

SIEMENS



M-bus web server WTV676-HB6035

M-bus level converter WTV531-GA5060

M-bus level converter WTX631-GA0090

RF converter WTX660-E05060

User Guide

Imprint

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1 Cyber security disclaimer

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<https://www.siemens.com/cert/> => 'Siemens Security Advisories'.

2 About this document

2.1 Revision history

Version	Date	Changes
1.0	2017-06-30	First edition
2.0	2018-05-31	Integration Synco IC
3.0	2018-09-30	Added trend functions
4.0	2019-02-28	Added M-Bus lines (M1M2, ABC) Wired devices: Filter search Report interval Reset user account Firmware-Update: Offline only Device list: Edit xls/csv file
5.0	2019-10-22	Integration of RVD controller, large level converter WTX631.. Firmware Update online or offline Web server connection to the master level converter via terminals A, B, C
6.0	2021-06-21	Configuration of scheduler program, backup / restore function WTV remote access WLAN connection Option 'Mobile'
7.0	24.03.2022	Integration WTX../ WTT...-network nodes Integrated / non-integrated devices (simpler automatic recognition) Manual / automatic reports Reports: Monitoring report (new: Monitoring in addition to billing)
8.0	2023-02-27	REST API, customer configuration, Mobile App 'ACT HOME'
i	06.08.2024	Supplemented ports UDP/53, TCP/IP-Port 443m and TCP/UPD-Port 1194 DHCP service: DHCP server (router) automatically assigned the IP address, net mask, etc.

2.2 Reference documentation

Ref.	Document title	Document	Document no.
[1]	M-bus configuration and readout software ACT531	User's guide	A6V10844345
[2]	M-Bus level converter WTV531..	Data sheet	A6V10844290
[3]	M-Bus level converter WTV531..	Mounting instructions	A6V10844308
[4]	M-bus Web-Server WTV676	Data sheet	A6V11157961
[5]	M-bus Web-Server WTV676	Mounting instructions	A6V11157964
[6]	RF converter	Mounting instructions	A6V11135905

Ref.	Document title	Document	Document no.
[7]	Synco IC: Cloud and remote access for OZW772 and OZW672, cloud access for WTV676 and WTV776	User's guide	A6V10500249
[8]	District heating controller for 1 heating circuit and DHW	Installation instructions	G2383
[9]	M-Bus level converter WTX631..	Data sheet	A6V11742346
[10]	M-Bus level converter WTX631..	Mounting instructions	A6V11751461
[11]	Desigo TM TX Open, TX M-bus	Engineering instructions	CM110572

2.3 Before you start

2.3.1 Document conventions

Document conventions

Text markups

Special text markups are displayed as follows in this document:

▷	Prerequisite for an instruction
⇒	Interim result of an instruction
⇨	Final result of an instruction
Text	Hyperlink, reference
"Text"	Term with a standing meaning
"Text"	Quote, exact match

Supplemental information and tips



The "i" symbol identifies supplemental information and tips to simplify procedures.

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2.3.5 Acronyms

Dynamic DNS	Dynamic Domain Name System
LAN	Local Area Network
M-bus	Meter Bus
USB	Universal Serial Bus
WTV676	M-bus Web-Server WTV676-HB6035

3 Overview

3.1 Device functions

3.1.1 Level converter WTV531..

The level converter WTV531-GA5060 is the communications interface to read max. 60 M-bus devices (simple M-bus loads).

The data is read out:

- Locally with the ACT531 PC software via USB
- Locally with the ACT531 PC software via the RS-232 interface
- Via a M-bus web server WTV534.. or WTV676
- Via Desigo CC

Up to six level converters can be connected in parallel to a WTV676 on a M-bus network.

Up to 60 M-bus devices can be connected to each level converter WTV531...

The level converter can be used:

- As individual components on a M-bus network.
- To extend a M-bus network by up to six level converters connected in parallel.

You can also use the level converter at your own risk as an interface to suitable software and devices by third-party manufacturers.

The level converter is protected against short circuits.

NOTICE	
!	We recommend using a DC 24 V power supply to ensure a stable signal.

3.1.2 Level converter WTX631..

The level converter/repeater WTX631-GA0090 is the interface between M-bus device and a read system. It consists of a level converter / repeater and the associated power supply.

The level converter WTX631.. can be connected and used as follows:

- As slave level converter connected to line M1M2 on WTV676 to read out device data via the web server/gateway (repeater).
- Via interface RS-232 to line ABC on WTV676 to read out device data via web server/gateway (level converter)
- Via RS-232 or RS-485 interfaces to read device data via the PXC device or a PC (level converter)
- As master on one M-bus network with up to 250 M-bus devices
- As a power supply for WTV676.

You can also use the level converter at your own risk as an interface to suitable software and devices by third-party manufacturers. The level converter is galvanically isolated. It protects against short circuits.

3.1.3 Network nodes WTX../ WTT..

The WT.. network node is used to receive and handle the data transmitted by consumption meters. It has been designed for use in buildings to create a radio network for receiving and storing the data transmitted by the consumption meters installed in the building. Communication between several network nodes is via radio also so that no wiring is required. All measured values acquired by the consumption meters are continuously exchanged within the network, which means that every network node stores the current consumption values, the values read out at the end of the month, and the set day values of all metering devices on the network. Owing to this operating principle, all network data can be read out at any of the nodes, or a gateway for remote data transmission can be used with any of the nodes.

3.1.4 M-bus web server WTV676

WTV676 directly reads out M-bus devices connected to WTV676, M-bus devices connected to M-bus via a level converter as well as wireless devices connect via RF converter to WTV676.

WTV676 can be used:

- Alone with up to 20 directly connected, wired M-bus devices.
- As master on a M-bus network with up to six connected level converters connected in parallel per line. Up to 250 M-bus devices (max. 250 M-bus meters, max. 250 RVD controllers) can be connected per line.
- As master on an M-bus wireless network with up to 23 RF converters, each with up to 500 wireless devices.
- As master on a wireless M-bus RF network with network nodes WTT.. in a mesh network: Up to 5 networks can be connected to the WTV676 and read out in parallel.

The WTV676 has a remote readout service (web access) to simplify remote access.

Customers can view current energy consumption at any time using the 'ACT HOME' mobile app.

3.1.5 RF converter WTX660

The RF converter can read up to 500 devices. It extends the M-bus RF network. Up to 23 RF converters can be used on a single RF network.

3.2 M-bus properties

3.2.1 Wired M-bus

The M-bus system (Meter Bus) is a communications protocol per EN13757-2.

The protocol has the following advantages:

- Highly secure data transmission
- Low wiring costs
- Can be greatly expanded without additional amplifiers
- High number of connectable devices
- Discovers both battery-powered as well as mains powered devices
- Automated device recognition
- A very large number of systems and devices available
- Various bus topologies can be used (line, bus, star, or tree topology)

3.2.2 Wireless M-bus

The wireless M-bus system communicates using the communications protocol per EN13757-4.

The system also has the following benefits:

- Various network topologies available for radio read out
- The system can be extended over a large area using additional RF converters
- Optimum connection by the RF converter to the WTV676 (Mesh network)

3.3 Synco IC

Synco IC provides easy and secure integration of WTV676 on the cloud. This permits the upload of billing data, trend data, and alarm messages to the cloud per customized settings and sends the information to the corresponding customers via email. The meter information can be saved on the cloud together with additional plant data. Multiple WTV676 can be managed on a common Synco IC account.

3.3.1 Functions

Synco IC has the following functions:

- Easy and secure integration of WTV676
- Centralized overview of meter information
- Transmission of billing data and alarm messages to the customer
- Transmission of trend data to the customer
- Configurable email notification when transmitting data to the cloud
- Secure communications thanks to encryption (HTTPS).

3.3.2 System requirements

Web-Server WTV676-HB6035, as of firmware version SIE.WTV676_WI-2.29_FW-3.0-17-2.6 required to access Synco IC cloud.

NOTICE	
	The firmware must be updated to firmware version SIE.WTV676_WI-2.29_FW-3.0-17-2.6, if the web server WTV676-HB6035 is using an older version.



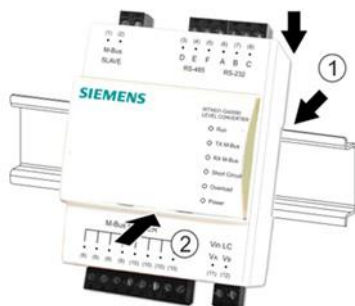
After the web server WTV676-HB6035 is integrated in the Synco IC cloud, billing data, trend data, and alarm messages can be uploaded per settings and sent to the various recipients. Multiple M-bus web servers as well as OZW web servers can be managed on a common Synco IC account.

4 Mounting

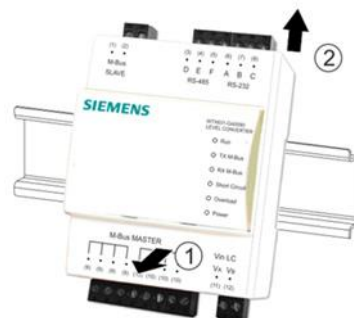
The level converter and WTV676 are designed for mounting on 35 mm rails. They take up the equivalent of four standard modules on the rails.

Additional information on mounting is available in the mounting instructions for the level converter and the WTV676. See 'Reference documentation [→ 8]'.

Mounting



Removal



5 Connections

5.1 Level converter WTV531..

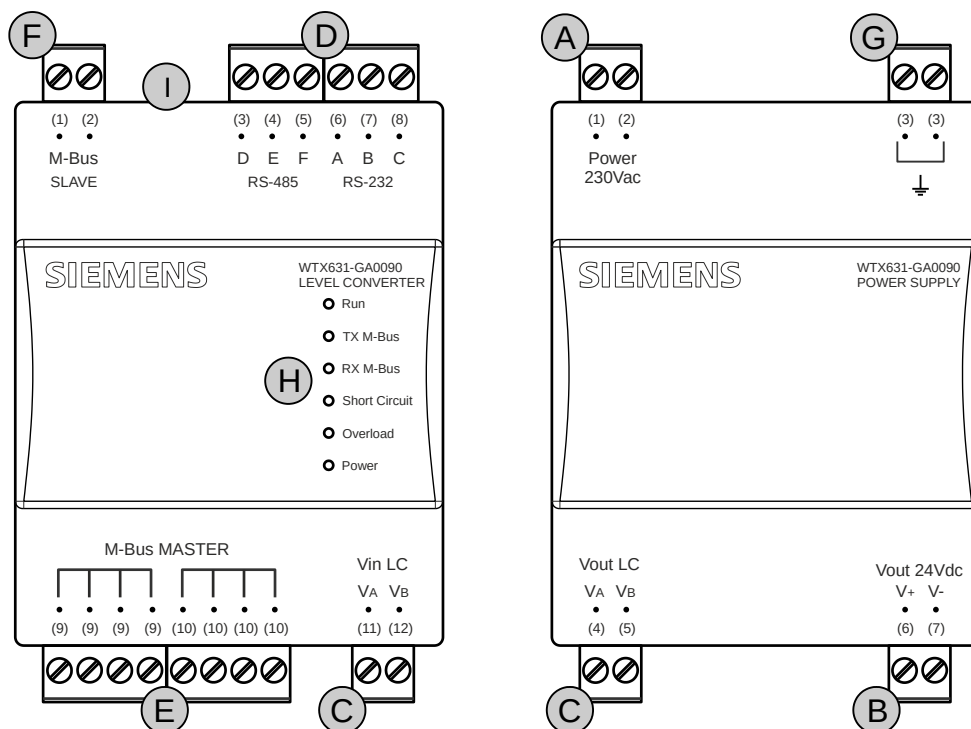
The level converter WTV531.. has the following connection terminals / LEDs.

	A	Power supply AC/DC 24V, Terminals (8) and (9)
	B	Connections for M-bus devices and connections for downstream level converters, if this one is used as master. Terminals (6) and (7)
	C	Connections to connect to a WTV676 and / or connections to connect the downstream master level converter, if this level converter is used as a slave. Terminals (1) and (2)
	D	Serial interface RS-232 to connect to a PC or M-bus master A = TX B = RX C = GND Terminals (3), (4) and (5)
	E	PC connection mini-USB type B
	F	LEDs

For the meaning of LED indicators, see 'Display elements [→ 41]'.

5.2 Level converter WTX631..

Level converter WTX631.. has the following connection terminals:



A	Mains voltage AC 230 V		E	Connections M-bus devices or repeaters	
B	Output for power supply level WTX631.. (DC 24 V)		F	Connections to WTV676 or downstream level converter if used as a repeater.	
C	Connect the power supply to the level converter/repeater		G	Ground	
D	Serial interface RS-232 and RS-485 to connect to a PC or M-bus master		H	State LEDs	
	RS-232: A = TX B = RX C = GND	RS-485: D = REF E = D- F = D+	I	Button for firmware update	

5.3 M-bus web server WTV676

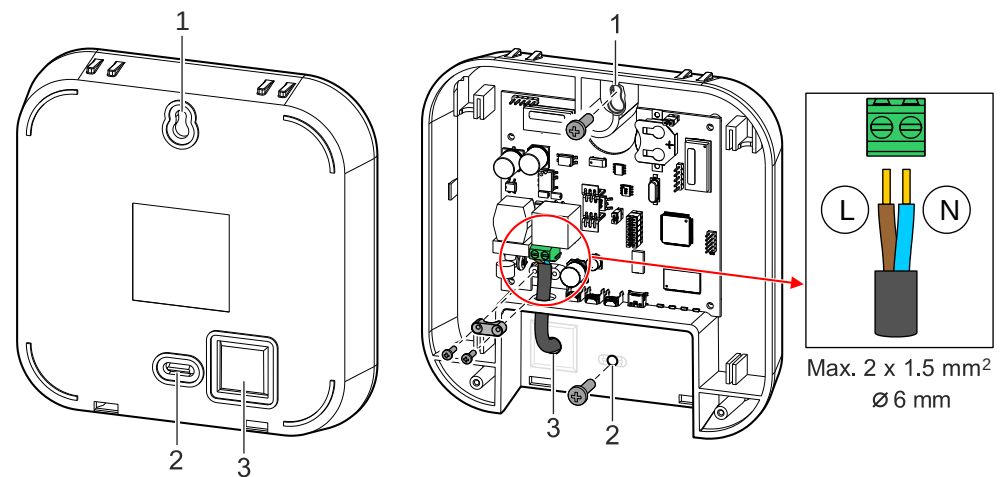
WTV676 has the following connection terminals and LEDs.

