

Network nodes

WTT662-BA1100



The WTX662.. network node receives and processes data from heat cost allocators, heat and water meters within a M-bus radio system.

- Storage for up to 500 metering devices
- Receives telegrams in S-mode and C-mode
- Each network node in the system stores all consumption data for the entire system (mesh system)
 - S-mode: Each network node in the system saves the last 18 monthly values
 - C-mode: Each network node in the system saves the last monthly value
- Login and password
- Transmits AES128 encrypted data telegrams in C-mode
- Battery operated network nodes

Application

WTT662-BA1100 network node is part of an M-bus radio network.

It receives radio telegrams from consumption measuring devices and saves them locally. WTT662.. can be read locally via M-bus, USB or remotely via Gateway or via PC radio module set WTZ.RM.

Features

Communications

The WTT662.. network node receives telegrams in S-mode and C-mode and forwards them on the mesh network.

- Consumption measuring devices in S-mode:
 - Mixed network with WTT662-BA1100, WTx16, and WTT561-AA1100
 - Read out using gateways WTX16.IP, WTX16.GSM or WTT563.., WTT667.., WTT568..
- Consumption measuring devices in mixed operation S-mode and C-mode or in C-mode only:
 - The firmware on all WTT561.. on the network must be updated to WTT662 functionality.
 - Network nodes WTx16 must be replaced by WTT662...
 - Read out with WTT563.., WTT667.., WTT568..

Up to 12 network nodes can communicate with each other on a network and exchange the respective consumption data (mesh system). This way, up to 500 heat cost allocators and/or wireless heat/water meters can be incorporated in a radio network (manages 500 addresses). This means that each individual network node stores all consumption data for the entire network.

Data security

An individual log in and password secures each network from unauthorized access. AES128-encrypted measuring devices (WFX6.. / WHE54.. / WHE6.. / WFZ66..) in C-Mode can be read out by the network nodes.

M-bus interface

The network nodes are equipped with a M-bus interface that can be integrated in a wired M-bus system. The interface can also be used simultaneously to read out data locally or configure the network on site.

USB adapter interface

The network node has an 8-pole socket to plug in USB adapter RNNPH0010020. The network can be read out locally over this adapter; the adapter can also be used to upload firmware updates to the network node.

IrDA interface

The IrDA interface can be used to teach in or out individual meters or – if there is a need to replace a complete network node – all data of the former network node can be transferred to the new node. In both cases, tools or extra software are not required.

Limitations

Combined heat/cooling energy meters can have one ID number each for heat and cooling energy. In this case, the network node treats the combined meter like 2 autonomous meters.

NOTICE



Wireless meters sending the telegrams in C-mode do not send historical values (monthly value / Exception: Prior month's value). The monthly values can be formed in the portal (Siemens gateway configuration portal) or in the invoicing software.

The network node stores the monthly values for S-mode devices as static values (max. 18 months).

Modes

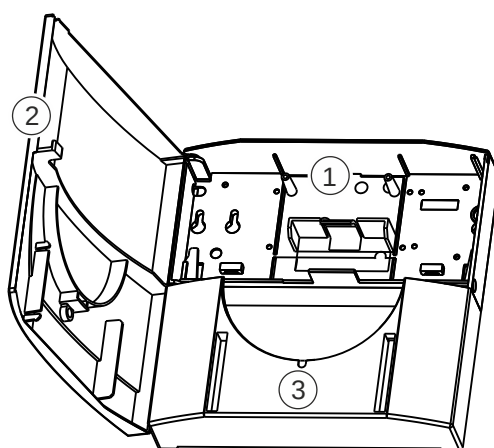
The following modes are available, among others:

- Protected installation mode: Only those devices recognized as belonging to the system are integrated on the network.
- Copy mode: Data (Device list / user list / statistic values) of a node already on the network are transferred to a new node.
- Delete mode: Exchanged devices are deleted from the plant list.
- IrDA learn and delete function: New devices are added to or deleted from a plant. The devices are synchronized.

Additional information on modes is available in the Commissioning and User's Guide, document A6V11762785. See Product documentation [► 6].

Technical design

The network node consists of two major housing components: The upper section with cover for wall mounting and the removable lower section.



(1) Upper section for wall mounting

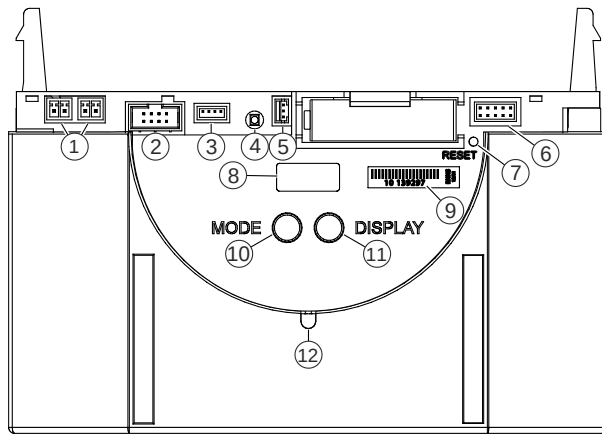
(2) Cover

(3) Lower section

The upper section (1) only accommodates the main battery.

