Data sheet

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Q node 5.5

The network node Q node 5.5 forms the basis of remote meter reading within the Q AMR system. It receives the consumption data from the measuring devices and distributes it within the network.

It works in demanding building environments and ideally supports the migration of Q walk-by systems of generation 5.5 to remote readout.

The Q node 5.5 is available as a battery-powered version (RNN5-000M-0x) and as a mains-powered version (type RNN5-000M-1x).

The network node Q node 5.5 supports the transmission of AES-encrypted data telegrams from measuring devices in C-Mode.

Features and functions

- receiving and storing data from the measuring devices
- for S-Mode devices, the Q node 5.5 stores a maximum of 18 end-of-month values as statistical values.
- for C-Mode devices, the historical end-of-month values can be formed in the Q SMP or by the customer in a billing software.
- automatic creation of a network of up to 12 network nodes (up to 500 measuring devices max.)
- distribute the consumption values to all network nodes within a network
- backwards compatible:
  measuring devices in S-Mode:
  - mixed network with Q node 5.5, Q node 5 and WTx16 possible
  - readout with gateways WTX16.IP, WTX16.GSM or Q gateway 5
- upward compatible:
  measuring devices in mixed operation S- and C-Mode or only in C-Mode:
  - all Q node 5 of the network must be updated to Q node 5.5 functionality via firmware update
  - network node WTx16 must be replaced by Q node 5.5
  - readout with the Q gateway 5
- protected installation mode to integrate only devices from your own installation into the network
- copy mode to transfer data (device list /user list and statistics values) of a node in the network to a new node
- delete mode to remove replaced devices from the device list
- IR learn and delete function to add, remove and synchronise new devices to an installation
- firmware update via USB programming adapter (RNNP-H001-0010) and Q node 5 / 5.5 Update Tool

<table>
<tr><td colspan="3">Power supply:
battery for RNN5-000M-0x
power supply unit for RNN5-000M-1x</td></tr>
<tr><td rowspan="3">Transmitter / receiver for Q AMR networks</td><td rowspan="3">Memory
500 measuring devices</td><td>M-Bus
(Slave)</td></tr>
<tr><td>IR
(optical)</td></tr>
<tr><td>RS232
(RNN5-000M-1x)</td></tr>
<tr><td colspan="3">Backup battery</td></tr>
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The network node Q node 5.5 consists of the following assemblies:

The receiver and transmitter are used to receive measuring devices and forward them to other network nodes in the same network.

The data memory contains the measured values of the measuring devices. It is protected against a temporary failure of the power supply, for example in the event of a mains failure or a change of the main battery, by the backup battery.

Type overview

The network node Q node 5.5 is part of the Q AMR system and can only be used together with this system.

Type	Power supply
RNN5-000M-0x	Battery
RNN5-000M-1x	Mains connection

Accessories	
Q tool	Parameter setting and triggering tool
RNNP-H001-0010	USB programming adapter
WTZ.BAT	Main battery
FBR0018	Backup battery
U12102-2003	Seals

Further notes

For further information on the network node Q node 5.5, please refer to the installation and operation manual and the system manual Q AMR.

Interfaces

M-Bus interface
An M-Bus master can be permanently connected to each network node Q node 5.5.
An additional connector is available for short-term connections (e.g. for service purposes or for connecting an M-Bus mini-master WFZ.MBM-USB). The connector is part of the scope of delivery.
8-pin interface
For service purposes, the USB programming adapter RNNP-H001-0010 can be connected to the 8-pin connector provided.
IR interface
Each Q node 5.5 network node is equipped with an IR interface. It is permanently active and is used for servicing with commissioning tools or for data exchange with other IR-capable QUNDIS products.

Technical data

CE QUNDIS GmbH hereby declares that the Q node 5.5 complies with Directives 2014/53/EU and 2011/65/EU. The full text of the EU declaration of conformity is available at the following Internet address: www.qundis.com

Ambient conditions

Protection rating	IP20 nach EN 60529
Protection class RNN5-000M-0x	III according to EN 61140
RNN5-000M-1x	II according to EN 61140
Storage	-5 °C ... 45 °C, < 95 % r.F. (without condensation)
Transport	-25 °C ... 70 °C, < 95 % r.F. (without condensation)
Usage	-5 °C ... 55 °C, < 95 % r.F. (without condensation)

Radio technology

Radio protocol	Wireless M-Bus according to EN 13757-4
Wireless M-Bus - supported mode	S-Mode and C-Mode
Encryption	Security Mode 5 according to EN 13757-7, Security Profile A according to OMS specification
Radio frequency	EN 300 220-2 S-Mode (868,3 +/- 0,3) MHz C-Mode (868,95 +/- 0,25) MHz
Transmission power	S-Mode (max. 14 dBm / typ. 12,5 dBm) C-Mode (none)
Duty cycle	S-Mode (< 1 %) C-Mode (n.a.)
Sensitivity	S-Mode (min. -100 dBm / typ. -105 dBm) C-Mode (min. -100 dBm / typ. -105 dBm)

M-Bus interface

Power consumption	1 M-Bus-Last
Addressing	Q node 5.5 itself: primary or secondary stored devices in the Q node 5.5: secondary
Baud rate	Autodetection (300, 2400 or 9600 Baud)
Max. recommended frequency of readout	typically 1 time daily
Protocol	according to EN 13757-2/-3, EN 1434-3

Technical data

Standards

Interference immunity and interference emission	EN 301 489-1, EN 301 489-3
Security	EN 62368-1, EN 62311
RoHS compliant	EN IEC 63000