	A	Ethernet connection
	B	USB connection (no function)
	C	Antenna connection
	D	Terminals A, B, C: Connections for follow-on level converters. Terminals M1 and M2: Connections for up to 20 M-bus devices and downstream level converters
	E	Terminals (16) and (17): Power supply AC/DC 24 V
	F	Terminals (12) and (13): Relay connections for digital output 1, max. AC/DC 30 V
	G	Terminals (14) and (15): Relay connections for digital output 2, max. AC/DC 30 V
	H	Terminals (9), (10), and (11): Connections for the digital inputs. Terminal (8): Reference for digital inputs
	I	Terminals (6) and (7) are not used. Do not apply electricity to these terminals.

5.4 RF converter WTX660

The RF converter is wall mounted.

Additional information on installing the RF converter is available in document A6V11135905. See 'Reference documentation [→ 8]'.



Rear

Front

1. Hole for top attaching screw
2. Hole for bottom attaching screw
3. Cable entry

6 Engineering

6.1 Topology

6.1.1 Wired M-bus devices

The M-bus permits various network topologies. The devices can be connected to the level converter or the WTV676 in a line, bus, star, or tree topology, or a combination thereof.

Ring topology is not permitted.

Bus cable polarity is not relevant, simplifying installation.

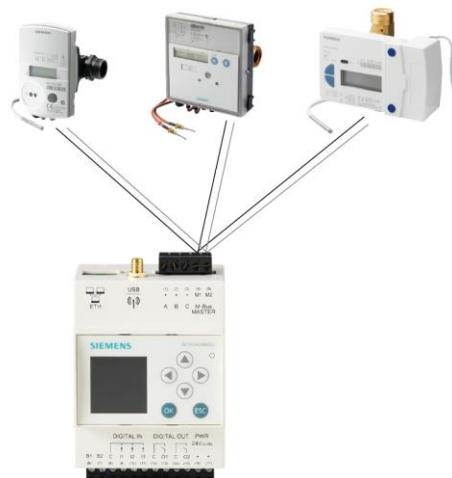
Line topology



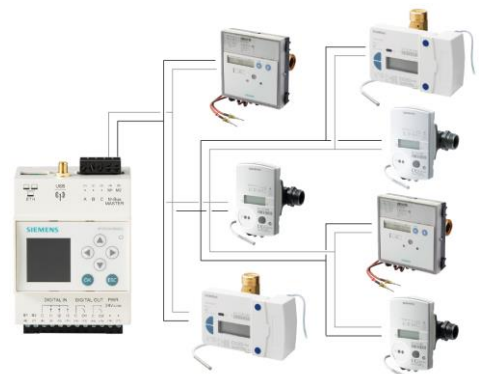
Bus topology



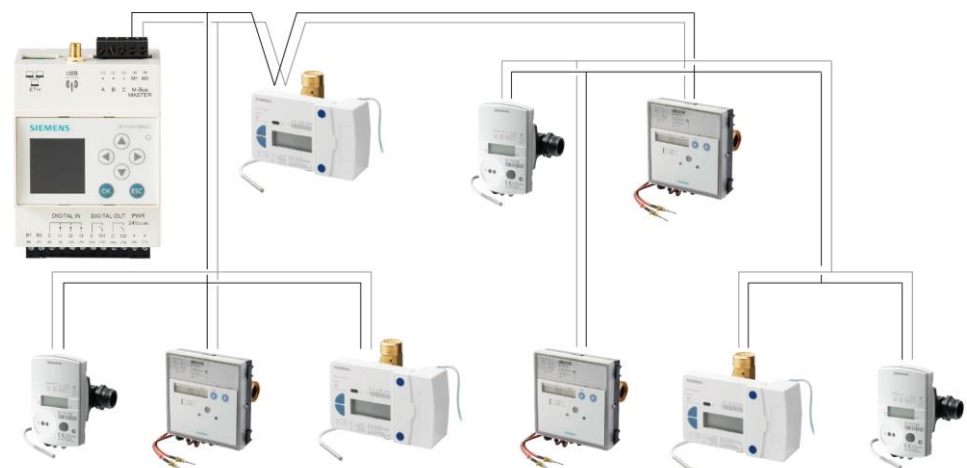
Star topology



Tree topology

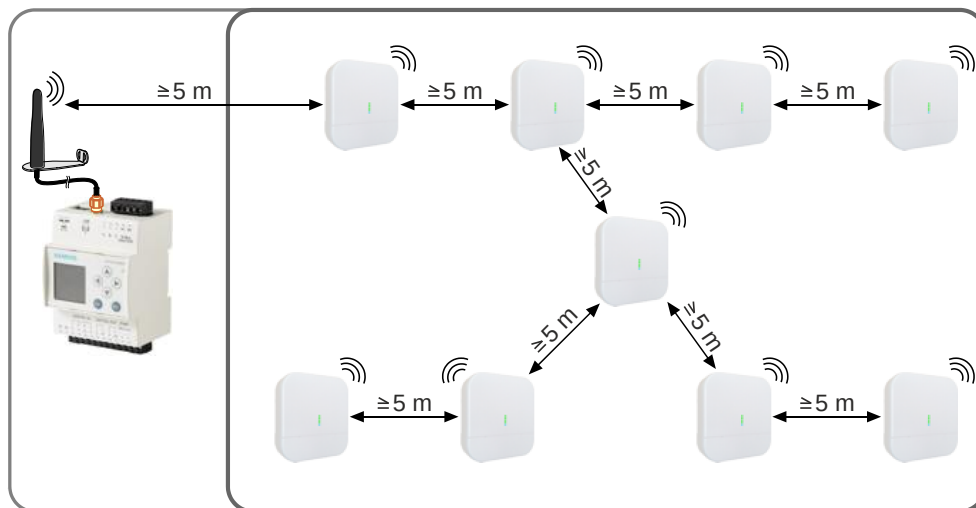


Combination of topologies



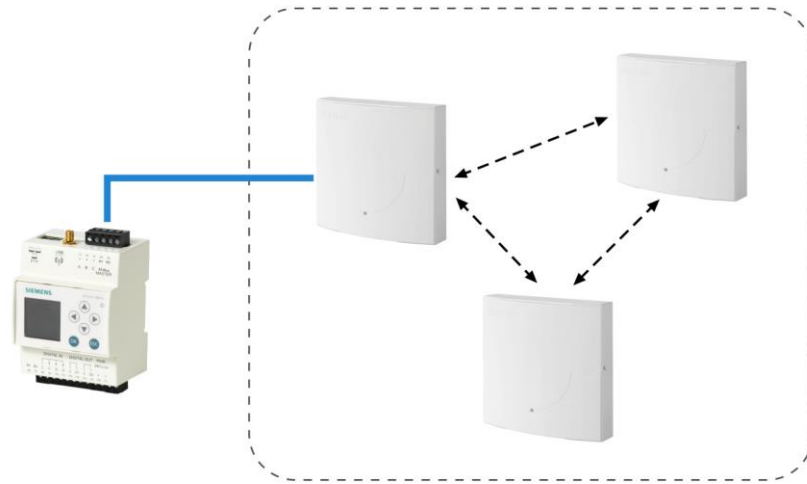
Ring topology**6.1.2 Wired devices**

WTV676 permits read out using various network topologies. The RF converters are self-organizing and search for the optimum connection to the WTV676.



6.1.3 RF devices via hard wire

WTV676 reads devices from a WT.. Mesh network. Up to 5 networks can be read in parallel by WTV676. Up to 12 network nodes form a network. One WT.. network node per network must be connected to WTV676 via a physical M-Bus line. Each network node has access to all consumption data on its own network.



The M-bus primary address for the connected WT.. Network node is 253.

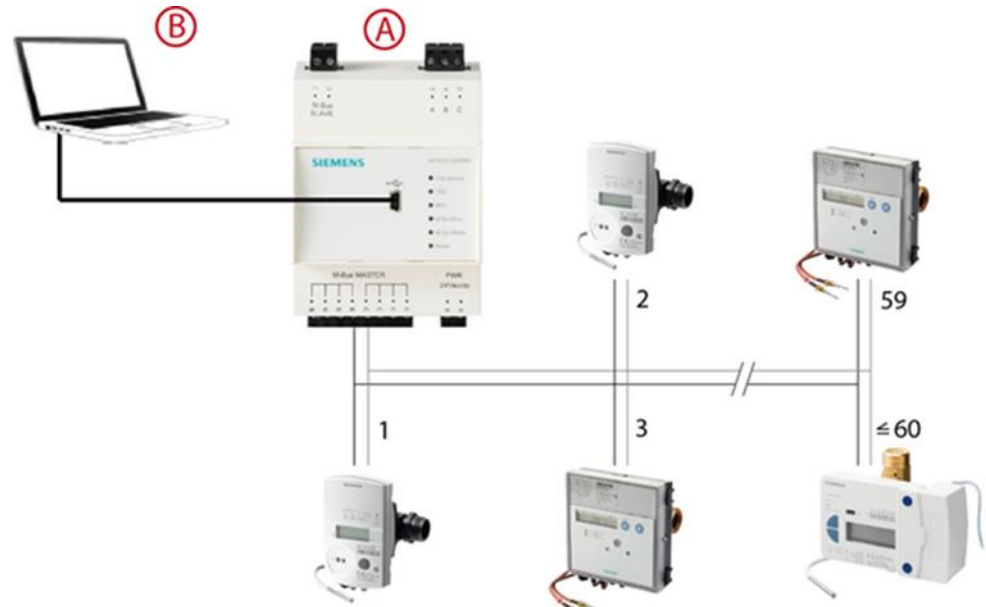
6.2 Operating modes

6.2.1 Level converter WTV531.. with ACT531 software

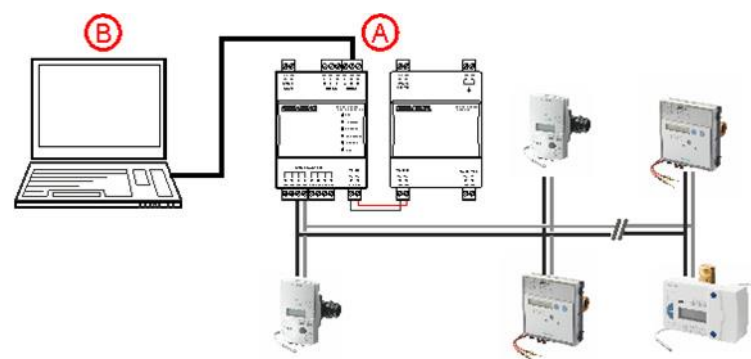
The level converter is used as the communication interface between M-bus devices and a laptop using the ACT531 software. The ACT531 software can read a max. of 1,000 logical devices.

Up to 60 devices (60 unit M-bus loads) can be connected.

The data is read locally using a USB connection or via the RS-232 interface.



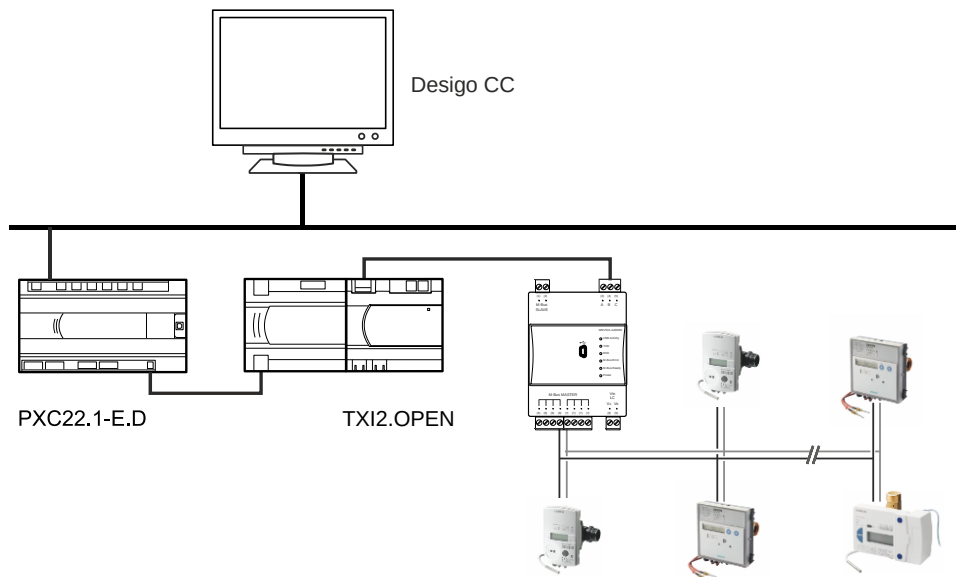
- A Level converter (master)
- B Laptop with ACT531 software



- A Level converter (master)
- B Laptop with ACT531 software

6.2.2 Level converter with Desigo CC

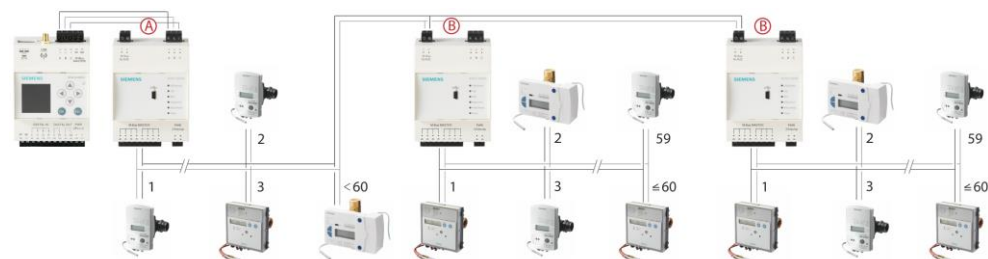
The TX Open module integrates M-bus devices via a RS-232 interface to the Desigo CC building management platform.

Additional information on the Desigo CC management platform is available in the engineering guide 'Desigo TM TX Open, TX M-bus', document CM110572. See 'Reference documentation [→ 8]'.


