

iQ DSMR. Datasheet



Application.

- The iQ DSMR reads the measurements of the DSMR meter, the device is capable of reading and processing the entire telegram.
- If supported by the meter, you can read electricity and gas consumption in near realtime.
- Works with or without an Opentherm thermostat.
- HVAC Installers and Building Owners can easily identify boiler error status and employ predictive maintenance.
- The LoRaWAN® module with a very long data transmission range allows the device to be used virtually anywhere.



Components.

- The device has a primary and secondary 6P6C connection for the PI signal of the meter and signal duplication to third-party devices.
- The device has 2 digital inputs and an optional digital output to expand the functionality.
- The device consists out of a Microcontroller with LoRaWAN® and Bluetooth Low Energy communication modules.
- The device is adapted for wall mounting by screws or an optional 3M double sided tape.
- An optional leakage detection kit enables you to perform leak detection in your electrical cabinet using the same device.
- The device has an internal temperature sensor to measure environmental conditions.
- The device has a an internal temperature sensor to protect the internal electronics from overheating.

Device Operation.

- The iQ DSMR requires an operational LoRaWAN® network to transmit data, however it can operate as a stand-alone device as well.
- The device is powered by the Smart Meter (if supported by the meter) or by using a 5VDC USB-C adapter.
- Configuration of the device is done using mobile app or LoRaWAN downlinks.
- The log interval and parameters to be stored are adjustable from 5-60 minutes, the device will store the measured values in the internal storage of the device.
- The iQ DSMR transmits data over more than 2 km in an open space with a medium density of buildings.
- It's recommended to add the device to the Yobi Hub, which allows detailed and easy monitoring of the data transmitted by the device.

Advantages.

- Because of its ability to operate stand alone or over the LoRaWAN network you save on cabling costs.
- Conversion of existing installations is not required because of the LoRaWAN module.
- The device is manufactured in Europe by qualified engineers and CE certified.
- The device synchronizes time over the LoRaWAN network ensuring that the time is always accurate.
- Forwarding telegrams of the smart meter to your solar converter or curtailment nodes.
- Connect the pulse counters of the water meter to the iQ DSMR or connect the optional leakage detection kit to expand the abilities of the device.
- The data transmission is pseudo-random to avoid radio collisions.
- The device can be used on Private or Public Networks and works with the majority of the network servers and visualization platforms.

Mounting Advice.

The device contains a radio antenna, it's recommended to observe the environment when mounting the device to avoid problems due to for instance EMC.

The installation can be performed on a flat wall surface.

If you are considering to use the Temperature en Humidity sensor, a representative place should be selected. Sunshine and draft, e.g. in the installation tube should be avoided, to avoid influencing the measurements. Seal the end of the installation tube.

- To connect the wiring to the device, the lower part of the enclosure needs to be removed from the base plate. On the bottom of the lower part there are 2 screws that can be removed.
- The mounting of the enclosure on a flat wall surface is done with screws and rawplugs or with the optional 3M mounting tape.

Removing the upper part of the enclosure will void the warranty off the device, it contains no user serviceable parts!



The installation and assembly of electrical equipment should only be performed by authorized personnel.

The product should only be used for the intended application. Unauthorised modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets.

Ensure all power is disconnected before installing.

Do not connect to live/operating equipment.

CAUTION!

Risk of electric shock due to live components within the enclosure.

Please comply with:

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

Technical Details.

General System Parameters.

Power Supply	Powered by the smart meter, or by 5VDC USB-C adapter
Ambient condition	0..60°C, max. 85% rH non-condensing
Enclosure	PC, UL94-V0
Protection	IP30 according to EN60529
Size	140x140x20 mm
Weight	200 g
Mounting	flush mounted
Control functions	DSMR, Digital Output
Functions	Optional: control relay based on import / export energy or consumption.
Display	-
Connection electrical	Terminal block, max 1.0 mm ²

Interfaces.

Primary 6P6C	Dutch Smart Meter Protocol V3.0 and above
Secondary 6P6C	Signal duplication of Primary Port
Digital inputs	Opto isolated digital inputs, 3-24VDC with pulse counter support.
Digital output	SPDT Relay, max 230V 0.5A

Sensors.

