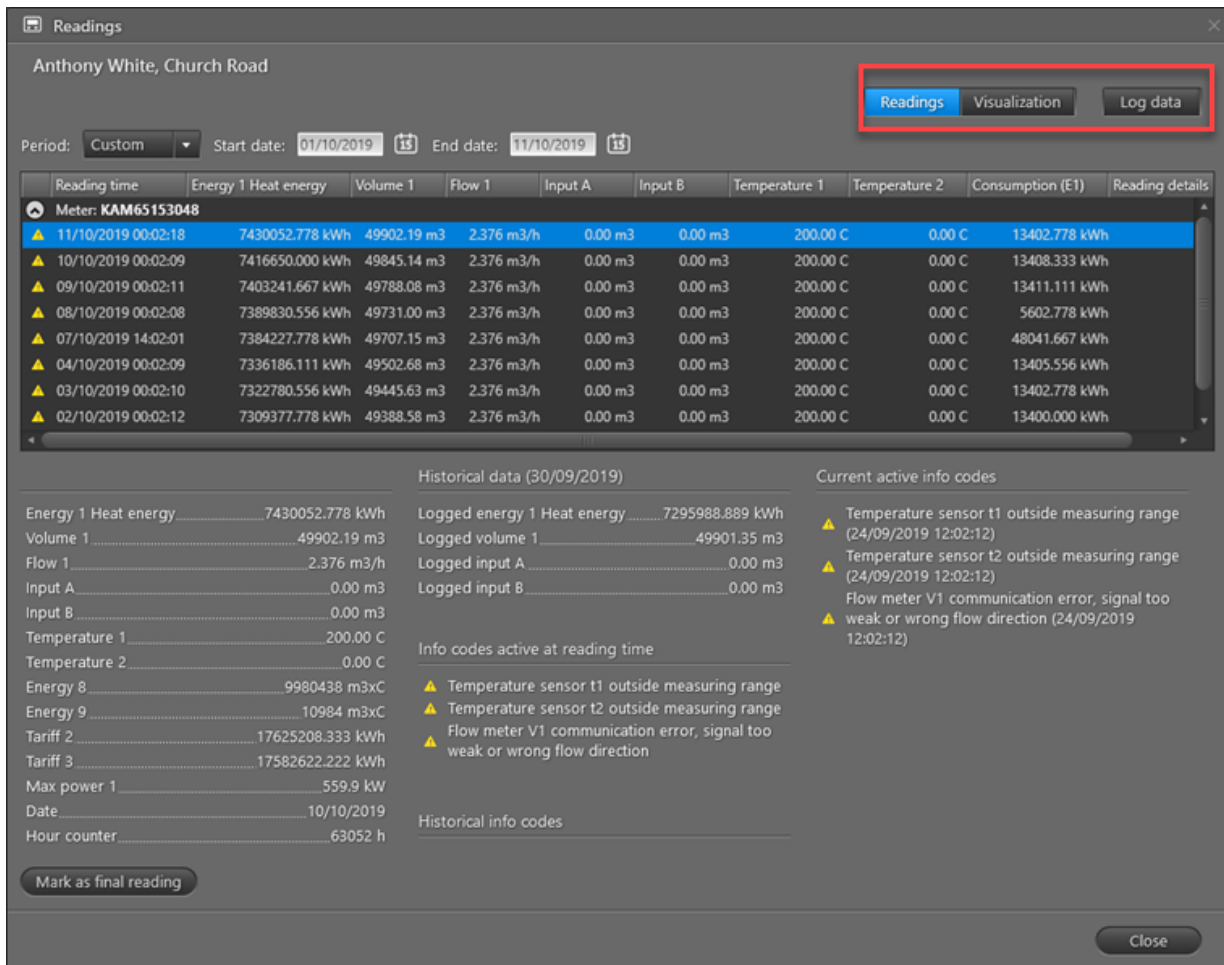
### 20.4.11 See readings for a meter

Use the following procedure to see all reading data for a meter:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, double-click the meter whose reading data you want to see.
3. Follow Step 3a, 3b or 3c:



- a. To see a list of readings collected for this meter via your mobile app or via your network, select the **Readings** view.

For details about the **Readings** view, see [Readings](#).

OR

- b. To see a graph of the readings collected for this meter via your mobile app or via your network, select the **Visualization** view.

For details about the **Visualization** view, see [Visualization](#).

OR

- c. To see all logged data collected using an optical head on the meter, select the **Log data** view.

For details about the **Log data** view, see [Logged data](#).

- 4. Click **Close** to close the window.

### Automatic deletion of data (thinning of data)

Readings collected via your network will be reduced according to the following rules:

- The first 13 months all readings are stored.
- After 13 months, only one reading per day will remain.
- After 5 year, no readings will remain in the database (no matter how they were collected).

**Transition from summer to standard time and vice versa**

Meter readings are sorted according to UTC time (Coordinated Universal Time which is not adjusted for summer time) to make sure that the “extra” reading that appears because the clock is set back by one hour in autumn is always sorted correctly in relation to the reading that was already collected one hour ago.

Furthermore, a notification appears at the top of the window if you select a time period that includes the transition from summer to standard time or vice versa:

Readings  
Jennifer Jones, North Street

Period: Custom Start date: 31/10/2021 End date: 31/10/2021

A change to/from daylight saving time present in this view

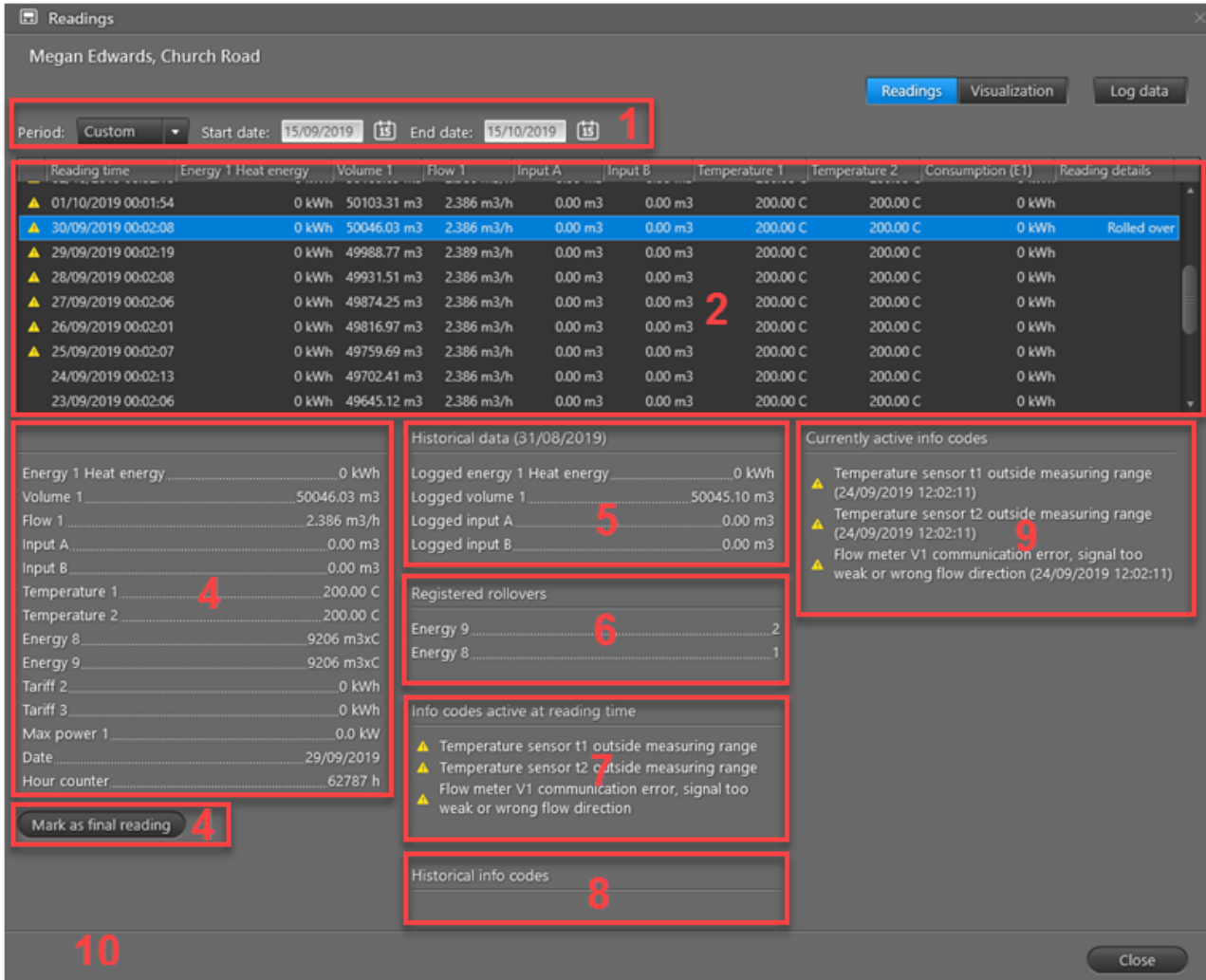
Reading time	Energy 1 Heat energy	Volume 1	Flow 1	Temperature 1	Temperature 2	Consumption (V1)	Consumption (E1)	Res
31/10/2021 13:02:07	583240 kWh	21719.16 m3	0.492 m3/h	59.45 C	35.89 C	8.97 m3	251 kWh	
31/10/2021 12:02:16	582989 kWh	21710.19 m3	0.354 m3/h	59.19 C	36.05 C	8.96 m3	252 kWh	
31/10/2021 11:02:13	582737 kWh	21701.23 m3	0.210 m3/h	61.32 C	42.72 C	11.04 m3	309 kWh	
31/10/2021 10:02:06	582428 kWh	21690.19 m3	0.444 m3/h	60.80 C	39.00 C	12.46 m3	384 kWh	
31/10/2021 09:02:07	582044 kWh	21677.73 m3	0.630 m3/h	62.69 C	35.46 C	13.84 m3	421 kWh	
31/10/2021 08:02:16	581623 kWh	21663.89 m3	0.486 m3/h	62.52 C	36.38 C	13.70 m3	419 kWh	
31/10/2021 07:02:02	581204 kWh	21650.19 m3	0.408 m3/h	64.16 C	36.19 C	12.58 m3	384 kWh	
31/10/2021 06:02:09	580820 kWh	21637.61 m3	0.786 m3/h	64.53 C	38.88 C	13.61 m3	381 kWh	
31/10/2021 05:02:08	580439 kWh	21624.00 m3	0.630 m3/h	59.07 C	33.88 C	4.80 m3	135 kWh	
31/10/2021 04:02:15	580304 kWh	21619.20 m3	0.522 m3/h	59.52 C	31.40 C	10.59 m3	312 kWh	
31/10/2021 03:02:12	579992 kWh	21608.61 m3	0.372 m3/h	61.01 C	35.65 C	11.88 m3	364 kWh	
31/10/2021 02:02:05	579628 kWh	21596.73 m3	0.402 m3/h	63.28 C	34.88 C	12.68 m3	372 kWh	
31/10/2021 02:02:07	579256 kWh	21584.05 m3	0.834 m3/h	63.10 C	33.68 C	12.12 m3	348 kWh	
31/10/2021 01:02:17	578908 kWh	21571.93 m3	0.702 m3/h	60.63 C	37.13 C	10.26 m3	287 kWh	

Historical data      Currently active info codes

Energy 1 Heat energy .....579628 kWh

### 20.4.11.1 Readings

The **Readings** view shows a list of all readings collected for a meter via READY App or via your network:



The exact information shown in this window depends on the meter type and what has been configured for this meter.

1. Selection of time interval for which you want to see all readings. Select "Custom" in the **Period** field and then the desired start and end dates. Or select "Day", "Month" or "Year" and then the desired date/month/year.
2. List of all readings that took place in the selected time interval. Select a reading in the list to see more details below the list.
3. The reading data collected on the actual reading date.
4. A **Mark as final reading** button that lets you mark a reading as "Final reading" (for details, see [Final readings](#)).
5. Collected reading data from the monthly target date. The monthly target date reading is automatically collected along with the data from the actual reading date. For MULTICAL® 62, the

target date is the date that is configured in the meter. For all other meters, the target date is the first day of the month.

6. If the meter has reached its maximum value and rolled over (i.e. reverted to a zero reading), the rollover count for relevant reading data is shown here. The rollover count is the total number of rollovers up until the selected reading date.
7. Info codes (leakage, burst, power error, etc.) that were active at the time of the reading.
8. Info codes (leakage, burst, power error, etc.) that are no longer active but have been logged in the meter within the last 30 days before the reading.
9. For meters read by READY Concentrator 1M: Info codes (leakage, burst, power error, etc.) that are currently active on today's date with a time stamp that indicates when the info code was first registered.
10. A button may be available here that lets you manually enter meter readings (for details, see [Manual meter reading](#)), start a new meter reading or a log reading for meters read via a wired M-Bus network (for details, see Reading one or a selection of meters in a wired M-Bus network) or disconnect the heat supply (for details, see [Disconnecting and reconnecting heat supply](#)).

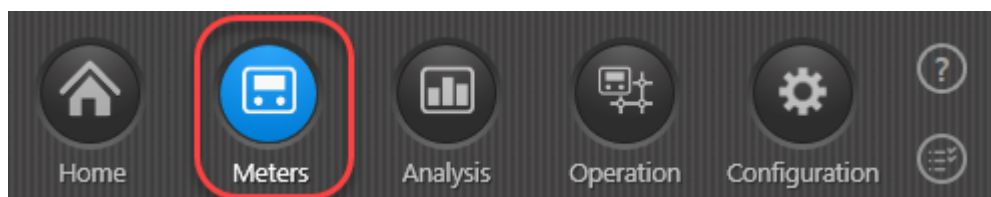
### 20.4.11.1.1 Final readings

When customers are moving out, you may want to mark a reading as final reading in order to make the final billing.

Follow the procedures below to mark a reading as final reading or to remove the final reading status from a reading:

#### How to mark a reading as final reading

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the list of meters, double-click the meter for which you want to mark a reading as final reading.
3. Select the **Readings** view in the upper right corner.
4. In the list of readings that appear, select the final reading, and click the **Mark as final reading** button below the list:

Peter Green, Station Road

Readings Visualization Log data

Period: Custom Start date: 06/04/2018 End date: 16/04/2018

Reading time	Energy 1 Heat energy	Volume 1	Flow 1	Input A	Input B	Temperature 1	Temperature 2	Consumption (E1)	Reading details
16/04/2018 11:56:32	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.41 C	4.20 C	0 kWh	
16/04/2018 03:56:33	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	
15/04/2018 06:56:31	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	
14/04/2018 21:56:28	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	
14/04/2018 16:56:30	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	
14/04/2018 09:56:32	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.21 C	0 kWh	
14/04/2018 07:56:29	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.41 C	4.20 C	0 kWh	
14/04/2018 06:56:30	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.21 C	0 kWh	
13/04/2018 09:55:55	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.40 C	4.19 C	0 kWh	

Historical data (01/04/2018) Current active info codes

Energy 1 Heat energy 31 kWh Logged energy 1 Heat energy 31 kWh  
 Volume 1 2.14 m3 Logged volume 1 2.14 m3  
 Flow 1 0.000 m3/h Logged input A 0.00 m3  
 Input A 0.00 m3 Logged input B 0.00 m3  
 Input B 0.00 m3  
 Temperature 1 92.41 C Info codes active at reading time  
 Temperature 2 4.20 C  
 Energy 8 97 m3xC  
 Energy 9 74 m3xC  
 Tariff 2 0 kWh Historical info codes  
 Tariff 3 0 kWh  
 Max power 1 0.0 kW  
 Date 16/04/2018  
 Hour counter 13864 h

Mark as final reading Close

5. In the window that appears, click **Yes** to confirm.

Mark as final reading

Are you sure you want to save the reading 16/04/2018 11:56:32 as final reading?

Yes No

The reading is now marked as final reading:

Peter Green, Station Road

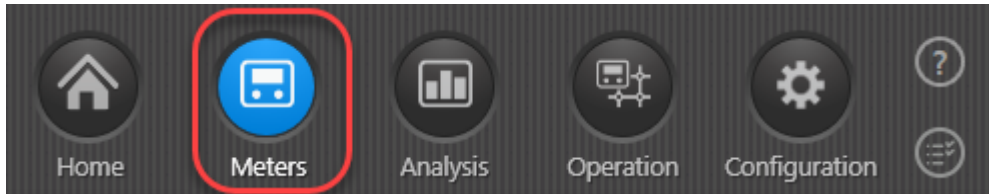
Readings Visualization Log data

Period: Custom Start date: 06/04/2018 End date: 16/04/2018

Reading time	Energy 1 Heat energy	Volume 1	Flow 1	Input A	Input B	Temperature 1	Temperature 2	Consumption (E1)	Reading details
16/04/2018 11:56:32	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.41 C	4.20 C	0 kWh	Final reading
16/04/2018 03:56:33	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	
15/04/2018 06:56:31	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	
14/04/2018 21:56:28	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	

## How to remove the final reading status from a reading

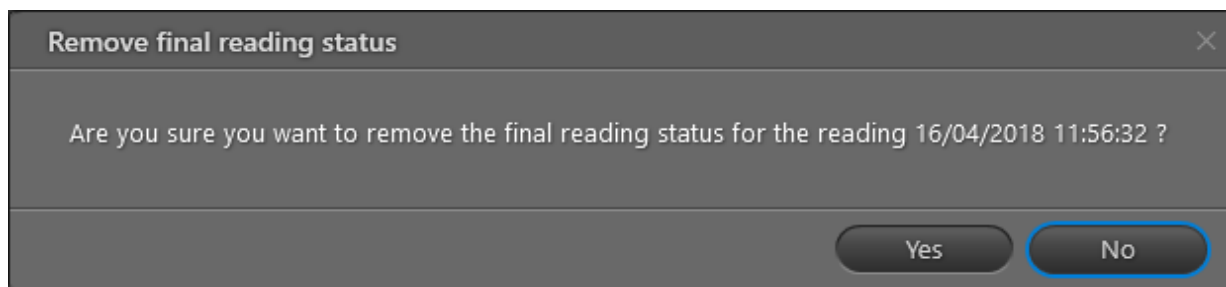
1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



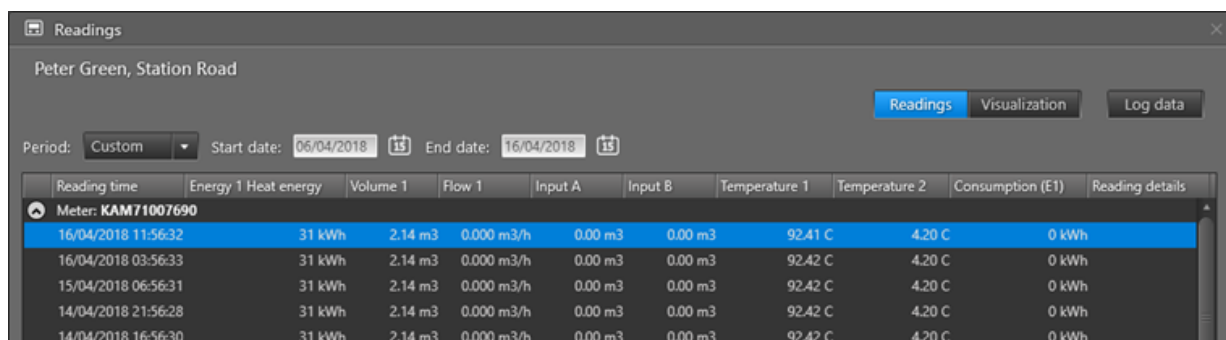
2. In the list of meters, double-click the meter for which you want to mark a reading as final reading.
3. Select the **Readings** view in the upper right corner.
4. In the list of readings that appear, select the final reading, and click the **Remove final reading status** button below the list:

Reading time	Energy 1 Heat energy	Volume 1	Flow 1	Input A	Input B	Temperature 1	Temperature 2	Consumption (E1)	Reading details
16/04/2018 11:56:32	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.41 C	4.20 C	0 kWh	Final reading
16/04/2018 03:56:33	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	
15/04/2018 06:56:31	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	
14/04/2018 21:56:28	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	
14/04/2018 16:56:30	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	
14/04/2018 09:56:32	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.21 C	0 kWh	
14/04/2018 07:56:29	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.41 C	4.20 C	0 kWh	
14/04/2018 06:56:30	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.21 C	0 kWh	
13/04/2018 09:55:55	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.40 C	4.19 C	0 kWh	
13/04/2018 03:56:02	31 kWh	2.14 m3	0.000 m3/h	0.00 m3	0.00 m3	92.42 C	4.20 C	0 kWh	

5. In the window that appears, click **Yes** to confirm.



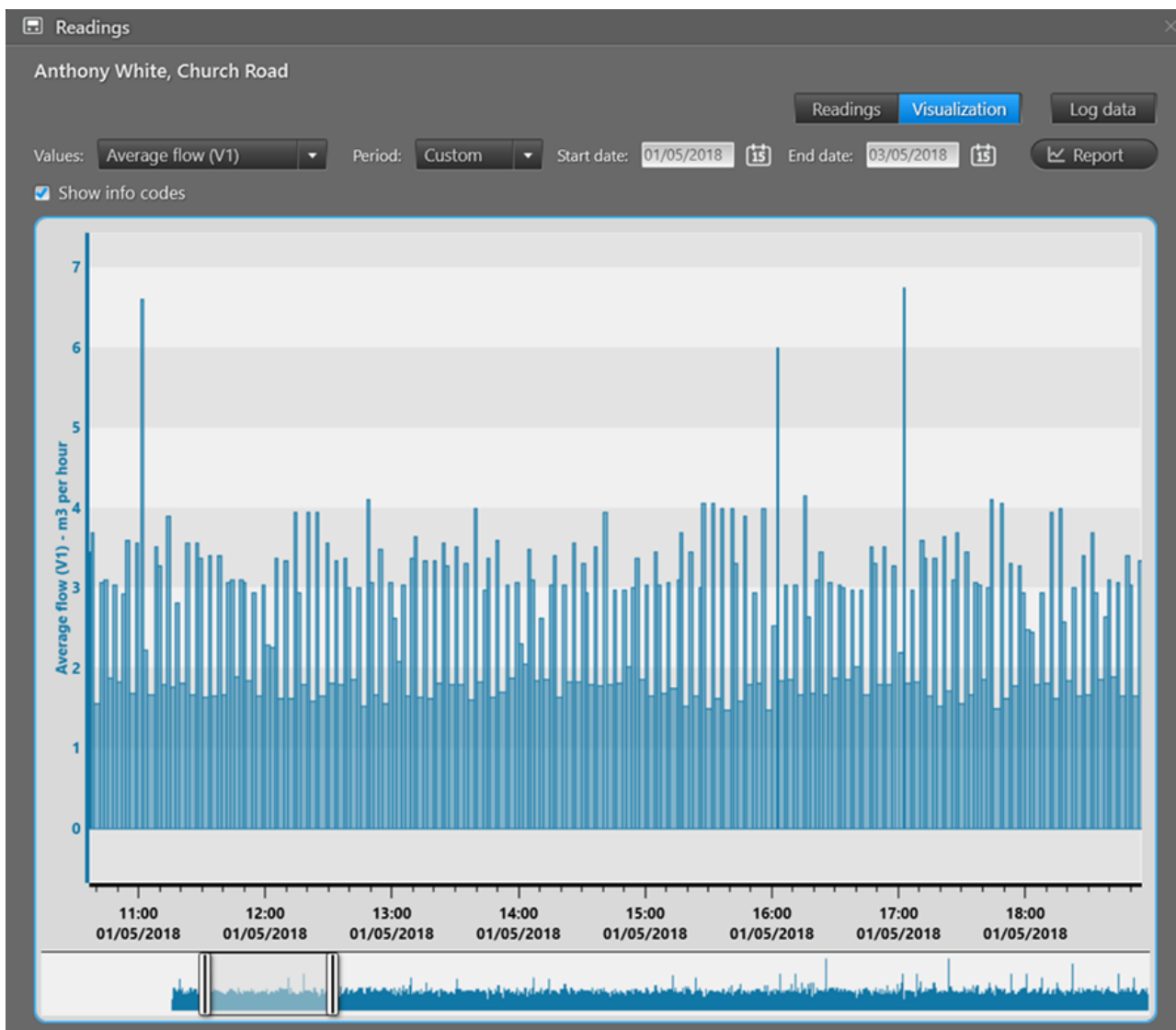
The final reading status is now removed from the reading:



### 20.4.11.2 Visualization

The **Visualization** view shows a graph of all readings collected for a meter via your READy App or via your network:

(For additional information about consumption graphs and pressure sensor graphs, see [Consumption graphs](#) and [Pressure sensor graphs](#).)



- In the **Values** field, you select the reading value from the meter you want to see.
- In the **Period** field, you select the time interval for which you want to see the reading data. Either select "Custom" and then the desired start and end dates, or select "Hour", "Day", "Month" or "Year" and then the desired date/month/year.
- The **Show info codes** check box lets you show and hide info codes (leakage, burst, etc. detected by the meter) on the graph. The display of info codes lets you compare them to the consumption to see connections and help you troubleshoot a problem, e.g. if a customer contacts you.

Info codes appear as triangle icons at the top of the graph. They are colored according to severity (grey, yellow and red), and if more info codes are present at a given time, the most severe is displayed on top. If you hold the mouse over the graph, a tooltip appears with information about the info codes registered at that time. If there are more info codes, you only see the number of info codes. If so, just click the info codes icons and drag to the left or right to zoom in and see the info codes.

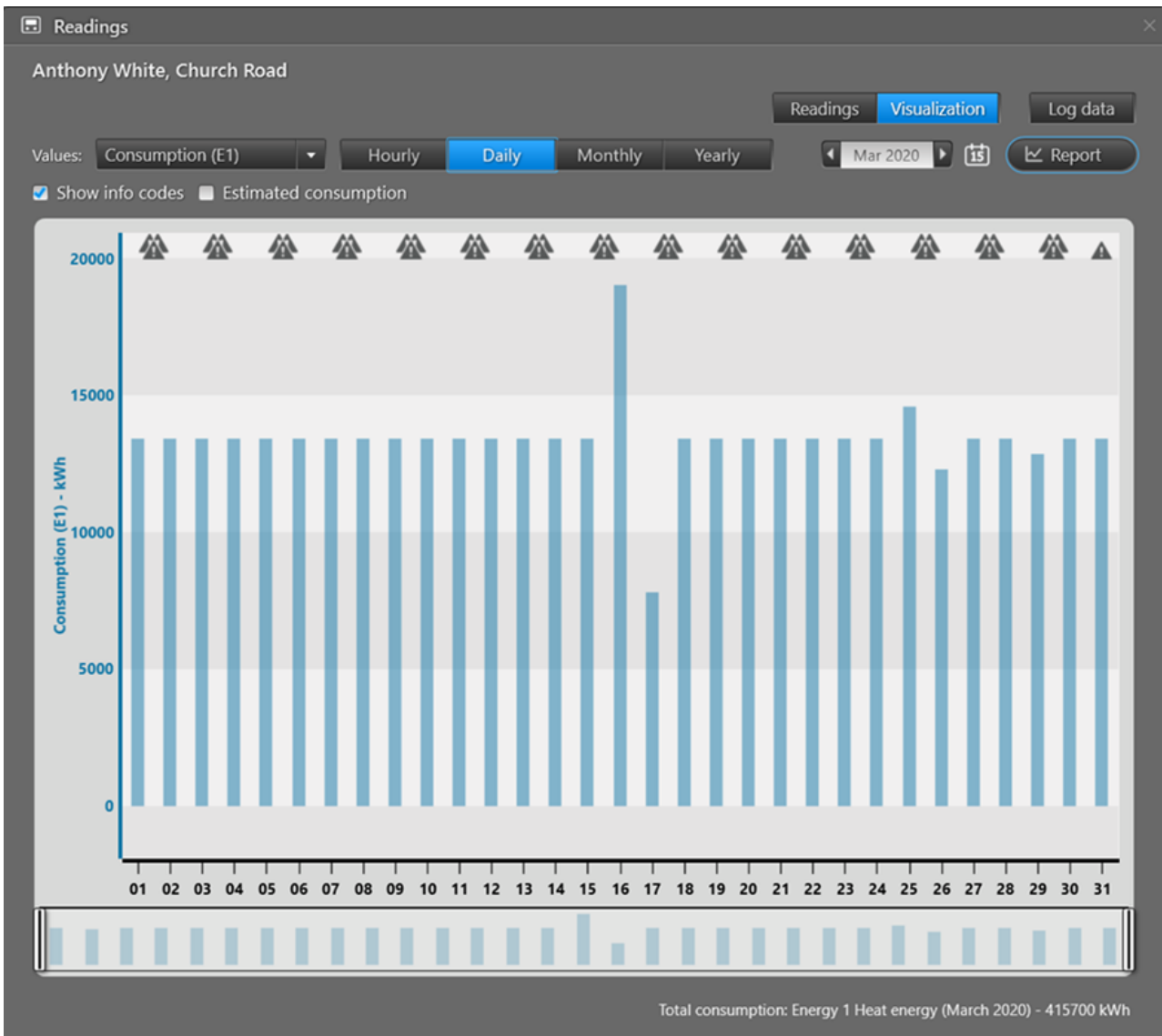
- The graph is displayed either as a curve or as bars depending on the meter value selected in the **Values** field. If you hold the mouse over the graph, a tooltip appears with the exact x and y axis values for that point on the graph. Left- or right-drag to zoom in on the graph, or use the slider below the graph to zoom in or out. Press HOME to return to default view.
- To create a report with a graph and its data, click the **Report** button.
- A button may be available in the bottom-left corner. It lets you manually enter meter readings (for details, see [Manual meter reading](#)), start a new meter reading or a log reading for meters read via a wired M-Bus network (for details, see Reading one or a selection of meters in a wired M-Bus), or disconnect the heat supply (for details, see [Disconnecting and reconnecting heat supply](#)).

