

# Remote reading with NB-IoT

- Remote reading over NB-IoT network
- Superior signal penetration capability
- Compatible with hybrid networks using other communication technologies
- SIM card management and connectivity through Kamstrup Connect



# Say hello to NB-IoT!



Narrowband Internet of Things – or simply NB-IoT – is one of the latest cellular IoT standards, deployed on top of the existing cellular network and infrastructure, for remote reading of smart water meters. Kamstrup water meters with built-in NB-IoT communication transmit data over long distances with high signal penetration capability and low energy consumption. The nominal battery life of a Kamstrup water meter with NB-IoT communication is up to 15 years.

## Reliable data collection and intelligent alarms

With one-way data transmission of 24 V1 values per day, two-way time synchronization and system acknowledgement, Kamstrup's NB-IoT meters deliver easy and secure access to meter data, even at challenging

installations. The data insight allows you to evaluate the effects of your improvements and remotely identify issues in the installation in real time. Thanks to the data buffer design, a data package error in the current transmission (e.g., due to poor connection) is buffered and resent in the next transmission. Therefore, the data is not lost even if the cellular signal is not available for up to 4 weeks. As soon as the network connection is back, the "data gap" in your system is refilled.

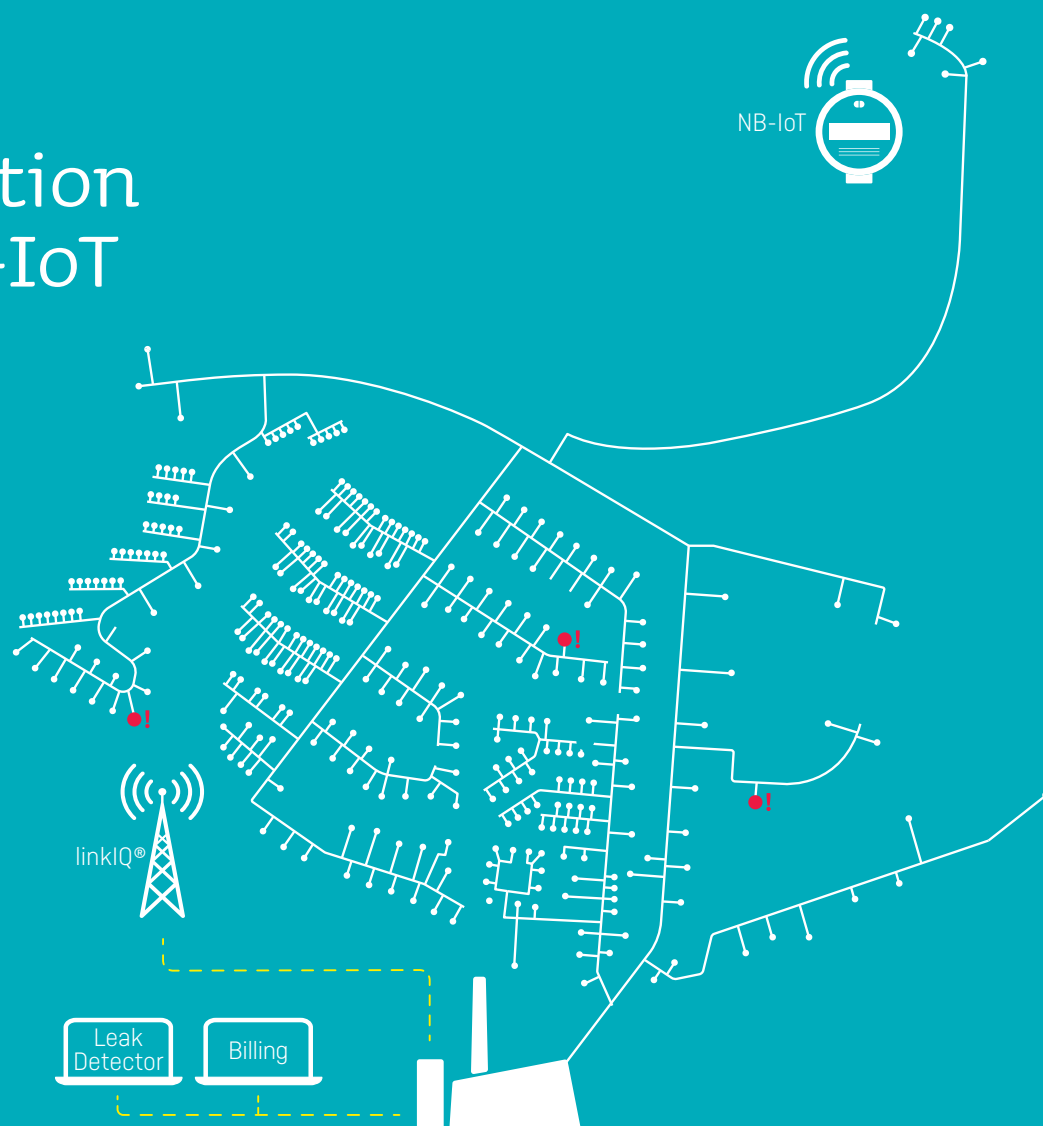
In case of leaks and bursts, the meter sends priority info codes in real time via the NB-IoT network so that you can detect and react to irregularities quickly and effectively.