Power supply type RNN5-000M-0x

Battery type		Lithium metal
Nominal voltage		DC 3,6 V
Battery life	Main battery	typically 5 years (in standard application*, plugged in operation); replaceable
	Backup battery	typically 10 years in standard operation plus 1 year in active storage or backup mode; replaceable

Power supply type RNN5-000M-1x

Nominal voltage		AC 100..240 V 50/60 Hz
Battery life	Backup battery	typically 10 years in standard operation plus 1 year in active storage or backup mode; replaceable

Material

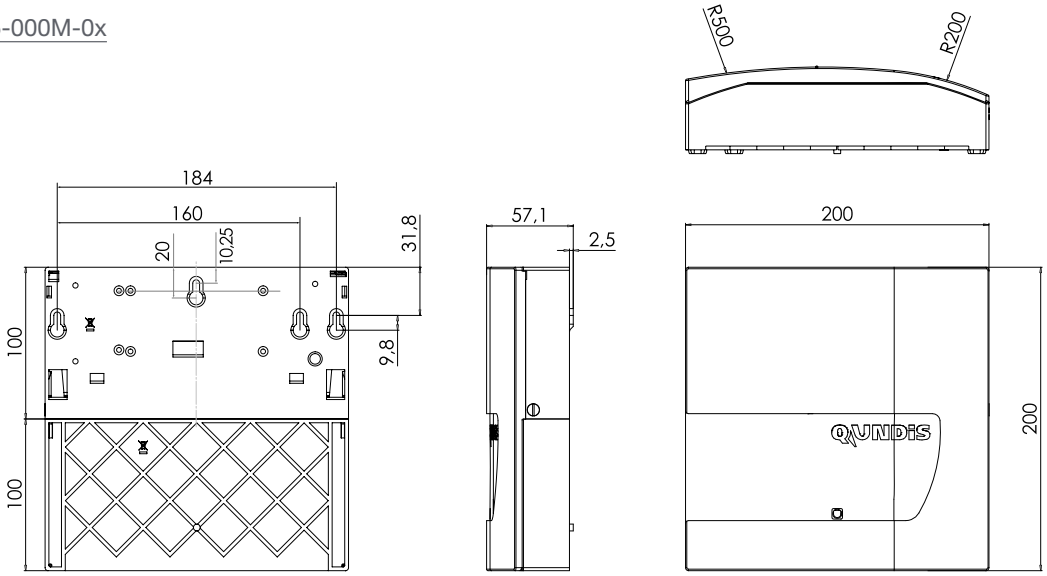
Dimensions (WxHxD)	200 mm x 200 mm x 57 mm
Device weight	RNN5-000M-0x (gross: 0,76 kg, net: 0,65 kg) RNN5-000M-1x (gross: 0,75 kg, net: 0,63 kg)
Housing material	PC/ABS
Housing colours	RAL9016, traffic white

Mounting material	2 dowel S6 2 Torx 20 screws 4.0 mm x 40 mm 1 Seal
Accessories	1 Jumper 1 M-Bus connector (green)

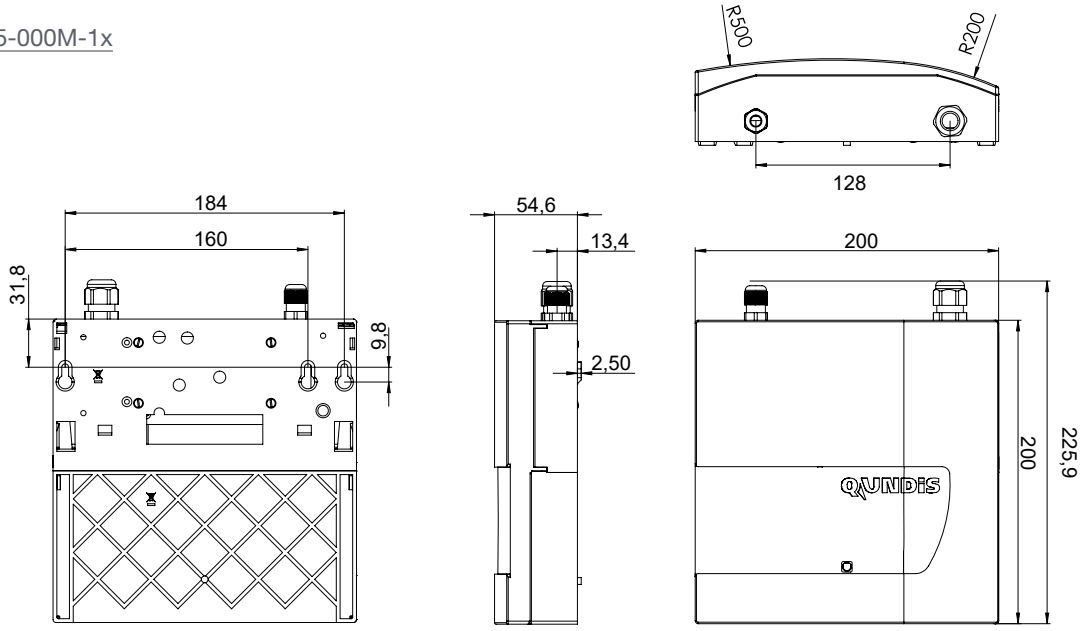
*) Standard use case: Readout 2x monthly with Q gateway 5, for further details and use cases see download centre in the QUNDIS portal.

Dimensional drawings

RNN5-000M-0x



RNN5-000M-1x



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