#### 20.4.11.2.1 Consumption graphs

Consumption graphs show the hourly, daily, monthly or yearly consumption for the selected customer/meter in the selected time interval.

**Note** You will only be able to select hourly consumption if you have a READY subscription with hourly readings.

To open the **Readings** window with the graphs, you can double-click a customer/meter in either the **Meters** view or the [Consumption reports](#) view (make sure **Visualization** is selected at the top of the window):



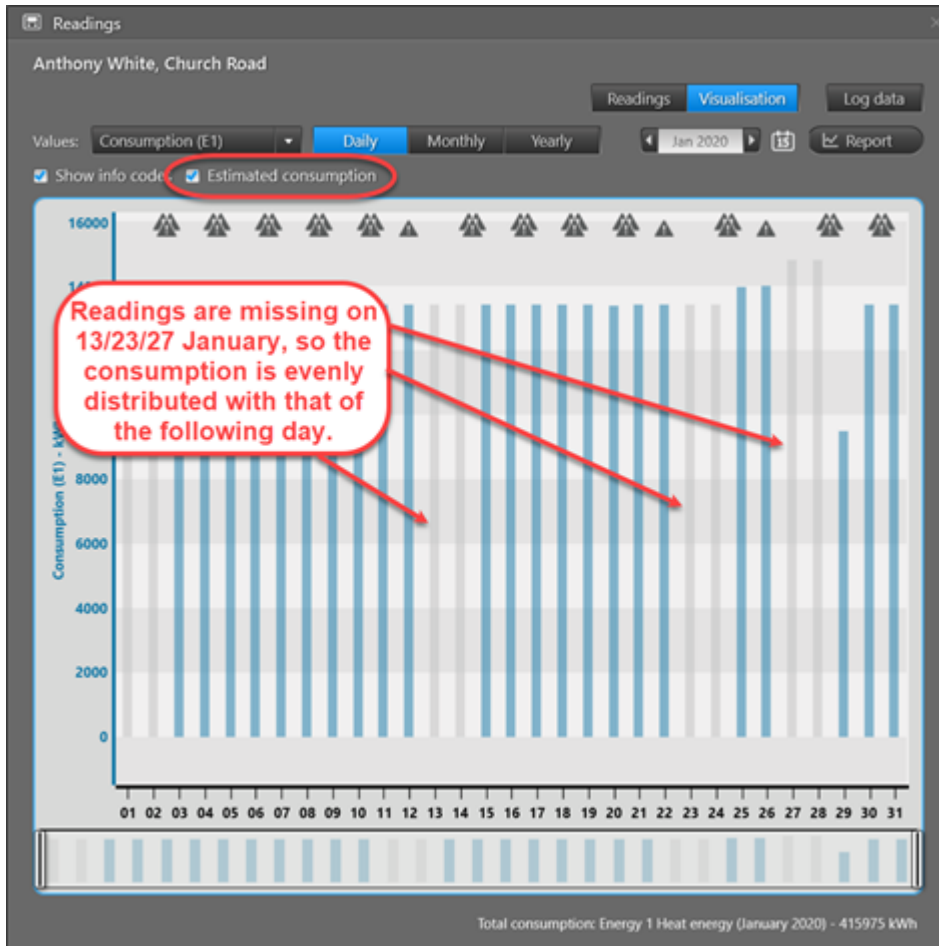
- In the **Values** field, select the consumption value you want to see.
- Select **Hourly**, **Daily**, **Monthly** or **Yearly** and then the desired date/month/year for which you want to see the consumption.

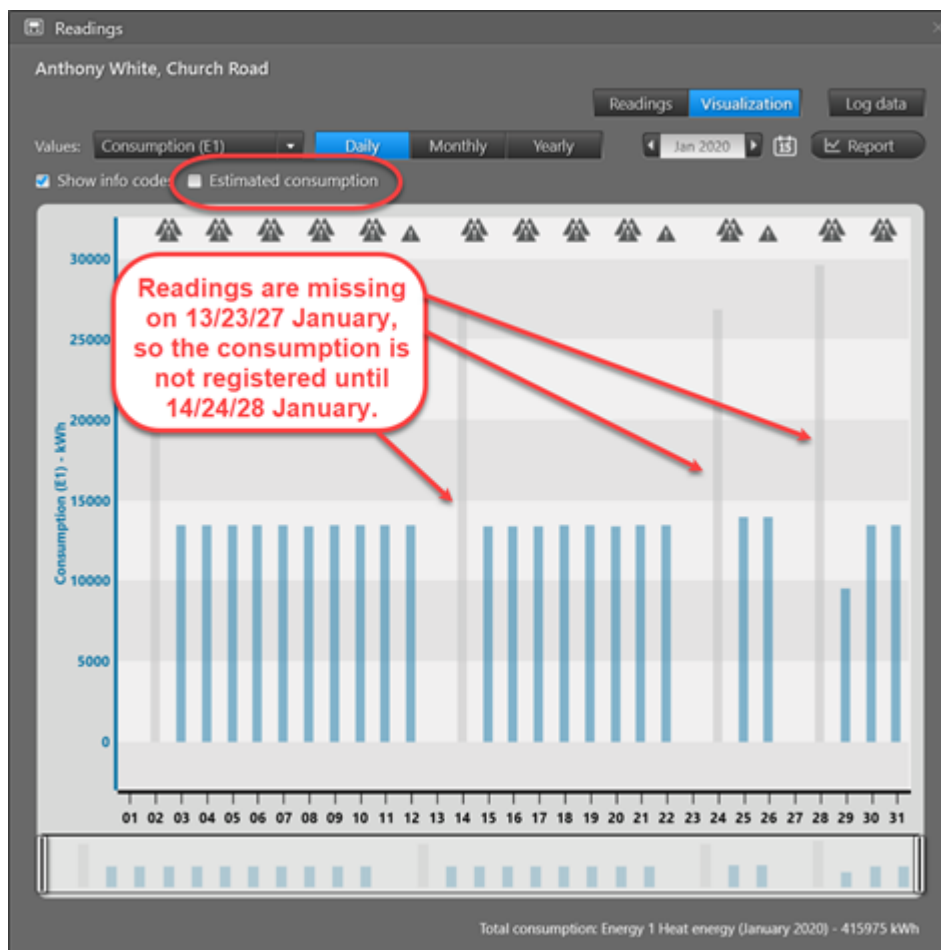
The total consumption for the selected period is displayed at the bottom of the window.

- Turn the **Show info codes** check box on or off to show or hide info codes (leakage, burst, etc.) detected by the meter on the graph. The display of info codes lets you compare them to the consumption to see connections and help you troubleshoot a problem, e.g. if a customer contacts you.

Info codes appear as triangle icons at the top of the graph. If you hold the mouse over the graph, a tooltip appears with information about the info codes registered at that time. If there are more info codes, you only see the number of info codes. If so, just click the info codes icons and drag to the left or right to zoom in and see the info codes.

- If readings are missing, click the **Estimated consumption** check box to distribute the consumption evenly over the available time (see first image below) or turn off **Estimated consumption** and register all consumption on the time of the actual reading (see second image below). The grey color indicates that the reading deviates from a normal reading.





- The consumption is displayed in a bar chart and if you hold the mouse over a bar, a tooltip appears with the exact consumption and time interval covered by the bar. Left- or right-drag to zoom in on the graph, or use the slider below the graph to zoom in or out. Press HOME to return to default view.
- To create a report with the graph and its data, e.g. to send it to a customer, click the **Report** button.

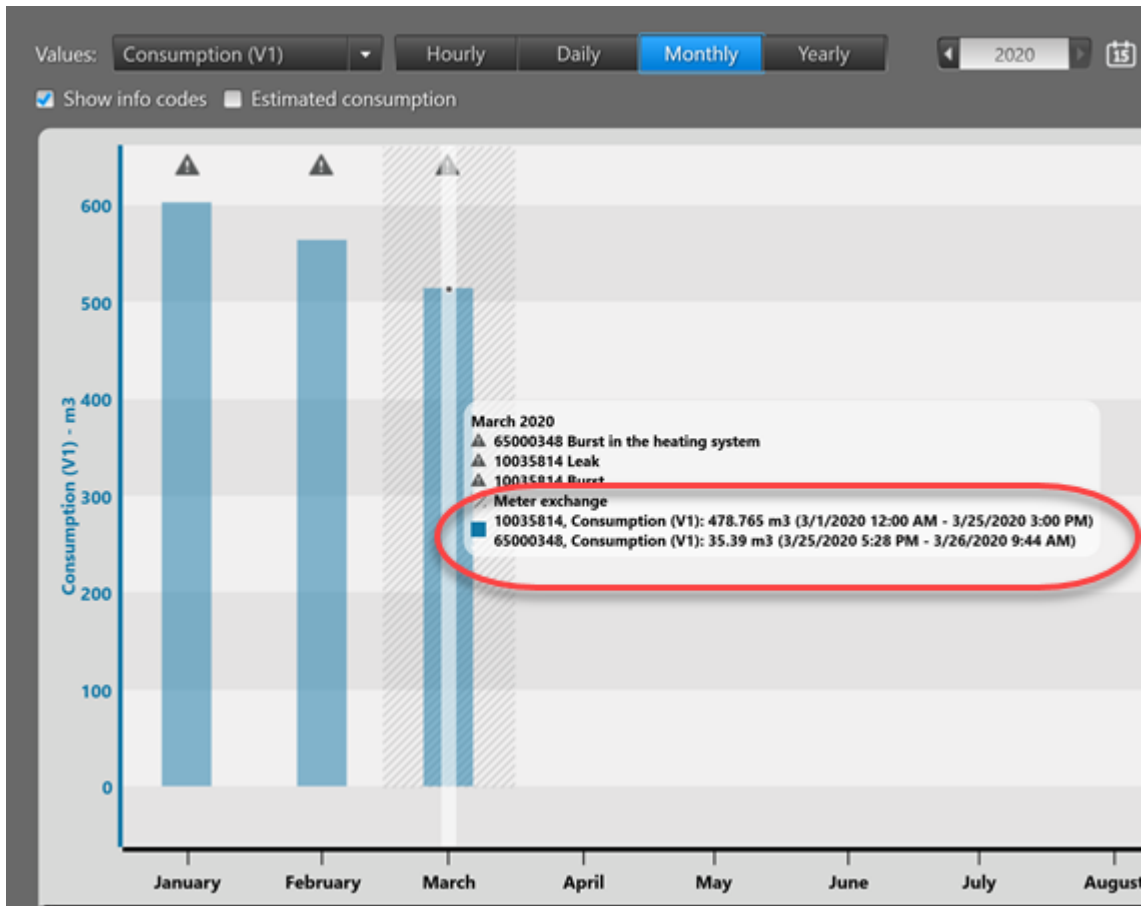
### Indication of meter rollover

If a meter has reached its maximum value and reverted to a zero reading, the consumption bar representing the time of the rollover is colored grey, and "Rollover" appears in the tooltip when you pause the mouse over the consumption bar.

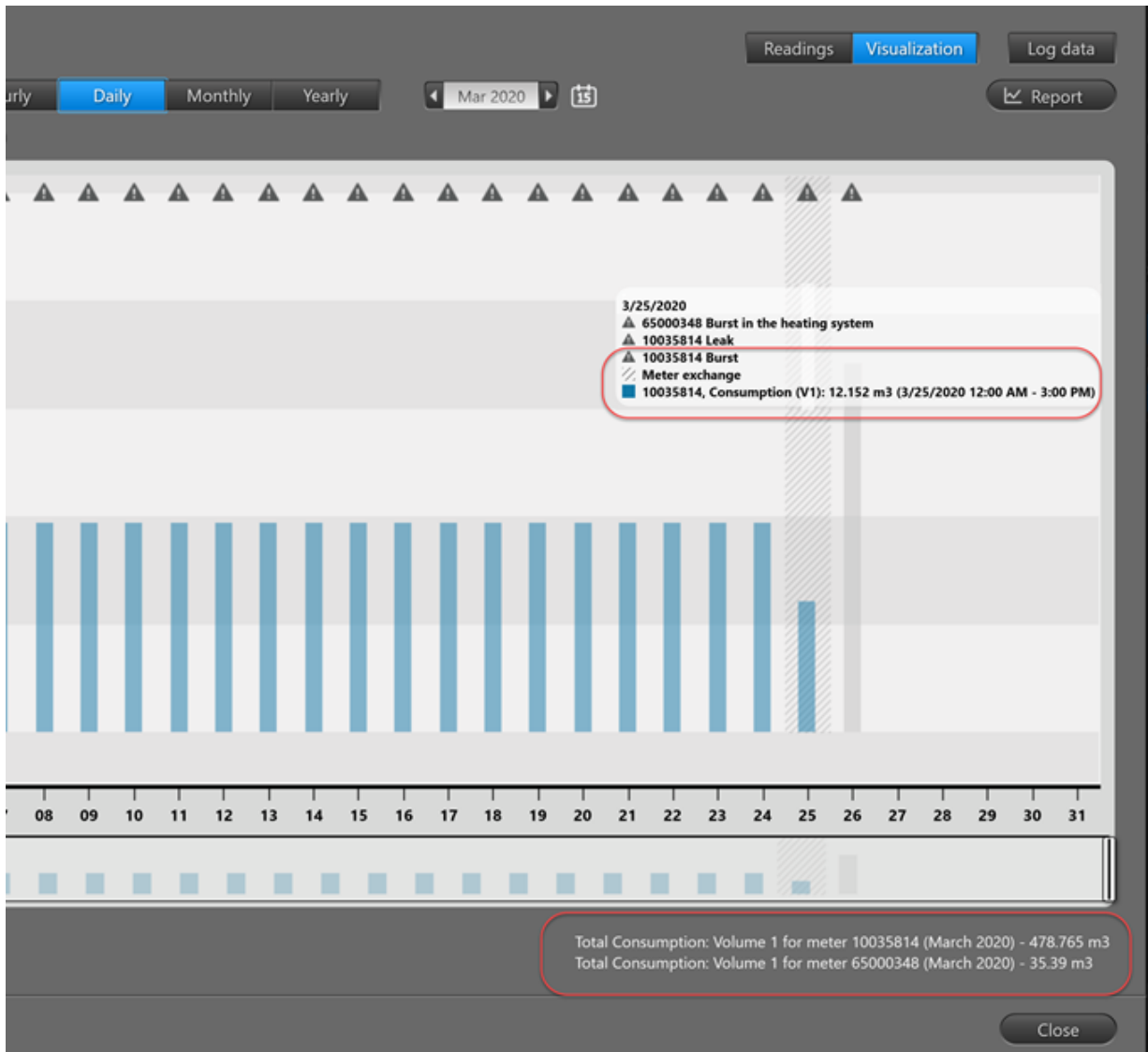
### Indication of meter exchange

A bar hatched with lines on the graph indicates that a meter exchange took place during the time represented by the bar. If you hold the mouse over the hatched bar, a tooltip appears with information about the meter exchange:

- For monthly and yearly consumption, the new and old meter serial numbers as well as the consumption and time interval that apply to each meter are shown:



- For hourly and daily consumption, the total consumption for both the new and the old meter is shown below the graph:



### 20.4.11.2 Pressure sensor graphs

When displaying pressure values for "Kamstrup PressureSensor" meters, two curves appear; one for maximum relative pressure and one for minimum relative pressure:

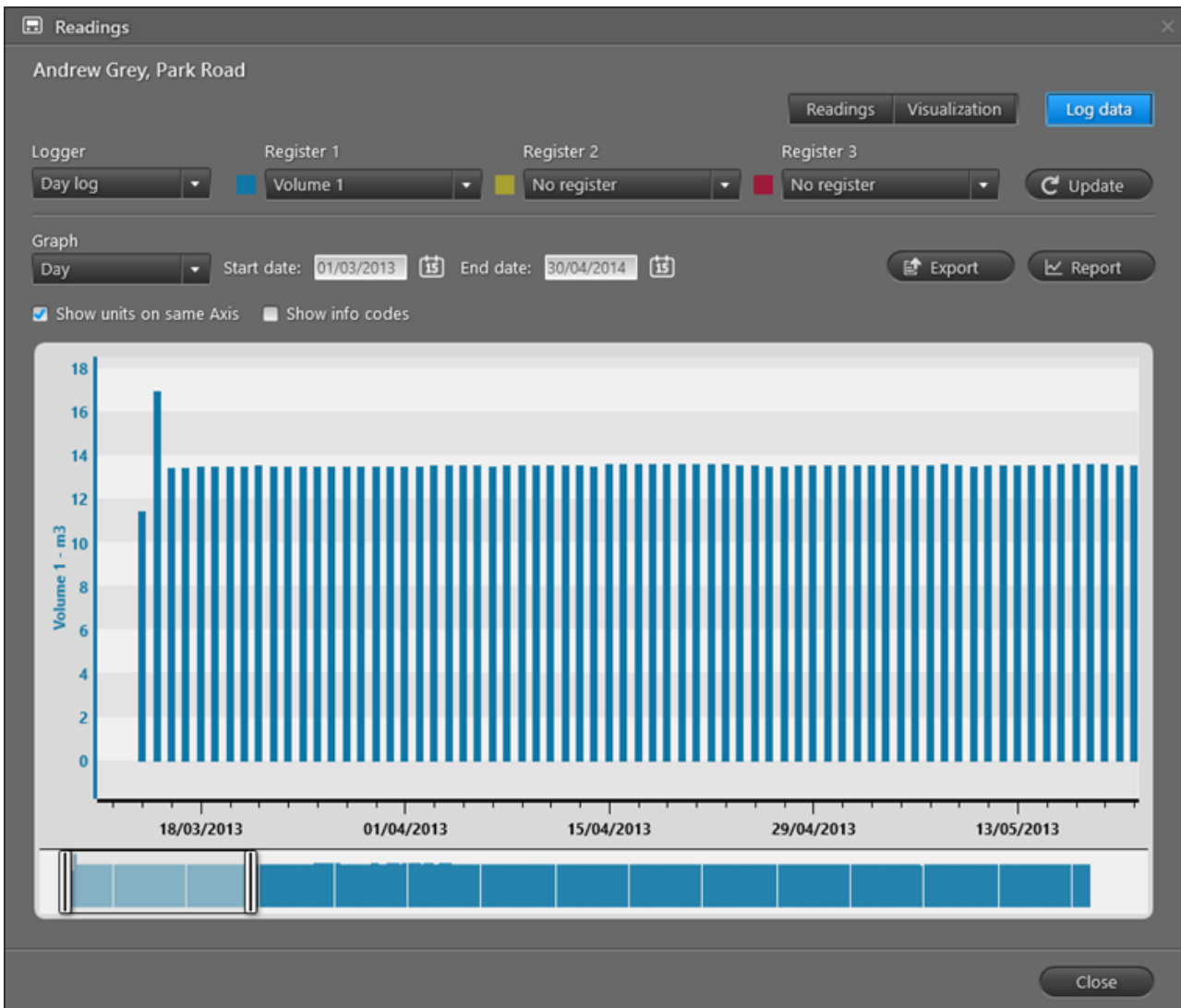


In the **Max. pressure** and **Min. pressure** fields, you select the maximum and minimum pressure limits that you want to appear on the graph (the two red dotted lines).

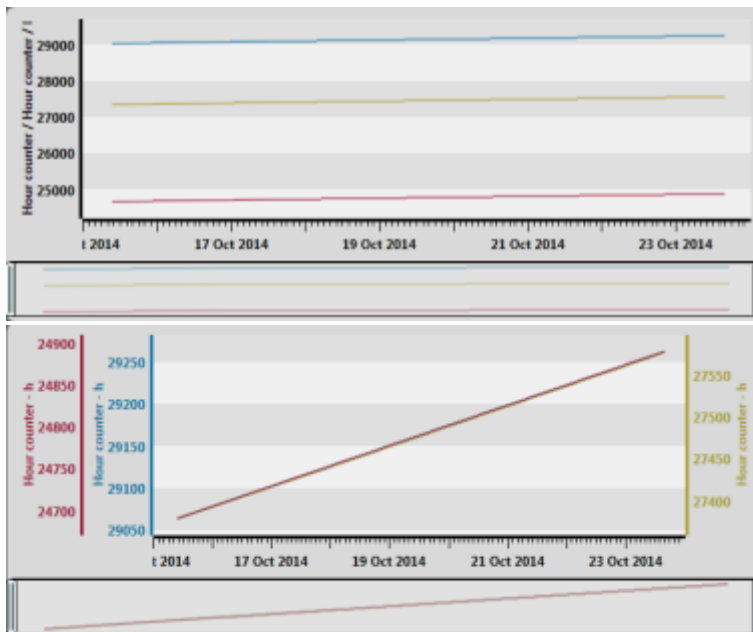
### 20.4.11.3 Logged data

The **Log data** view shows logged data collected using an optical head on the meter (or via READY Converter and wired M-Bus network for MULTICAL® 403 meters):

**Note** It is not possible to collect logged data from electricity meters.



- In the **Logger** field, you select the type of log (if the meter has more than one) for which you want to see data.
- In the **Register 1**, **Register 2** and **Register 3** fields, you can select up to three registers (within the selected log type) for which you want to see data.
- The **Update** button lets you update the graph display with your selections.
- In the **Graph** field, you select whether you want the graph to display the data values as they are read or as values per hour, day, month or year. For example, the consumption may be displayed as the total consumption so far (i.e. "as read"), or as the consumption per hour, day, month or year.
- In the **Start date** and **End date** fields, you select the time interval for which you want to see the logged data.
- Select **Show units on same axis** if you want to show similar units on the same y axis (left image below), or clear the selection in this check box to have a separate y axis for each meter (right image below):



- The **Show info codes** check box lets you show and hide info codes (leakage, burst, etc.) detected by the meter on the graph. The display of info codes lets you compare them to the consumption to see connections and help you troubleshoot a problem, e.g. if a customer contacts you. Info codes appear as triangle icons at the top of the graph. If you hold the mouse over an info code icon, a tooltip appears with information about the info code.
- The graph is displayed either as a curve or as bars depending on the meter value selected in the **Values** field. If you hold the mouse over the graph, a tooltip appears with the exact x and y axis values for that point on the graph. Left- or right-drag to zoom in on the graph, or use the slider below the graph to zoom in or out. Press HOME to return to default view.
- Export: Click the **Export** button to export a file with all logged data for the meter:

```
Meter serial number;Customer ID;Reading date;Reading time;V1 volume;Unit;*Info code
63149131;1137;2010-01-01;00:00:00;0,100;m3;Reverse
63149131;1137;2010-01-02;00:00:00;0,860;m3;The meter has been tampered with!
63149131;1137;2010-01-03;00:00:00;1,849;m3;
63149131;1137;2010-01-04;00:00:00;1,873;m3;Leak
63149131;1137;2010-01-05;00:00:00;2,420;m3;The meter has been tampered with!
63149131;1137;2010-01-06;00:00:00;2,760;m3;
63149131;1137;2010-01-07;00:00:00;3,612;m3;Dry
63149131;1137;2010-01-08;00:00:00;4,125;m3;Leak
63149131;1137;2010-01-09;00:00:00;4,471;m3;
63149131;1137;2010-01-10;00:00:00;5,187;m3;Leak
63149131;1137;2010-01-11;00:00:00;5,723;m3;Reverse
63149131;1137;2010-01-12;00:00:00;5,767;m3;
63149131;1137;2010-01-13;00:00:00;6,472;m3;Reverse
63149131;1137;2010-01-14;00:00:00;6,833;m3;
63149131;1137;2010-01-15;00:00:00;7,126;m3;The meter has been tampered with!
63149131;1137;2010-01-16;00:00:00;7,309;m3;
63149131;1137;2010-01-17;00:00:00;7,725;m3;The meter has been tampered with!
63149131;1137;2010-01-18;00:00:00;7,880;m3;Reverse
63149131;1137;2010-01-19;00:00:00;7,985;m3;
63149131;1137;2010-01-20;00:00:00;8,361;m3;Dry
63149131;1137;2010-01-21;00:00:00;9,109;m3;
63149131;1137;2010-01-22;00:00:00;9,468;m3;Reverse
```

- Report: Click the **Report** button to generate a report with the logged data currently displayed in the **Log data** view (including all info codes):

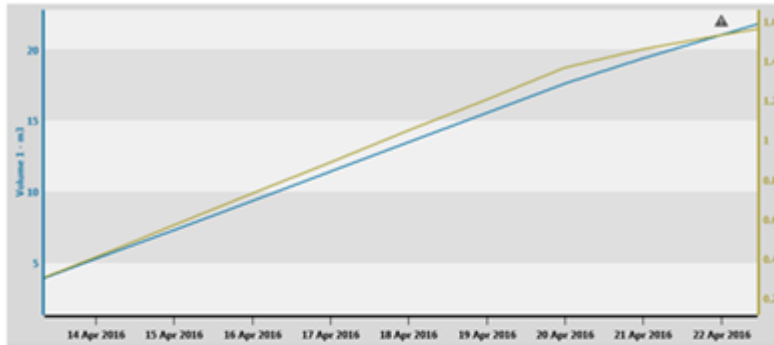
Log report

Period: 01 January 2015 - 02 May 2016

Customer:

Customer number:

Serial number: 71000440



Log registers:


Reading time	Volume 1[m³]	Volume 1[m³] - Consumption	Energy 1 Heat energy[MWh]	Energy 1 Heat energy[MWh] - Consumption
25/04/2016 00:00	25.96	1.65	1.728	0.065
24/04/2016 00:00	24.31	1.65	1.663	0.066
23/04/2016 00:00	22.66	1.64	1.597	0.067
22/04/2016 00:00	21.02	1.65	1.530	0.071
21/04/2016 00:00	19.37	1.78	1.459	0.097
20/04/2016 00:00	17.59	2.06	1.362	0.158
19/04/2016 00:00	15.53	2.06	1.204	0.160
18/04/2016 00:00	13.47	2.05	1.044	0.159
17/04/2016 00:00	11.42	2.06	0.885	0.159
16/04/2016 00:00	9.36	2.06	0.726	0.159
15/04/2016 00:00	7.30	2.05	0.567	0.160
14/04/2016 00:00	5.25	2.06	0.407	0.159
13/04/2016 00:00	3.19	2.05	0.248	0.159
12/04/2016 00:00	1.14	1.14	0.089	0.089
11/04/2016 00:00	0.00	0.00	0.000	0.000
10/04/2016 00:00	0.00	0.00	0.000	0.000
09/04/2016 00:00	0.00	0.00	0.000	0.000
08/04/2016 00:00	0.00	0.00	0.000	0.000
07/04/2016 09:58	0.00		0.000	

Info codes:












Reading time	Info codes active at reading time
22/04/2016 00:00	
13/04/2016 00:00	

- A button may be available in the bottom-left corner. It lets you manually enter meter readings (for details, see [Manual meter reading](#)), start a new meter reading or a log reading for meters read via a wired M-Bus network (for details, see Reading one or a selection of meters in a wired M-Bus) or disconnect the heat supply (for details, see [Disconnecting and reconnecting heat supply](#)).

### 20.4.12 Icons used on the map

If you select the **Meters** view  in the upper-right corner of READY Manager and then select the **Map** tab, you see your meters and/or your collection units on a map.

Below you will find a description of the different icons used on the map in READY Manager. They are also used on the map in READY App:

Icon	What it means
	Kamstrup heat meter.
	Kamstrup hot water meter
	Kamstrup heat/cooling meter
	Kamstrup cooling meter
	Kamstrup (cold) water meter
	Kamstrup PressureSensor
	Kamstrup Temperature and humidity sensor
	Kamstrup electricity meter
	Non-Kamstrup meter Note that the manufacturer is unknown until a meter is read for the first time. This means that Kamstrup meters may appear with an orange icon for a short time.
	Manually read meter
	Collection unit.

If you hover the mouse pointer over an icon, an information box appears:

The screenshot displays the READY Manager software interface. At the top, there is a navigation bar with icons for Home, Meters, Analysis, Operation, and Configuration. The main interface is divided into several sections:

- Search:** A search bar with a dropdown menu set to "All colu..." and a "Filter" button.
- Groups:** A list of meter groups with their respective counts:
 

All meters	560
Non-grouped meters	522
Last imported meters	141
Priority meters	1
Consumer meters	7
District meter	2
flowIQ31xx_Meters	3
flowIQ31xx_Meters_Meters	0
MC21_Meters	21
MC61_Meters	5
- Meter:** A section with buttons for "View readings", "Details", "New", "Export", "Refresh", "Edit", "Delete", and "Meters in stock".
- Group:** Buttons for "Add to group" and "Remove from group", along with "List" and "Map" tabs.
- Map:** A satellite map view showing meter locations marked with colored pins. A tooltip for a specific meter is visible, showing the address "65028809 Sharon Brown Park Road MULTICAL 62 Warm water".