6.2.3 Level converter to extend a M-bus network

The level converter extends the M-bus system by 60 (WTV531..) or 250 devices (WTV631..) (60 or 250 simple M-bus loads). The level converter (A) is connected to a M-bus WTV676 via the RS-232 interface (terminals A, B, C). The following level converters (B) can be connected via the M-bus SLAVE connection.

A maximum of six level converters can be combined to form a network. A maximum of 360 M-bus loads or 1,000 logical M-bus devices can be read via level converter (A).



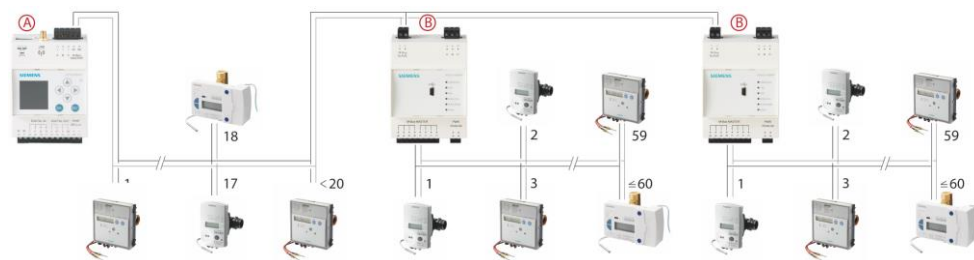
- A Level converter (master)
- B Level converter (slave)

NOTICE

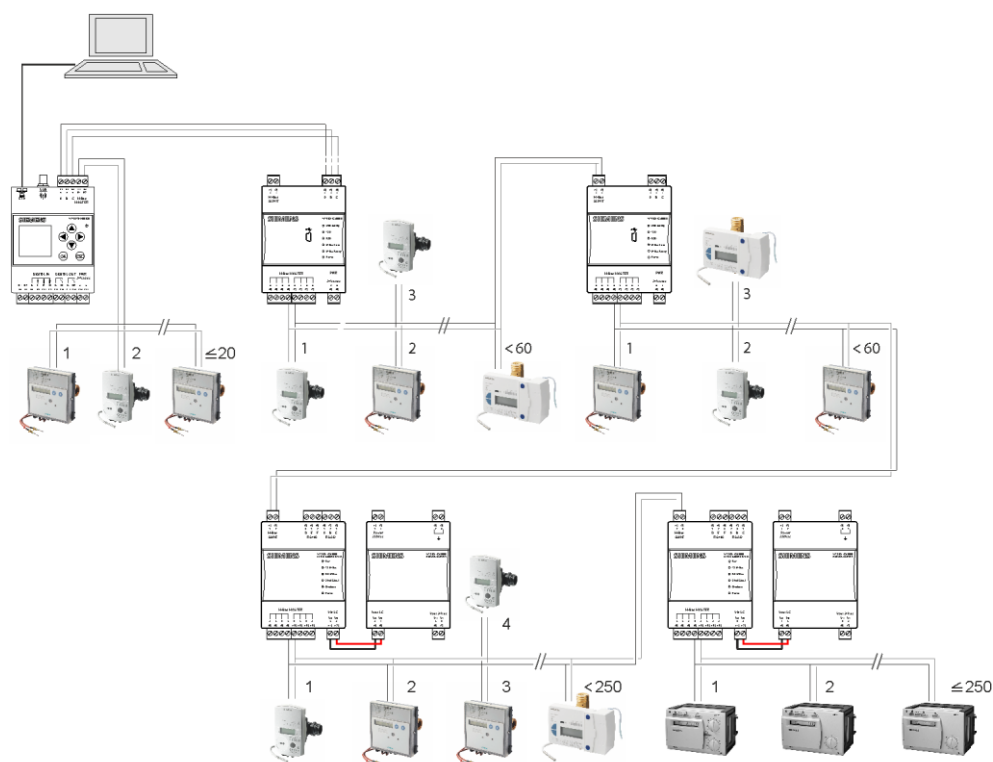


Firmware version WTV676

The level converter is connected as a slave (B) to the web server (A) (terminals M1M2 of the web server) if the firmware version of the web server WTV676.. is less than SIE.WTV676_WI-2.29_FW-3.0-17-2.6.

**NOTICE**

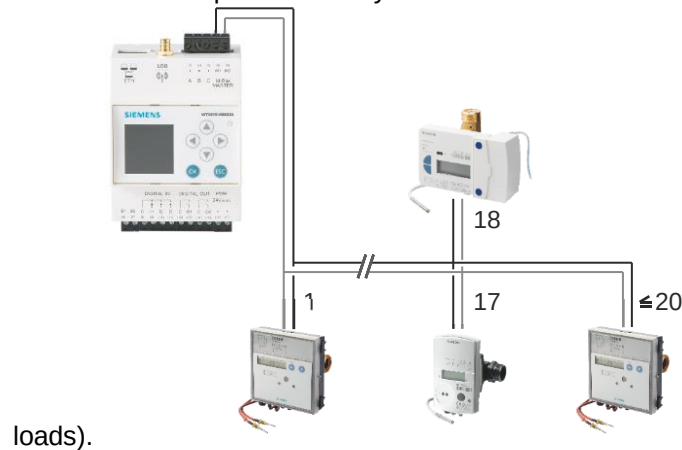
Connect M-bus meters and RVD controllers to different lines, especially if the meters have batteries.

**NOTICE**

The PC must be connected to the master level converter WTV531.. (A) to read out data. Do not simultaneously connect another PC to the slave level converter (B).

6.2.4 M-bus web server

WTV676 reads up to 20 directly connected M-bus devices (20 simple M-bus



6.2.5 M-bus web server with level converters

WTV676 is equipped with additional level converters over two lines to extend the system by up to 500 logical M-bus devices (max. 250 per line).

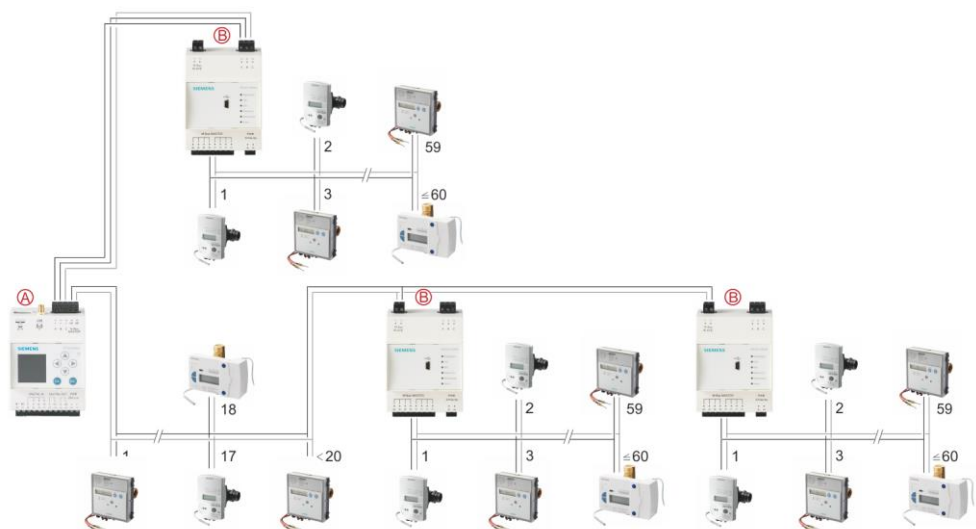
WTV676 is operated as the master. Up to 20 M-bus devices (20 unit M-bus loads) can be directly connected (line M1M2).

Level converters are connected as slaves to WTV676. Up to 60 M bus devices can be connected to level converter WTV531 and up to 250 M bus devices can be connected to level converter WTX631 (60 or 250 simple M-bus loads).

A maximum of six level converters (WTV531.., WTX631..) with 250 M-bus devices can be connected to each line.

In addition, up to 20 M-bus devices can be connected directly to terminals M1 and M2.

Additional information on M-bus web server terminal is available in 'Connect web server and level converter [→ 34]'.



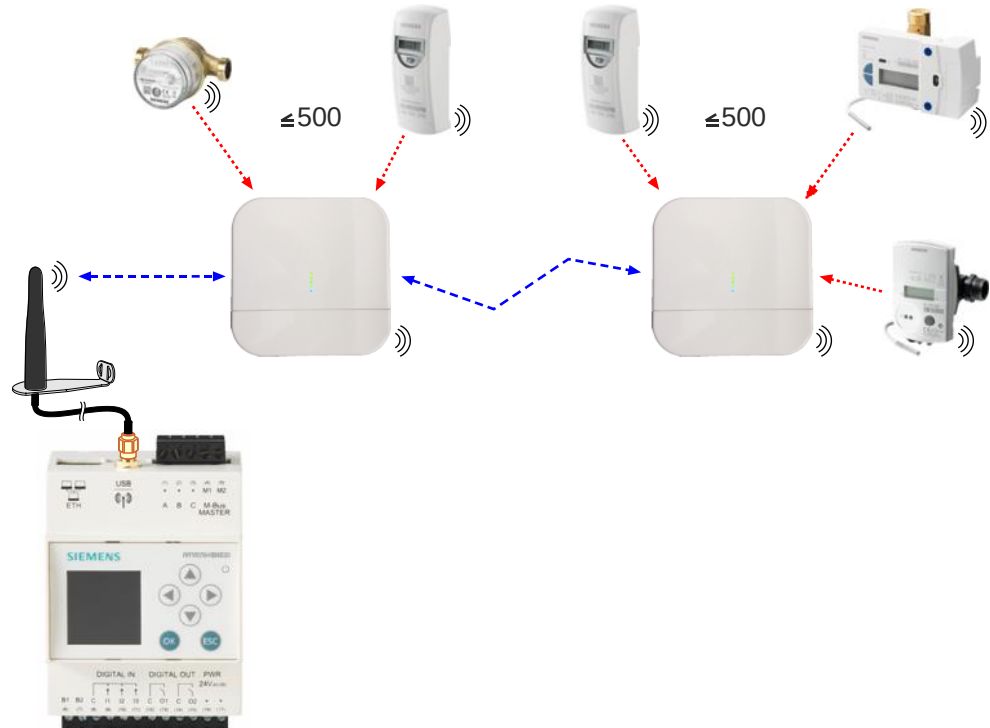
A WTV676 (master).

B WTV676 (slave).

6.2.6 M-bus web server with RF converters

The WTV676 is equipped with additional RF converters to extend the system up to 2,500 wireless devices. Communication between the WTV676 and RF converters takes place over a mesh RF protocol (backbone network). A minimum of one WTV676 and one RF converter is required to read out wireless devices. The backbone RF network can consist of a maximum of 23 RF converters. Communications between the RF converters and wireless devices takes place over the wireless M-bus protocol.

The RF converter saves the consumption data from the devices in its environment, while forwarding the data to other RF converters, up to the WTV676 (the other RF converters act as repeaters here).



6.2.7 M-bus web server with network nodes

WT.. network nodes WT.16.., WTT5.. and WTT6.. receive telegrams from consumption meters.

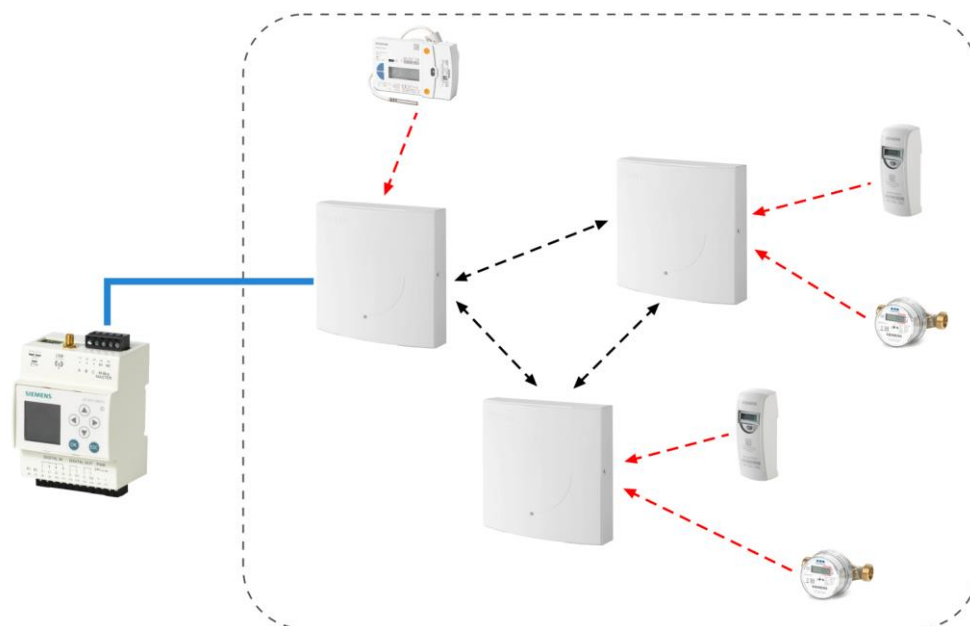
Up to 12 network nodes can communicate with each other on a network and exchange the respective consumption data (mesh system). This way, up to 500 heat cost allocators and/or wireless heat/water meters can be incorporated on a radio network (manages 500 addresses). This means that each individual network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

One WTV676 can read up to 5 networks in parallel. At least one of the WT.. network nodes must be connected to WTV676 using a physical M-bus line.

The M-bus primary address for the connected WT.. Network node is 253.



Up to 20 unit M-Bus loads can be connected via line M1M2 without an additional level converter. A network node has one M-bus load. A level converter is required, however, as soon as the network nodes are connected via line ABC.

**NOTICE****Additional electrical consumption**

Shorter lifecycle of network nodes

Reading out device data on the network node via WTV676 requires additional electricity. This reduces the lifecycle of battery-operated WT.. Nodes compared to other network nodes on the network.