Your choice

## Hybrid solution or a full NB-IoT network

NB-IoT can be used for remote reading in your entire supply area or as a supplement to your existing Kamstrup network. If your supply area covers both densely populated areas and rural areas with low meter density, the ideal solution may be a hybrid of Kamstrup's linkIQ® network and NB-IoT.

For areas with strong radio interference, pit installations or other challenging conditions, NB-IoT is an easy and efficient way to optimise coverage while avoiding extra hardware costs for your radio network.



Features	flowIQ® 2200	flowIQ® 3200
Acoustic leakage detection	✓	✓*
Flow rate shown in display	✓	✓
Consumption profile	✓	✓
Hourly log	✓	✓
Intelligent alarms	<ul style="list-style-type: none"> <li>• Leak</li> <li>• Burst</li> <li>• Tamper</li> <li>• Dry</li> <li>• Reverse flow</li> <li>• Low battery</li> <li>• Low temperature</li> <li>• High temperature</li> <li>• No consumption</li> <li>• Max flow exceeded [<math>Q &gt; Q_4</math>]</li> </ul>	<ul style="list-style-type: none"> <li>• Leak</li> <li>• Burst</li> <li>• Tamper</li> <li>• Dry</li> <li>• Reverse flow</li> <li>• Low battery</li> <li>• Low temperature</li> <li>• High temperature</li> <li>• No consumption</li> <li>• Max flow exceeded [<math>Q &gt; Q_4</math>]</li> </ul>
Display update	20 s	20 s
Water ingress protection	IP68	IP68
Sizes	1.6 - 10 m <sup>3</sup> /h / ¾" - 1¼"	6.3 - 100 m <sup>3</sup> /h / 1½" - DN100
Start flow	Down to 0.9 l/hour	5 l/hour
Battery lifetime	Up to 15 years [at Coverage Extension Level 0]	Up to 15 years [at Coverage Extension Level 0]
Click-on antenna	✓	✓
SIM	3FF non-exchangeable	3FF non-exchangeable
Frequency bands	B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B26/B28/B66	B1/B2/B3/B4/B5/B8/B12/B13/B17/B18/B19/B20/B25/B26/B28/B66
Telecommunication compliance	3GPP Rel-14	3GPP Rel-14
MID approval	✓	✓
Materials	Glass fibre-reinforced composite	Stainless steel, glass fibre-reinforced composite

\* Acoustic leakage detection (ALD) is enabled for flowIQ® 3200 threaded meters produced Jan. 1st 2025 and onwards, sizes 6.3 -16 m<sup>3</sup>/h (1½" and 2")



# Kamstrup Connect

With Kamstrup's NB-IoT meters, you do not have to own or maintain the radio network infrastructure. Therefore, you can focus on your core business. With Kamstrup Connect, we take care of all contact with the cellular operators, just as we take responsibility for both the meters and the connectivity between the meters and our systems. A variety of different Kamstrup Connect offerings allow you to choose the plan and services that will cover your specific needs.

This means that there are no infrastructure installation, rent or maintenance costs. Instead, you only have a data subscription fee per metering point per year.

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