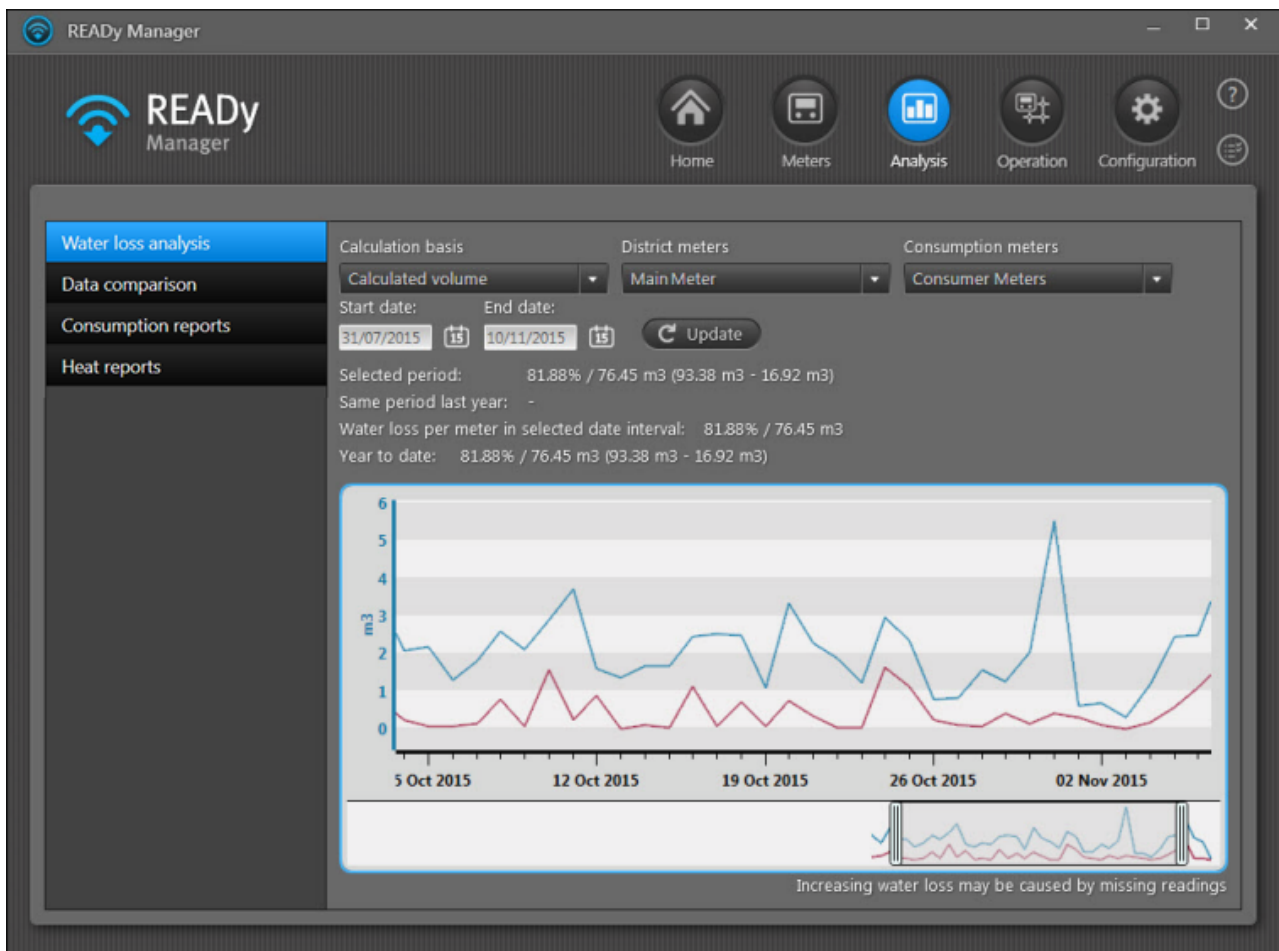
At the bottom of the map, there is a status bar indicating "Meters without coordinates: 514, Meters with coordinates: 46".

## 20.5 Analysis view

The **Analysis** view lets you:

- [calculate the water loss in your network](#)
- [compare the reading values of up to 3 meters](#)
- [generate heat reports](#)

You open the **Analysis** view by clicking **Analysis**  in the upper-right corner of READY Manager:



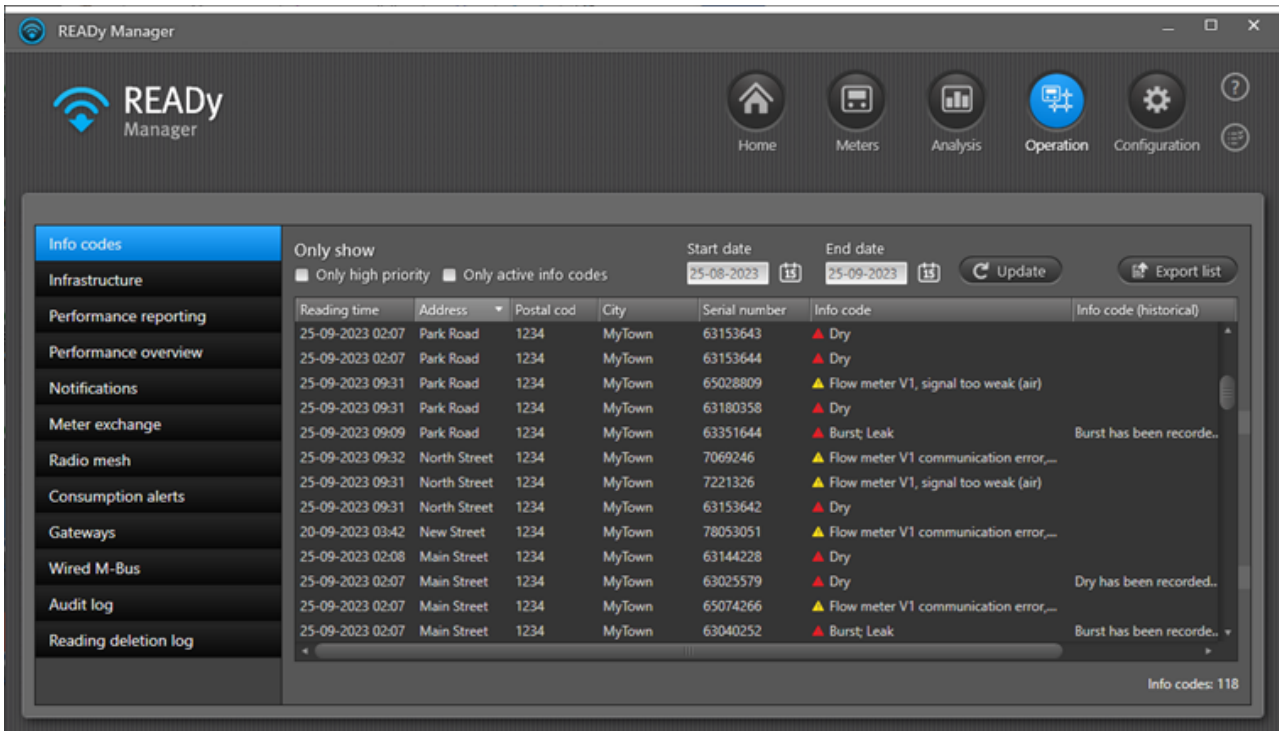
## 20.6 Operation view

The **Operation** view lets you:

- [Get an overview of meter info codes](#)
- [Monitor the connection to collection units in your network \(if you have a Fixed Network or Mixed Infrastructure for Drive-by reading solution\)](#)
- [Export reading performance reports](#)
- [Get an overview of meter reading performance](#)
- [Receive automatic notification of meter events \(info codes\)](#)
- [Exchange meters](#)
- [Monitor gateways for Siemens MAG 8000 meters and READY MTU](#)
- Read meters in wired M-Bus network
- [See an audit log of user actions in READY Manager](#)


- [See a log of meter reading deletions](#)

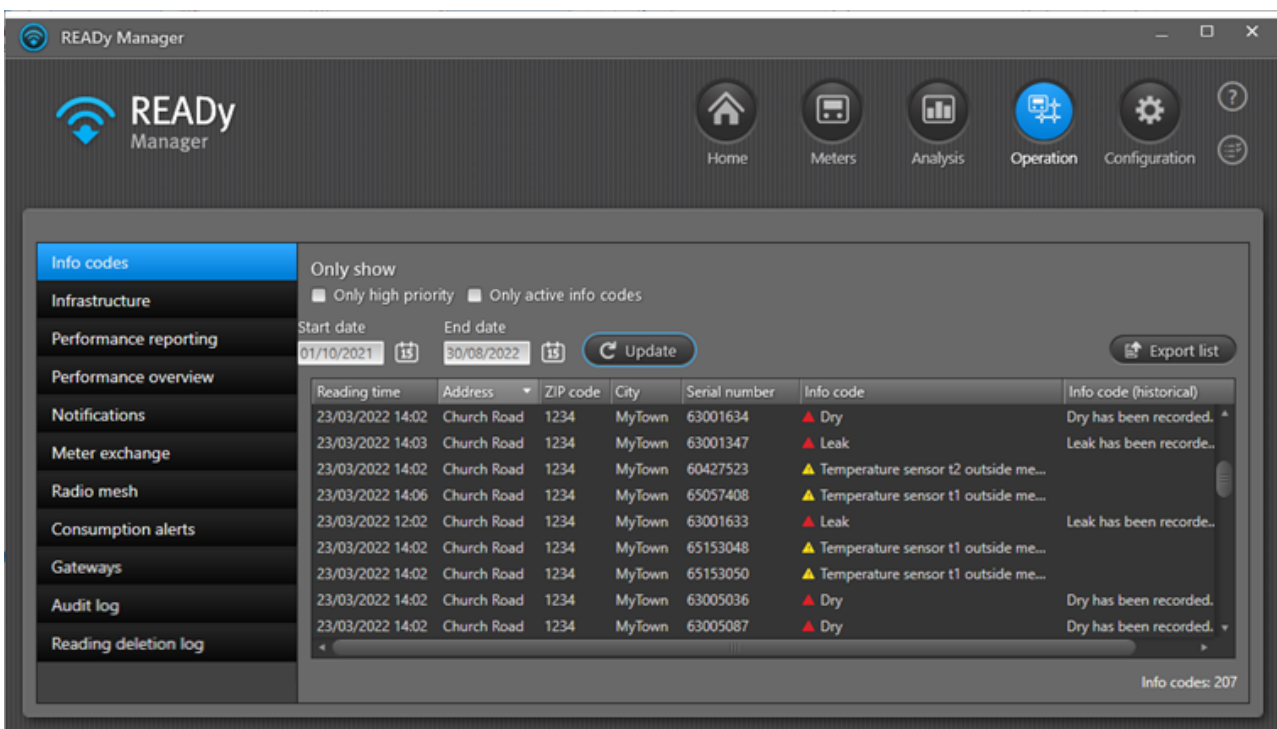
You open the **Operation** view by clicking **Operation**  in the upper-right corner of READY Manager:



### 20.6.1 Info codes

You can get an overview of all meter info codes, e.g. leakage, burst and power error, that were registered at the time of the last meter reading. The overview shows one row per meter.

You open the info codes overview by clicking **Operation**  in the upper-right corner of READY Manager, and selecting **Info codes** in the menu to the left:



To see the meters with high priority info codes only, select **Only high priority**. High priority info codes are marked with a red triangle. For details, see [Prioritizing info codes](#).

To see meters with active info codes only (i.e. meters with a least one active info code at the time of the last reading), select **Only active info codes**. If you clear the selection of this check box, water meters with historical info codes only (i.e with no active info codes at the time of the last reading) will also be displayed in the list.

To see the info codes for a specific period, select the desired time interval in the **Start date** and **End date** fields.

The following information is shown for each meter in the list:

Meter property	What it means
Reading time	The reading time of the meter.
Address, ZIP code and City	The address at which the meter is installed.
Serial number	The serial number of the meter.
Info code	The info codes which were active at the time of the reading.
Info code (historical)	Info codes that are no longer active but have been logged in the water meter within the last 31 days before the reading. Note that historical info codes are only shown for water meters.

You can sort, change the sequence and show/hide the information in the list. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#), [Sorting the list of meters/customers](#) and [Show and hide information in Meters view](#).

To export the information currently shown in the list, click **Export list**. The exported information is in CSV format and can be opened for example in Microsoft Excel.


## 20.6.2 Monitoring gateways for third-party meters

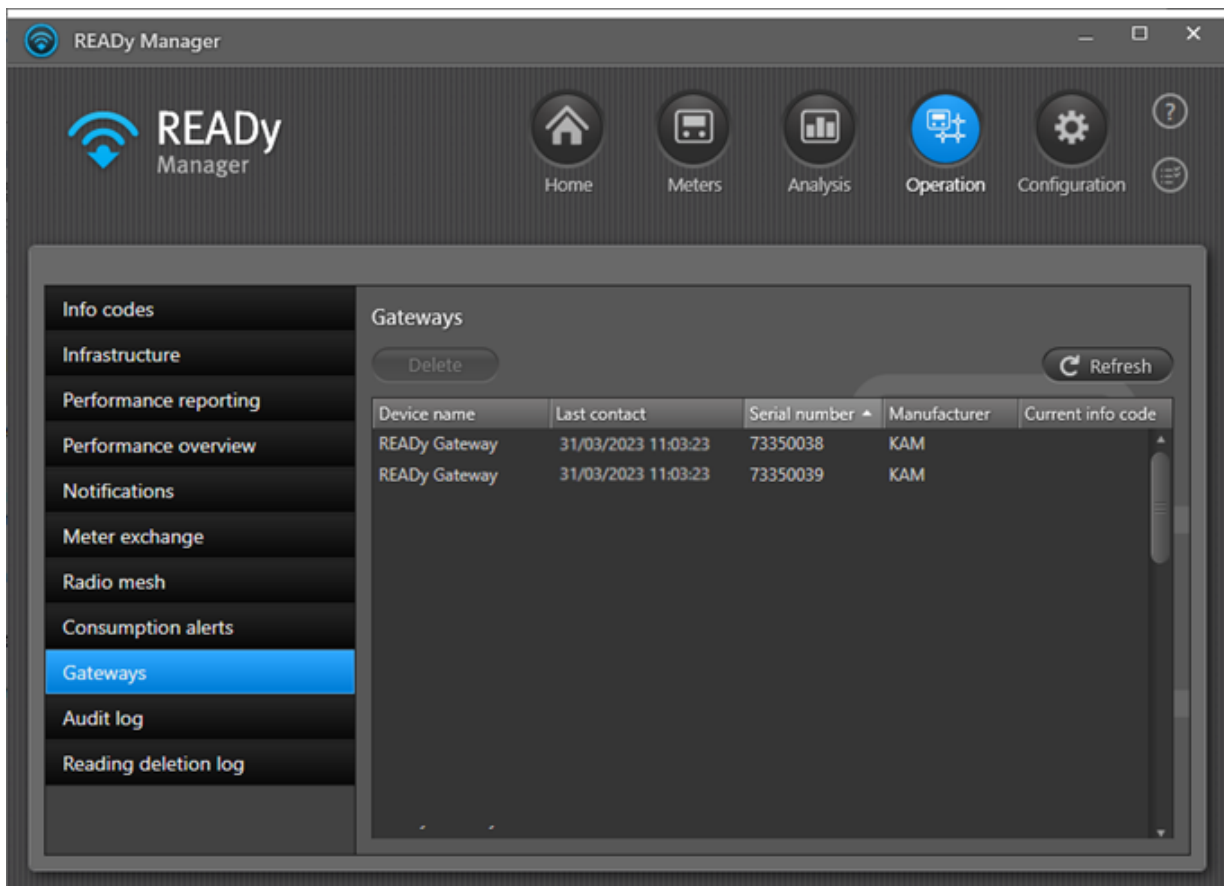
If you read Siemens MAG 8000 meters via READY Manager, the reading takes place via a READY Gateway connected to the meter.

If you read non-Kamstrup meters that communicate via the Sensus UI-1203 Encoded Output protocol, the reading takes place via a READY MTU unit connected to the meter. READY MTU converts the encoded output to AMI reading in READY.

You can check the connection to these gateways in your network. If needed, you can also delete gateways from READY Manager if they are no longer used.

### How to check the connection to gateways in your network


1. Click **Operation**  in the upper-right corner of READY Manager, and select **Gateways** to the left.




2. Check the **Last contact** field to see when the latest collection of reading data via the gateway took place.

**Note** You can sort and change the sequence of the information in the list. For details, see the corresponding list features described for the list in the **Meters** view: [Changing the order of information in Meters view](#) and [Sorting the list of meters/customers](#).

## How to delete a gateway from READY Manager

1. Click **Operation**  in the upper-right corner of READY Manager, and select **Gateways** to the left.
2. Select the gateway in the list that you want to delete, and click the **Delete** button.
3. Click **Yes** in the message that appears to confirm the deletion.

### 20.6.3 Audit log

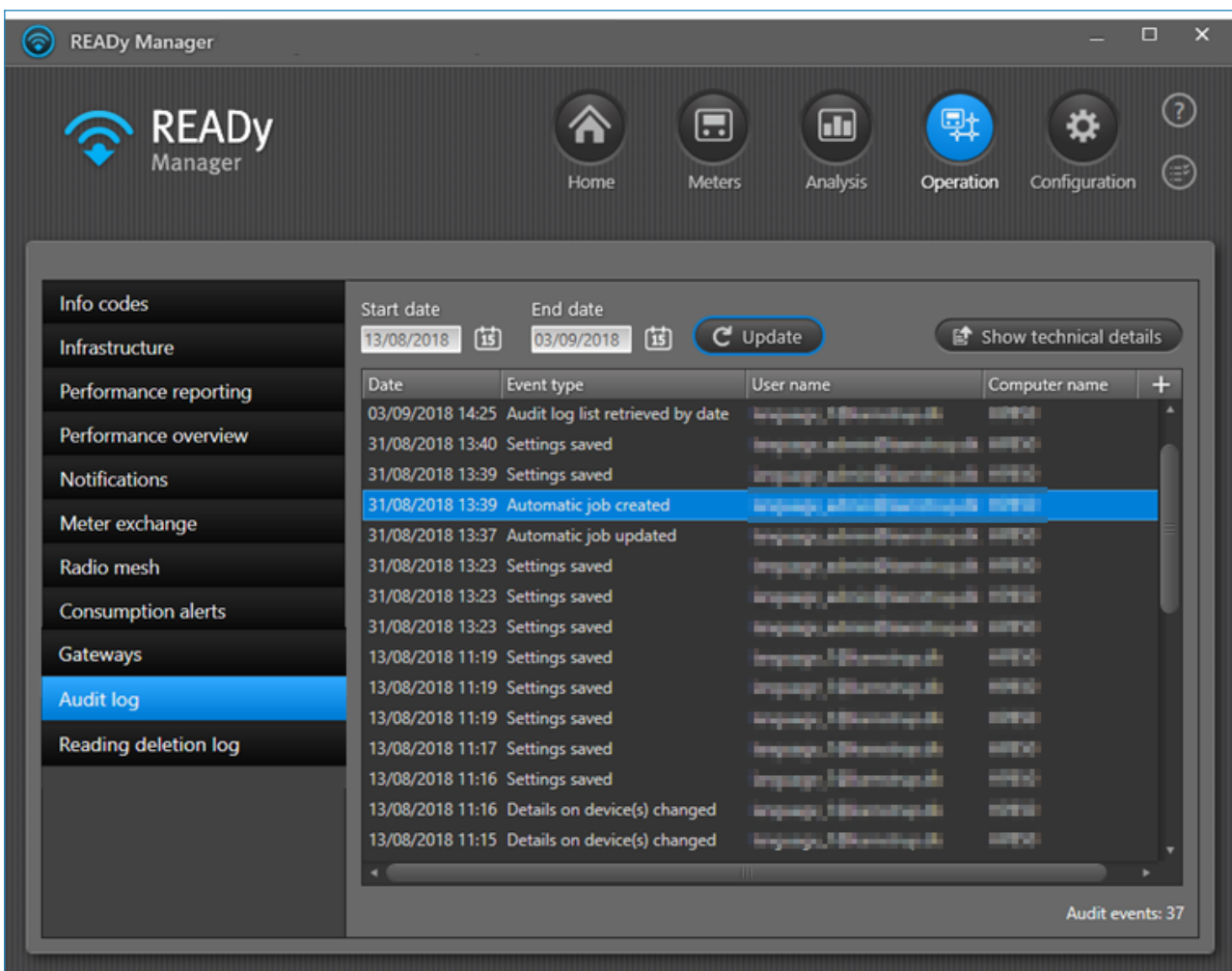
An audit log of user actions in READY is available if you click **Operation**  in the upper-right corner of READY Manager, and select **Audit log** in the menu to the left.

The log shows one row per event. For each event, you can see:

- the date and time of the event
- the type of event
- the name of the user that triggered the event
- the computer name of the user that triggered the event.

### How to see events that occurred in READY

1. Select a start date and an end date for the log period that interests you, and click **Update**.
2. Select an event in the list and click **Show technical details** to see more details about an event.

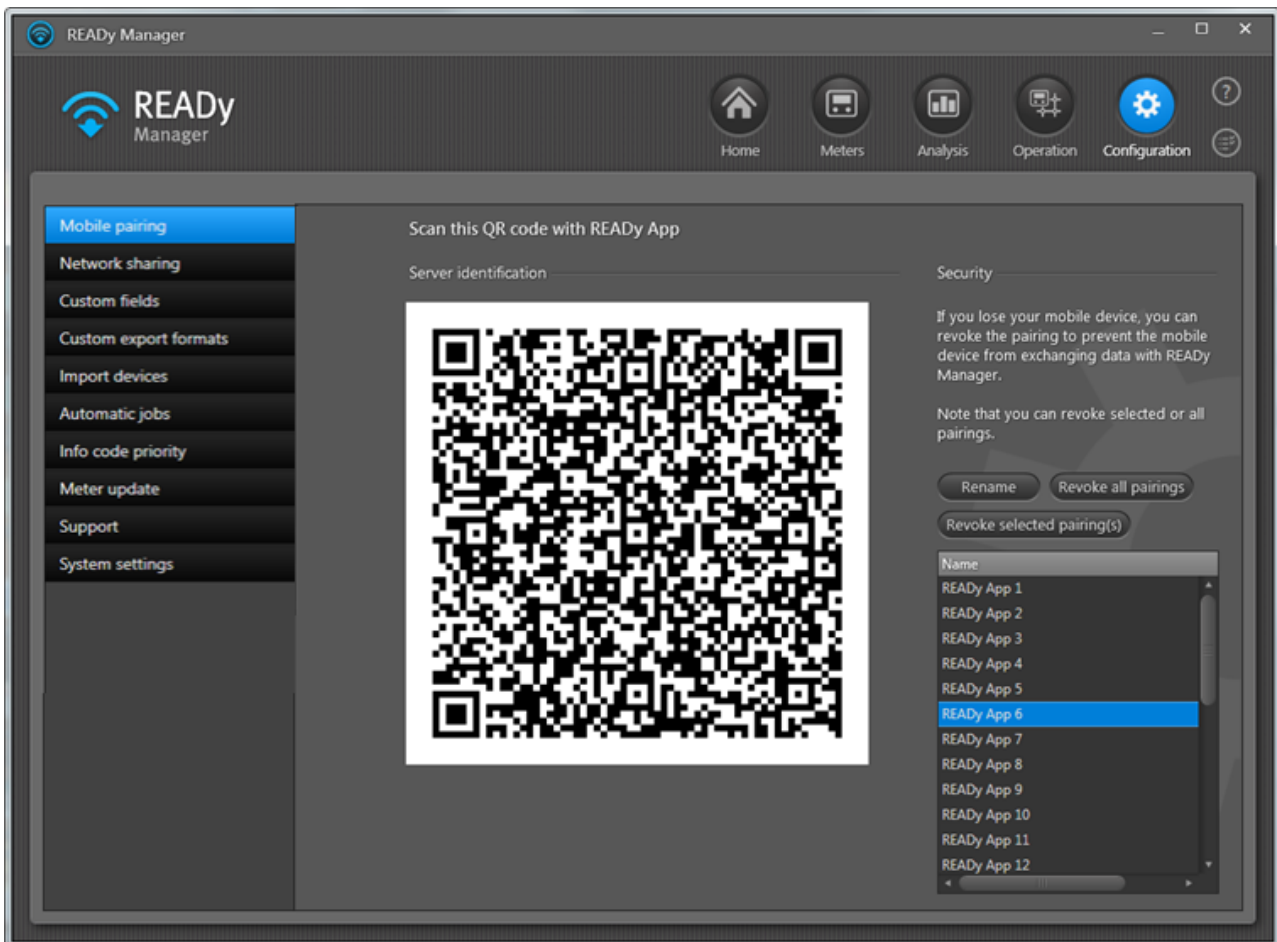


## 20.7 Configuration view

The **Configuration** view lets you:

- **Mobile pairing:** Establish the connection between READY App on your smartphone/tablet and READY Manager on your PC.
- **Custom fields:** Add your own information to exports and to the **Meters** view
- **Custom export formats:** Create formats for exporting reading data to other systems.
- **Import devices:** Import encryption keys for all meters and collection units in READY Manager or set up automatic import for new meters and collection units.
- **Software update:** Update READY Manager to a new software version if you have a local installation of READY.
- **Automatic jobs:** Set up automatic export of reading data and import of customer data.
- **Info code priority:** Choose which info codes you want to see and give them a priority.
- **Meter update:** Upload meter update files.
- **Support:** Contact Kamstrup Support.
- **System settings:** Enter the system user credentials for My Kamstrup, see subscription information and renew your subscription for READY Manager, select the unit of measurement for energy, volume, pressure, temperature, flow, power and mass values, allow automatic search for addresses and map coordinates, and see your current user role in READY Manager.

You open the **Configuration** view by clicking **Configuration**  in the upper-right corner of READY Manager:



The **Configuration** view consists of the following areas:

- The selection area to the left lets you select what you want to work with, e.g. network devices and various features in READY.
- The work area to the right lets you monitor, connect to and set up devices and features in READY.

### What do you want to do?

- [Pair READY App and READY Manager](#)
- [Add your own information to exports and to the Meters view](#)
- [Create and edit export formats](#)
- [Import meter information](#)
- [Update READY Manager](#)
- [See information about your READY Manager subscription](#)
- [Activate READY Manager subscription](#)
- [Export reading data automatically](#)
- [Choose preferred unit of measurement](#)
- [Allow automatic search for addresses and map coordinates](#)

- [Prioritize info codes](#)
- [Upload meter update files](#)
- [Contact Kamstrup support](#)
- [See your current user role in READY Manager](#)

### 20.7.1 Units of measurement

By default, the units of measurement used in READY Manager, READY App and custom exports are those set in the physical meter and imported into READY.

However, if desired you can set up other units that apply to:

- all meters in READY (also known as global units)
- individual meters (also known as local units).


**Note** If the same units are set up both globally and locally, the global units overrule the local ones.

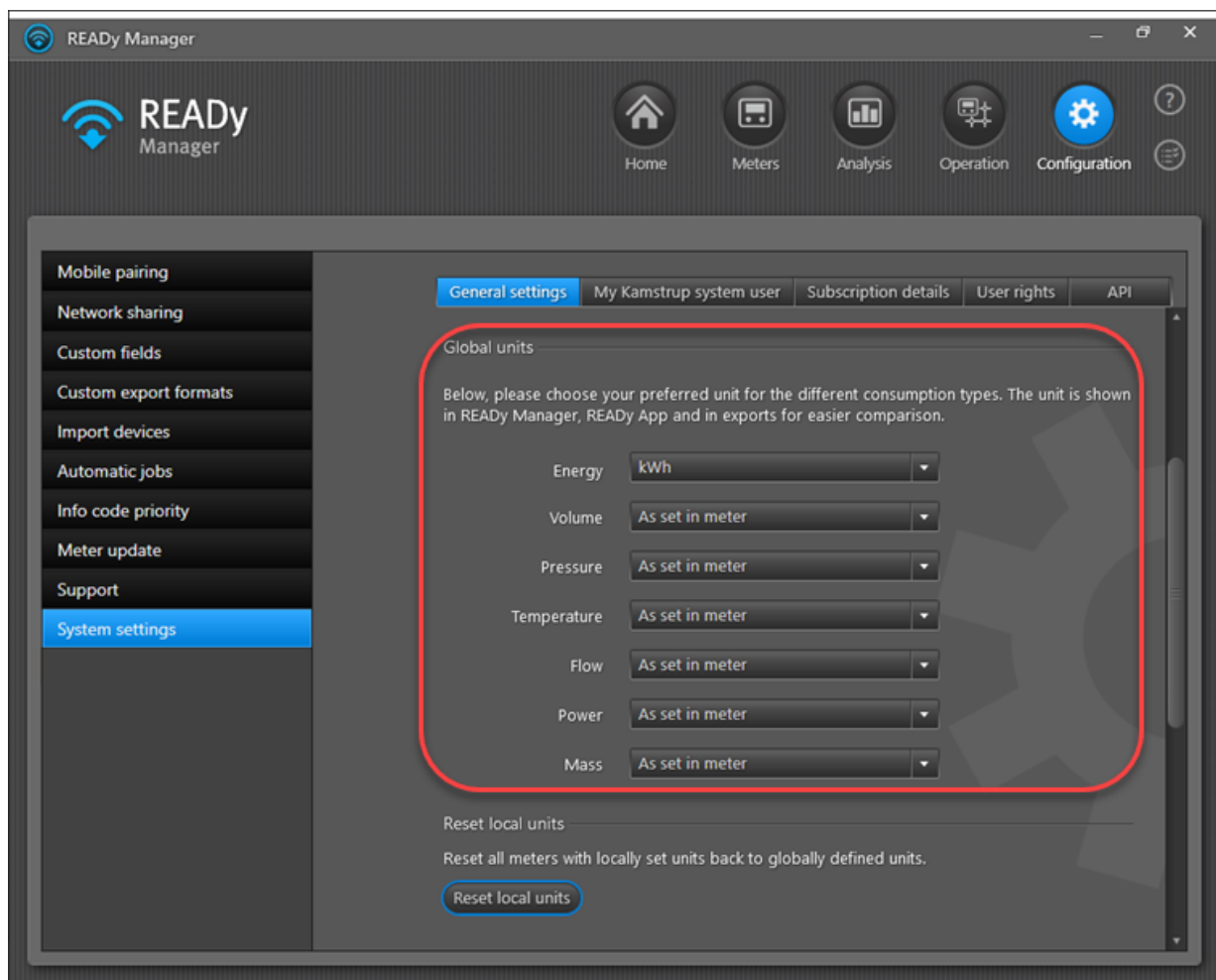
#### What do you want to do?