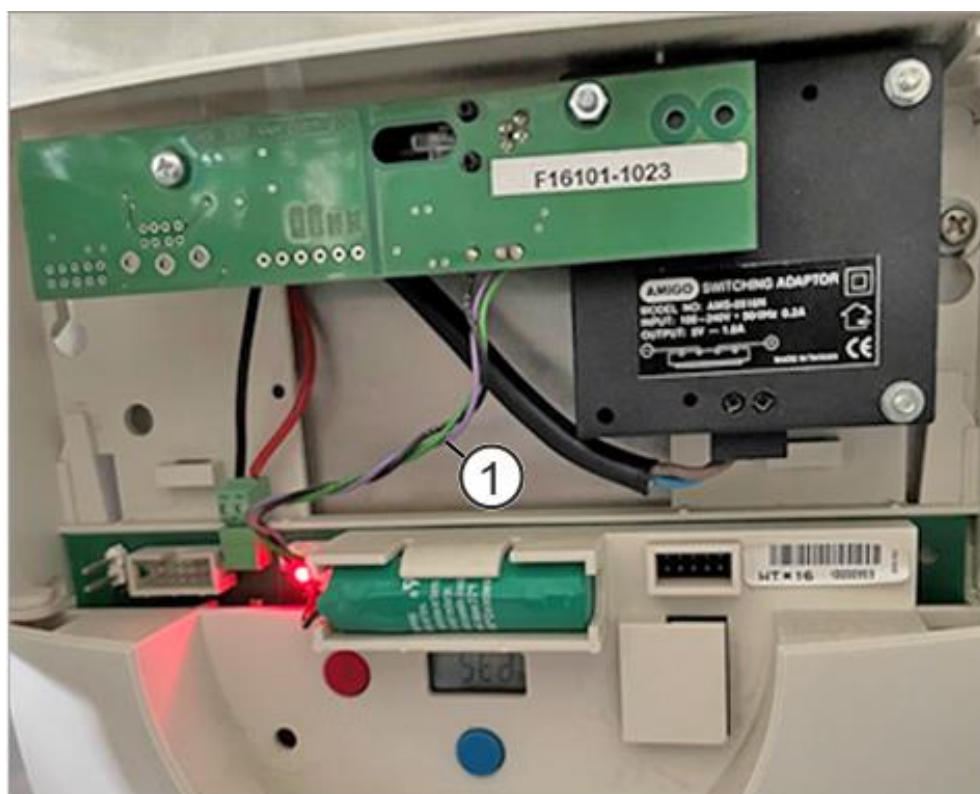
We recommend reading out the network nodes at most once a day since reading out data can increase battery use by ca. 5%.

NOTICE**Reading in parallel may damage the device**

Parallel readout of WTX16 gateways via WTV676 is not possible.

Disconnect the internal communications connection in the WTX16.. between the device's top section (gateway) and the lower section (network nodes), if you intend to readout using an existing RF network with a gateway WTX16.. via WTV676.

Connect the WTV676 to the network nodes (lower section). The network nodes are still powered with voltage in the upper section.

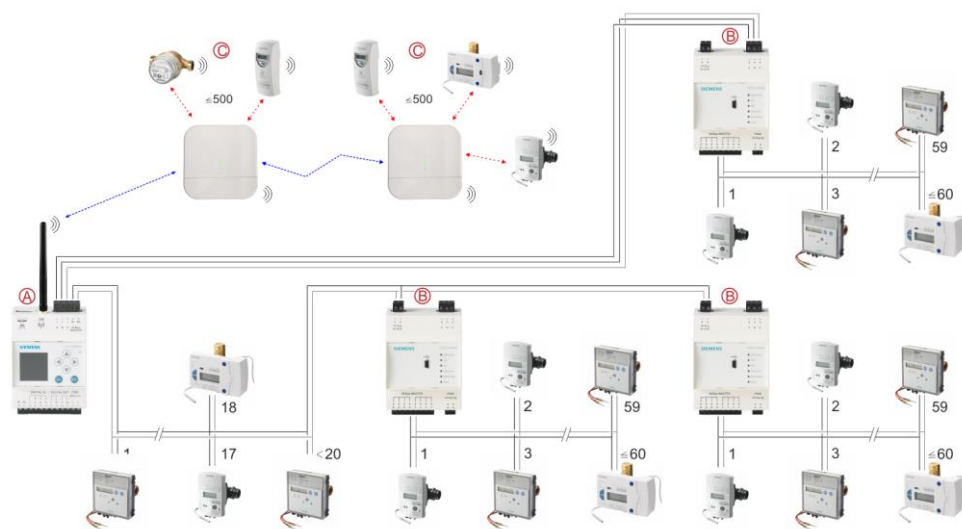


1 Communication connection

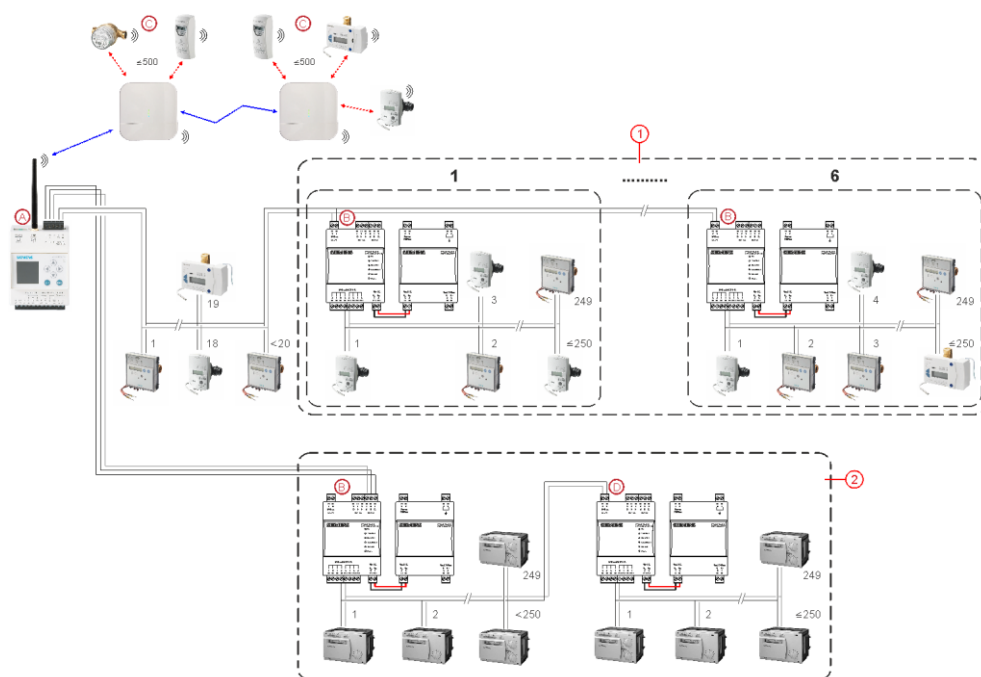
6.2.8 Combined plants



One WTV676 can simultaneously read out up to 500 wired M-bus devices (250 per line) and up to 2,500 wireless devices. Different level converters (WTV531.., WTX631..) are permitted on the same plant and same line.



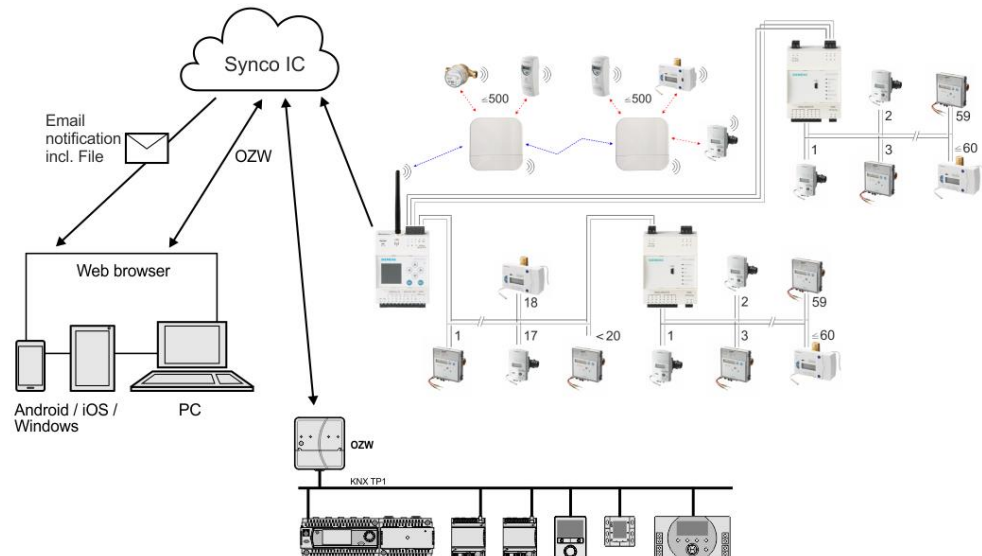
- A WTV676 (master)
- B Level converter WTV531.. (slave)
- C M-bus RF converter as participant



- A WTV676 (master)
- B Level converter WTX631.. (slave)
- C M-bus RF converter as participant
- D Level converter (repeater) WTX631.. (slave)
- 1 Parallel connection
- 2 Serial connection

6.2.9 Synco IC topology

After integrating the WTV676 Device_ASN-HB6035 in the Synco IC cloud, billing data, trend data, and alarm messages can be uploaded and sent to various recipients. WTV676 as well as OZW web servers can be managed on a common Synco IC account.



6.3 Readout data

6.3.1 Readout data via PC / Internet browser

A PC/Internet browser reads the data either locally over Ethernet or from anywhere over the Internet.

6.3.2 Mobile data readout over WLAN

To simplify on-site data readout, the web server can also be readout using a mobile phone or tablet via WLAN and the readout data can be downloaded to the mobile device.

Additional information on enabling the WLAN connection on web server is available in 'Web server operation on the device [→ 56]', 'WLAN connection'.

Additional information on mobile data readout is available in 'Operate web server in a browser [→ 69]', section 'Mobile' option.

6.3.3 Readout data via REST API

Data can be read directly and processed with the REST API interface from the WTV676. A connection to third-party systems, applications or software is also possible.

For additional information (document A5W00256672A), please contact your Siemens representative.

6.4 Power supply

6.4.1 Level converter WTV531..., WTX631..

Please note when designing the power supply for the level converter, that M-bus devices required additional current of up to 20 mA when communicating.

For M-bus address conflicts during commissioning, multiple M-bus devices can draw power at the same time and the total can be added up.

The level converter limits power on the M-bus to a maximum of 200 mA. Select a AC/DC 24 V power supply with at least 12 W and voltage tolerances as described in the technical data. See 'Technical design [→ 139]'.

Level converter WTX631.. can also power the WTV676.

6.4.2 M-bus web server WTV676

- ◆ Select a AC/DC 24 V power supply with at least 14.5 / 15 VA and voltage tolerances as described in the technical data.

See 'Technical design [→ 139]'.

NOTICE



DC 24 V can be tapped from the power supply WTX631.. The voltage can power the WTV676. No separate transformer required.

6.4.3 RF converter WTX660

Select a power supply AC 100...240 V as described in the technical data. See 'Technical design [→ 139]'.

6.4.3.1 Locating RF converters

The RF converter receives data from one or more wireless devices within a radio system per EN13757-4. The RF converter forwards the data to the WTV676. You can power the RF converter over a USB connection using an external battery ($\geq 5000\text{mAh}$; @5V; $\geq 1.5\text{A}$) to help find the best location. The RF converter remains mobile during the scan and can be moved to the location with the best signal reception.

The blue LED flashes if the location is unfavorable and cannot connected to the WTV676.

The blue LED stops flashing and the search for wireless devices begins once a favorable location is found and the devices connects to the WTV676 via the RF converter.

NOTICE

The green LEDs only light up once connected to the WTV676. The number of green LEDs that are illuminated indicates the signal strength. All four LEDs are on for a strong signal. The blue LED remains permanently illuminated. The minimum distance between RF converters is 5 m. The RF converter must be at least 20 cm from the ceiling and the wall where it is mounted.

6.5 M-bus

6.5.1 M-bus addressing

M-bus uses two addressing types to recognize and communicate with wired M-bus devices:

- Primary addressing:
Up to 250 primary addresses can be assigned to an M-bus system. The primary address is normally assigned during M-bus device commissioning.
- Secondary addressing:
Secondary addressing consists of 8 digits and permits the assignment of any number. In the default setting, the secondary address for a M-bus device matches the serial number issued by the device manufacturer. The assignment prevents address conflicts on the M-bus and permits addressing more than 500 M-bus devices on a system.

6.5.2 Sizing a wired M-bus system

Allowable cable types:

- Shielded telephone cable 0.5 mm² (4 x 0.8 mm)
- NYM cable (1.5 mm²)
- Maximum capacitive cable load of 152 nF/k

Bus expansion

If using cable with a cross-section of 0.6 mm², you must cut the information in half on "Maximum distance" and "Number of devices" from the following table.

Plant type	Maximum distance	Total cable length	Cable diameter	Number of M-bus devices (slave)	Max. transmission rate
Small residential buildings	350 m	1000 m	0.5 mm ²	500 (250 per line)	9600 baud
Large residential buildings	350 m	4000 m	0.5 mm ²	500 (250 per line)	2400 baud
				64	9600 baud
Small developments	1000 m	4000 m	0.5 mm ²	64	2400 baud
Large developments	3000 m *	5000 m	1.5 mm ²	64	2400 baud
Direct vicinity	5000 m *	7000 m	1.5 mm ²	16	300 baud
Point-to-point connection	10000 m *	10000	1.5 mm ²	1	300 baud

* Shielded cabling required at a distance in excess of 1000 m (see EN13757-2 appendix E).

Signal specification

M-bus	Condition	Minimum	Typical	Maximum	Unit
Simple M-bus loads	WTV531-GA5060	0		60	
	WTV676-HB6035	0		20	
	WTX631-GA0090	0		250	
Transmission rate	C _{Segment} ≤ 382 nF	300	2400	9600	baud
Bus power	WTV531-GA5060	30	39	40	V
	WTV676-HB6035	24	40	42	V
Bus current	WTV531-GA5060	0		90	mA
	WTV676-HB6035	0		30	mA

7 Installation

Prerequisite

Connections between devices are based on the selected operating mode as illustrated in the sections below.

⚠ DANGER



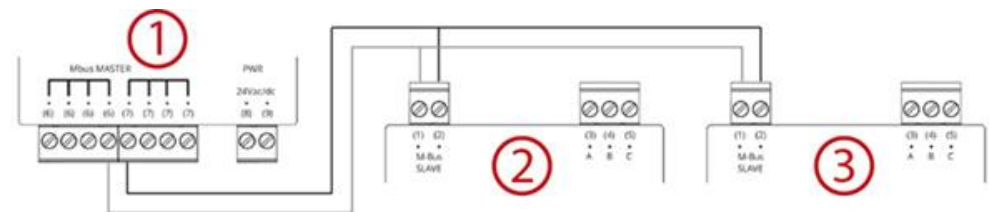
Voltage

Do not connect power to the devices prior to installation!