Temperature	-10°C to 80°C (+/- 0.3°C)
Humidity	0-100% Rv (+/- 2%)

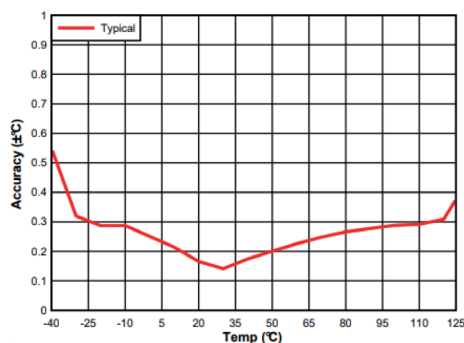


figure 1
Accuracy temperature sensor

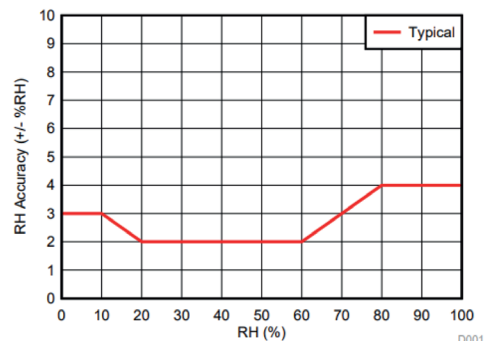


figure 2
Accuracy RH sensor

Sensors.

CE	Low Voltage Directive (EU/2014/30) EMC Directive (EU/2014/35) Radio Equipment Directive - RED (EU/2014/53)
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Wiring.

The device has 4 distinct connectors under the lower part of the enclosure.

First there are 2 6P6C connectors, the first is for the connection with the meter.

The second 6P6C connector is for a optional third party device that needs the DSMR telegrams.

A 10-pole male connector is placed within the device, our delivery consists out of a terminal block on which the wiring can be pushed in.

The terminal block has connections numbered from 1-10.

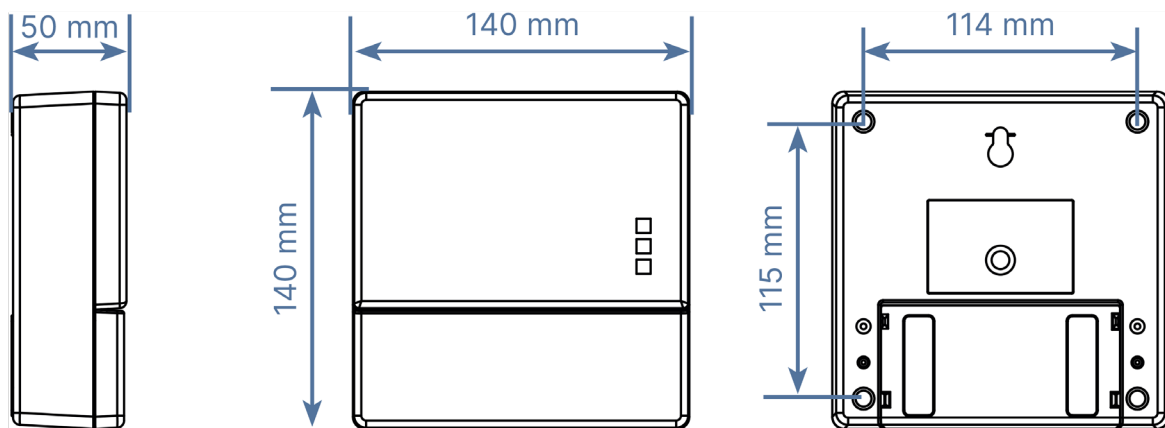
Note: only use the female plug for connecting cabling to the device, the plug is protected incorrect inserts.

Next to the 10-pole connect a USB-C slot is available for powering the device using a USB-C 5VDC adapter.

Note: if you use the 5VDC+ power supply for your digital inputs, its required that the iQ DSMR is powered externally by the 5VDC USB-C Power Supply.

1	Digital Input 1	5VDC +
2		Input
3		GND
4	Digital Input 2	5VDC +
5		Input
6		GND
7	Digital output 1 (optional)	COM
8		NO
9		N/C
10	N/C	N/C

Dimensions.



Order Information.

iQ DSMR -LoRaWAN 868 (EU) - Standalone	1002005
3M Mounting tape for enclosure	1002019



Our mission is to make all environments smarter.

The best way to predict the smart future is to create it. That's what we do every day. Locating and building solutions for you, your business, and your smart objectives. We provide cutting-edge IoT hardware and software to connect, monitor, and optimize your environment seamlessly. Discover our range of products designed to enhance efficiency, security, and productivity across various industries.



iQ Datasheet - DC - iQ Smoke Detector | V1.0
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