- [Set up global units of measurement](#)
- [Set up local units for a specific meter](#)
- [Find meters with local units](#)
- [Delete all local units](#)
- [Set up units in fixed width export formats](#)

#### 20.7.1.1 Global units of measurement

Follow the steps below to see and edit the units of measurement that apply to all meters in READY Manager, READY App and custom exports.

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **System settings** to the left.



2. On the **General settings** tab, scroll down to find **Global units**.

You can select which unit of measurement that you want to use for energy, volume, pressure, temperature, flow, power and mass values.

3. For each value type, select either 'As set in meter' or a specific unit:

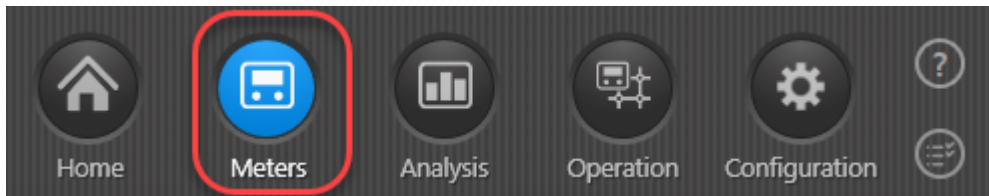
- As set in meter: This means that no global unit is set up for this value type. Instead the unit of measurement set up in the physical meter and imported into READY is used.
- Specific unit: The unit you select will be used for all meters in READY Manager, READY App and custom exports with values of this type.

### 20.7.1.2 Local units of measurement

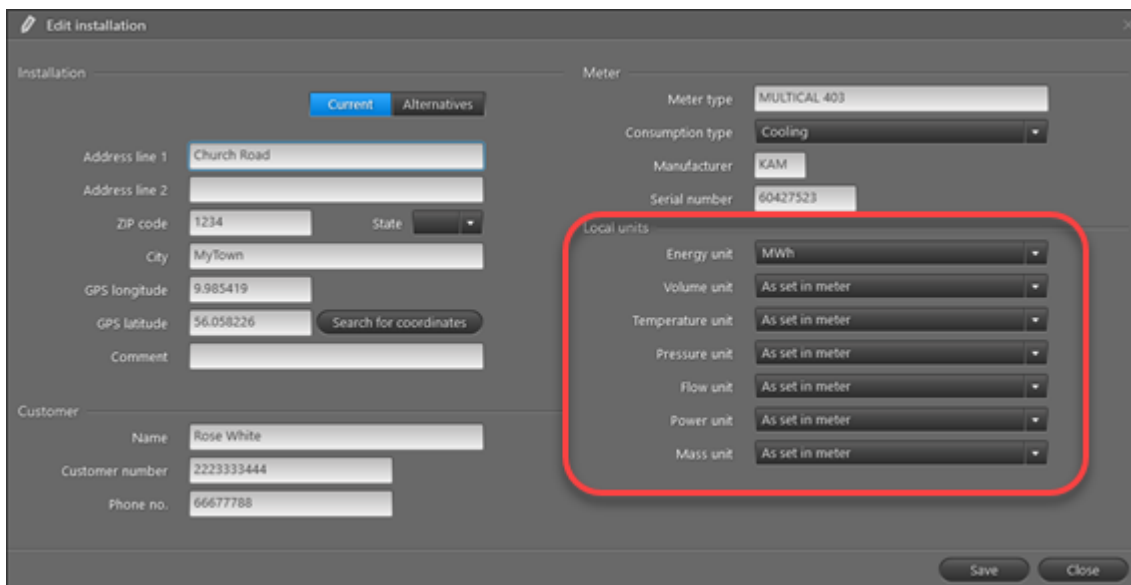
**Important** If the same units are set up both globally and locally, the global units overrule the local ones. So it only makes sense to set up a local unit if the corresponding global unit is set to 'As set in meter'.

Follow the steps below to see and edit the units of measurement that apply to a specific meter in READY Manager:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.

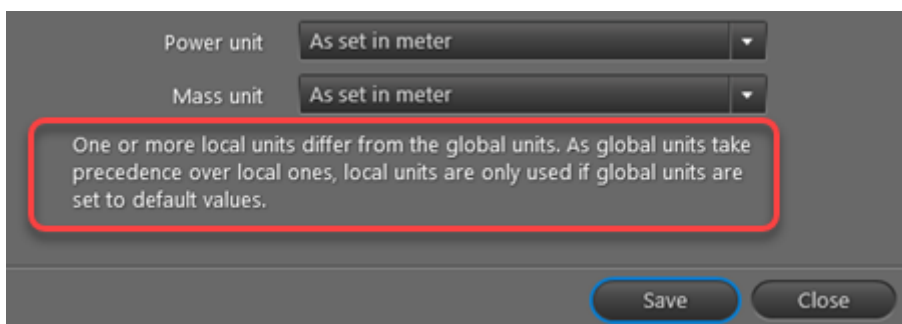


2. In the list of meters, click the meter for which you want to see the local units.  
It is possible to search for meters with local units. For details, see [Finding meters with local units](#).
3. Click the **Edit** button above the list.
4. For each value type in the **Local units** section, select either 'As set in meter' or a specific unit:



- **As set in meter:** This means that the unit of measurement set up in the physical meter and imported into READY is used for this meter.
- **Specific unit:** The selected unit will be used for this meter in READY Manager, READY App and custom exports.

If you select a local unit that will be overruled by a global unit, the following message appear:



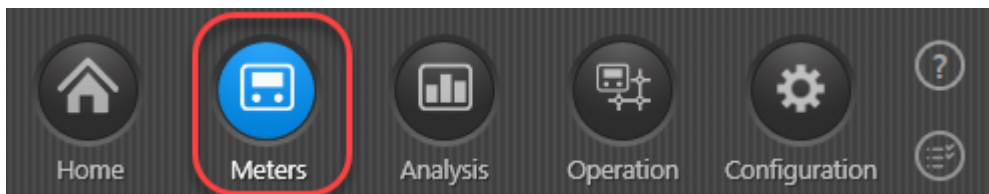
Global units are defined here: **Configuration > System settings**. If a global unit is set to another value than 'As set in meter' (default value), the global value will overrule the local one, meaning it makes no sense to set up a local unit.

5. Click **Save**.

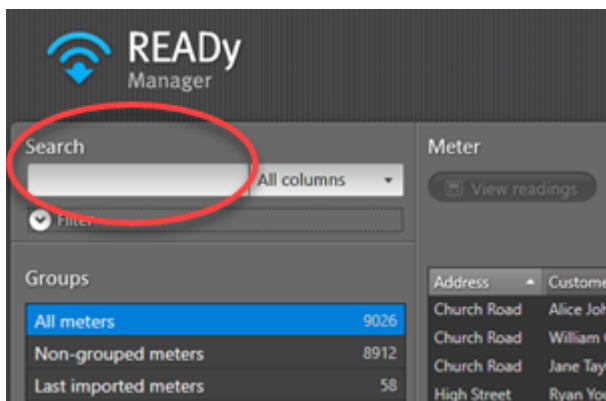
### 20.7.1.3 Finding meters with local units

Use the following procedure to find meters with local units:

1. Click  in the upper-right corner of READY Manager to open the **Meters** view.



2. In the **Groups** area to the left, select "All meters" to search among all meters/customers in the system or select a specific group to only search within this group.
3. If you want to narrow down your search for local units with the search for other information, enter the search string and select the type of information you want to search, e.g. address, customer, all columns, etc.



4. Click **Filter** below the **Search** field to display the filter area and select **Local units**. Then click **Apply filter**.

Search

All columns ▾

⌵ Filter

Reading details

Rollover

Final reading

Meter details

Local units

Priority meters

[Reset filter](#) **Apply filter**


All meters/customers that match your search now appear in the list.

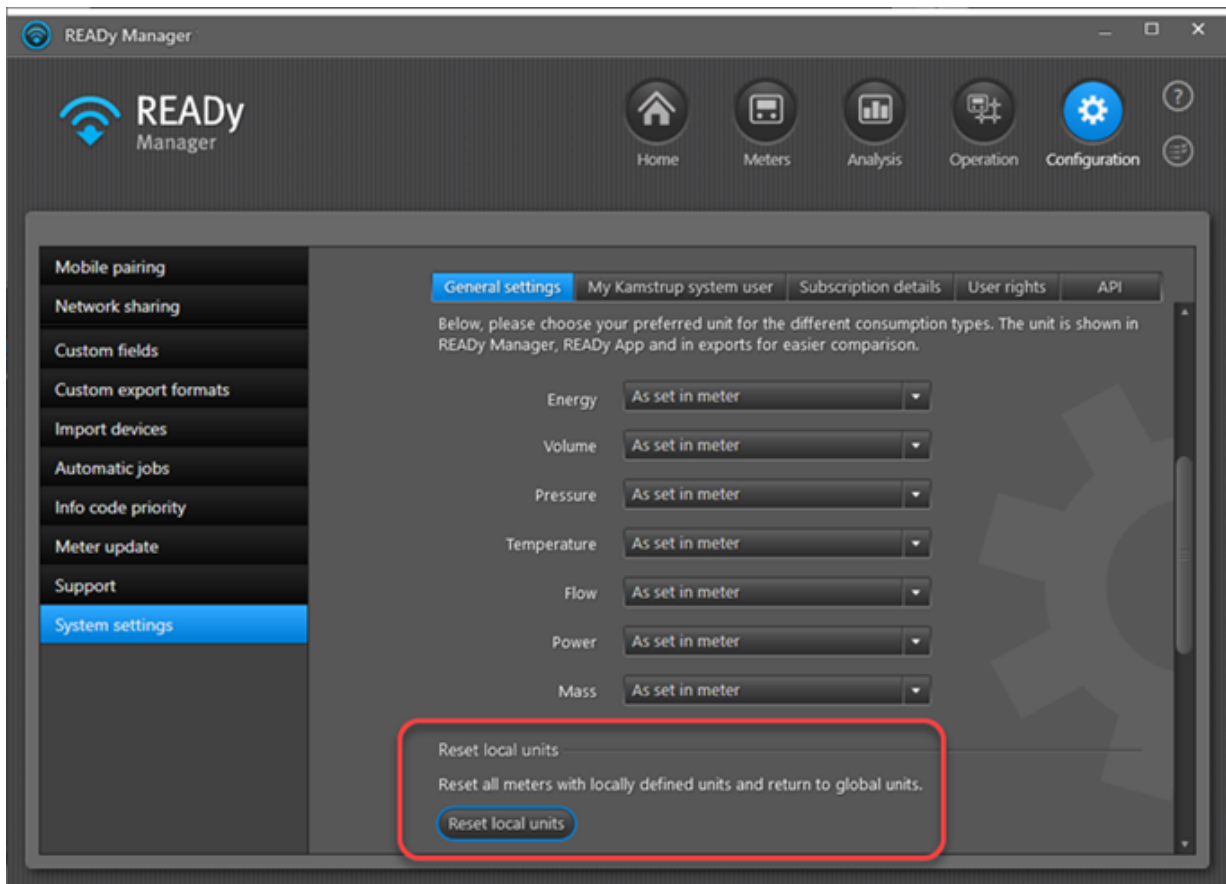
**Note** READY Manager remembers selections you make in the filter area until you click **Reset filter**. If you collapse the filter area without resetting the filter, the filter is still active although you cannot see it. It may therefore be a good idea to always reset the filter area when you have finished searching, or to expand the filter area each time you use the search field to make sure the filter options match the search you want.

#### 20.7.1.4 Resetting all local units

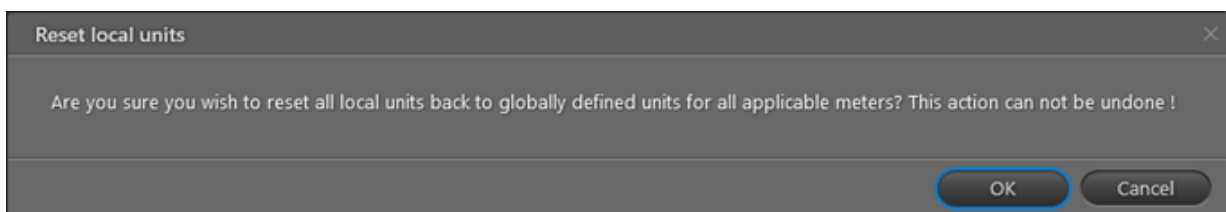
It is possible to set all units of measurement you have defined locally back to global units, for example if you decide to set up global units (as they will overrule the local units anyway and make them superfluous).

Follow the steps below to delete all units of measurement that you have set up locally:


1. Click **Configuration**  in the upper-right corner of READY Manager, and select **System settings** to the left.
2. On the **General settings** tab, scroll down to find **Reset local units**:

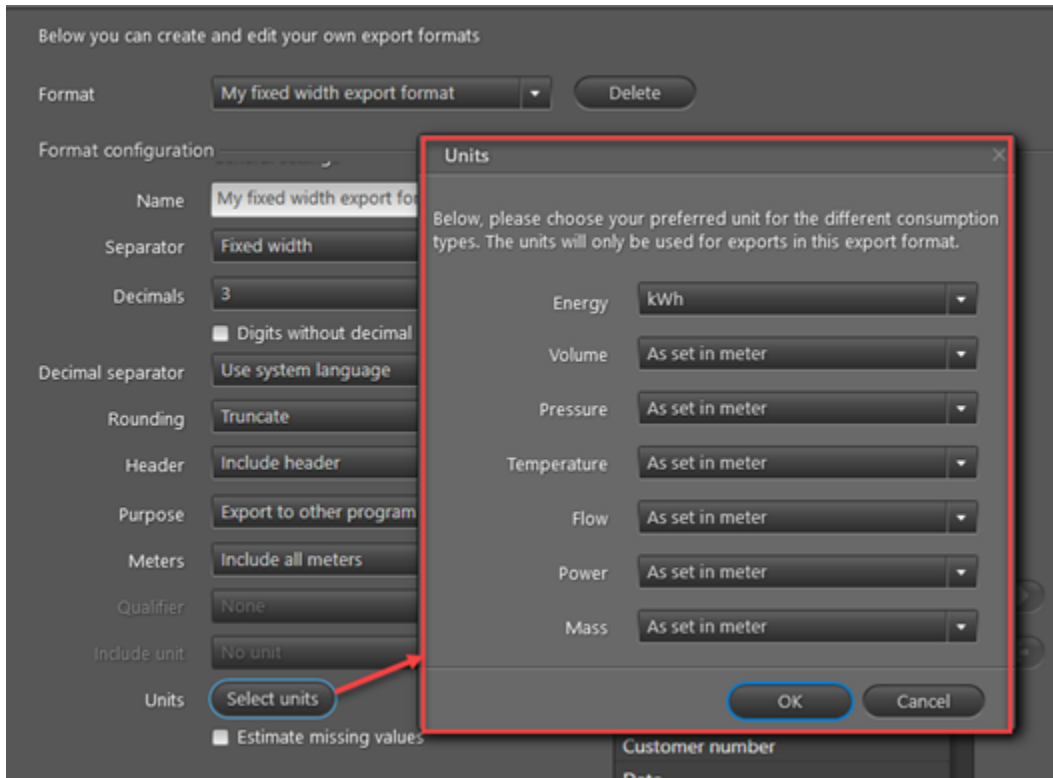


3. Click the **Reset local units** button.
4. In the message that appears, click **OK** to confirm:



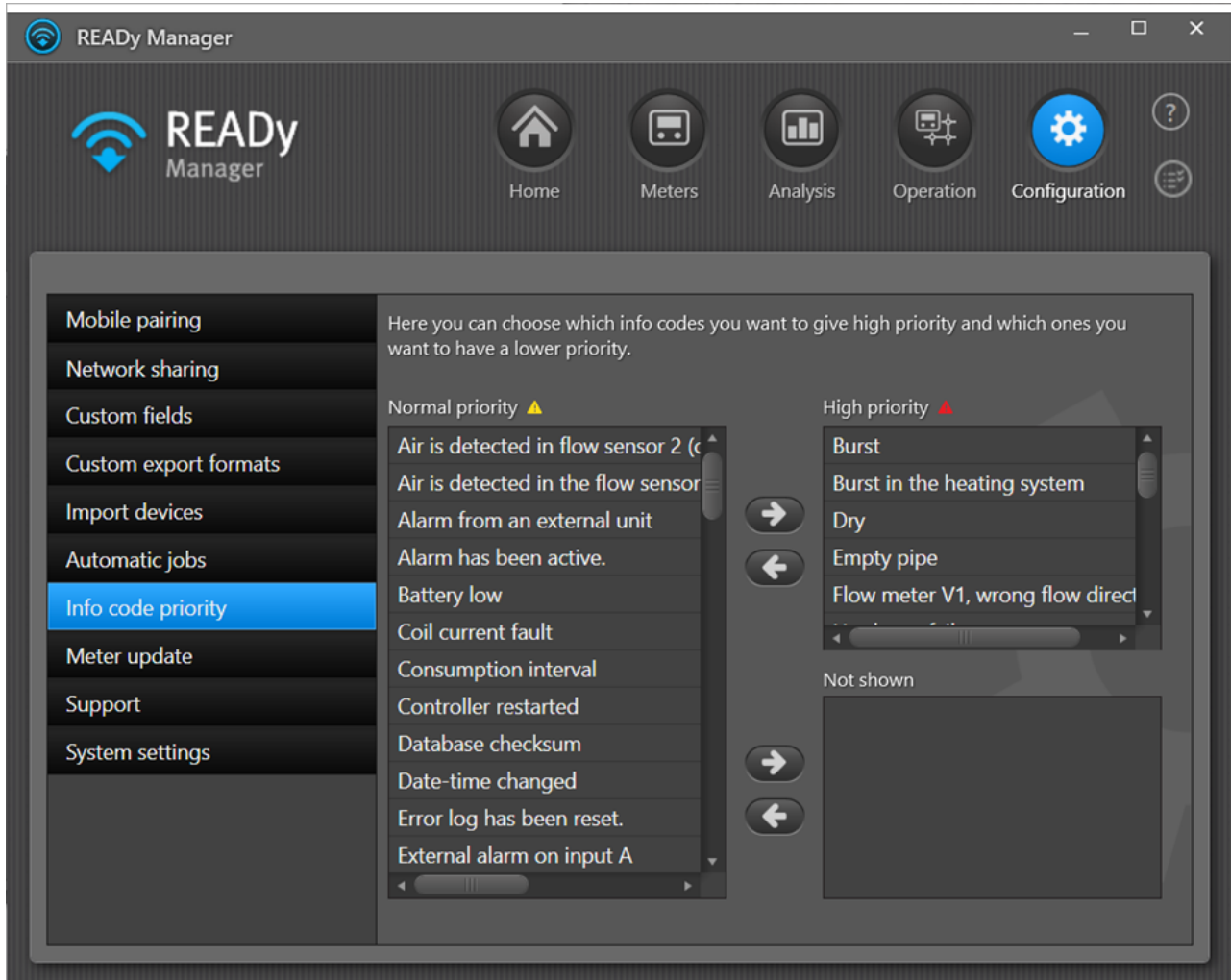
### 20.7.1.5 Setting up units in fixed width export formats

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom export formats** to the left.
2. In **Separator**, select "Fixed width".
3. In **Unit**, click **Select units** to select which unit of measurement that you want to use for energy, volume, pressure, temperature, flow, power and mass values:



### 20.7.2 Prioritizing info codes

To provide a better overview, it is possible to prioritize the info codes (notifications) you receive from meters. By default, all info codes have normal priority. You can choose to give high priority to the ones you want. You can also choose not to display one or more types of info codes:



**Note** Available info codes depend on the meter types you have in READY. This means that no info codes are available (the view is empty) until you start importing meters into READY.

#### How to set one or more info codes to high priority

1. Select the info code(s) in question in the **Normal priority** list.
2. Click the RIGHT ARROW at the top of the window

The info code(s) are now added to the **High priority** list.

#### How to prevent one or more info codes from being displayed

1. Select the info code(s) in question in the **Normal priority** list.
2. Click the RIGHT ARROW at the bottom of the window.

The info code(s) are now added to the **Not shown** list. The info code(s) no longer appear in the [Info codes view](#). However, they still appear in the [Meter readings](#) window.

### 20.7.3 Custom information in READY

Custom information is your own information about meters, customers or installation addresses, that you want to add to READY.

Custom information can be used in two ways in READY:

1. For export purposes only:

You can import custom information into READY that you want to include when you export data from READY again, for example to your billing system. It may be information that your billing system needs or that make it easier for the billing system to receive data from READY. You do not need the information in READY Manager as such - you just need to be able to include the information when you export data.

2. Be visible and editable in READY Manager:

You want to add your own information to meters, customers or installation addresses in READY Manager and be able to see the information in READY Manager. You may want to sort your meters/customers according to the information and be able to enter information and edit it in READY Manager.

Your custom information is stored in custom fields, and you can add up to 100 custom fields in READY - and up to 20 of these can be shown and edited in READY Manager, e.g. in the **Meters** view. Custom information is marked with an asterisk (\*):

Below you can create and edit your own export formats

Format:

Format configuration

General settings	Available values
Name: <input type="text"/>	*Antenna info
Separator: <input type="text" value=";"/>	*Billing ID
Date format: <input type="text" value="dd/MM/yyyy"/>	*Flow size
Decimals: <input type="text" value="As read"/>	*Meter location
	Active energy A-

**Meter**

**Group**


Serial number	Latest reading time	*Meter location	*Antenna info	Encry
66	04/04/2020 09:01	Wine cellar	External antenna	OK
63	04/04/2020 08:32			OK
32	04/04/2020 07:56			OK

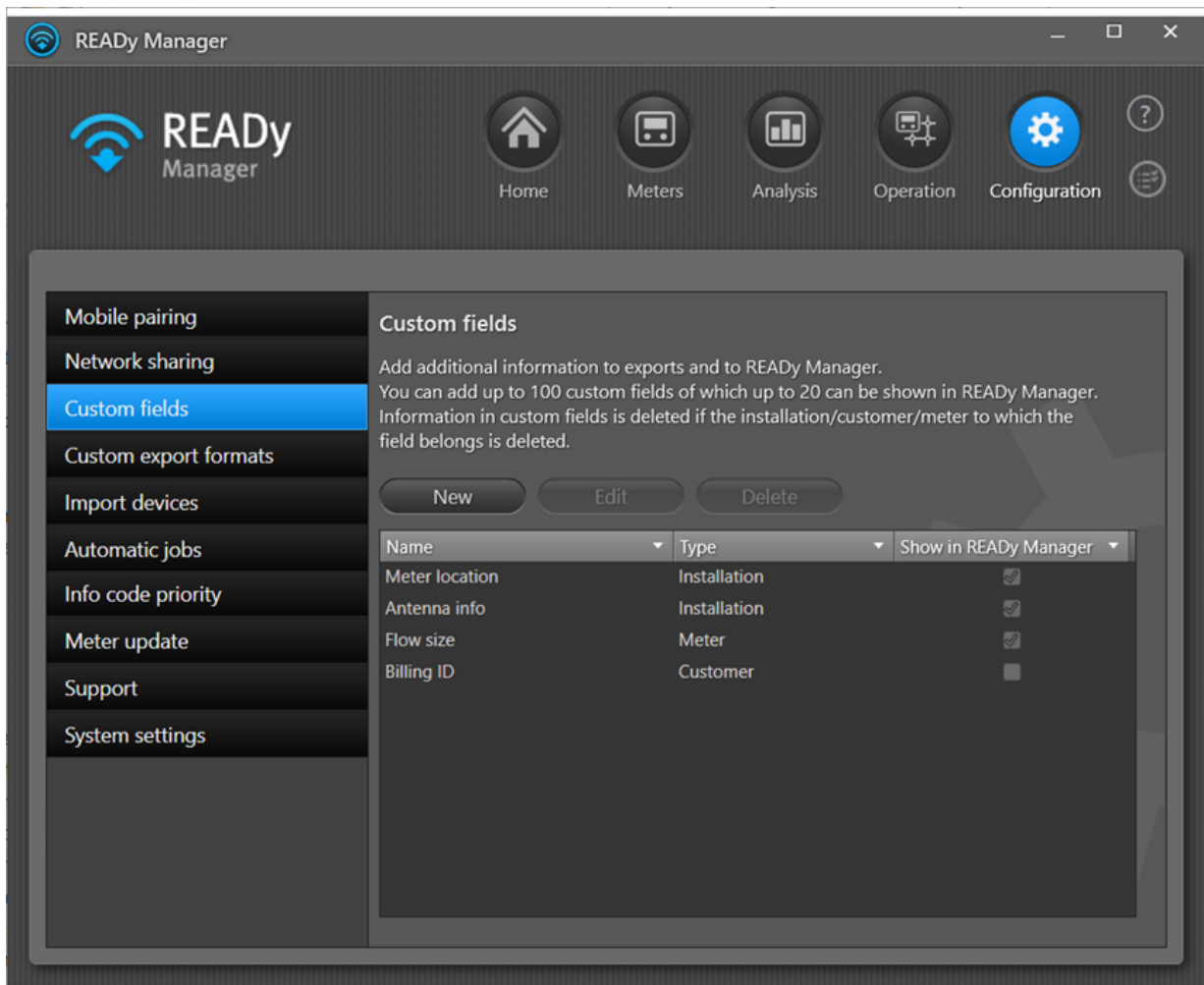
### What do you want to do?

- [Create a new custom field in READY](#)
- [Add a custom field to the Meters view \(and other views\) in READY Manager](#)
- [Enter information into a custom field in READY Manager](#)
- [Remove a custom field from the Meters view \(and other views\) in READY Manager](#)
- [Delete a custom field](#)
- [Rename a custom field](#)
- [Import custom information into READY Manager](#)
- [Export custom information from READY Manager](#)

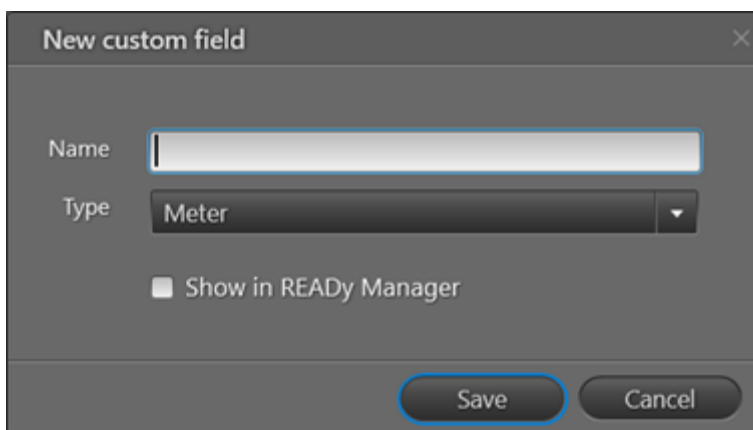
#### 20.7.3.1 Creating a new custom field

Follow the procedure below to create a new custom field in READY:

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom fields** to the left.



2. Click the **New** button at the top of the window.
3. Enter the **Name** of your new custom field:



4. In **Type**, select whether the information in this new field belongs to the meter, the customer or the installation address.

Depending on your selection in the **Type** field, information in the custom field will be deleted if the meter, the customer or the installation address is deleted.


- If you want to be able to show and edit the custom information in READY Manager, select the **Show in READY Manager** check box. Otherwise leave it empty.