7.1 Connect multiple level converters (WTV531.., WTX631..)

To extend the M-bus, connect terminals (6) and (7) on the existing level converter (master) to terminals (1) and (2) on the additional level converter (slave).

Additional level converters are connected via (1) and (2) 'M-bus SLAVE' with the same ones on the previous level converter.

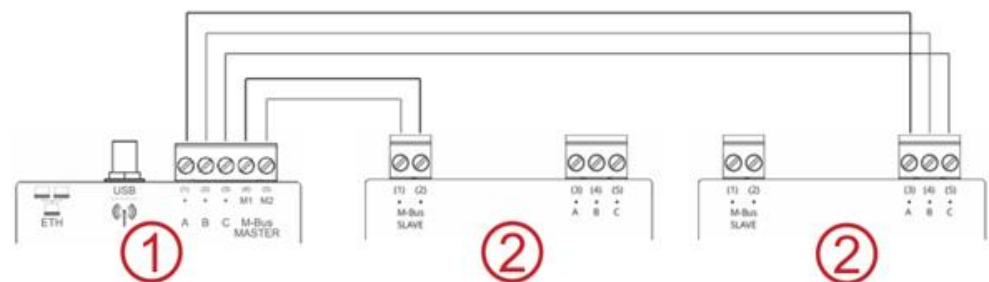


- 1 Level converter (master)
- 2 Level converter (slave for an additional M-bus devices)
- 3 Level converter (slave for an additional M-bus devices)

7.2 Connect web server and level converter

Terminals (1) and (2) on the level converter are connected to terminals M1 (4) and M2 (5) on the WTV676 to connect the level converter to the WTV676 on line M1M2. In addition, a maximum of 20 M-bus devices can be connected directly to terminals M1 and M2.

To connect the level converter to the WTV676 on line ABC, terminals A (3), B (4), and C (5) on the level converter are connected to terminals A (1), B (2), C (3) on the WTV676. M-bus devices cannot be connected directly to terminals A, B, C.



- 1 WTV676 (master for 20 devices)
- 2 Level converter (slave for an additional M-bus devices)

7.3 Connect web server and RF converter

Attach the supplied antenna to access the RF converter. The antenna can be connected either directly or using a cable (recommended).

Additional information on installing the antenna is available in the mounting instructions. See 'Reference documentation [→ 8]'.



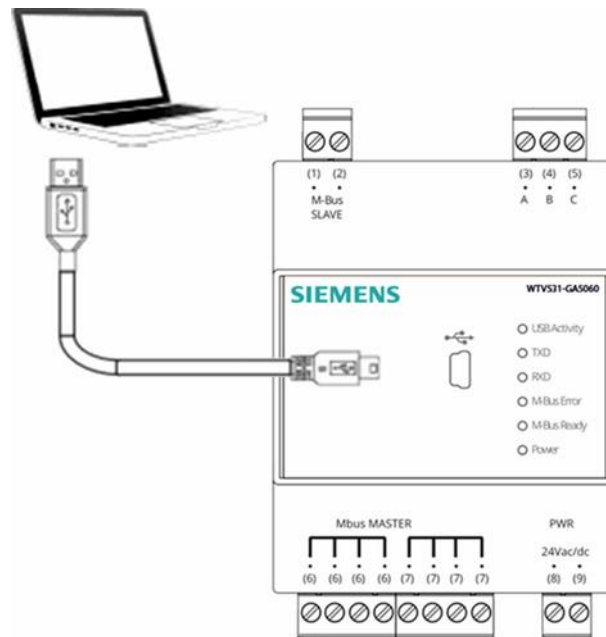

7.4 Connect Web Server to WT.. network nodes

Network nodes are accessed via line M1M2: Up to 20 simple M-bus loads can be connected directly to WTV676 without an additional level converter. A network node has one M-bus load. Line M1M2 can manages the addresses for up to 2500 wireless devices.

7.5 Connect level converter to a PC.

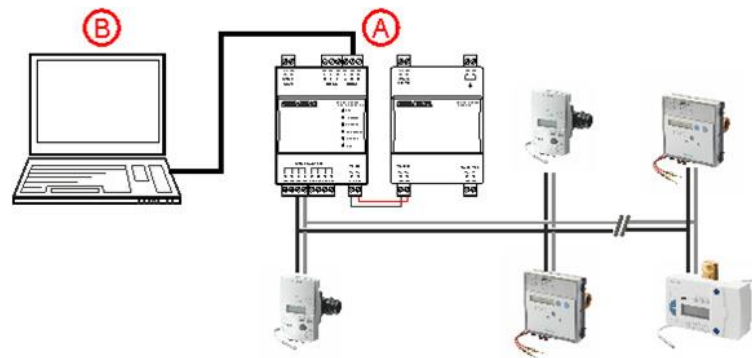
7.5.1 Level converter WTV531..

To connect the level converter to the ACT531 M-bus configuration and readout software, plug in a mini USB type B connector to the level converter and the USB connector to a PC with the installed ACT531 software. For additional information, see the ACT531 software documentation. See 'Reference documentation [→ 8]'.



7.5.2 Level converter WTX631..

The level converter can be connected as master via the RS-232 or RS-485 interface to a PC to read out device data.



- A Level converter (RS232 or RS485 interface)
 B PC or M-bus device

The TX Open module integrates M-bus devices via a RS-232 or RS-485 interface to the Desigo CC building management platform.

Additional information on the Desigo CC management platform is available in the engineering guide 'Desigo TM TX Open, TX M-bus', document CM110572. See 'Reference documentation [→ 8]'.

NOTICE



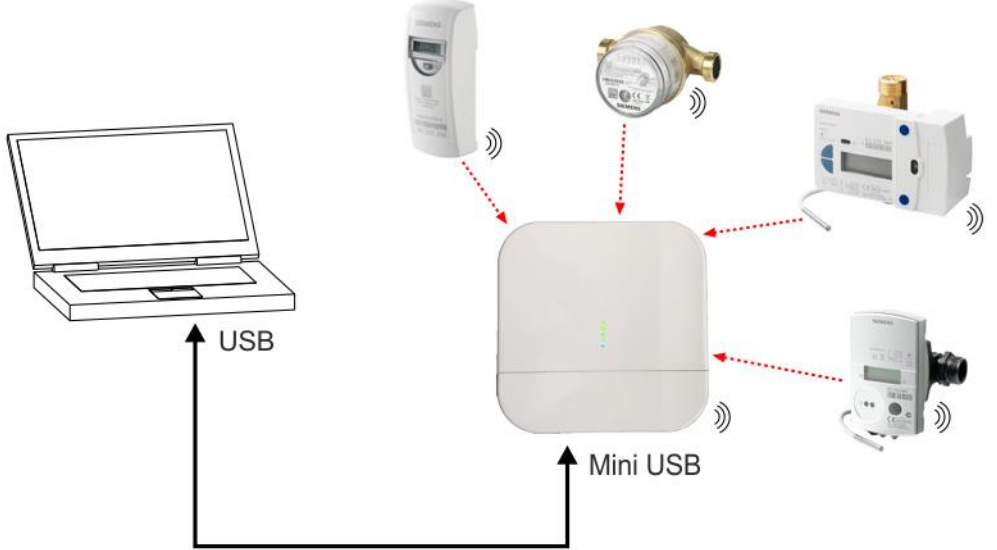
Level converter WTX631.. cannot be read out the device data with the ACT531 software.

7.6 Connect web server to PC

A network cable connects the web server and PC/LAN. See 'Connect Web Server to PC or LAN [→ 47]'.

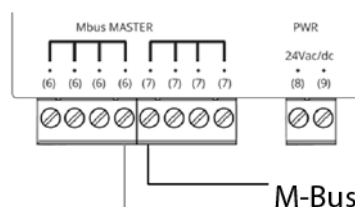
7.7 Connect RF converter to PC

To connect the RF converter to the ACT531 M-bus configuration and readout software, plug in a mini USB type B connector to the RF converter and the USB connector to a PC with the installed ACT531 software. The RF converter is configured with the ACT531 M-bus configuration and readout software, version ≥ 2.0 .

Additional information on the M-bus configuration and readout software is available in document A6V10844345. See 'Reference documentation [→ 8]'.


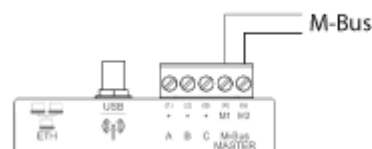
7.8 Connect M-bus devices to level converter

Up to 60 M-bus devices can be connected using terminals (6) and (7) on level converter WTV531..., and up to 250 M-bus devices can be connected to level converter WTX631...



7.9 Connect M-bus devices to web server

Up to 20 devices can be connected directly to WTV676. They are connected to terminals M1 (4) and M2 (5).

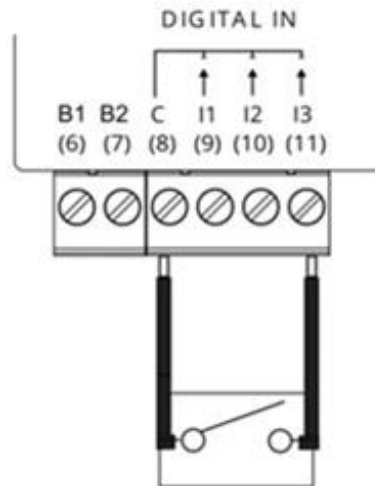


7.10 Wireless M-bus devices with RF converter

The RF converters must be on the same radio network (Mesh network). Do not place the devices too far from one another on the same floor and avoid any larger barriers such as cement walls or metal construction. The distance between individual devices on different floors cannot exceed more than just a few devices.

7.11 Digital inputs on Web Server

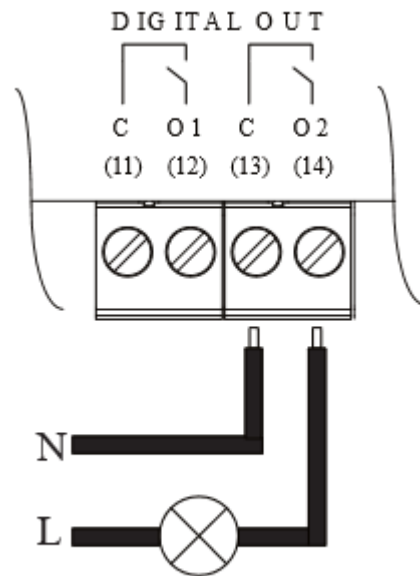
WTV676 provides 3 digital inputs I1, I2, and I3 to connect potential-free contacts (e.g. switches, relays). The contacts are connected as follows:



- Input I1:
 - ◆ Connect the external contact with terminals C (8) and I1 (9).
- Input I2:
 - ◆ Connect the external contact with terminals C (8) and I2 (10).
- Input I3:
 - ◆ Connect the external contact with terminals C (8) and I3 (11).

7.12 Digital outputs on Web Server

WTV676 has two relays that can be used as digital outputs. They can connect a load or be used as contacts to activate other systems. Terminals O1 (13) and O2 (15) can be controlled locally on the WTV676 or remotely via the Internet. Connect as follows to control, for example, a load:



The load at the relay contacts may not exceed the following values:

- 5 A @ AC/DC 30 V (resistive load)
- 2 A @ AC/DC 30 V (inductive load $\cos\phi = 0.4$)

7.13 Web server access to Synco IC

WTV676 HB6035 required to access the M-bus web server (as of firmware version SIE.WTV676_WI-2.29_FW-3.0-17-2.6).

Connect the M-bus devices for readout directly to the WTV676.

The following settings are required to transmit reports (billing files, trend files, and alarm messages) automatically to the cloud:

- Set up the automatic transmission of reports to the cloud on the WTV676.
- Register WTV676 on the Synco IC portal using the activation key.
- On the Synco IC portal, configure the e-mail notifications to send when a new report is loaded to the cloud

The following describes the individual steps.

7.13.1 Set up Synco IC reports

No reports are initially set to the Synco IC cloud. You must active automatic transmission of reports to the cloud to be able to automatically load reports to the cloud and distribute to recipients.

You can enter the settings either on the WTV676 browser or locally on the display.

Browser view

- ◆ In menu Export data > Automatic reports, under Synco IC reports, select "Activate Synco IC reports".

Local display

You can enable or disable automatic transmission of reports to the cloud in the "Settings" menu.

For additional information, see 'Setup automatic reports [→ 114]' and 'Operation [→ 56]'.

7.13.2 Enable web server in Synco IC

Change to the Synco IC portal to register the web server. The Synco IC portal is located at: <https://www.siemens-syncoic.com>

Enter your email address and web server activation key on the Synco IC portal to register.

You can view the activation key either on the web server browser or locally on the display.

Browser view

The activation key is available in the menu "Export data" > "Automatic reports" under "Setup Synco IC reports". See 'Setup automatic reports [→ 114]'.

Local display

The activation key is available on the local display of the web server in the menu "System info" > "Activation key". See 'Web server operation on the device [→ 56]'.

Detailed information on integrating the web server via the Synco IC portal is available in 'Web server integration in Synco IC [→ 51]'.

7.13.3 Configure email notification in the Synco IC portal

Only the latest reports (billing files, trend files, and alarm messages) are saved in Synco IC. The existing report in Synco IC is overwritten each time a new report is uploaded and is no longer available in the cloud.

The reports are uploaded to Synco IC per the customized settings (see 'Setup automatic reports [→ 114]'). An email notification is sent to predefined recipients as soon as a new report is uploaded to the cloud.

You can configure the recipients of an email notification in the Synco IC portal and whether to append the reports to the email (or not).



The settings for the alarms in menu "Settings > System on the WTV676 have no influence on the Synco IC alarm notifications.

Additional information on setting up alarm notifications is available in the Synco IC user guide, document A6V10500249. See 'Reference documentation [→ 8]'.

8 Level converter commissioning

Prerequisites

Ensure the following prior to commissioning the level converter:

- ▷ The electrical connection must be fused (non-renewable fuse or circuit breaker).
- ▷ The power supply must be at the device's rated voltage.
- ▷ The power supply must be sufficient to operate the device.
- ◆ Start by commissioning the level converter.

