

Data sheet

M-Bus Master Controller

- Remote reading with M-Bus
- Up to 250 meters per M-Bus master
- Support of primary and secondary addressing
- 300/2400/9600/19000 baud speed
- Connection via USB and Ethernet
- Support for READY Hosted
- Support for third-party systems



CE M240200



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Application

M-Bus is a bus system, which is especially suited for communication with heat, cooling, water, electricity, and gas meters.

The system consists of an M-Bus Master and meters with M-Bus interface.

Various meter types and brands can be installed and co-exist in the same M-Bus network. The network is typically connected using twisted pair cabling.

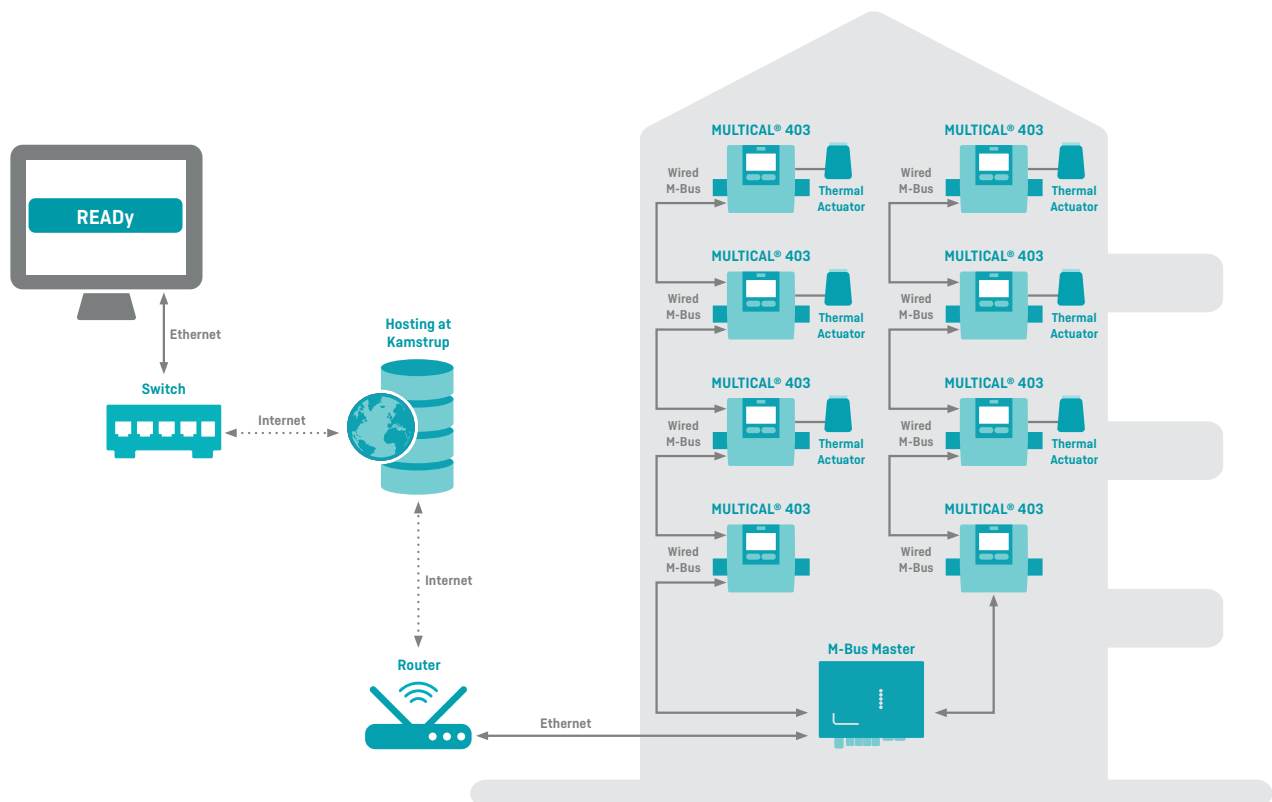
The connected meters are read out by a reading program connected to either a USB or Ethernet port.