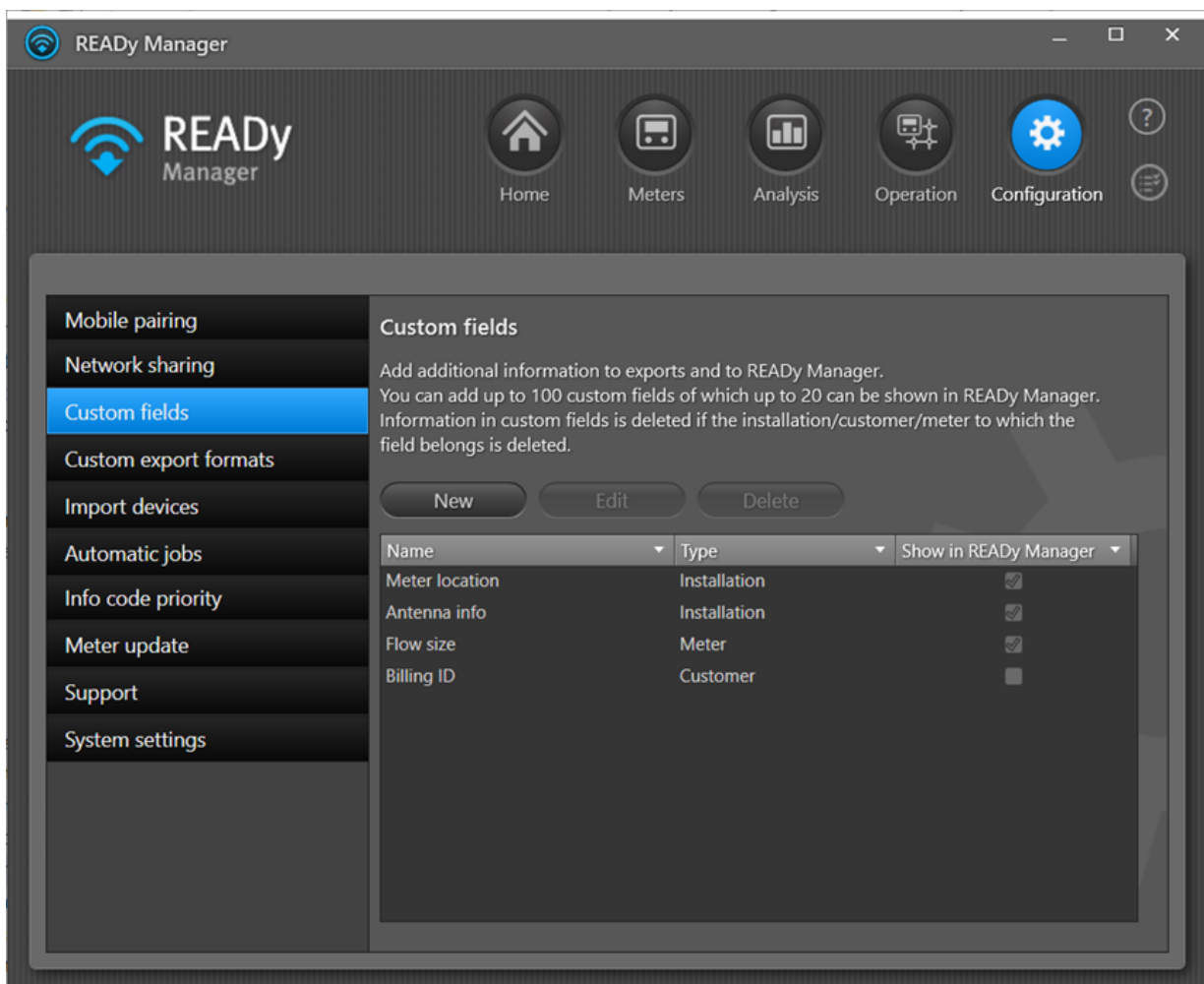
**Note** It will always be possible to include the custom field in exports. You only need to select **Show in READY Manager**, if you want to be able to enter information in the custom field and see the information in READY Manager.

- Click **Save**.

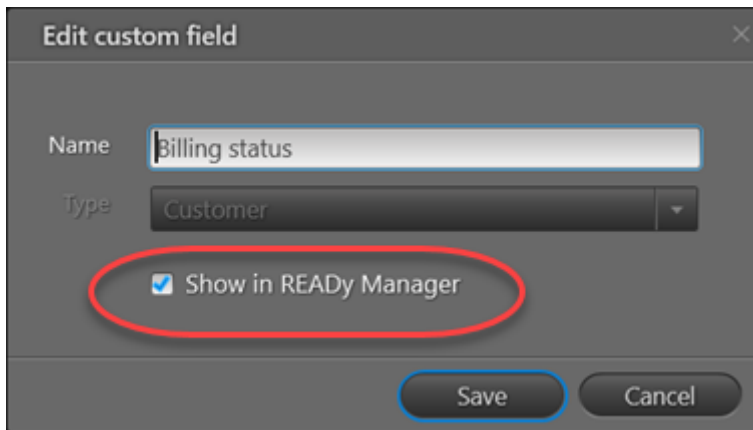
### 20.7.3.2 Adding a custom field to the Meters view

If you want to be able to see and edit the information in a custom field in READY Manager, follow the procedure below:

- Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom fields** to the left.



- In the list of custom fields, select the one you want to display in READY Manager.
- Click the **Edit** button above the list.
- Select the **Show in READY Manager** check box. Click **Save**:



The custom field will be added to the following views in READy Manager:

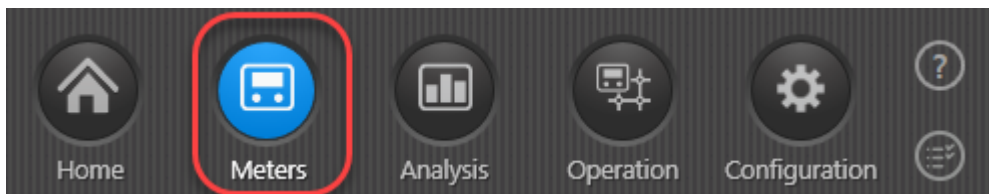
- The **Meters** view
- The **Info codes** view
- The **Meter exchange** view
- The **Meters in stock** view (only custom fields of the type "meter").

### 20.7.3.3 Enter information into a custom field

In order to enter custom information in READy Manager, the custom field must be added to the **Meters** view first. See how [here](#).

When the custom field is added to the **Meters** view, follow the procedure below:

1. Click  in the upper-right corner of READy Manager to open the **Meters** view.



2. In the list of meters, click the meter whose custom information you want to edit.
3. Click the **Edit** button above the list.

**Edit meter**

**Installation**

Current Alternatives

Address: Main Street

ZIP code: 1234

City: MyTown

GPS longitude: [ ]

GPS latitude: [ ] Search for coordinates

Comment: [ ]

Meter location: Wine cellar

Antenna info: External antenna

**Meter**

Meter type

Consumption type

Manufacturer

Serial number

Flow size

**Customer**

Name: John Smith


Customer number: 1168

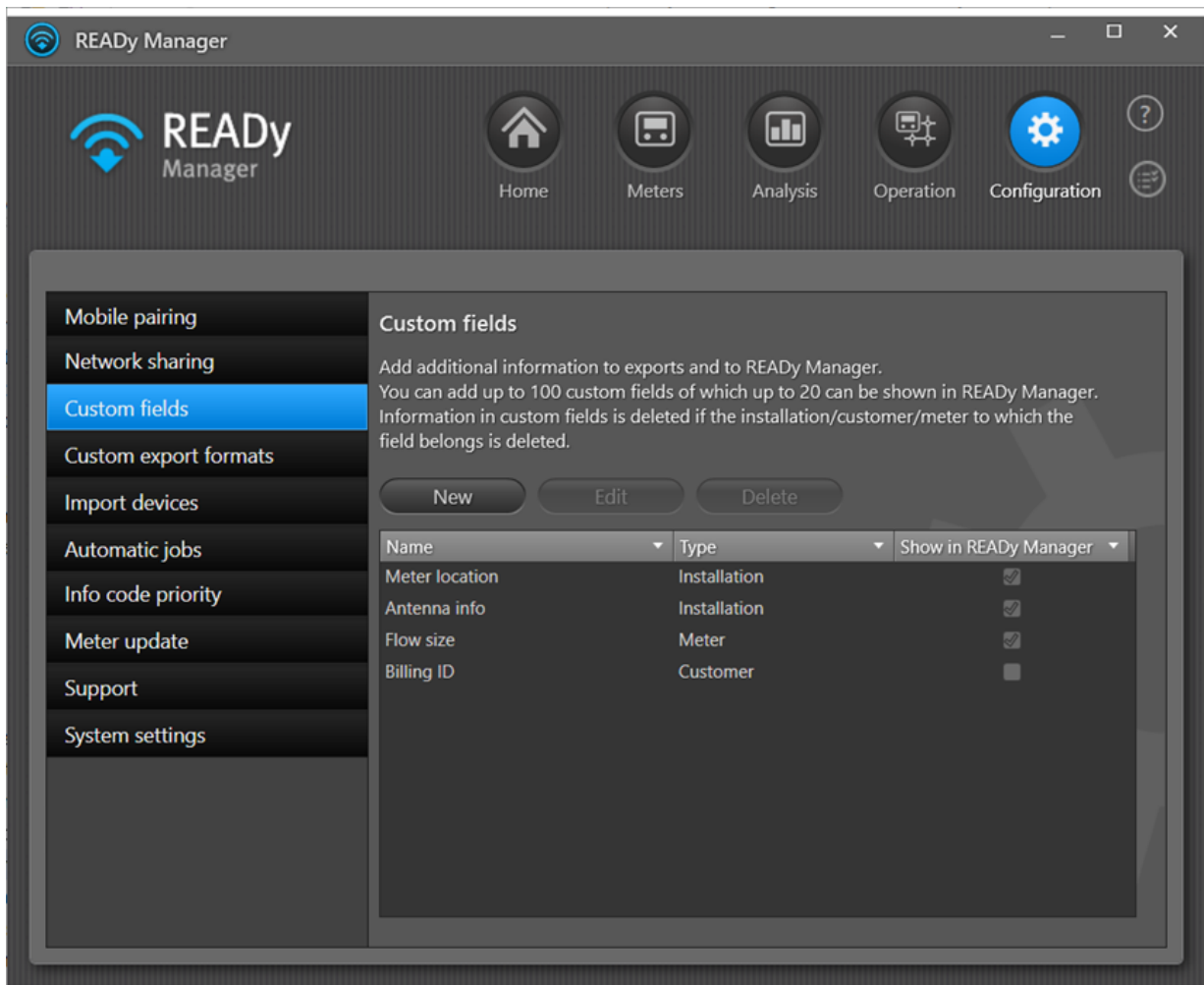
4. Enter the desired information in the custom field.
5. Click **Save**.

### 20.7.3.4 Removing a custom field from the Meters view

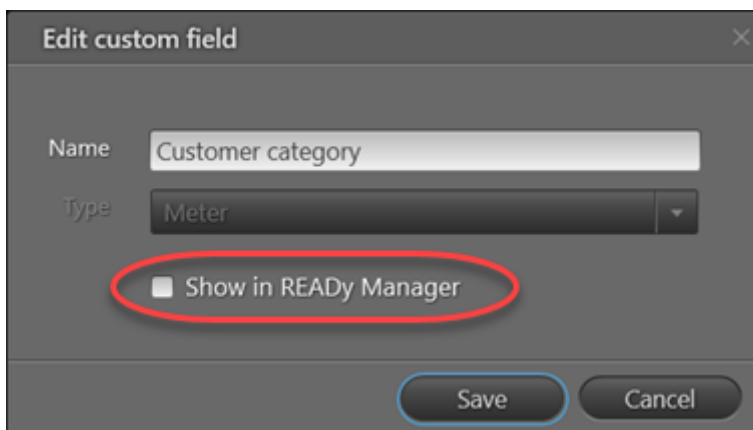
If you want to remove a custom field from the **Meters** view and other views in READY Manager, but still want to include it in exports, follow the procedure below:

#### How to remove a custom field from the Meters view and other views in READY Manager

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom fields** to the left.




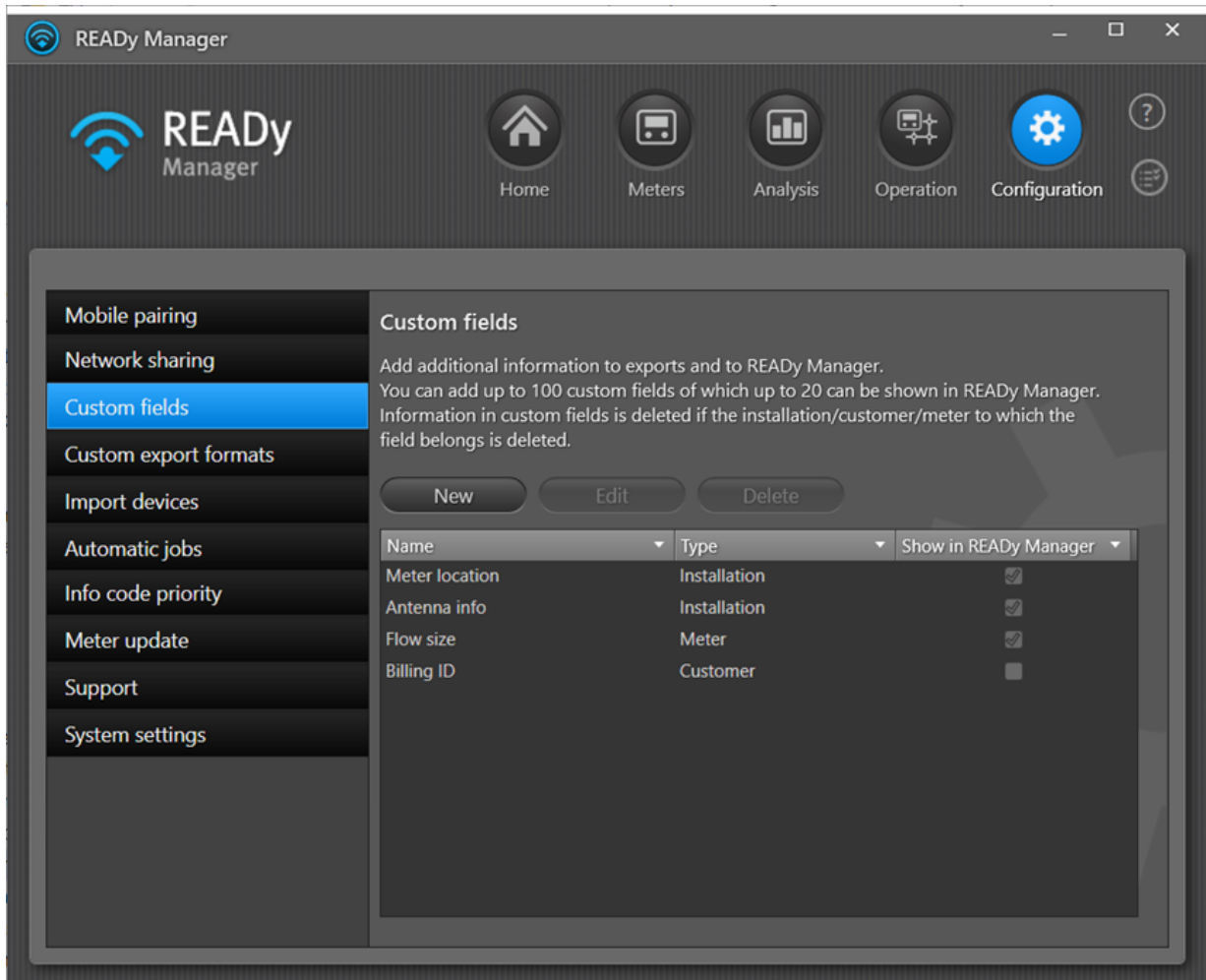
2. In the list of custom fields, select the one you no longer want to show in READY Manager.
3. Click the **Edit** button above the list.
4. Clear the selection of the **Show in READY Manager** check box. **Click Save:**



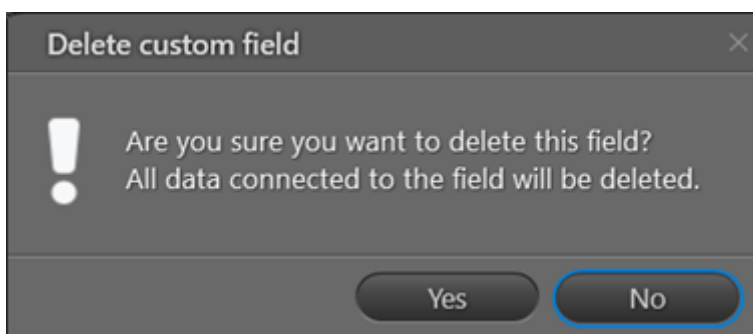
### 20.7.3.5 Deleting a custom field

Follow the procedure below to remove a custom field entirely from READY:

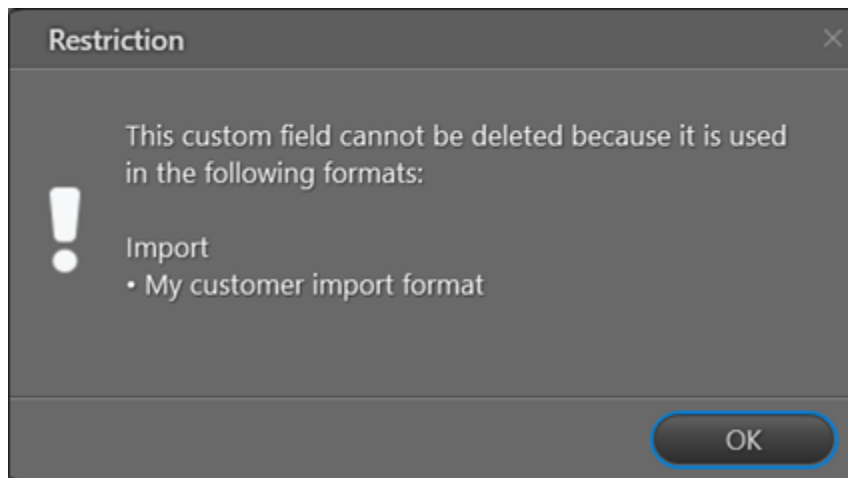
1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom fields** to the left.



2. In the list of custom fields, select the one you want to delete.
3. Click the **Delete** button above the list.
4. In the window that appears, click **Yes** to confirm the deletion:




If the custom field is used in an import or export format, deletion is not possible:

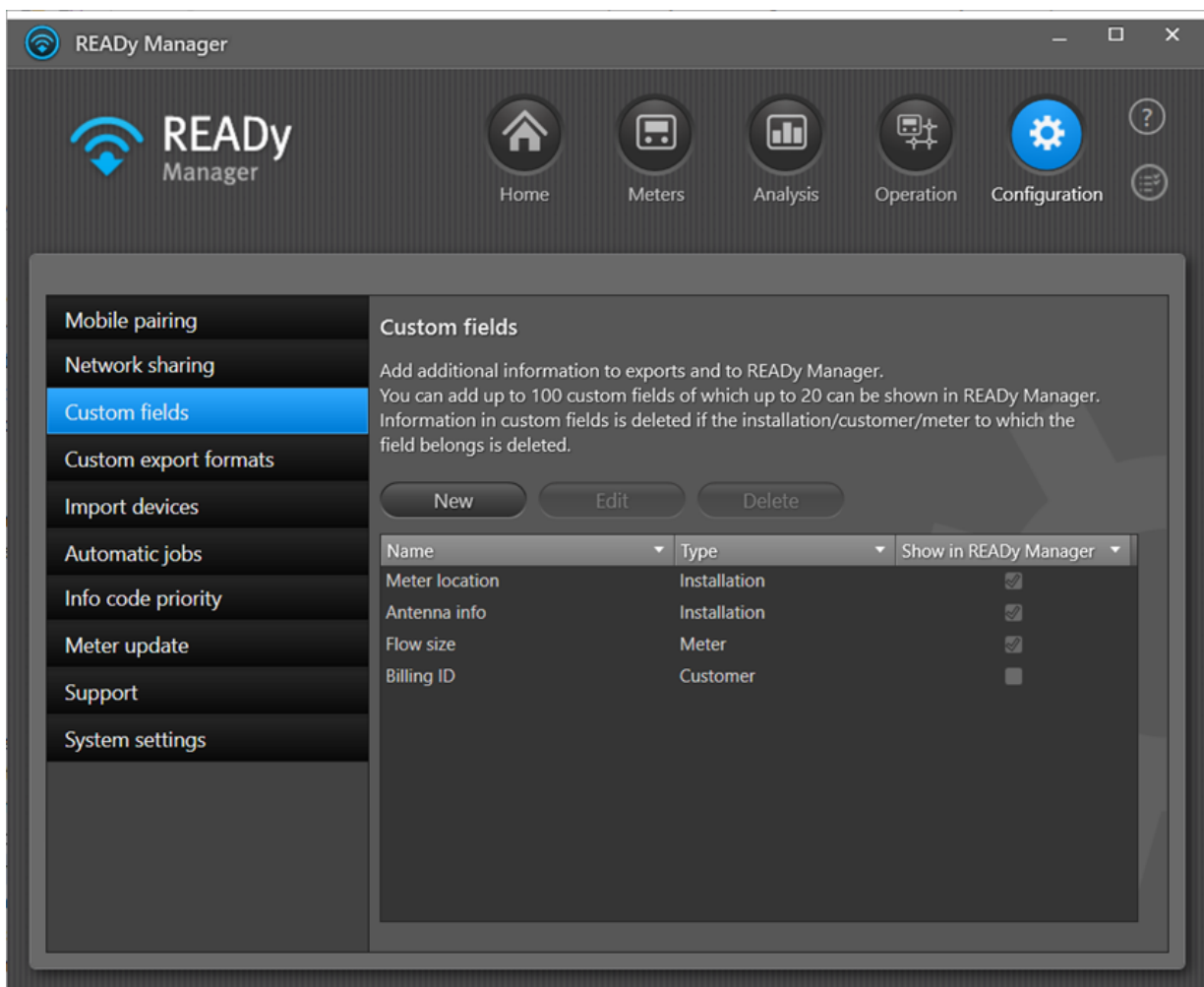


In order to delete the custom field, you first need to remove it from the import or export format (be editing your [import/export](#) format).

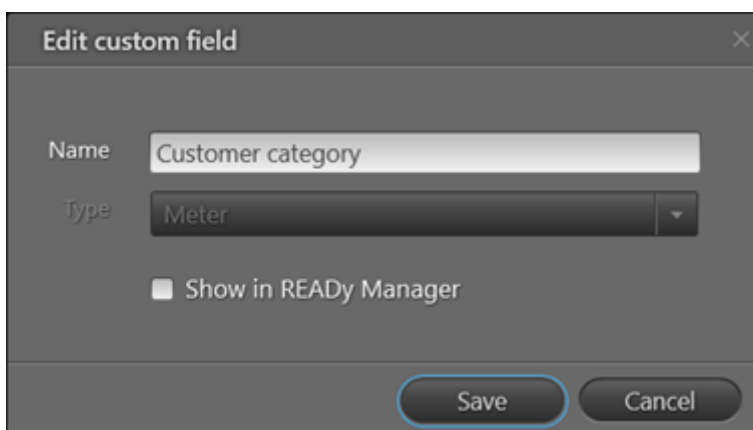
### 20.7.3.6 Renaming a custom field

Follow the procedure below to rename a custom field:

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **Custom fields** to the left.



2. In the list of custom fields, select the one you want to rename.
3. Click the **Edit** button above the list.
4. Make the desired changes in the **Name** field. **Click Save**:



### 20.7.3.7 Importing custom information

You can import custom information into READY in two ways:

- Add custom information (custom properties) to your import format. For details, see [Creating and editing import formats](#).

The custom information will get the type that you choose ("Meter", "Customer" or "Installation") and will not be visible in READY Manager by default.

- Upload an export format that already contains the custom information you want to add. For details, see [Sharing export formats](#).

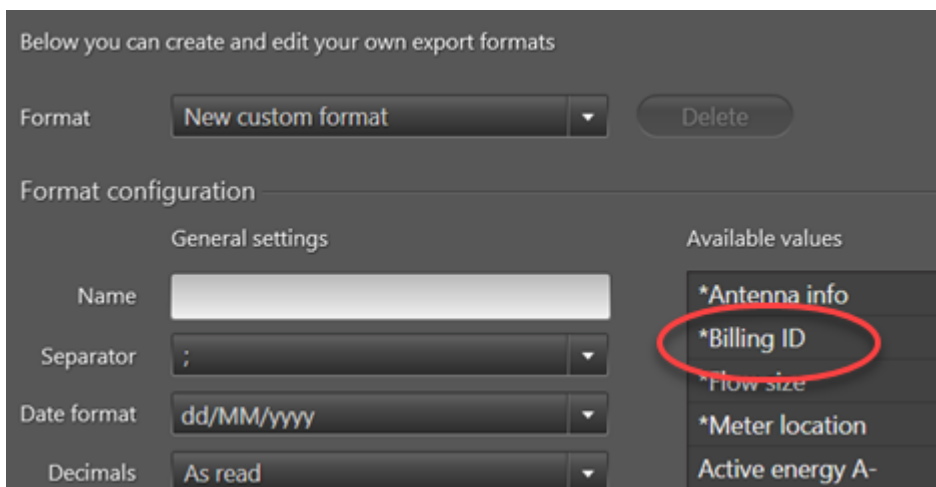
In this case, the custom information will automatically get the type "Meter" and will not be visible in READY Manager by default.

### 20.7.3.8 Exporting custom information

Follow the procedure below to export custom information from READY Manager:

1. Add the custom field to your export format:

All custom fields you create are automatically added to the **Available values** list in the **Custom export formats** view. They are marked with an asterisk (\*):




You add them to your export format as any other value. For details, see [Creating and editing export formats](#).

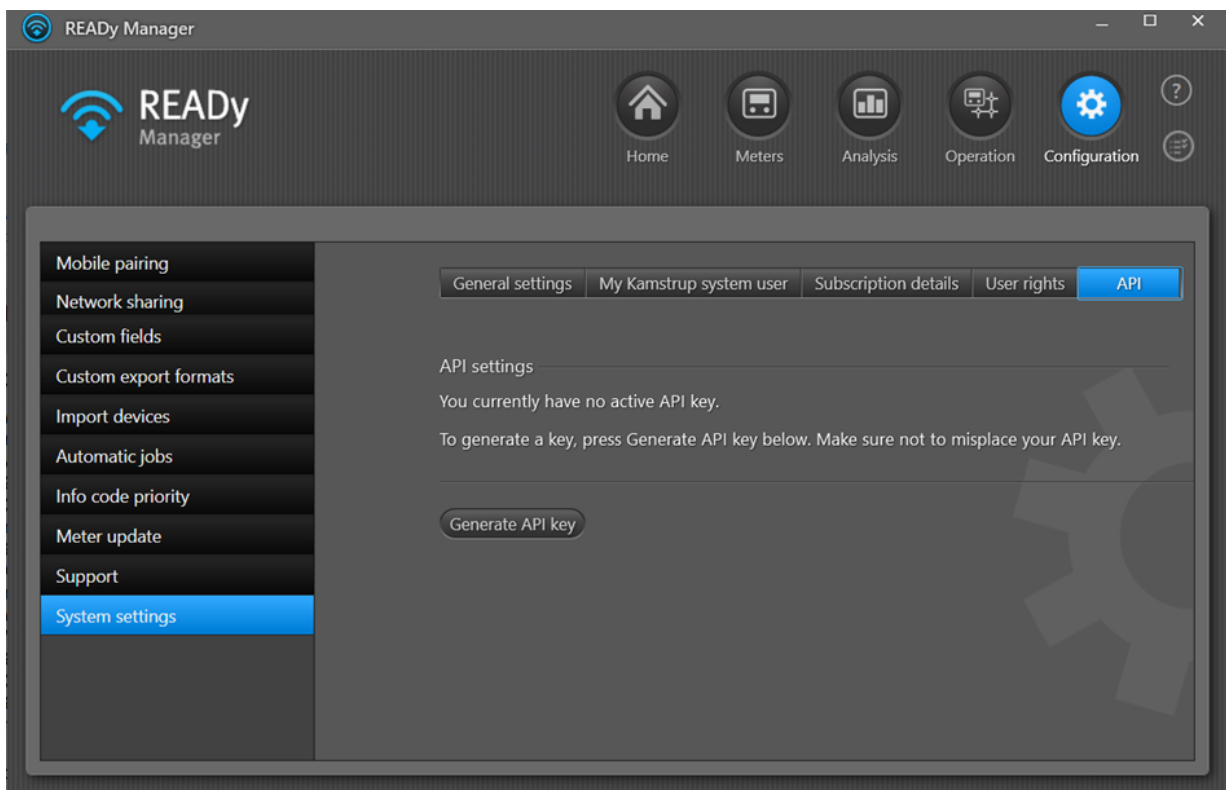
2. Export data as usual either [manually](#) or [automatically](#) using the export format with the custom field.