NOTICE	
	Commissioning the WTV531.. level converter commences once power is connected to the level converter. Additional settings are also available if using the ACT531 software. Function and any errors are indicated with LEDs on the front side.

8.1 Display elements

8.1.1 Level converter WTV531..

The level converter has six LEDs on the front side for indicating the operating state.

- USB Activity
- TXD
- RDX
- M-Bus Error
- M-Bus Ready
- Power

USB activity

The LED indicates the USB interface connection state.

- Flashes 2 x → The device is ready to connect to a PC using a mini USB-B cable.
- Flashes 5 x → The device is connected to a PC and correctly recognized by it.

TXD

The LED indicates the transmission state on the M-bus master (terminals 6 and 7).

- On → Data transmitting.
- Off → No data transmission.

RXD	The LED indicates the receive state on the M-bus master (terminals 6 and 7). • On → Data is being received. • Off → No data is being received.
M-bus error	The LED indicates the state of the M-bus power supply. • On → Bus overload. (short circuit or too many devices on the bus). • Off → No faults recognized.
M-bus ready	The LED indicates that bus power is correct and there are no anomalies. • On → Bus power is sufficient for trouble-free operation. • Off → Bus power is insufficient for trouble-free operation.
Power	The LED indicates the state of the level converter power supply. • On → The device power supply is correct. • Off → Device power is not correct or unavailable.

8.1.2 Level converter WTX631..

The level converter has six LEDs on the front side for indicating the operating state.

- ☐ Run
- ☐ TX M-Bus
- ☐ RX M-Bus
- ☐ Short Circuit
- ☐ Overload
- ☐ Power

Run...	The (green) LED indicates the operational state of the device. • Blinking at 1 Hz (slow) → Device functions are being set up. No communication. • Blinking at 10 Hz (fast) → Device update pending. • On → The device is operational.
TX M-bus	The (green) LED indicates the transmission state on the M-bus network (terminals 9 and 10). • On → Data is transmitting. • Off → No data is transmitting.
RX M-bus	The (orange) LED indicates the receive state of data on the M-bus network (terminals 6 and 7). • On → Data is being received. • Off → No data is being received.
Short circuit	The (red) LED indicates a short circuit on the bus, very high traffic or collision rate.

Overload

The (orange) LED indicates a bus overload that may prevent correct operation.

- On → Bus overload that may prevent correct operation.
- Off → No bus overload recognized.

Power

The (green) LED indicates the state of the level converter power supply.

- On → The device power supply is correct.
- Off → Device power is not correct or unavailable.

8.2 Troubleshooting the level converter

The device does not switch on. The Power LED is off.

- ◆ Using a multimeter, check whether required operating voltage of AC 24 V or DC 24 V is available at terminals (8) and (9).

The 'M-Bus Error' LED is on

- ◆ Check M-bus wiring. There is a bus overload due to short circuit between the bus cable or too many M-bus devices are connected.

The 'M-Bus Ready' LED is switched off.

1. Using a multimeter, check whether M-bus voltage between terminals (6) and (7) is between DC 24 V and 42 V.
2. Check the M-bus for short circuits if voltage is below that level.

The level converter connected to WTV676 does not discover any or not all devices.

1. Check that the wiring is correct between WTV676 and terminal D on the level converter.
2. Make sure that the level converter connected via USB to the PC is not using the bus.
3. Using a multimeter, check whether M-bus voltage on unrecognized devices is between DC 24 V and 42 V.
4. Ensure that the communication settings on the WTV676 or the software are compatible with the devices (transmission rate, addressing)

Connected devices do not communicate when the level converter is used as a repeater.

1. Check whether M-bus is connected to terminal C on the level converter.
2. Make sure that there is no USB cable connected to the level converter.
3. Check operating and bus voltage and that the 'M-Bus Error' LED is off.

8.3 Level converter firmware WTV531..

You can use the ACT531 software to read the current firmware version of the level converter and update as needed. For additional information, see the ACT531 documentation. See 'Reference documentation [→ 8]'.

9 Commissioning RF converters

- ◆ Determine the best location for the RF converter. **NOTICE! The RF converter can be powered by an external battery (USB connection) to help find the optimum location.**

See section 'Locating RF converters [→ 31]' for additional information.

1. Ensure that all RF converters belong to the same radio network.
2. Ensure that all RF converters have the same Mesh ID and same channel ID within a radio network. **NOTICE! You do not need to change the Mesh ID if the blue LED flashes for more than five minutes. You must change the Mesh ID if the blue LED is on continuously after just a few minutes. The RF converter is configured with the ACT531 M-bus configuration and readout software, version ≥ 2.0 , or locally using the 'S1' and 'S2' buttons.**

Additional information on the M-bus configuration and readout software is available in document A6V10844345. See 'Reference documentation [→ 8]'.

1. The M-bus operation mode (C+T/S-Mode) must be the same for both the RF converter and the devices on the radio network.
2. Mount the RF converter on the wall.

Additional information on installing the RF converter is available in document A6V11135905. See 'Reference documentation [→ 8]'.

9.1 Data security and encryption

The radio network system supports devices with AES128 encryption. The AES128 packet is decrypted in WTV676.

9.2 Troubleshooting the RF converter

The RF converter does not switch on:

1. Ensure that the required operating voltage (AC 100...240 V) is connected.
2. Check the quality of the USB cable if using the USB connection or whether the PC is able to supply a current of 500 mA.

The blue LED flashes:

1. Ensure that the WTV676 is switched on and the antenna is connected and oriented to receive radio signals.
2. Ensure that the distance between the WTV676 and the RF converters is at least 5 meters. **NOTICE! The minimum distance between individual RF converters is also 5 meters.**
3. Use the ACT531 software to ensure that the mesh network ID and the channel ID are correct and match the mesh network ID and channel ID of the WTV676.

Further information about changing the mesh ID and channel ID is available in document A6V10844345. See 'Reference documentation [→ 8]'.

Does not recognize all meters:

1. Ensure that the unrecognized devices are not located too far from the RF converter and that the radio signal is not too weakened by cement or metal walls.
2. Ensure that the unrecognized devices are loaded to the WTV676 list and that contact to the wireless M-bus devices, recognized by the WTV676, is not interrupted.
3. Please note that some wireless M-bus devices only transmit their data at intervals of multiple hours.
4. Use the web interface or the ACT531 software to ensure that the mesh network is operational.

The blue LED does not stop flashing (flashing frequency > 1x per second).

- If the LED flashes 1x, this indicates a RAM error.
- If the LED flashes 2x, this indicates an M-bus RF module error.
- If the LED flashes 3x, this indicates an error in the RF module of the mesh network.
- If the LED flashes 4x, this indicates a flash memory error.
- If the LED flashes 5x, this indicates a realtime clock error.

10 Web server commissioning

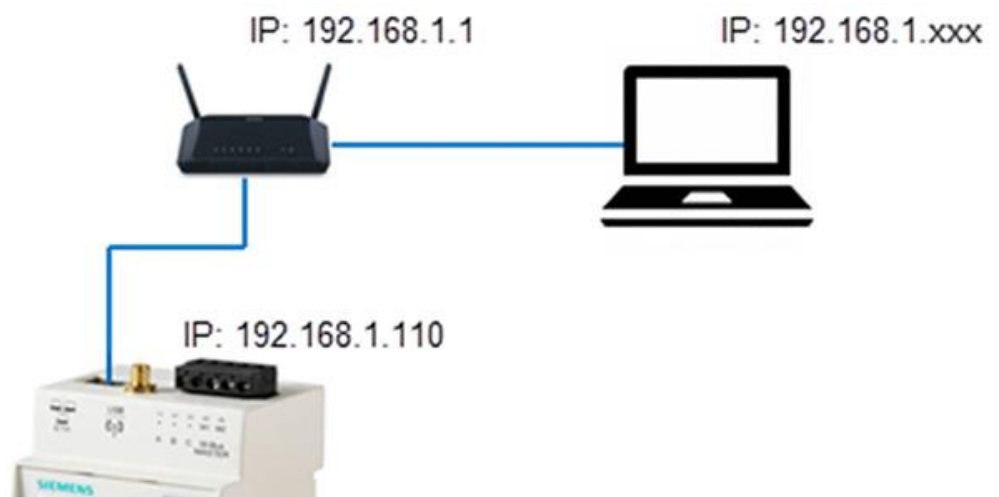
Prerequisites

Ensure the following prior to commissioning the WTV676:

- ▷ The electrical connection must be fused (fuse or circuit breaker).
 - ▷ The power supply must be at the device's rated voltage.
 - ▷ The power supply must be sufficient to operate the device.
 - ▷ The router (if available) is configured as per the description.
 - ▷ The network plug is wired correctly to exchange data and connected to the ETH connection on the WTV676
 - ▷ Any level converters connected to the WTV676 must be connected as the slave on output 'M-bus MASTER' on the WTV676.
- ◆ Start by commissioning the WTV676.

10.1 Connect Web Server to PC or LAN

WTV676 has an Ethernet connection to directly connect to a local PC or connects to a PC over LAN.

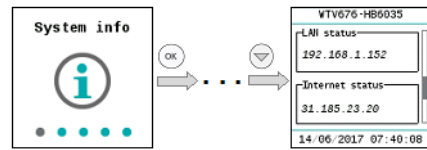


Default settings for connecting to the WTV676:

IP address:	192.168.1.110
Network mask:	255.255.255.0
IP address assignment:	Static

Proceed as follows to connect a PC to WTV676:

1. Use an Ethernet cable per standard T568A or T568B (1:1 or crossover) to connect to WTV676 with a PC (directly) or LAN.
2. If using the LAN, also connect the PC to the LAN.
3. Check whether an IP address is displayed on WTV676 in the 'System info' menu, under LAN Status.

**Connection over LAN**

Use a DHCP server for dynamic IP addressing or fixed IP address if the PC and WTV676 are integrated on an existing network.

- ◆ Contact your network administrator for the fixed or dynamic IP address. You can change the LAN settings via local operation on the WTV676.

Further information is available in 'Web server operation on the device [→ 56]'.

Direct PC connection

- ◆ Configure the IP address on the PC network settings or WTV676 so that the PC and WTV676 are on the same network. **NOTICE! In the example above, the PC must have a static IP address 192.168.1.xxx (with xxx between 1 and 254, but NOT 110) and the network mask must be set to 255.255.255.0.**

IP address ranges

The following IP addresses are reserved for private networks:

- Class A: 10.0.0.0–10.255.255.255.
- Class B: 172.16.0.0–172.31.255.255.
- Class C: 192.168.0.0–192.168.255.255 (typical for home networks)

Access WTV676

- ◆ To access WTV676, enter the WTV676 IP address (e.g. <https://192.168.1.110>) in the browser (Chrome, Safari, Firefox).

For additional information on web server settings and operation over the browser, see section 'Operate web server in a browser [→ 69]'.

Additional information on router configuration is available in 'Router configuration [→ 137]'.

10.2 Web access

Web access

The WTV676 has a remote readout service to simplify remote access. Remote access requires an Internet connection connected to the WTV676 via an Ethernet cable. WTV676 can now be comfortably operated remotely.

The URL for remote access is comprised of:

- Remote access service (Siemens URL): www.wtv776.siemens-info.com
- WTV676 serial number: evxxxxxx

Example: www.wtv776.siemens-info.com/ev0000001

The following settings must be modified:

- Network settings
- Email configuration (optional)
- Dynamic DNS (optional)



Remote access is possible as of web service FW version F. All web servers WTV676.. can be updated with FW version F.

Direct access to the WTV676

1. Enter the URL for the remote access in the browser bar to connect the desktop to the WTV676 (home page).
2. Log in on the home page of the WTV676 with your user name and password.

Access via Synco IC

You can access the home page of the WTV676 directly via the 'Web access' menu if web server is already connected to Synco IC.

- ◆ Log in on the home page of the WTV676 with your user name and password. Additional information on network settings, email configuration, and dynamic DNS is available in section 'Network [→ 91]'.

10.3 M-bus commissioning on Web Server

- ▷ Installation is completed
- ▷ All connections operate and were tested.
- ◆ Proceed as follows to commission M-bus:

Check M-bus

- ◆ Ensure that the level converter's 'M-Bus Ready' LED is on and the 'M-Bus Error' LED is off.

First time log in

You must set the Web Server language the first time Web Server is activated. The following languages are currently available:

- German
- English
- Italian
- French
- Dutch

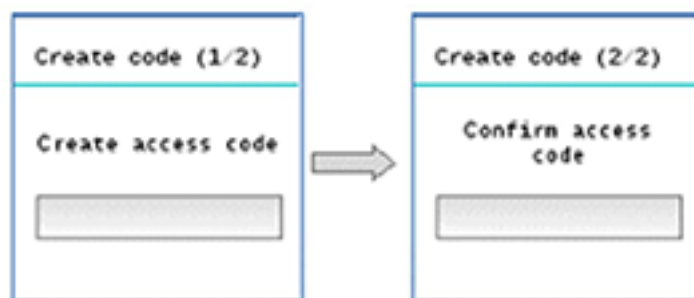


The language selected during the initial login applies to both the display as well as the software user interface to web server. You can change the language after initial login for the display and web server separately.

The display language can be changed anytime on the display. See section 'Select default operating language (local display) [→ 56]'. You can change the language for the web server at any time in the software user interface. See section 'Select the web server language (software interface) [→ 72]'.

Access code

Define an 8-digit access code. Use the and navigation buttons to set a number from 0...9. Press 'OK' to go to the next digit. You must reenter the 8-digit access code to confirm it.

**Change access code**

The access code can be changed at any time to protect against unauthorized access. See 'Operation [→ 56]'.

Start meter search

◆ In the 'Meter search' main menu, start the search for connected M-bus devices. Details information on the workflow for meter search is available in 'Wired devices [→ 95]'.

Continue settings on web server

At the conclusion of the meter search, we recommend accessing the Web Server via the Internet browser to conclude the configuration. You can enter plant data and other settings via the Internet browser. For access to web server, see 'Connect Web Server to PC or LAN [→ 47]'.