The M-Bus Master acts as power supply for the M-Bus modules in the meters. This enables a long battery lifetime for meters with battery supply.

The total size of an M-Bus network using Kamstrup M-Bus Masters can be up to several kilometers.

The M-Bus master is provided with a smart energy-saving feature to reduce power consumption when no meter readings are being carried out.

M-Bus is standardized according to EN 13757-2 and EN 13757-3.



Supported reading systems and connections

- Local READy
- Hosted READy
- MBSheet
- USB and Ethernet connection
- M-Bus communication via USB and Ethernet connection.

Smart installation

- Wall mounting
- Configuration over USB with a Windows PC
- CSV file documents commissioning of meters
- Precise time sync from NTS time server
- Over-the-air firmware update (if connected to the internet)

Security

M-Bus Master Controller supports unencrypted communication with Wired M-Bus devices. To prevent unauthorised access, M-Bus Master Controller must be installed at a physically protected location.

When connecting via Ethernet, the access beyond the physically protected environment is extended. M-Bus Master Controller supports communication with a local installation of READy on a PC via a local area network (LAN) and to a hosted installation of READy via the internet.

The communication between the M-Bus Master Controller and READy takes place through protected TLS connections to ensure data privacy and integrity. The communication with

READy is authenticated. Pre-shared keys are used for local READy authentication. For hosted READy communication, certificate-based authentication is used.

M-Bus Master Controller supports unencrypted and unauthenticated TCP/IP communication with an M-Bus meter reading application. This option does not fulfil basic security requirements and is not recommended outside of a private network.

M-Bus Master Controller supports authenticated synchronisation of the device's internal clock with a trusted Kamstrup time server.

Technical data

Electrical data (M-Bus)

Numbers of slaves per master is 250 at 1 unit load per slave.

Cable length	Up to approx. 2800 m, depending on cable type, cable topology and number of connected slaves
Cable thickness	Max 2 mm ²
Communication speeds	300/2400/9600/19200 baud
Data frame	1 start bit, 8 data bits, 1 parity bit (even), 1 stop bit
Bus mark/space	41 V DC/28 V DC
Detection level, communication	7 mA
Detection level, collision	25 mA
Max normal operating current	375 mA
Overload protection/shutdown level	550 mA

Electrical data (USB, Ethernet)

Virtual serial port via USB	M-Bus communication from PC – USB-B
IP/Ethernet	M-Bus communication from PC – RJ45
Communication speeds	300/2400/9600/19200 baud
Data frame	1 start bit, 8 data bits, no parity bit, 1 stop bit
IP over USB	Configuration on web page in browser on Windows PC – 10.0.0.1

Electrical data (in general)

Power supply	230 V 50 Hz
Power consumption	Max 40 W

Mechanical data

Operating temperature range	0...50 °C, non-condensing, installation indoors
Storage temperature range	-20...+60 °C
Protection class	IP 53
Dimensions	222 x 168/186 x 72 mm (H x W x D)
Weight	2 kg

Approvals and standards

Approvals	CE marking, EMC-D (2014/30/EU), LVD (2014/35/EU)
Approvals	IEC 62368-1 safety standard for information technology equipment
Standards	EN 13757-2, EN 13757-3

Ordering

M-Bus hardware

Type number	Description
MBMC2022	M-Bus Master Controller for up to 250 wired M-Bus meters. Supports hosted and locally installed READy solutions. USB cable included

Accessories

Type number	Description
TRB140	Teltonika Gateway/modem (Ethernet to 4G internet gateway) This device is not available through Kamstrup, but can be purchased in local IT stores

Kamstrup A/S

Industrivej 28, Stilling
DK-8660 Skanderborg
T: +45 89 93 10 00
info@kamstrup.com
kamstrup.com