### 20.7.4 API key

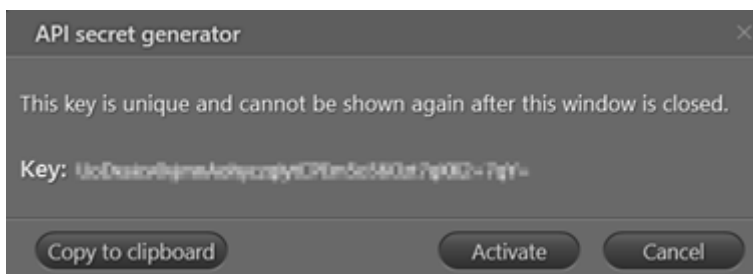
**Note** API Access is an add-on to READY and requires a special subscription.

If you have the API Access add-on to READY, you can generate an API key for validating the integrity of the data you receive from READY. For details about how to use this key and API Access, see the API developer documentation that came with your purchase.

1. Click **Configuration**  in the upper-right corner of READY Manager, and select **System settings** in the menu to the left.
2. Click the **API** tab:




3. Click the **Generate API key** button.

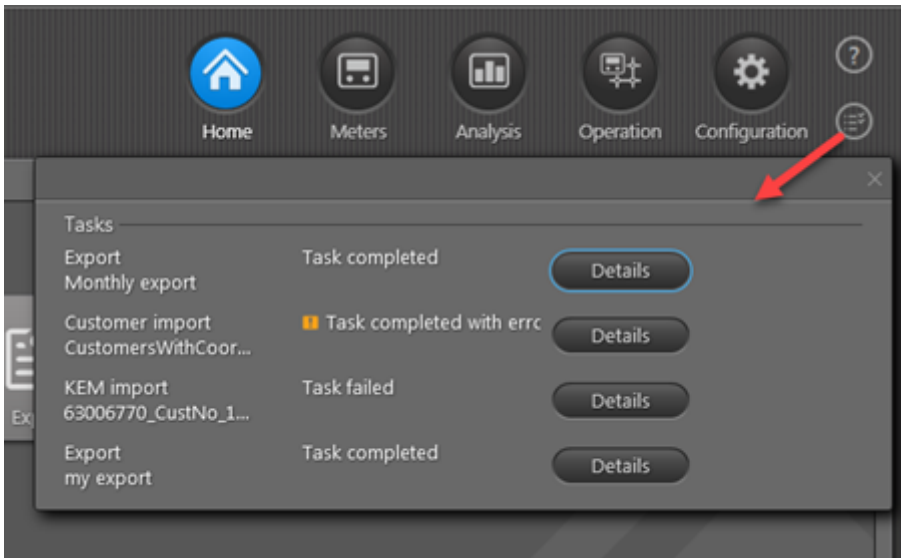


4. Make sure to save the generated key! Then click **Activate**.

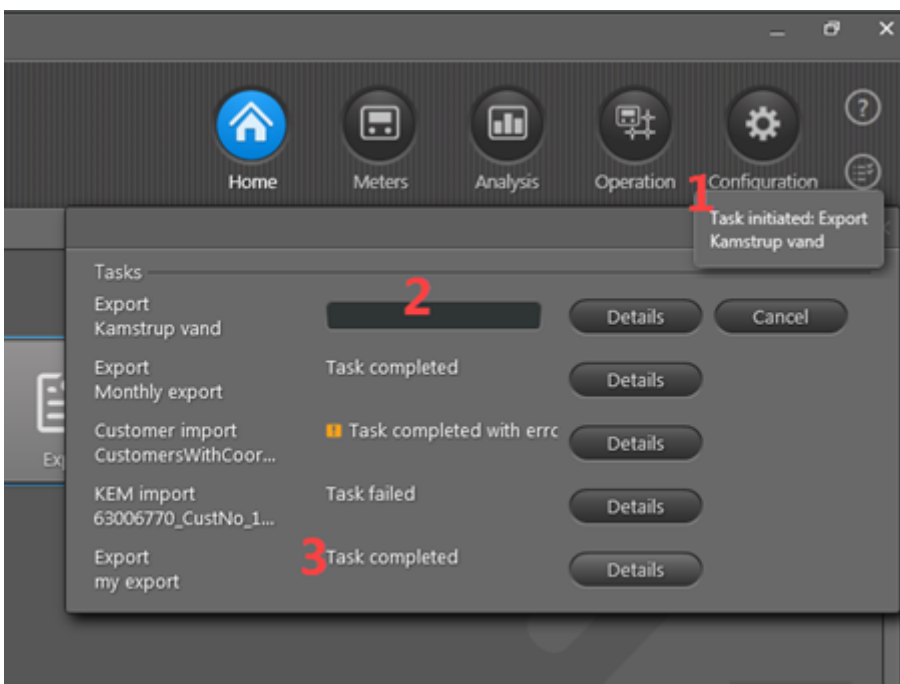
## 20.8 Task list

The task list lets you follow the progress and see the result of import and export tasks that you initiate in READy Manager.

You open the task list by clicking  in the upper right corner of the main window:



When you initiate an import or export, a small message briefly appears below the task icon (1). If you open the task list, the new task is added at the top of the task list, and a process bar illustrates the progress of the task (2). Once the task has been completed, a small message briefly appears to tell you about it, and a status message informs you of the task result (3) in the task list:

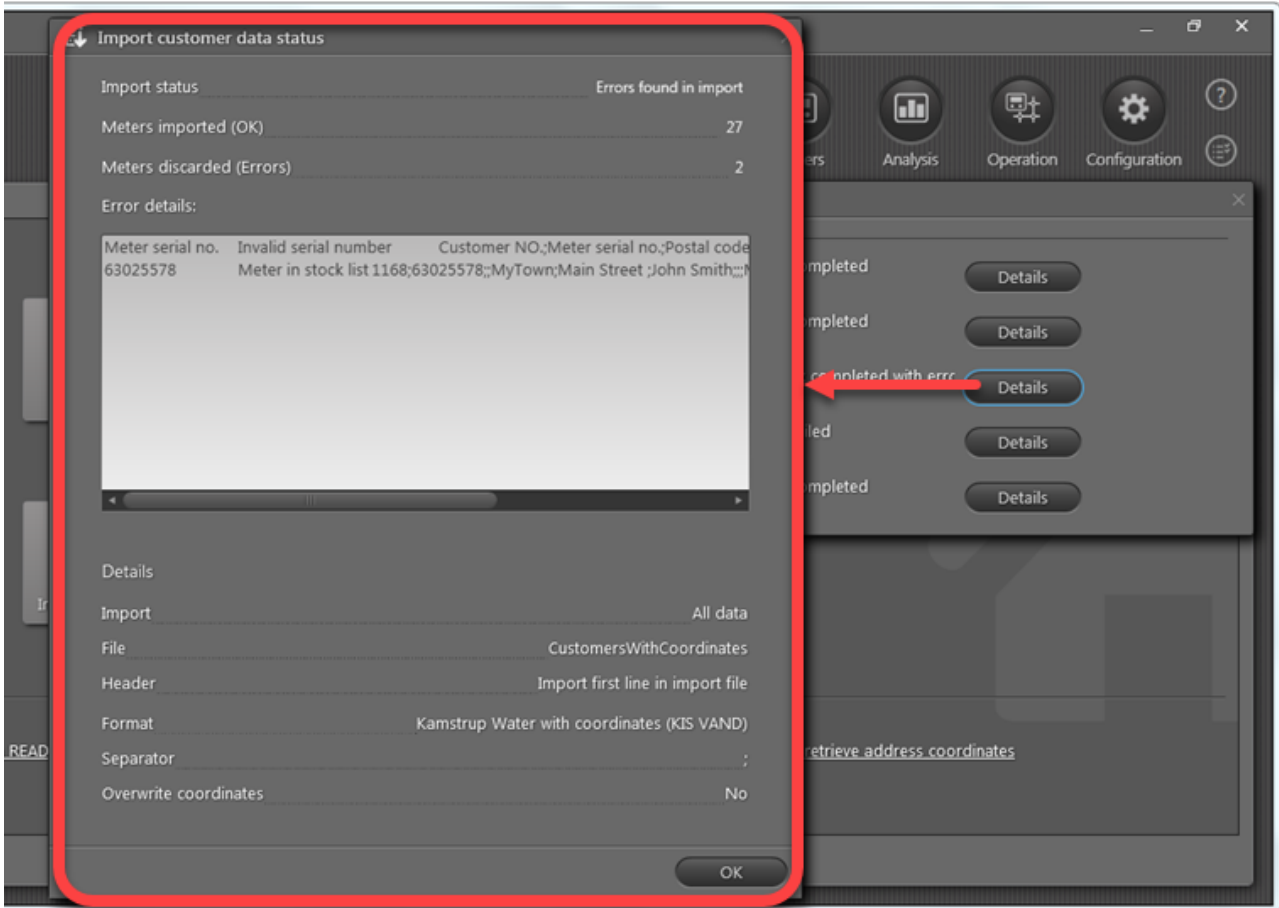


The status message is one of the following:

- Task completed

- Task completed with errors
- Task failed
- Task canceled (appears if you click the **Cancel** button before the task is completed).

More information about the import/export task appears, if you click the **Details** button:



The task list can contain up to 10 tasks. If you have 10 running tasks and try to initiate yet another one, an error message will appear. If one or more of the 10 tasks on your list are canceled or completed, and you start a new task, a canceled or completed task is removed from the list and your new task is added at the top of the list.

**Note** The tasks only run as long as READY Manager is open. If you close down READY Manager, all running tasks are canceled and the task list is cleared, meaning that you always start READY Manager with an empty task list.

## 21 Troubleshooting

---

This section tells you how to solve possible problems in relation to using READYy, and how to get further assistance from Kamstrup if needed.


### What do you want to do?

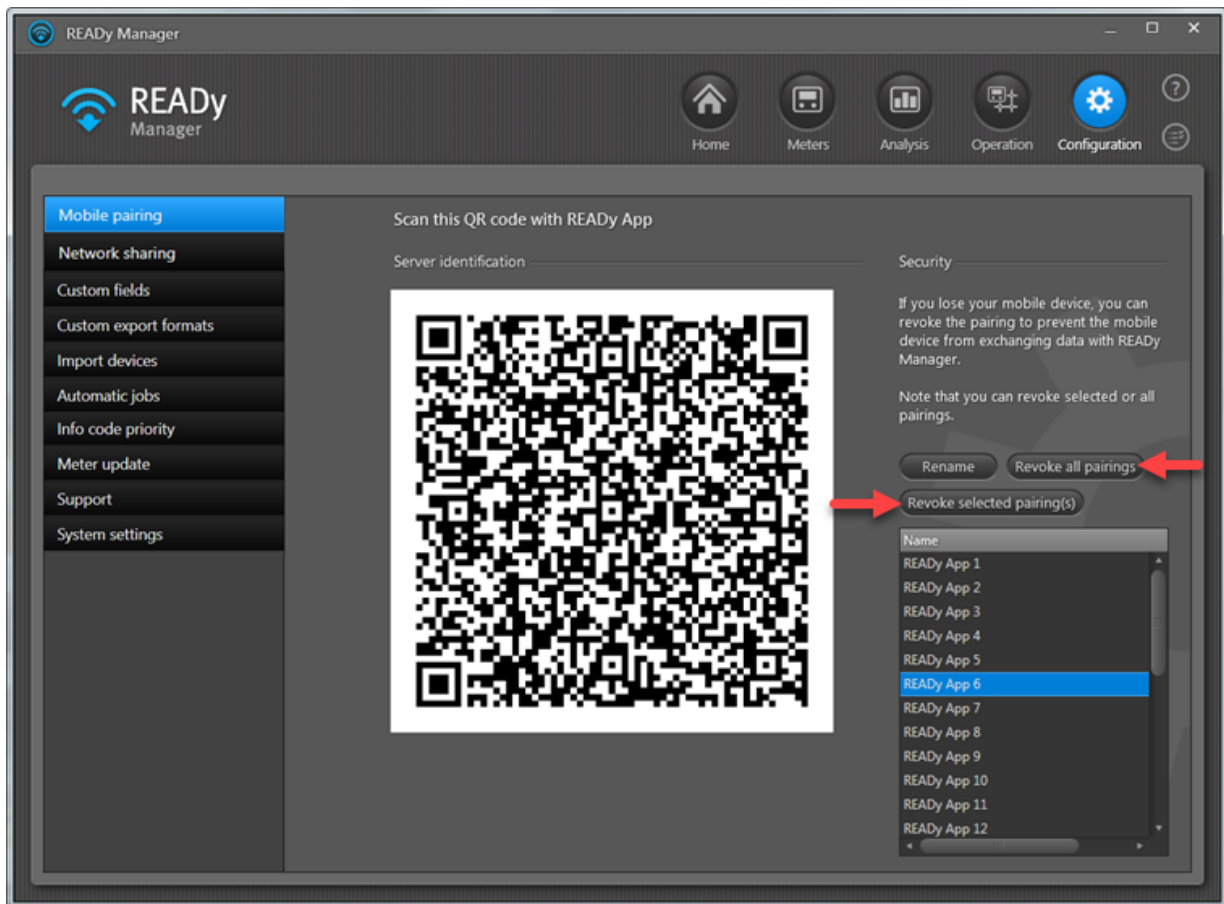
- [I have lost my mobile device - what should I do?](#)
- [What do the alerts in Infrastructure view mean?](#)
- [How to check the readability of flowIQ@ 2250 or 3250 meters](#)
- [An automatic job fails - what should I do?](#)
- [When do the next automatic M-Bus reading start?](#)
- [I am asked to accept a certificate when I log in to READYy](#)
- [Auto-detection of remote disconnect module ends in error](#)
- [Where do I find acoustic leakage detection \(ALD\) information?](#)
- [See remaining free space in the default SQL Express database \(local READYy installations\)](#)
- [Check firewall connection issues \(local READYy installations\)](#)
- [I am told that I have more meters than my subscription allows](#)
- [Contact Kamstrup support](#)

### 21.1 I have lost my mobile device - what should I do?

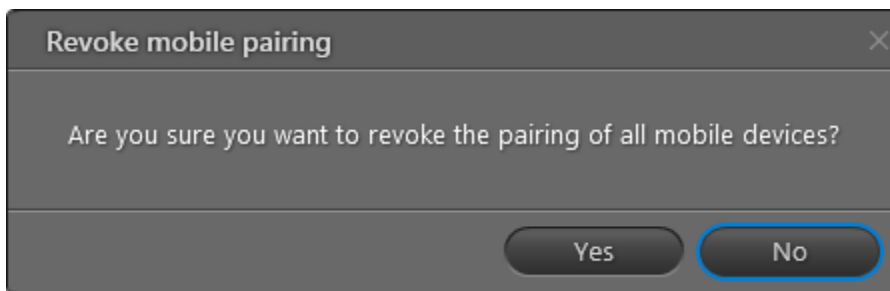
If you have lost a mobile phone or tablet with READYy App, you can prevent it from transferring data to READYy Manager by breaking the connection between the mobile device and READYy Manager. You do so by revoking the pairing of the mobile device with READYy Manager.

#### How to revoke the pairing of one or more mobile devices with READYy Manager

1. Click **Configuration**  in the upper-right corner of READYy Manager, and then select **Mobile pairing** in the menu to the left.
2. Follow Step 2a or 2b:
  - a. To revoke the pairing of one or more mobile devices, select the device(s) in the list and click **Revoke selected pairing(s)**.OR
  - b. To revoke the pairing of all mobile devices, click **Revoke all pairings**.



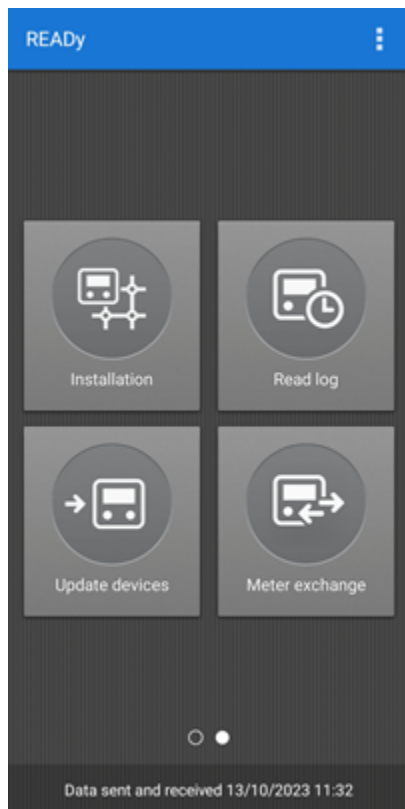
3. In the window that appears, click **Yes**.



## 21.2 Checking connection quality to meters

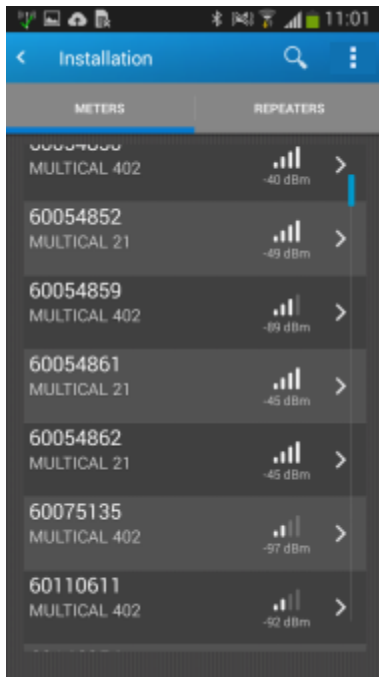
Use the following procedure to check the connection quality to meters in your network:

1. On your smartphone/tablet, swipe the screen to go to page two of the READY App home screen and tap **Installation**:



If a menu appears, tap **Network tool** to open a list of meters in your network. Otherwise, the list of meters opens directly.

The connection quality of each meter on the list is shown to the right of the meter:



### 21.3 What do the alerts in Infrastructure view mean?

See table below:

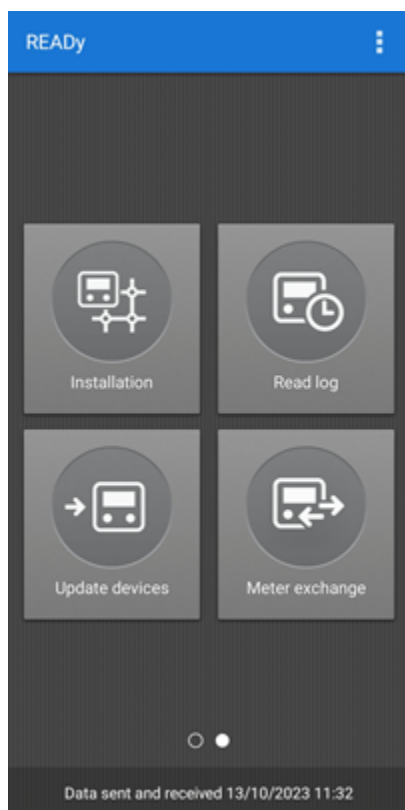
Warning	What it means
	<p>The last time of contact with the collection unit exceeds a certain time period:</p> <ul style="list-style-type: none"> <li>For collectors, the connection is checked every 20 minutes, and a warning symbol appears  if the last time of contact is 5 hours back in time.</li> <li>For 4G bridges, the connection is checked every 4 hours (priority reading) or every day (normal reading), and a warning symbol appears  if the last time of contact is 48 hours back in time.</li> </ul>
 <b>Conflict</b>	<p>More READY installations try to register the same collection unit. Please contact <a href="#">Kamstrup support</a>.</p>

## 21.4 Checking readability of flowIQ® 2250 or 3250 meters

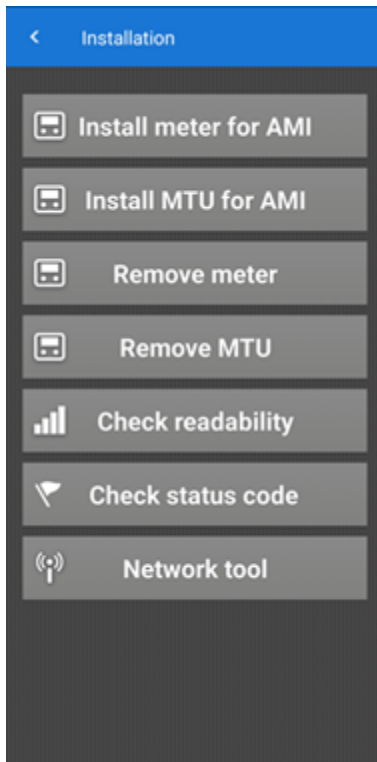
For meters of the type flowIQ® 2250 or 3250, you can check which collection units that are able to read the meter:

### How to check the readability of a meter via READY App

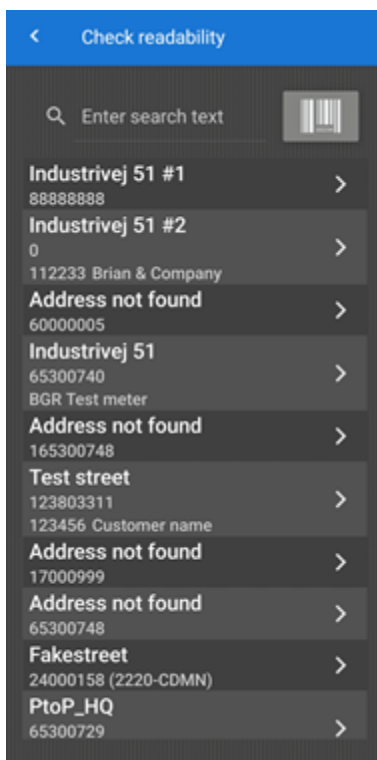
1. On the road near to the flowIQ® 2250 or 3250 installation site, make sure that READY Converter is turned on.
2. Swipe the screen to go to page two of the READY App home screen and tap **Installation**:



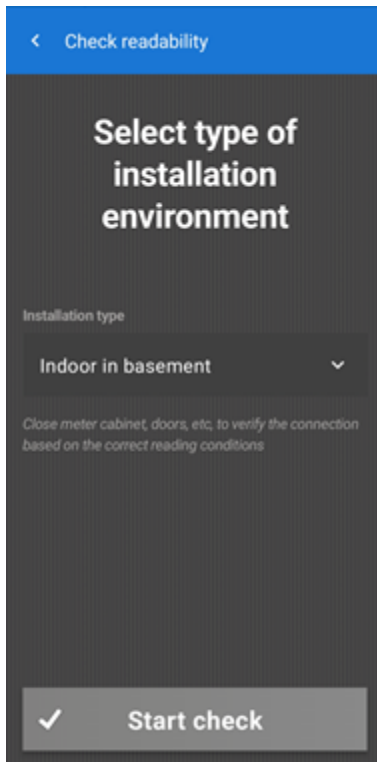
- On the **Installation** screen that appears, tap **Check readability**:



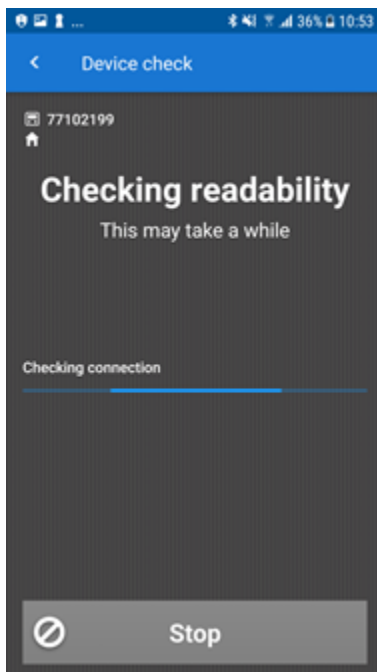
- In the list of meters that appears, select the one whose readability you want to check (use the search field to quickly locate it if desired):



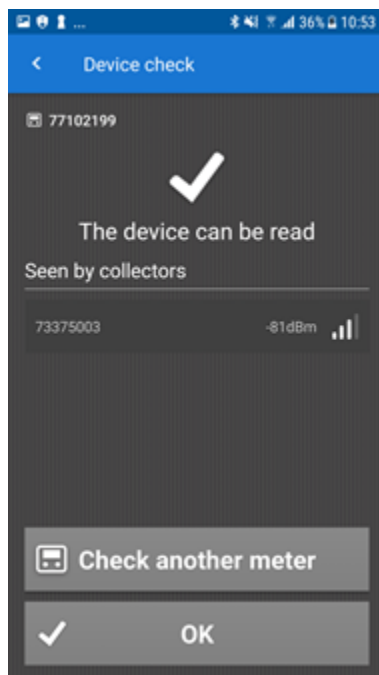
- In **Installation type**, select the environment in which the meter is installed, and click **Start check**:



READY App now checks the readability:



When the check has been completed, you can see if the meter can be read and by which collection units:



6. Tap **Check another meter** to check the readability of another meter, or tap **OK** to finish checking devices.

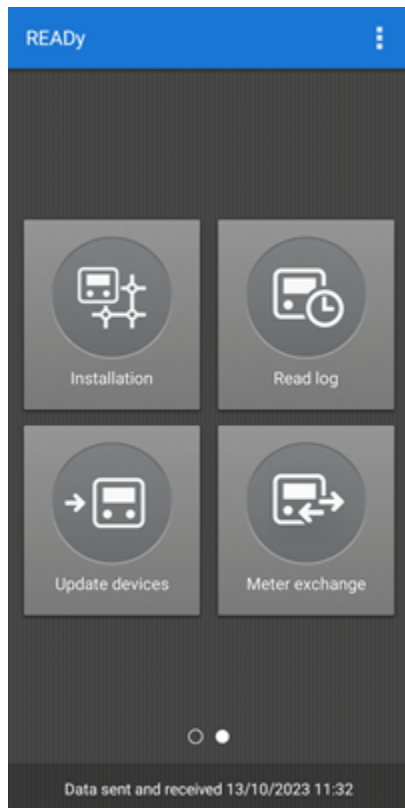
## 21.5 Checking readability of NB-IoT meters

For NB-IoT meters of the type flowIQ® 2200 or 3200, you can check the connection of the meter to the network.

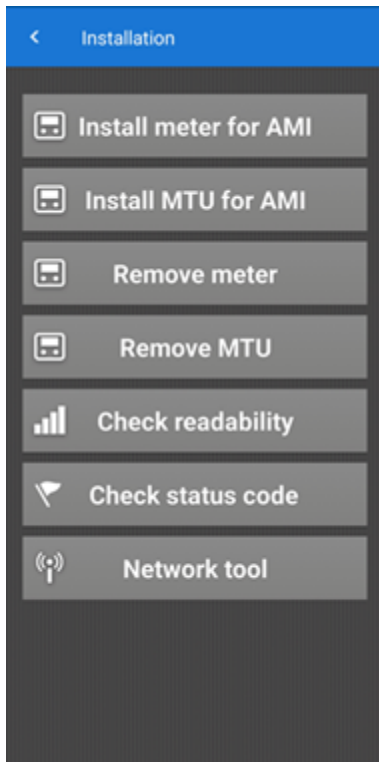
**Note** It may take up to 16 minutes to check the readability of a meter, but usually it takes only 1-2 minutes.