Enter meter name

Assign a unique name, e.g. "Apartment 1", "Warehouse", "Hot water" to simplify evaluation of reports with consumption data or device information. See 'Wired devices [→ 95]', 'Device settings'.

Enter plant data

Plant data includes information on user, address, etc. The data is displayed in the report header and permit clear assignment of the measured data to a plant. See 'System [→ 86]', 'Plant data'.

E-mail settings

Web server can email you reports, events, messages, anomalies, and errors. See 'Setup automatic reports [→ 114]', 'Setup email addresses'.

10.4 Commission RF converters on web server

Enter names for the wireless devices

Assign a unique name, e.g. "Apartment 1", "Warehouse", "Hot water" to simplify evaluation of reports with consumption data or device information. See 'Wired devices [→ 107]', 'Device settings'.

10.5 Web server troubleshooting

The device does not switch on. The green LED is off.

- ◆ Using a multimeter, check whether the required operating voltage AC/DC 24 V +/- 10 % is available between terminals (15) and (16).

The display is switched off.

- ◆ **NOTICE!** The display switches off automatically after 10 minutes. Press any button to switch on the display.

WTV676 does not discover a device.

1. Check to ensure the wiring between the WTV676 and connected M-bus devices.
2. Check to ensure the wiring between the WTV676 and level converters.
3. Check M-bus wiring for short circuits.

WTV676 does not discover all M-bus devices.

1. Check to ensure the wiring between the WTV676 and unrecognized devices.
2. Using a multimeter, check whether M-bus voltage on unrecognized devices is between DC 24 V and 42 V.
3. Ensure that the communication settings on the WTV676 are compatible with the M-bus devices (transmission rate, addressing)
4. Check to ensure that the number of connected M-bus devices does not exceed the maximum permitted amount.

WTV676 does not discover all devices.

1. Ensure that the unrecognized devices are not located too far from the WTV676 and that the radio signal is not weakened by cement or metal walls.
2. Ensure that the unrecognized devices are loaded to the WTV676 list and that contact to the wireless M-bus devices, recognized by the WTV676, is not interrupted.
3. Please note that some wireless M-bus devices only transmit their data at intervals of multiple hours.
4. Use the web interface or the ACT531 software to ensure that the mesh network is operational.

No connection to WTV676.

1. Check the PC network address. **NOTICE! WTVx76 uses IP address 192.168.1.110 as the default. The PC must have an IP address of 192.168.1.xxx (with xxx not equal to 110). WTVx76 uses the default IP address 192.168.1.110.**
2. Check the router configuration.
Detailed information is available in 'Router configuration [→ 137]'.
3. Contact your local IT administrator for network problems.

10.6 Web server integration in Synco IC

WTV676 is registered on the cloud after entering the activation key for WTV676. This permits the periodic upload of billing data, trend data, and alarm messages (reports) to Synco IC per customized settings and distributing the information to the corresponding customers via email. You must select "Enable Synco IC reports" check box on the WTV676.

Additional information on the automatic transmission of Synco IC reports is available in 'Setup automatic reports [→ 114]'.

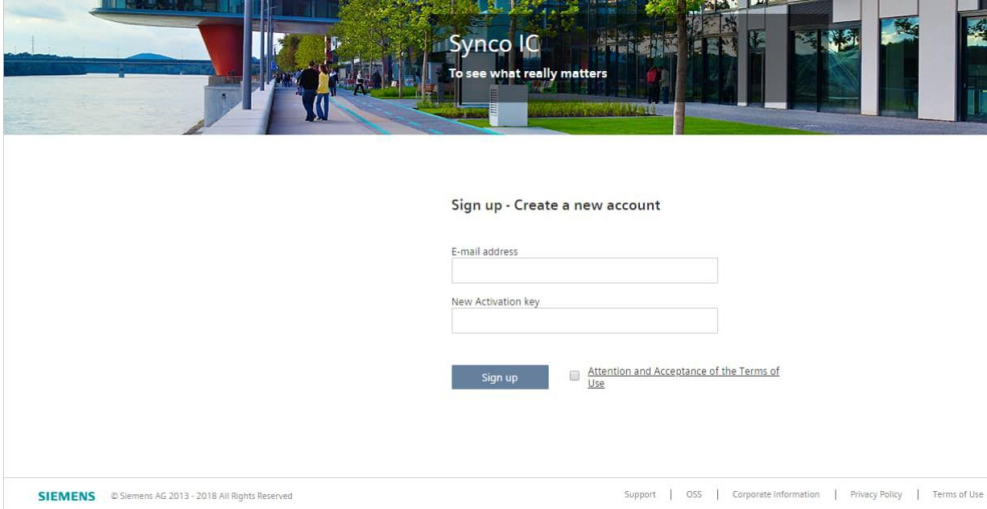
10.6.1 Set up access

Registration is required for the first-time use of the Synco IC portal. An email address and activation key for web server must be entered to register.

Additional information on the activation key is available in 'Enable web server in Synco IC [→ 39]'.

After registration, you must enter a password for future access to the portal. Additional data can be entered on the user and plant. The Synco IC portal is located at: <https://www.siemens-syncoic.com/>.

Additional information on Synco IC is available in 'Reference documentation [→ 8]'.



10.6.2 Activate plant

◆ Activate your plant in the Synco IC portal, under the "Administration" menu.

Additional information on activation and entering plant data is available in the Synco IC User's Guide, document A6V10500249. See 'Reference documentation [→ 8]'.

11 Level converter operation

11.1 Level converter WTV531..

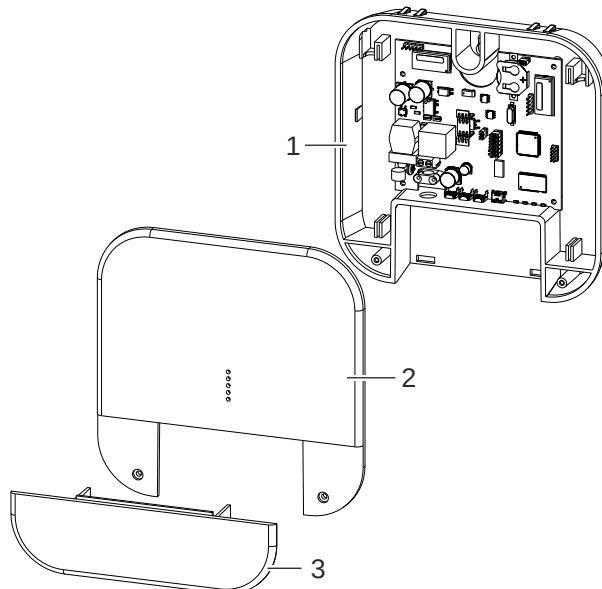
Level converter WTV531.. has no operating elements. The ACT531 software must be used to make any settings.

11.2 Level converter WTX631..

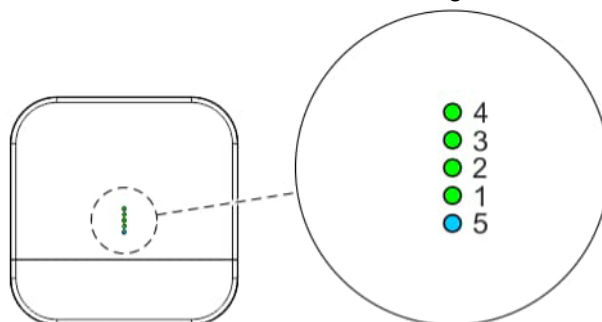
Level converter WTX631.. has no operating elements. It can be connected via RS-232- or RS-485 interface and connected to a PC. The firmware can also be updated via the RS-232 interface.

12 RF converter operation

The RF converter essentially consists of three housing components: The base for wall mounting (1), the removable cover (2) and the cover for the cable compartment (3). The RF converter operating elements for the network are located in the lower part in the cable entry (3).

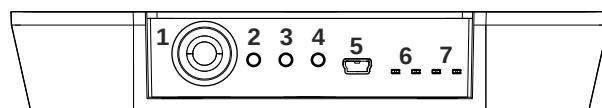


The removable cover has the following LEDs.



1	Green LED 1	2	Green LED 2
3	Green LED 3	4	Green LED 4
5	Blue LED		

The cover for the cable entry has the following connections and buttons.



1	Mains power connection (AC 100...240 V)	2	Local settings S1
3	Local settings S2	4	Reset button
5	USB connection	6	LED mesh network TX-RX
7	LED wireless M- bus network TX- RX		

12.1 Change mesh ID

Change the mesh ID if the blue LED on the RF converter is permanently illuminated after installation and the WTV676 is not switched on. Proceed as follows:

- ◆ Press buttons '2' and '3' at the same time for a few seconds. **NOTICE! As soon you let go of the buttons, one or all the green LEDs start flashing.**

NOTICE	
!	Mesh-ID ≥ 5 For a mesh ID ≥ 5 , all the green LEDs flash simultaneously. Otherwise, only the corresponding green LED flashes. For example, LED 1 flashes for a Mesh ID = 1.

1. - Press button '3' for at least a second to change the mesh ID. **NOTICE! The corresponding green LED is on permanently as soon as the mesh ID is changed.**
2. - Press buttons '2' and '3' at the same time for more than a second to save the changes.
3. - Press button '2' to reject the changes.

13 Web server operation on the device

13.1 Select default operating language (local display)

The language set on the display is the default language. You can set the default operating language directly on the display. After entering the password, you can select the language on the main menu at 'Settings' / 'System' / 'Select language' by pressing the  and  buttons. The following languages are available:

- English
- German
- Italian
- French
- Dutch

Each time the language is set or changed on the display, it remains the default language until the next change. The default language is used on the following:

- Display functions
- Login default language WTV676
- Automatic reports on all WTV676

NOTICE



Commission: Language selection

The language set locally on the WTV676 is also used for sending emails and to generate reports and alarm notifications.

It is very important that the language is set correctly locally on WTV676 during commissioning.

13.2 Buttons

WTV676 has six buttons to navigate menus on the display. The button functions are based on the displayed menu.

	• Confirm a field or a set value • Access to the main or sub-menu.
	• Cancel of field selection or value. • Return from a sub-menu to a main menu.
	• Go to previous main menu or sub-menu. • Move cursor to the left.
	• Go to next main menu or sub-menu. • Move cursor to the right.
	• Scroll up one page • Select / switch from letters A...Z and digits 0...9.
	• Scroll down one page • Select / switch from letters A...Z and digits 0...9.

13.3 Operation

Measured data and basic settings are displayed on a color display. The display switches off automatically to save energy after 10 minutes.

Enter access code

- ◆ Press the navigation button.
 - ⇒ The local display switches on.
 - ⇒ The display to enter the access code opens.



1. Enter the access code. **NOTICE!** The cursor flashes at the current position.
 2. Select the individual numbers with the arrow buttons (▲) and (▼).
- ◆ Confirm with 'OK'. **NOTICE!** The cursor goes to the next position on the 8-digit access code.

Change access code

For security reasons, you can change the local access code on the WTV676 at any time to prevent unauthorized access to the WTV676 on the local display.



Proceed as follows to change and existing access code.

1. Select 'Settings' > 'System' > 'Access code'.
2. Press 'Change'.
3. Enter the current access code.
4. Enter the new value.
5. Confirm the new access code.

The display changes automatically to the 'System info' main menu once the access code is changed. The code must be entered again if an incorrect access code is entered or the new access code does not match the confirmation. There is no limit to the number of attempts.

Reset access code

If you are unable to access the local display using the access code, you can reset the access code via web browser as long as you know your login data for the web browser.

NOTICE**Access code**

For security reasons, define a new access code locally on the WTV676 as soon as possible after a reset.

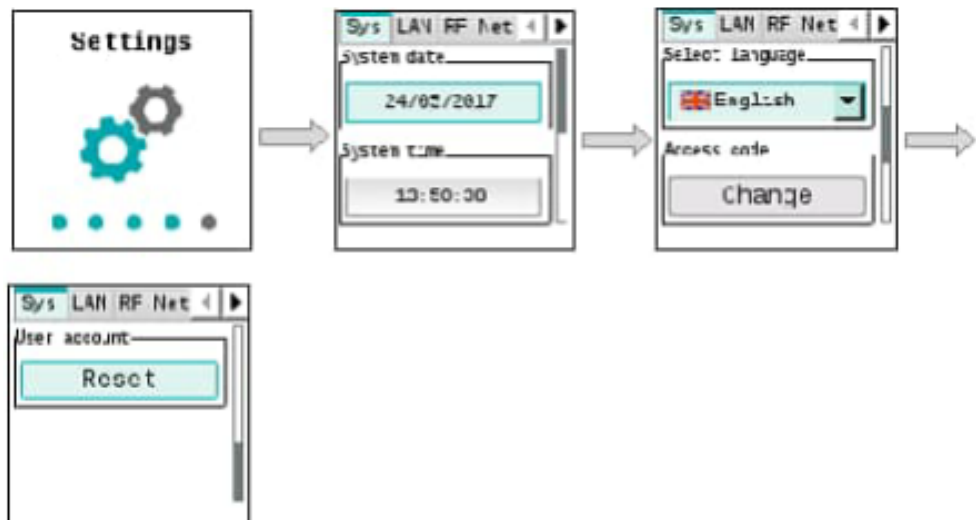
Additional information on resetting the local access code via web browser is available in 'System [→ 86]', 'System settings'.

Reset user account

You can reset the user account as follows on the local display if you have forgotten the login data for WTV676 via web browser.

1. Select 'Settings' > 'System' > 'User account'.
2. Press 'Confirm'.

⇒ The existing user account is reset.



You must repeat the initial registration process after a reset. For security reasons, you are requested to reenter all the user account data as is the case for an initial registration via web browser.