The lower section (3) contains the operating elements for the network.

Lower section



- | | |
|--|---|
| 1. Socket for M-bus service connection | 7. Reset button (recessed) |
| | 8. Display |
| 2. Socket for extension module | 9. Serial number |
| 3. Socket for power supply DC 3.6 V | 10. Mode button (MODE, red) |
| 4. LED for mains power on third-party power supplies
(On only when powered) | 11. Display button (DISPLAY, blue) |
| 5. Socket for backup battery DC 3.6 V | 12. IrDA interface (optical) / LED on front |
| 6. Socket | |

Backup battery

The backup battery ensures uninterrupted operation of the network node in the event of a temporary power failure (e.g. mains failure or when the main battery is replaced).

The main battery is not installed at the factory on the network node. The backup battery provides power during this period.

M-bus interface

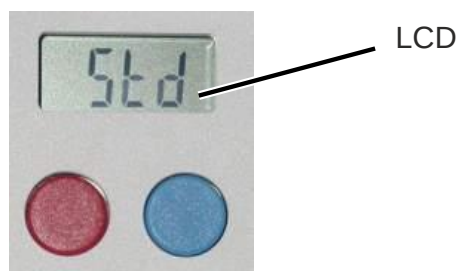
Using socket (1), the M-bus can be permanently connected (fixed) to the network node. The plug is included in the delivery. An additional socket (2) is available for temporary connections (e.g. for service purposes).

8-pin interface

The USB programming adapter RNNPH0010020 can be connected to the 9-pin socket for servicing.

Display

The WTT662 network node features a LCD to display various parameters and error codes.



Type summary

The following products are available:

Type	Order number	Designation
WTT662-BA1100	S55563-F157	Battery-powered network node

Delivery

The network node is supplied complete with mounting instructions in various languages, two S6 anchors, two Torx20 screws 4.0 x 40 mm, two dowels, a seal, a jumper and a M-bus plug.

Accessories

Type	Order number	Designation
WTZ.BAT	JXF:WTZ.BAT	Battery for WTT..
FBR0029	JXF:FBR0029	Backup battery for WTT662..

Programming accessories

Type	Order number	Designation
RNNPH0010020	JXF: RNNPH0010020	USB adapter
WFZ.MBM-USB	JXF:WFZ.MBM-USB	M-bus programming adapter M-bus
RNNPH0020010	JXF:RNNPH0020010	M-bus adapter plug for WFZ.MBM-USB
WTZ.RM	JXF:WTZ.RM	PC radio module
U12102-2003	JXF:U12102-2003	Seals

Device combinations

The WTT662.. network node is compatible with the following products:

S-mode

Type	Designation
WTT16 WTT16.232 WTX16 WTX16.232 WTT561-AA1100	Network nodes (Prior versions)
WTX16.GSM WTX16.IP WTX16.MOD-1	Gateways (Prior versions)
WTT563-0C0000 WTT667-0E0000 WTT667-AE0020	Gateways

C-mode

Type	Designation
WTT561-AA1100 *)	Network nodes
WTT563-0C0000 WTT667-0E0000 WTT667-AE0020	Gateways

NOTICE



*) The firmware on WTT561-AA1100 devices must be updated to WTT662 functionality to read out meters in C-mode.

Product documentation

The following product documentation is available

Topic	Title	Document ID
Quick guide	Network node WTT662..	A6V11762783
Commissioning and operation	Network node WTT662..	A6V11762785

The quick guide is included with the product.

A detailed commissioning and user's guide can be downloaded on the Internet (Siemens Download Center) at:

<http://siemens.com/bt/download>

Languages

The quick guide as well as commissioning and user's guide are available in the following languages: Bulgarian, German, English, Finnish, French, Greek, Italian, Croatian, Lithuanian, Dutch, Norwegian, Polish, Rumanian, Slovakian, Slovenian, Spanish, Czech, Turkish, and Hungarian.

Related documents such as environmental declarations, CE declarations, etc., can be downloaded at the following Internet address:

<http://siemens.com/bt/download>

Notes

Commissioning

Commissioning and service software

ACT26 software is required to upload firmware updates, to read out meter data or configure the network.

Insert battery

For safety reasons, the network node is supplied without the main battery fitted.

As soon as the main battery is inserted, the network node calculates the battery's life.

Replacing the battery

NOTICE	
	Loss of data Do not remove the backup batters when replacing the empty main battery with a new one.

Disposal

 	This symbol or any other national label indicate that the product, its packaging, and, where applicable, any batteries may not be disposed of as domestic waste. Delete all personal data and dispose of the item(s) at separate collection and recycling facilities in accordance with local and national legislation. See Siemens disposal information for additional information.
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Warranty

The application-specific technical data is guaranteed only in combination with the Siemens products listed in the 'Device combinations' section. If third-party products are used, any guarantee provided by Siemens will be invalidated.