## How to check the readability of a meter via READy App

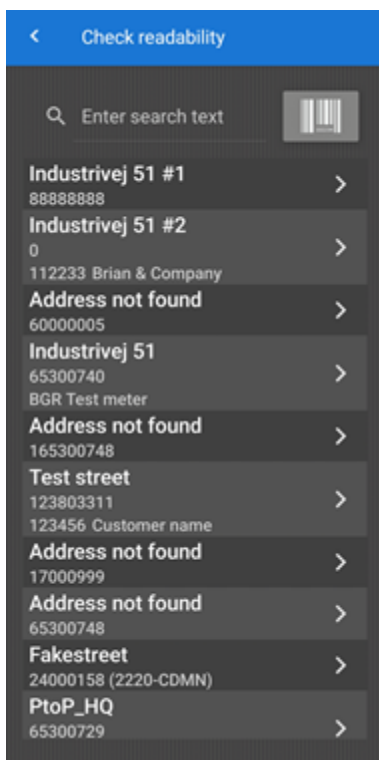
1. On the road near to the flowIQ® 2200 or 3200 installation site, make sure that READy Converter is turned on and [paired to READy App](#).
2. Swipe the screen to go to page two of the READy App home screen and tap **Installation**:



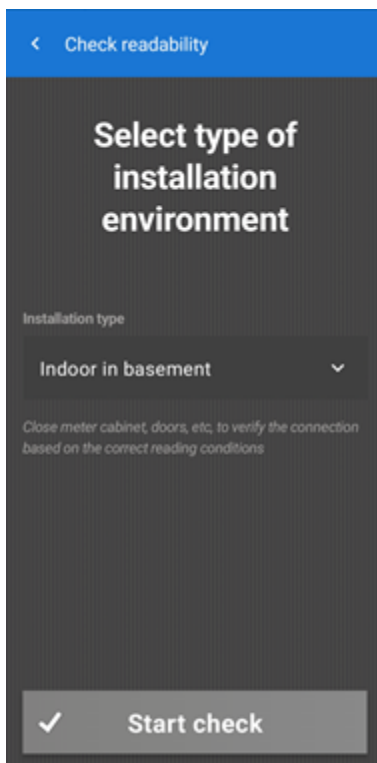
- On the **Installation** screen that appears, tap **Check readability**:



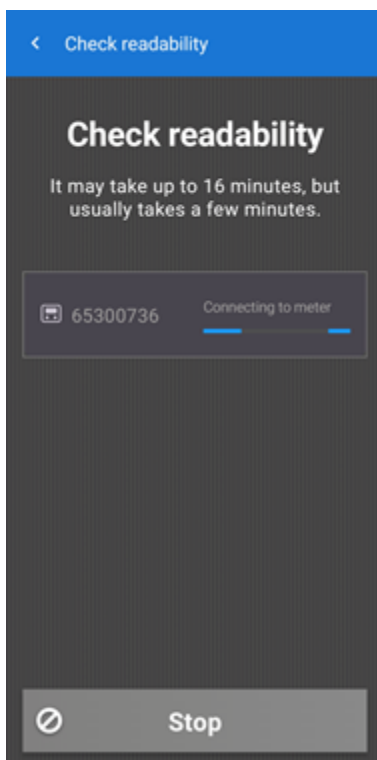
- In the list of meters that appears, select the one whose readability you want to check (use the search field to quickly locate it if desired):



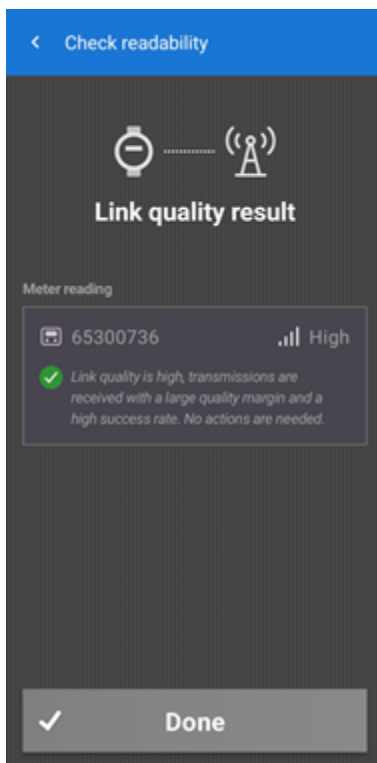
- In **Installation type**, select the environment in which the meter is installed, and tap **Start check**:



READY App now checks the readability:



When the check has been completed, you can see the quality of the meter's connection to the network:





6. Tap **Done** to finish the readability check.

If the connection quality is poor and needs to be improved, you can get a status code from the meter, that helps you identify the problem. For details, see [Getting status code from NB-IoT flowIQ® meters](#).

### 21.5.1 Getting status code from NB-IoT flowIQ® meters

For NB-IoT meters of the type flowIQ® 2200 or 3200, you can get a status code from the meter to help you identify problems. The status comes with solution suggestions such as "Mount an external antenna or improve the external antenna location", "Make sure that the meter is imported in READY Manager", etc.

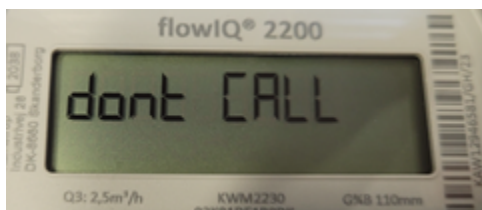
**Important** Physical access to the meter and an optical read-out head  or a magnet  is required in order to get the status code from the meter.

## How to get a status code from an NB-IoT meter

1. At the installation site next to the flowIQ® 2200 or 3200 meter: Make sure that READY Converter is turned on and [paired with READY App](#).
2. Place the optical head or the magnet (see image below) on the optical eye of the meter for approx. 3 seconds until all segments in the display are shown:

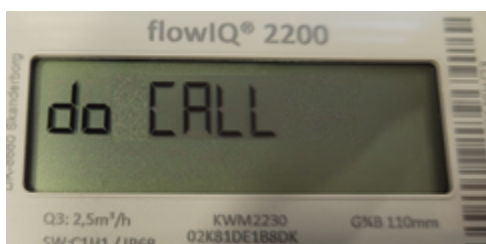


3. Place the optical head or the magnet on the optical eye of the meter for approx. 1 second until **Don't call** appears in the meter's display:



Wait until "Don't call" starts flashing.

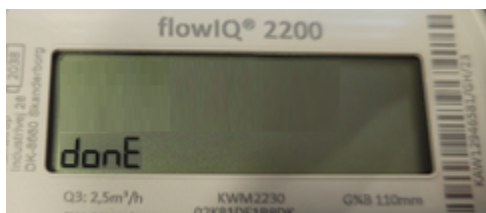
- Place the optical head or the magnet on the optical eye of the meter for approx. 1 second until **Do call** appears in the meter's display.



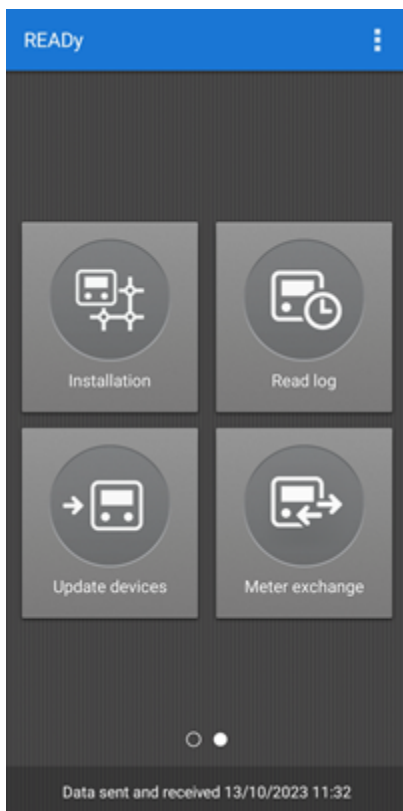
The meter returns to the legal volume display and performs a network call:



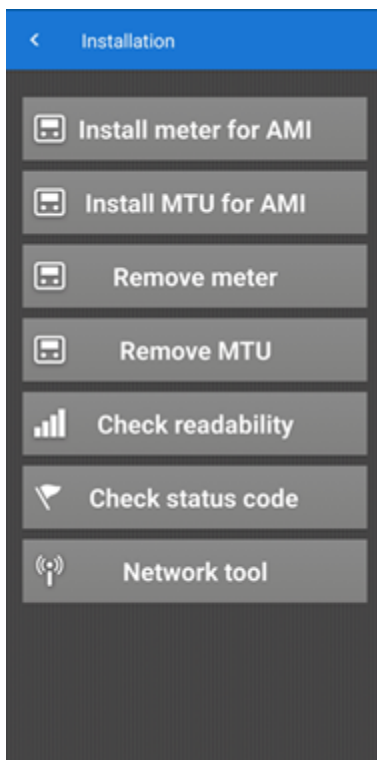
This may take several minutes. "done" (done) appears in the lower left corner of the display when the connection is successful:



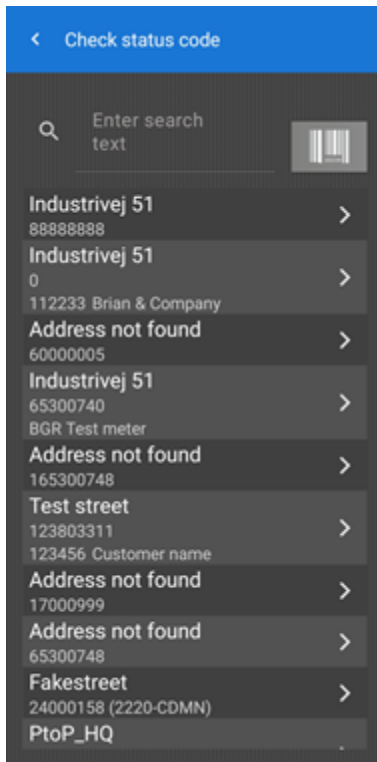
- In READYy App, swipe the screen to go to page two of the READYy App home screen and tap **Installation**:



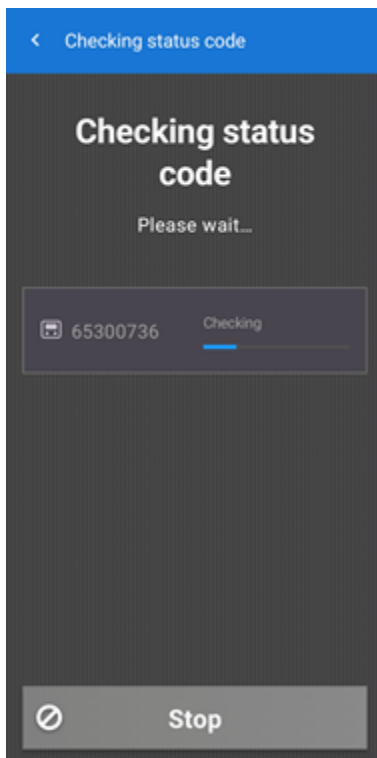
- On the **Installation** screen that appears, tap **Check status code**:



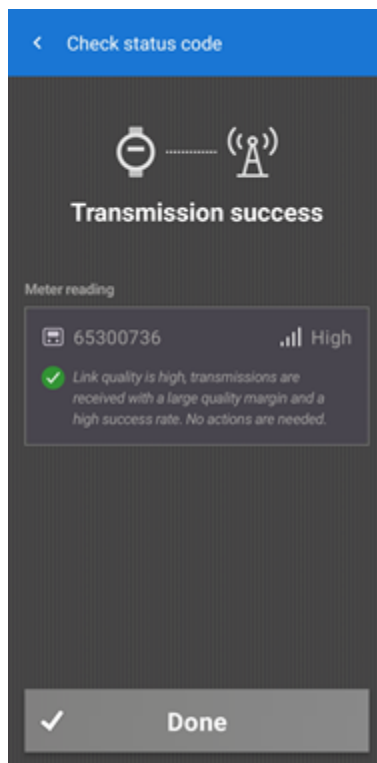
- In the list of meters that appears, select the one whose status code you want to check (use the search field to quickly locate it if desired):



READY App now checks the status code:



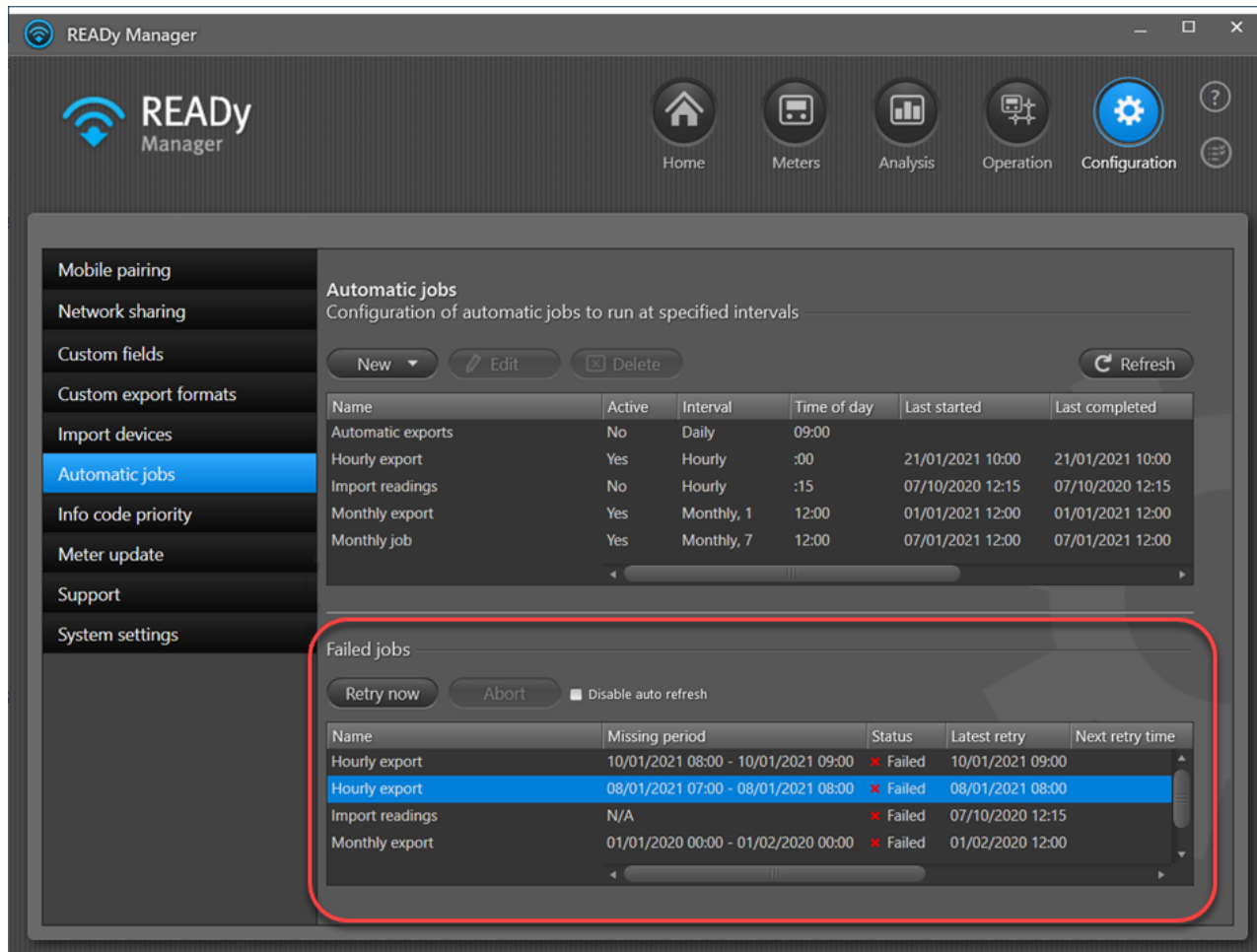
When the check has been completed, you can see more details from the meter about the meter's connection to the network:



8. Tap **Done** to finish the status code check.

## 21.6 Automatic job fails

If an automatic import or export job fails, it appears in the list of failed jobs at the bottom of the **Automatic jobs** window:



Depending on the error displayed in the **Error message** column, try the following:

Error message	What to do
An unknown error occurred	Try to run the job again (for details, see <a href="#">Retrying automatic exports that fail</a> ). Contact Kamstrup if the problem persists.
A required setting for your automatic job destination is missing, e.g. password for FTP server or path to local folder.	Check the definition of the automatic job to see if one or more settings are missing (for details about settings, see <a href="#">Automatically exporting reading data</a> ).
One of the settings for your automatic job destination is invalid, e.g. password for FTP server or path to local folder.	Check the definition of the automatic job to see if one or more settings are wrong (for details about settings, see in <a href="#">Automatically exporting reading data</a> ).
It was not possible to find the job information when executing the job.	Check that the automatic job still exists or if it has been deleted.
A communication error occurred when retrieving job information.	Try to run the job again (for details, see <a href="#">Retrying automatic exports that fail</a> ).

Error message	What to do
	Contact Kamstrup if the problem persists.
A connection error occurred when trying to execute the job.	Try to run the job again (for details, see <a href="#">Retrying automatic exports that fail</a> ). Contact Kamstrup if the problem persists.
A login error occurred when trying to execute the job.	Check the definition of the automatic job. The user name and/or password probably need to be updated (for details about changing user name and password, see <a href="#">Automatically exporting reading data</a> ).
A file read-write error occurred when trying to execute the job.	Check the access rights to the files and folders included in the job. See also <a href="#">Automatic export to folder on PC fails</a> .
The file name was invalid on the destination file system.	If possible, try to change the name of the export file to be able to save it. Alternatively, contact the person responsible for the destination file system to solve the problem.
The location on the destination file system was invalid.	Check if the destination of the export is valid.
A problem with the SMTP server occurred when sending the email.	Try to run the job again (for details, see <a href="#">Retrying automatic exports that fail</a> ). Contact Kamstrup if the problem persists.
The email could not be delivered to all receivers.	Check that the email addresses of the recipients are correct.
A problem with the time zone occurred.	Contact Kamstrup.
File was not found at the specified location.	Check that the file to be imported is placed at the right location and can be accessed.
A job with the same name is already running.	The automatic job is already running. Stop the running job or wait for it to finish.

### 21.6.1 Automatic export to folder on PC fails

If export to the destination "Folder on PC" fails, it may be because the service running the automatic export does not have access rights to the selected destination.

The screenshot shows the 'Export' dialog box with the following settings:

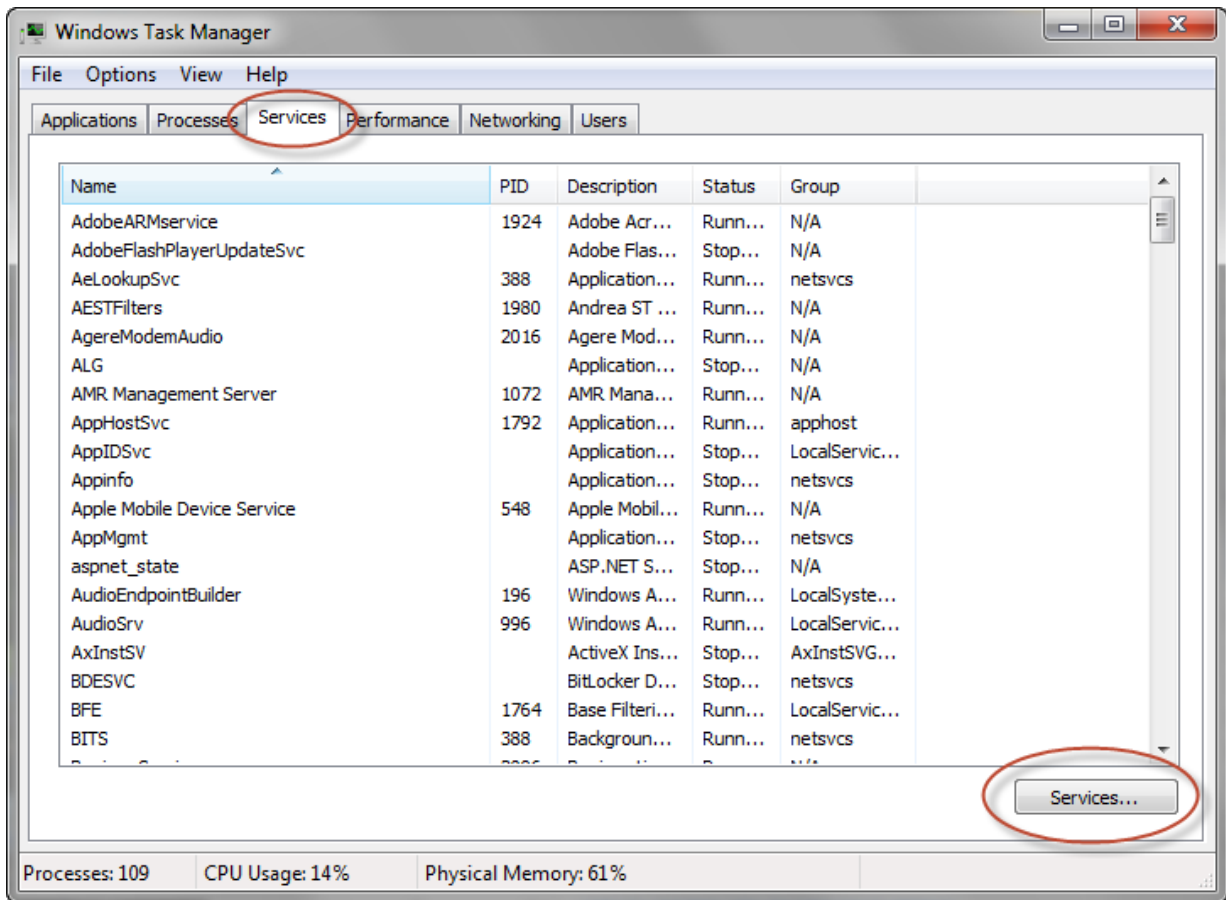
- Job schedule:**
  - Name: Monthly reading
  - Interval: Monthly
  - Time of day: 12 : 00 UTC+01:00
  - Day of month: Last day in month
  - Active:
- Export:**
  - Format: Kamstrup Export
  - Readings per meter: Latest reading
  - Group: All meters
  - Days exported: 1
- Target:**
  - Destination: Local disc
  - File Name: C:\Users\meo\Documents\Monthly
  - Browse... button is highlighted.
  - Add date and time to export file name:

At the bottom of the dialog, there is a 'Run job now' checkbox, a 'Save' button, and a 'Close' button.

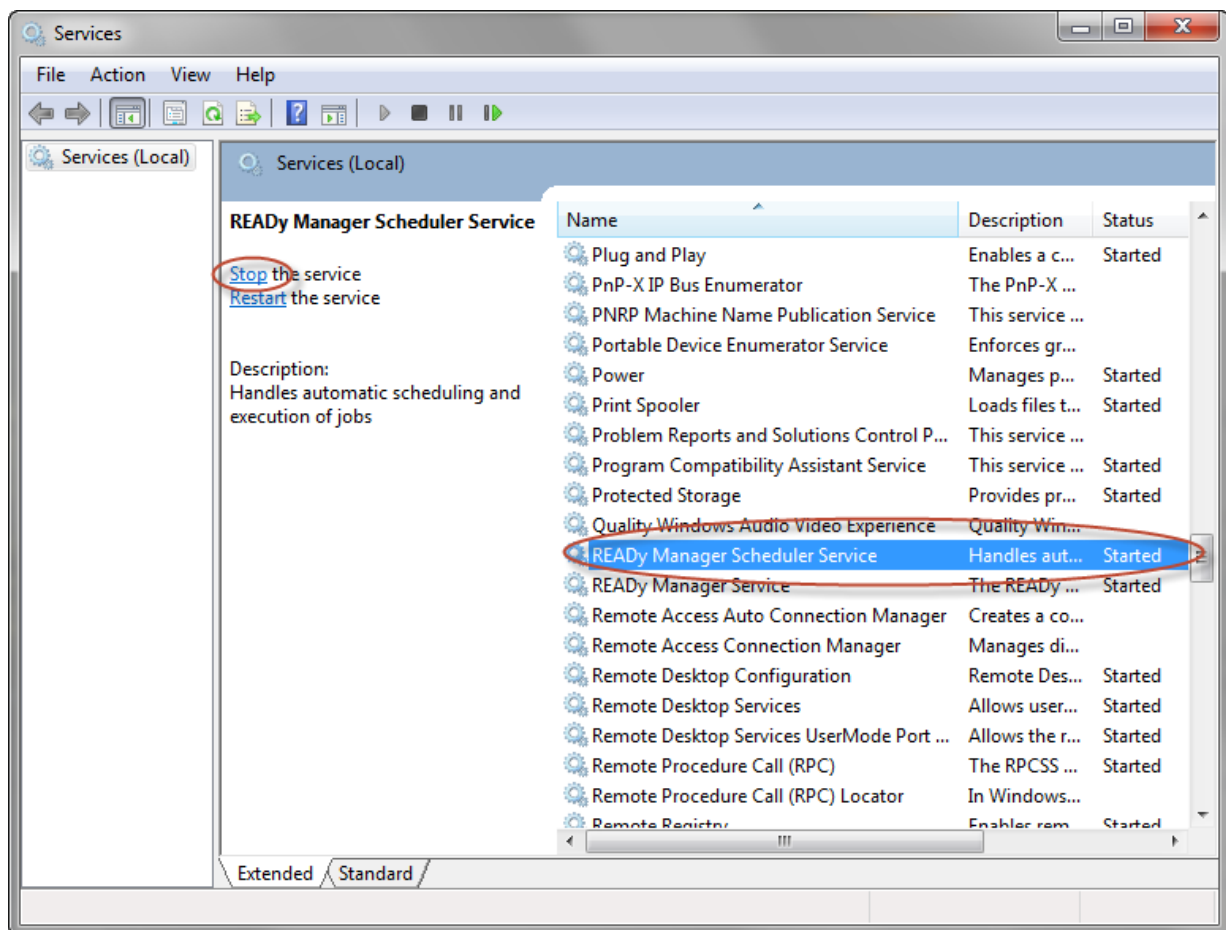
To solve this problem, you can manually change the user that runs the service to one that has the appropriate rights.

#### How to change the user that runs the service for automatic export

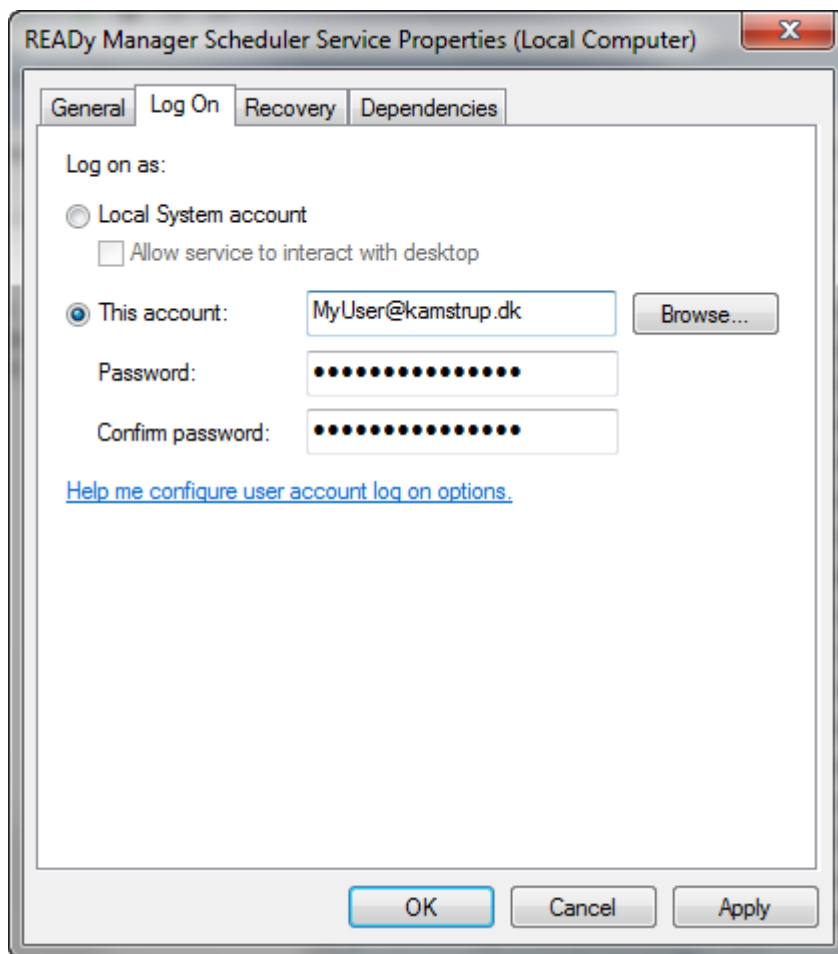
1. Open Windows Task Manager on your computer, e.g. by pressing CTRL + ALT + DELETE.
2. On the **Services** tab, click the **Services** button in the bottom right corner:



- In the **Services** window, select "READY Manager Scheduler Service", and click **Stop** to stop this service:



4. Right-click the service, and choose **Properties** in the pop-up menu that appears.
5. On the **Log On** tab, select **This account**, and specify a user that has access to the destination you want to export to:




6. Click **OK**.
7. Click **Start** to start the READY Manager Scheduler Service again.

## 21.7 When do the next automatic M-Bus reading start?

If you have an advanced subscription to a wired M-Bus network, meters are read automatically at the time you have set up.

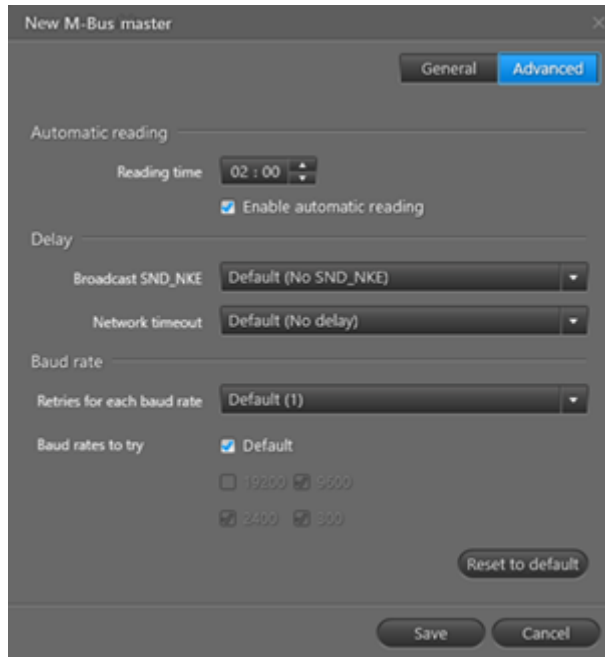
To see or change the reading time - or turn automatic reading on or off, follow the procedure below:

1. Click **Operation**  in the upper-right corner of READY Manager, and then select **Wired M-Bus** in the menu to the left.
2. In the list of M-Bus masters, select the one for which you want to see or change the automatic reading settings and click **Edit**.
3. If you have a READY solution with hosting agreement, follow step a. If you have a local READY installation, follow step b:
  - a. Hosted READY: See or change the reading time in the **Reading time** field.

OR

## b. Local READY:

- Select **Advanced** in the upper-right corner of the window that appears.  
The reading time is now displayed in the **Reading time** field.
- To change the reading time, select the desired time in the **Reading time** field.
- To turn automatic reading on or off, select or clear the selection of **Enable automatic reading** and click **Save**.



## 21.8 I am asked to accept a certificate when logging in to READY

If you have a hosted version of READY Manager (meaning that your meter data are stored and kept safe on a server at Kamstrup), and your utility uses a proxy server for communicating with the server at Kamstrup, you need to accept the certificate of your company's proxy server in order to use READY Manager.

The following message appears:

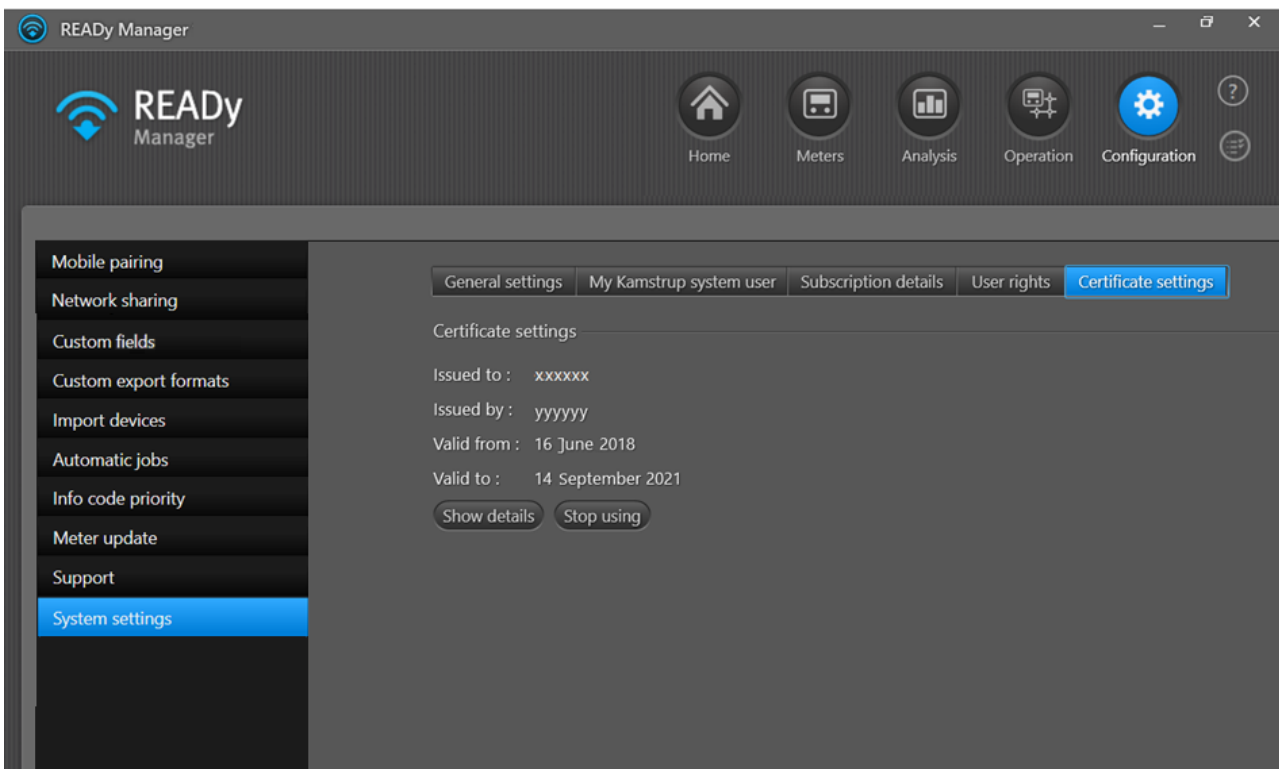


**Important** If in doubt whether the certificate belongs to your company's proxy server or to someone who tries to illegally access your data, ask the system administrator of your utility if the certificate can be trusted.

Once you have accepted the certificate by clicking **Continue**, you can use READY Manager as usual. You only need to accept the certificate once.

When the certificate expires, you need to accept the new certificate.

Information, such as expiration date, can be found if you go to **Configuration > System settings > Certificate settings**:



If you click **Stop using**, you no longer accept the certificate and READY Manager will shut down. The next time you log in to READY Manager, you are asked to accept the certificate again (or another one if it has been replaced in the meantime).

### 21.9 Auto-detection of remote disconnect module ends in error

The first time you read a meter with a remote disconnect module (a module connected to a valve and used for remote disconnection of heat supply), READY will detect the module. If this auto-detection ends in error, the meter configuration may be wrong.

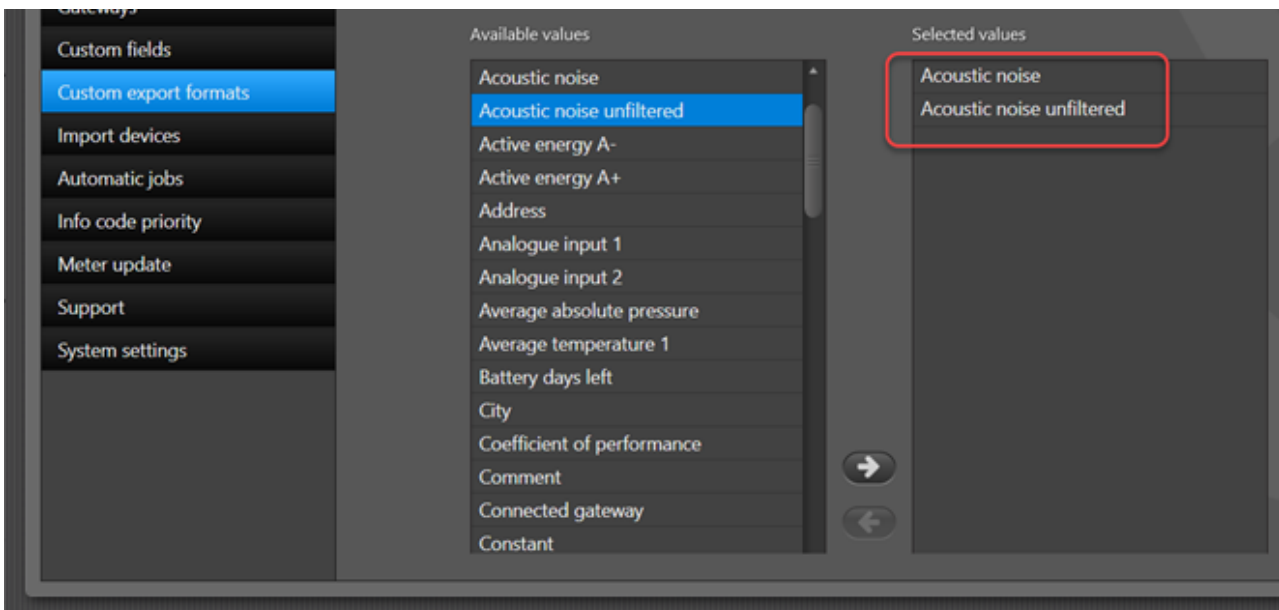
If so please contact [Kamstrup support](#) or do the following:

1. Go to the installation site of the meter and place an optical head on the meter.
2. In METERTOOL, set the PP configuration to 99 to make sure the meter is configured for controlled outputs.

### 21.10 Where do I find acoustic leakage detection (ALD) information?

You will find acoustic leakage detection information in the Water Intelligence application. It is not displayed in READY Manager.

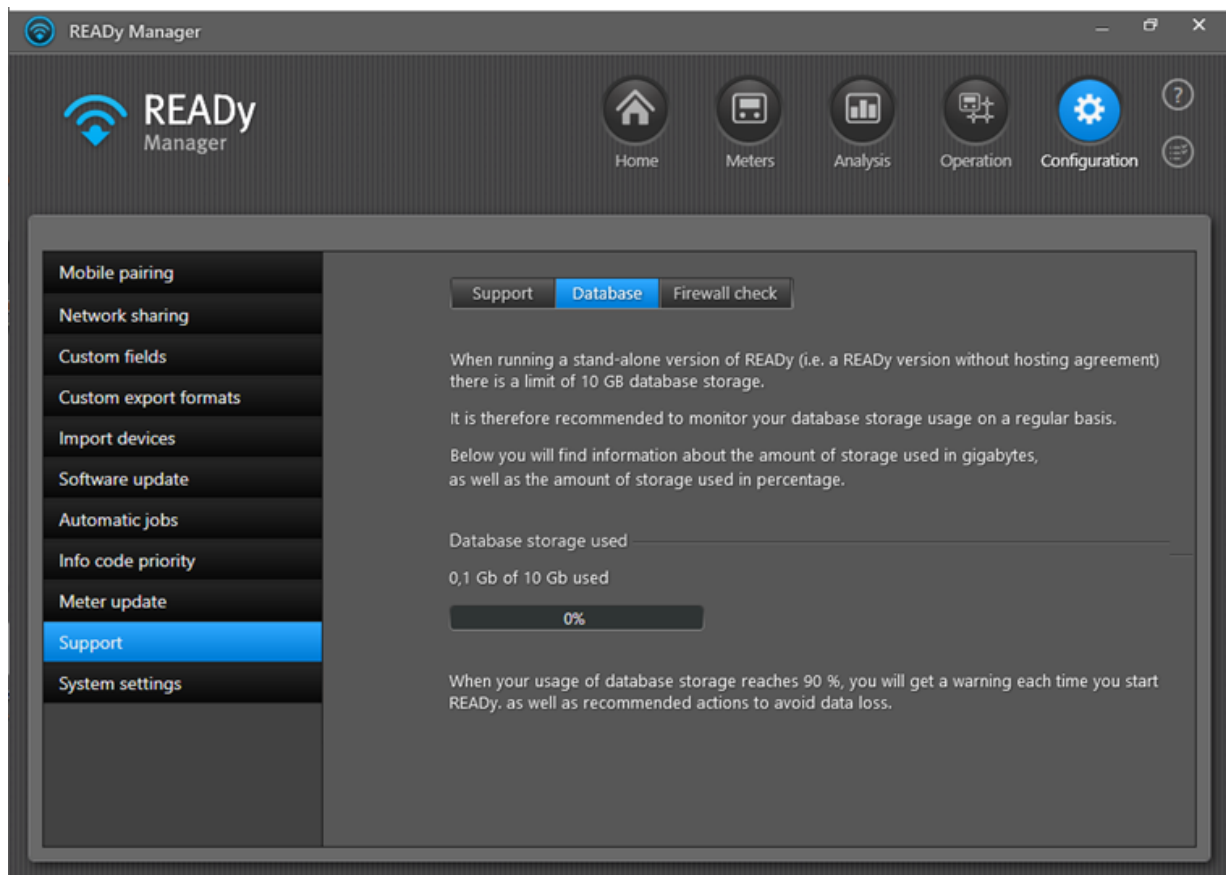
However, it is possible to *export* acoustic leakage detection information from READY Manager:



### 21.11 Checking storage usage

If you have a local installation of READY Manager (i.e. you do not have a hosting agreement with Kamstrup), you can check the remaining free space in the default SQL Express database:

1. Select **Configuration**  > **Support** > **Database**:



### 21.12 Checking firewall connection issues

If you have a local installation of READY Manager (i.e. you do not have a hosting agreement with Kamstrup), you can check if a connection problem in READY is due to your firewall blocking the relevant port:

1. Select **Configuration**  > **Support** > **Firewall check**.
2. Click the **Check connections** button.

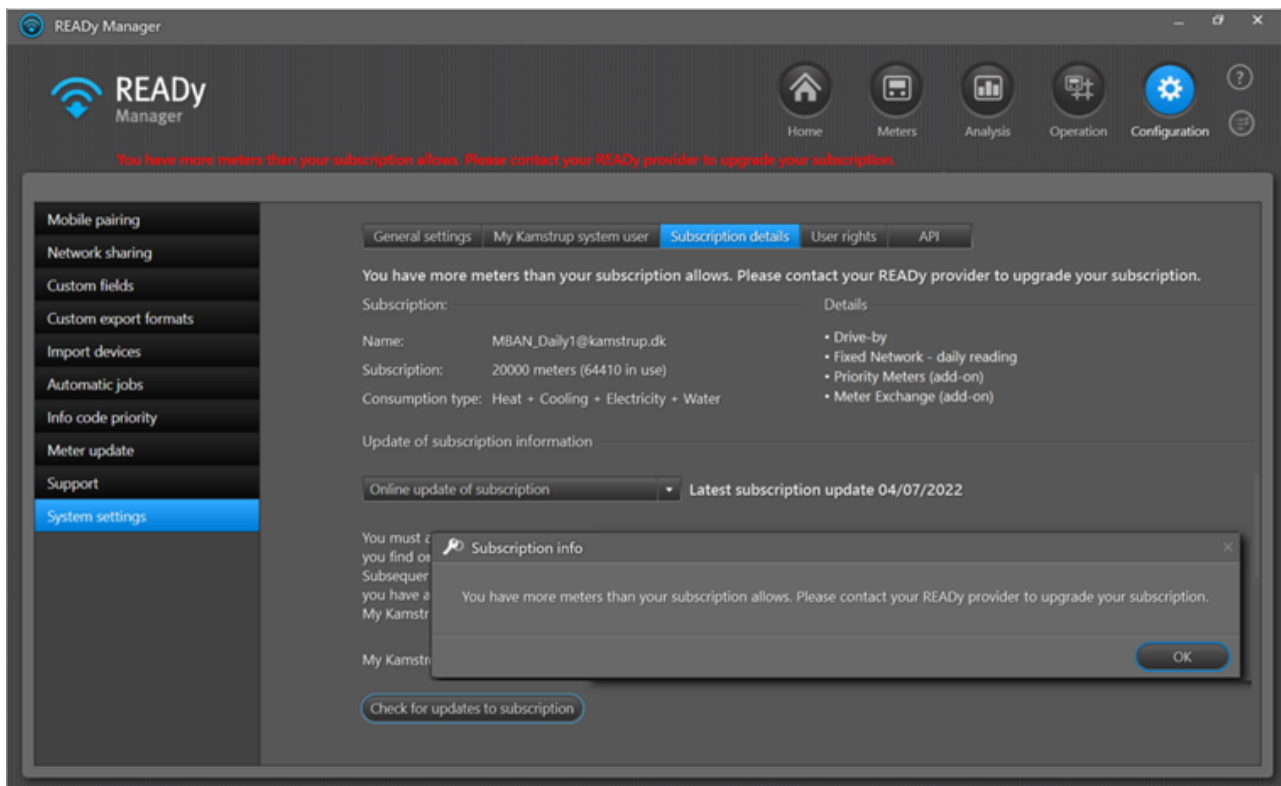
The result is shown in the **Check** column.

If you select a connection in the list, you can see what it is used for below the list.



### 21.13 More meters than subscription allows

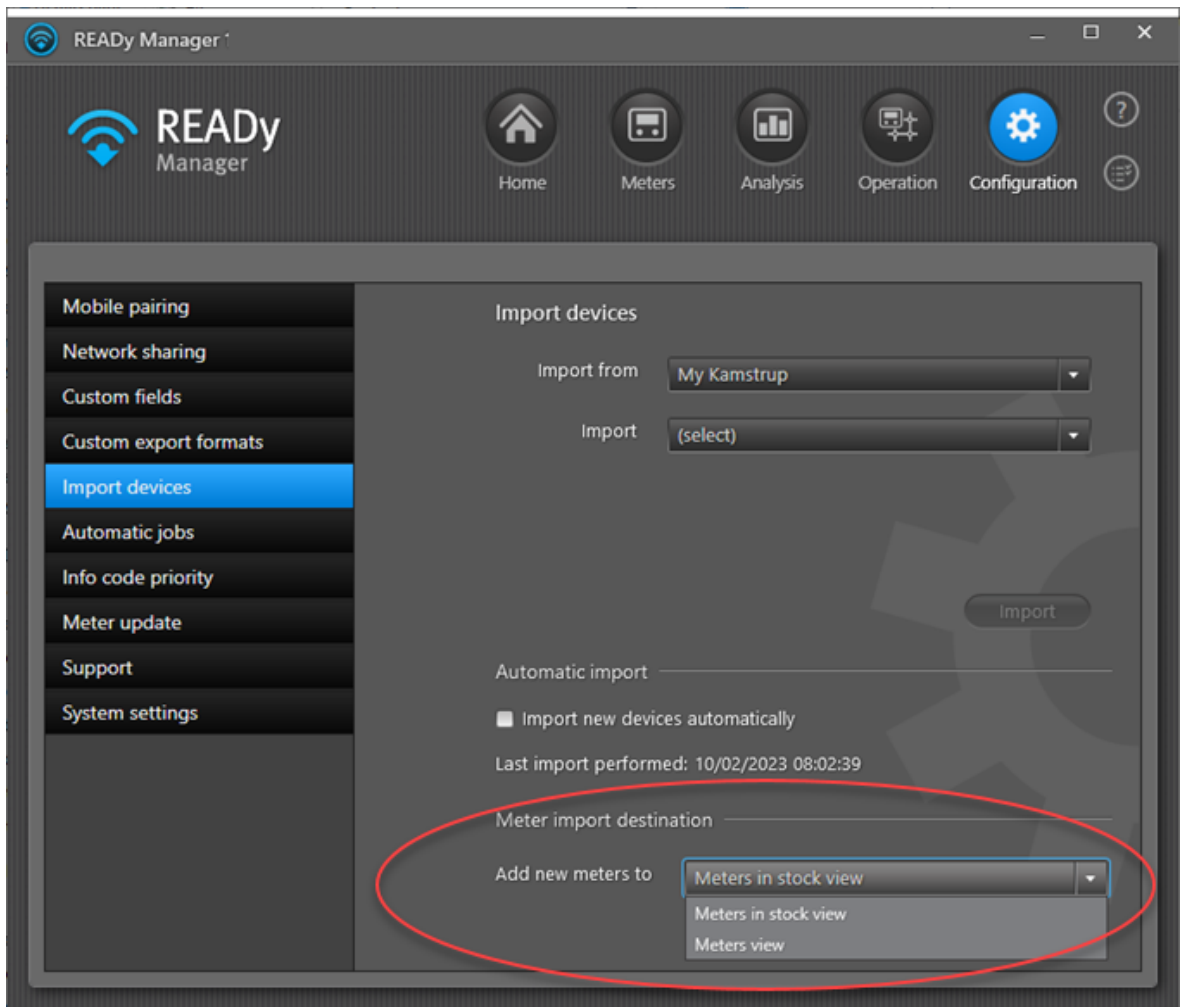
If you have more meters in READY than your subscription allows, you will be notified when you log in to READY Manager:




You either need to upgrade your subscription to include more meters, or delete meters in READY.

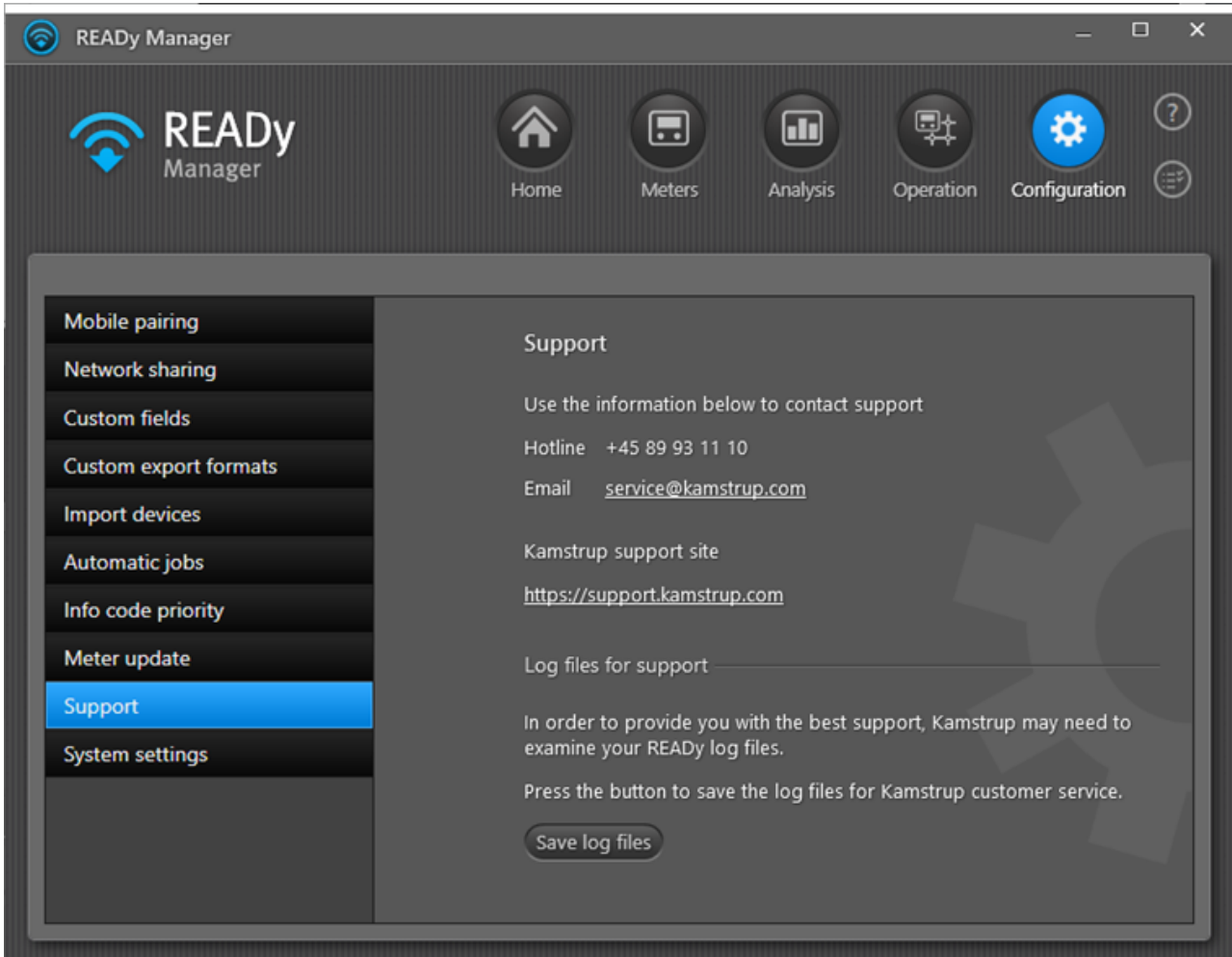
**Note** If you have a lot of new meters that are not yet installed and are going to replace old meters in your system, remember to import them as meters in stock. Meters in stock are not read and do not count as “subscription meters”. This means that you do not risk exceeding the maximum number of meters in your subscription by having new meters in stock.

Go to **Configuration > Import devices** and select **Add new meters to > Meters in stock** view:



## 21.14 Contacting Kamstrup support

Information on how to contact Kamstrup support can be found if you click **Configuration**  in the upper-right corner of READY Manager and select **Support** in the menu to the left:



## 22 Additional information

---

This section provides you with an overview of where to find additional relevant information.

### What do you want to do?

- [See READY video tutorials](#)
- [See other guides on READY](#)
- [See an explanation of main terms used in the manual](#)
- [Access the READY online help](#)
- [See news update on READY or other Kamstrup products](#)

### 22.1 READY guides

In addition to this installation and user guide, the following guides to READY Manager exist:

- Getting started with READY (document number FILE100001588)
- Operating your READY system (document number FILE100001586)

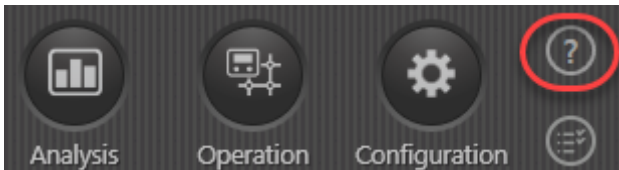
### 22.2 List of words

Term	Definition
AMI	Short for: Advanced Metering Infrastructure. Remote reading of meters via two-way communication. In READY, AMI is used for two-way radio network reading via collection unit.
AMR	Short for: Automatic Meter Reading. In READY, AMR is used for drive-by reading via mobile device.
collection unit	A device installed in your supply area that automatically collects reading data from nearby meters. In a radio network, the collection unit is a collector. In a wired M-Bus network, the collection unit is an M-Bus master.
collector	See: collection unit.
consumer app	An app on smartphone/tablet that enables consumers to monitor and optimize their energy consumption.
encryption key	A key that enables you to decode an encrypted meter. You will receive a file with the encryption key when you buy a meter at Kamstrup.
info code	A meter notification such as burst, leak, dry, etc.
M-Bus master	See: collection unit.
READY App	An app installed on your android mobile device (smartphone or tablet) that allows you to keep track of your meter readings as you walk/drive around town to collect reading data.
READY Converter	A communication unit that enables you to receive meter readings on your smartphone/tablet. You bring it along when you walk/drive around to collect reading data.
READY Manager	An application installed on your PC that allows you to store customer and reading data and export this data to other systems, such as a customer information system.

Term	Definition
repeater	A device that receives radio signals from meters in your network and retransmits it at a higher level or higher power, or onto the other side of an obstruction, so that the signal can cover longer distances.

## 22.3 Accessing the READY online help

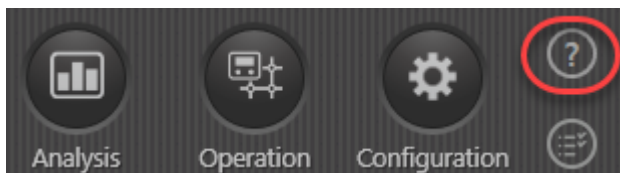
You open the **READY** help window by pressing F1 or by clicking the help icon in the top-right corner of the main window:



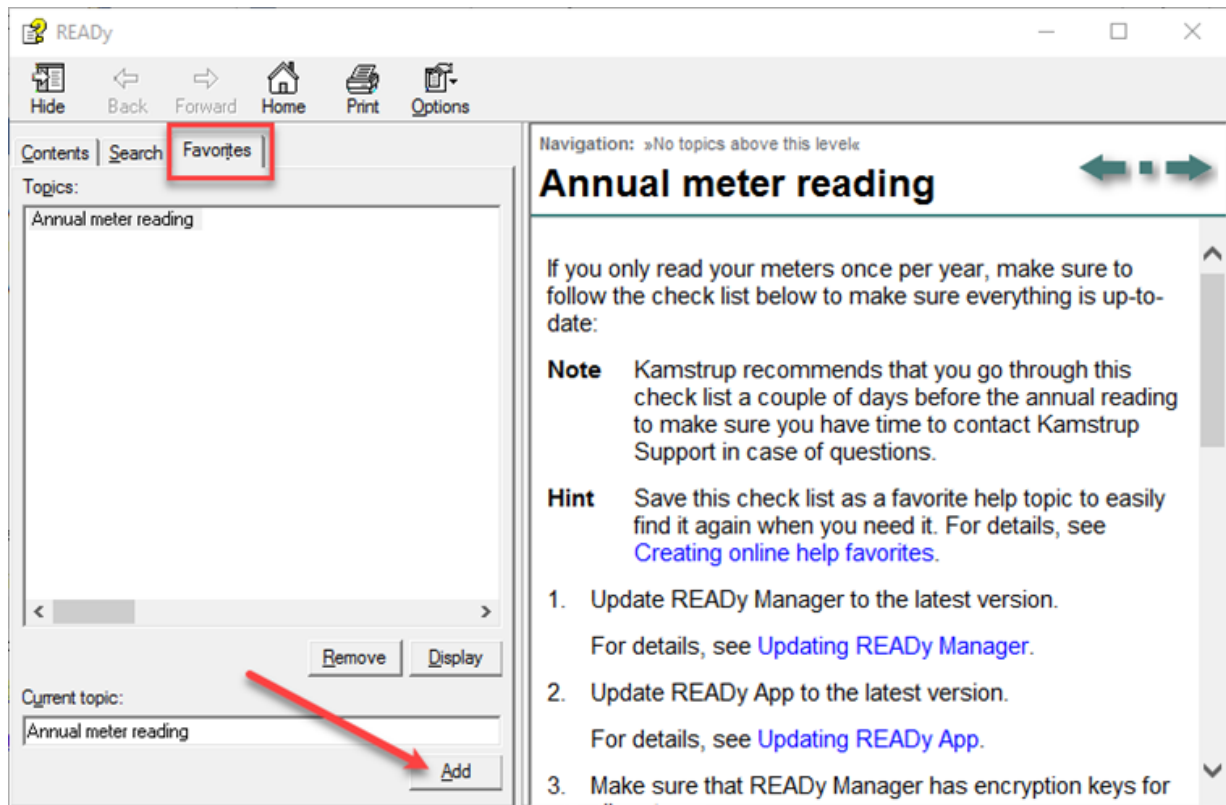
## 22.4 Creating online help favorites

To quickly find a help topic again, you can add it to your list of favorites:

1. Open the READY help window by pressing F1 or by clicking the help icon in the top-right corner of the main window.



2. Select the help topic that you want to be able to easily find again.
3. Select the **Favorites** tab and click **Add**:



The help topic is now added to the **Favorites** list.

## 22.5 READYy news update

To obtain the latest information about READYy and our other products, visit our website: [www.kamstrup.com](http://www.kamstrup.com).

If you have any further questions, do not hesitate to send us an [e-mail](#).

Kamstrup A/S  
 Industrivej 28, Stilling  
 DK-8660 Skanderborg

TEL: +45 89 93 10 00

FAX: +45 89 93 10 01