Power supply: Main battery	
Battery type	Lithium battery LSH20 (exchangeable)
Battery voltage	DC 3.6 V
Battery life	Up to 5 years ¹ + reserve
¹ Battery life (typically) 5 years as of commissioning and in operation. Actual battery life depending on operating state and external factors.	

Power supply: Backup battery	
Battery type	Lithium battery LS14500 (exchangeable)
Battery voltage	DC 3.6 V
Battery life	Up to 10 years ¹ + reserve
¹ Battery life up to 10 years as of commissioning. Actual battery life depending on operating state and external factors.	

Display	
Display	4-digit LCD + pictograms

Interfaces		
Optical interface	Basic design	Similar to EN 62056-21
	Protocol	As per EN 13757-2/ -3
M-bus interface	Current draw	1 M-bus load
	Addressing	WTT662: Primary or secondary Saved devices in WTT662: Secondary
	Baud rate	300, 2400, or 9600 baud
	Max. permissible reading frequency	Typically once daily
	Protocol	As per EN 13757-2/-3, EN 1434-3
Radio AMR	Protocol	Wireless M-bus per EN 13757-4
	Frequency band	S-mode: 868.3 (+/- 0.3) MHz with <1 % duty cycle C-mode: 868.95 (+/- 0.25) MHz
	Standards	Data transmission per EN 13757-4
	Transmission power, S-mode	Max. 14 dBm / typical 12.5 dBm

Safety class and degree of protection	
Protection class	III as per EN 61140
Degree of protection of housing	IP20 per EN 60529

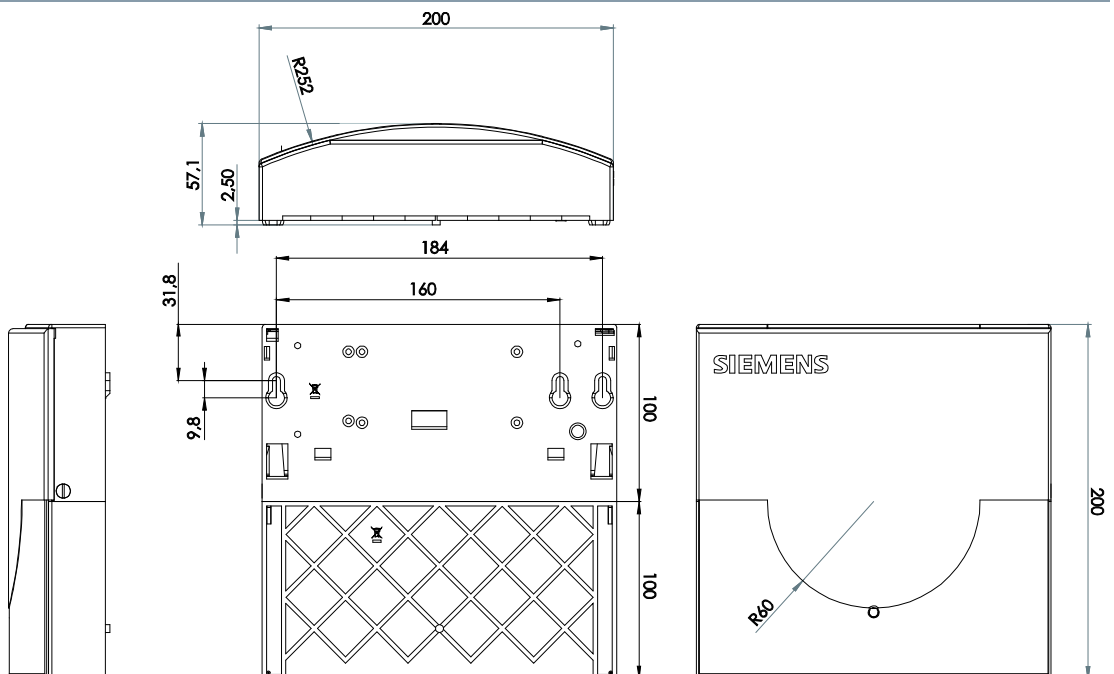
Ambient conditions			
	Running	Transportation	Storage
Temperature	-5...+55 °C	-25...+70 °C	-5...+45 °C
Humidity	<95% r.h. (non-condensing)	<95 % r.h. (non-condensing)	< 95% r.h. (non-condensing)

Standards, directives and approvals	
Product standards	EN62368-1 Information technology equipment
EU conformity (CE)	8000079949 *)
Environmental compatibility	The product environmental declaration A5W00031245A *) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

External features	
Dimensions	200 x 200 x 57.1 mm (refer to "Dimensions")
Housing – Material	PC+ABS
Housing – Color	RAL 9016
Weight	Ca. 800 g (including package inserts)

*) The documents can be downloaded at <http://siemens.com/bt/download>.

Dimensions



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