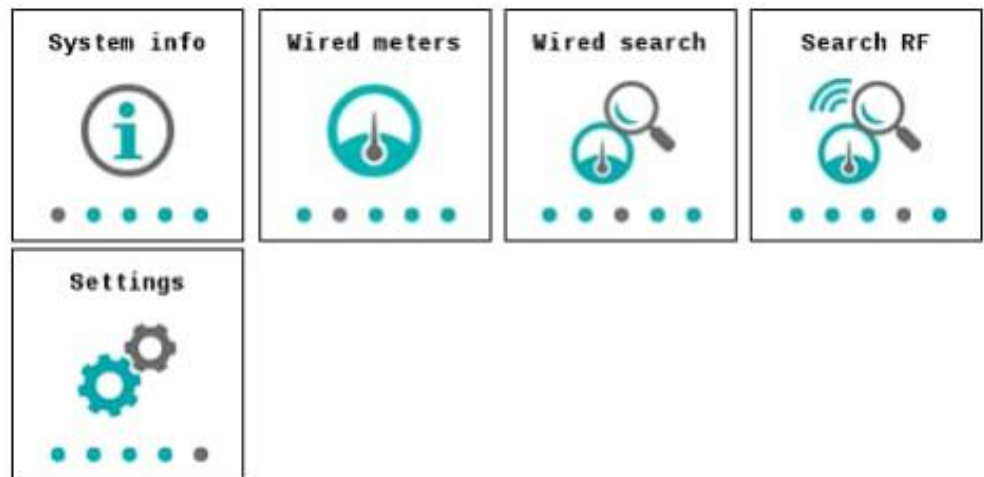


No plant data is lost when resetting the user account.

Additional information on registration is available in 'Register and login [→ 69]'.

13.3.1 Main menu

The main menu displays after correctly entering the access code. It consists of five pages: 'System info', 'Wire meters', 'Wired search', 'Search RF' and 'Settings'.

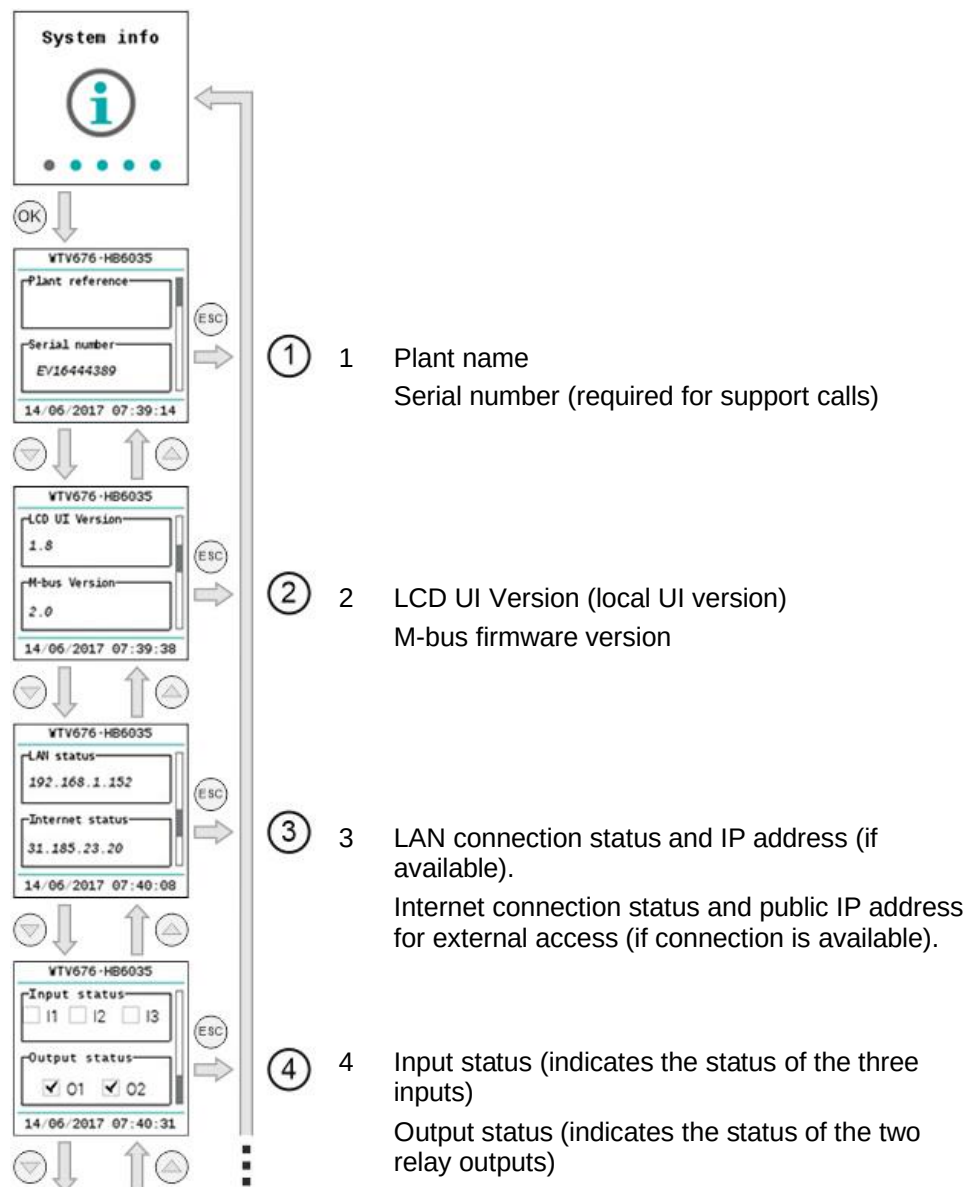


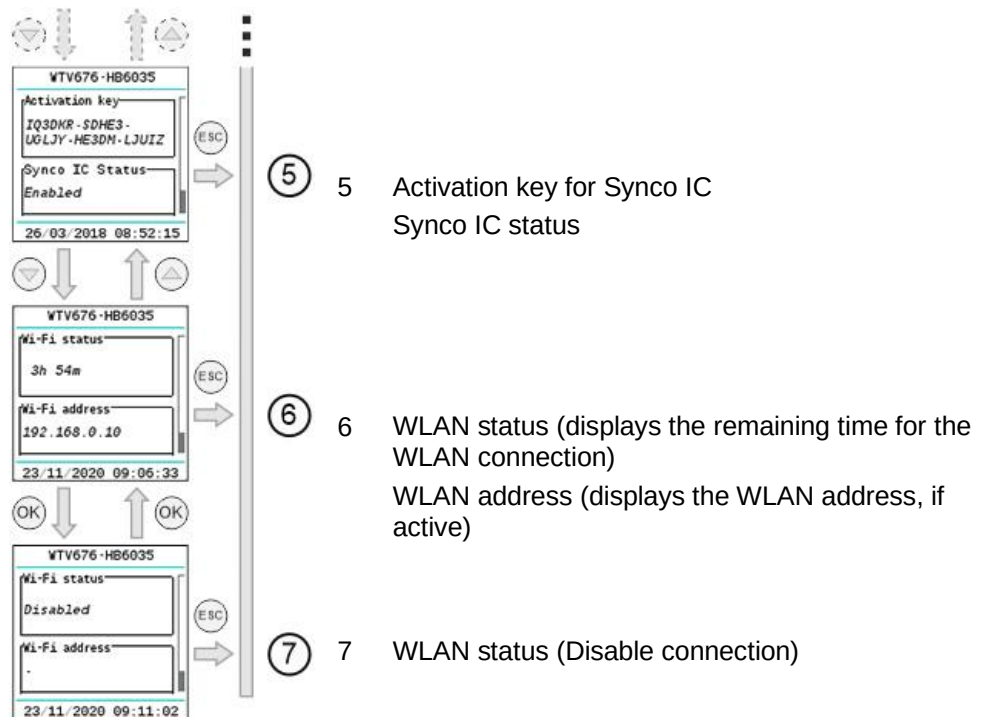
System info	Includes information on the WTV676 and connection status and to the activation key.
Wired meters	Displays the list of connected M-bus devices and makes it possible to display the data.
Wired search	Starts the search for connected devices as per the last saved settings.
Search RF	Starts the search for RF devices using the last saved settings.
Settings	Includes some settings for both WTV676 and Synco IC.

13.3.2 'System info' menu

To reach the required sub-menus, proceed as follows:

1. Select 'System info'.
2. Press 'OK'.

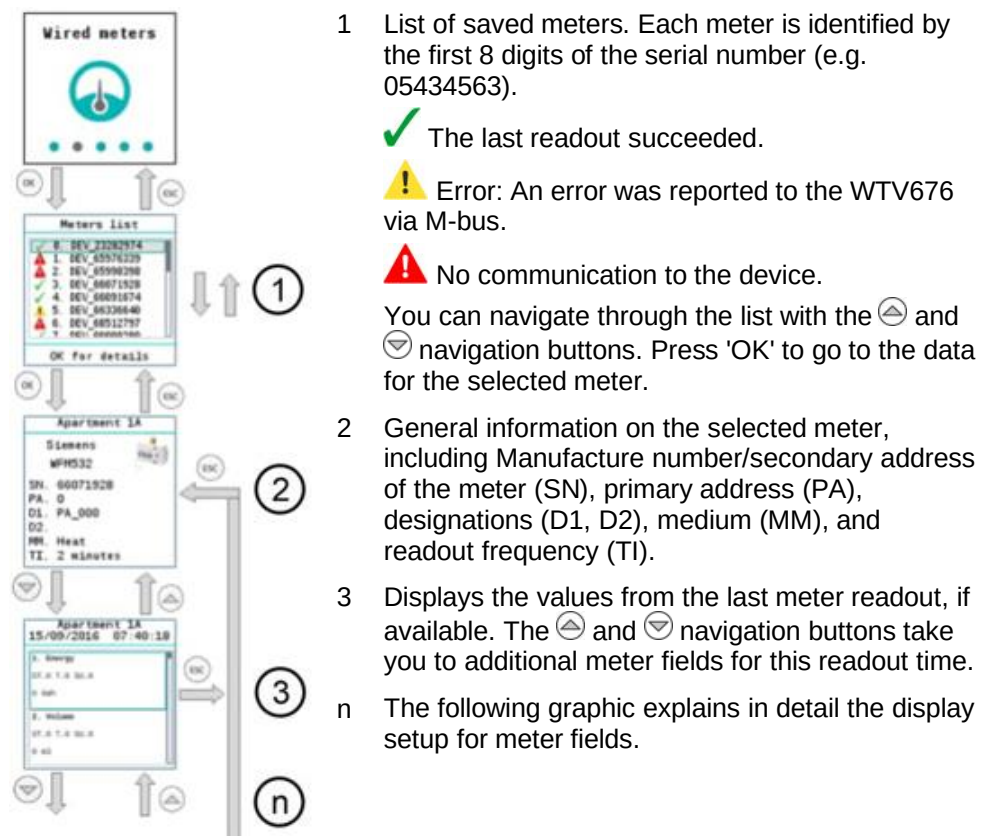


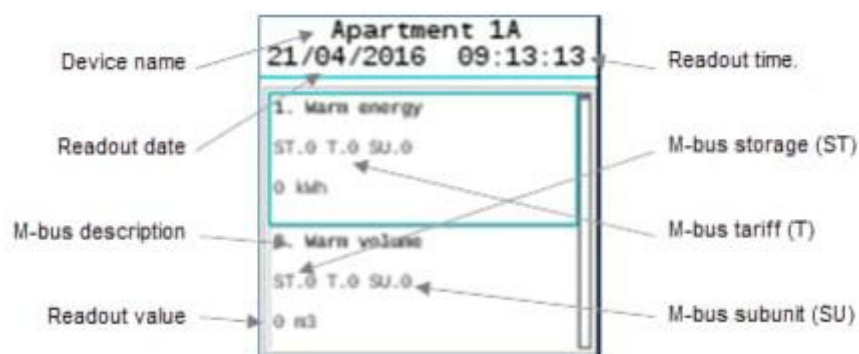


13.3.3 'Wired meters' menu

To reach the required sub-menus, proceed as follows:

1. Select 'Wired meters' menu.
2. Press 'OK'.





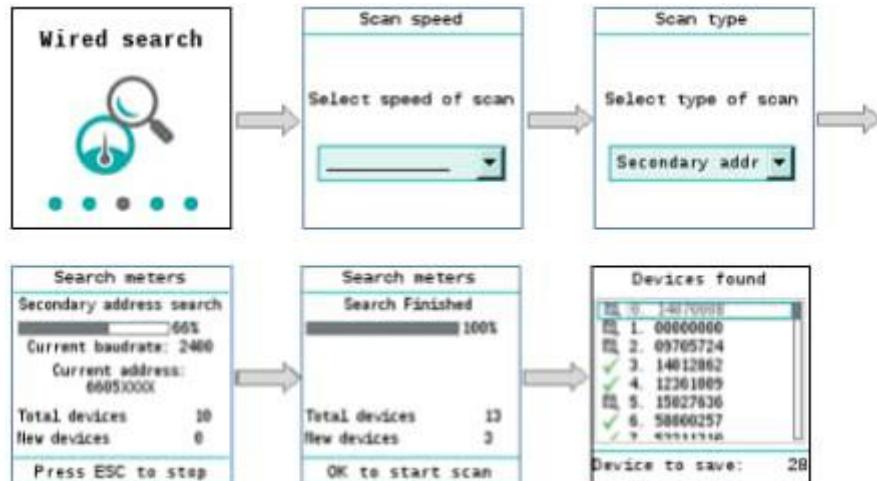
The display only displays meter fields where the option 'Display data' is selected. The setting is selected over web operation in the menu 'Settings' > 'Wired devices' > 'Device settings' > 'Meter data settings' > 'Data point settings'.

Device name	Device name assigned over web operation in the menu 'Settings' > 'Wired devices' > 'Device settings' > 'Device name'.
Readout date	Displays the date of the meter readout.
Readout time	Displays the time of the meter readout.
M-bus description	Displays the field description as per the M-bus protocol.
M-bus storage	Displays the storage number of the displayed M-bus data point. See the meter documentation for additional information.
M-bus tariff	Displays the tariff number of the displayed M-bus data point. See the meter documentation for additional information.
M-bus subunit	Displays the number of the subunit for the M-bus data point. See the meter documentation for additional information.
Read out Value	Displays the value with unit at the time of the meter readout.

13.3.4 'Wire search' menu

◆ In the 'Wired search' menu, press 'OK' to start a scan for connected meters.
The default search criteria are:

- Scan speed: 2400 bps
- Scan type: Secondary address



Scan speed

◆ Select the baud rate used by the WTV676 to scan for meters.

Possible selections:

- 300 bps
- 600 bps
- 1,200 bps
- 2,400 bps
- 4,800 bps
- 9,600 bps

Scan type

◆ Select the M-bus addressing type used in the scan:

Possible selections:

- Primary + secondary address
- Primary address
- Secondary address



Check meters and save

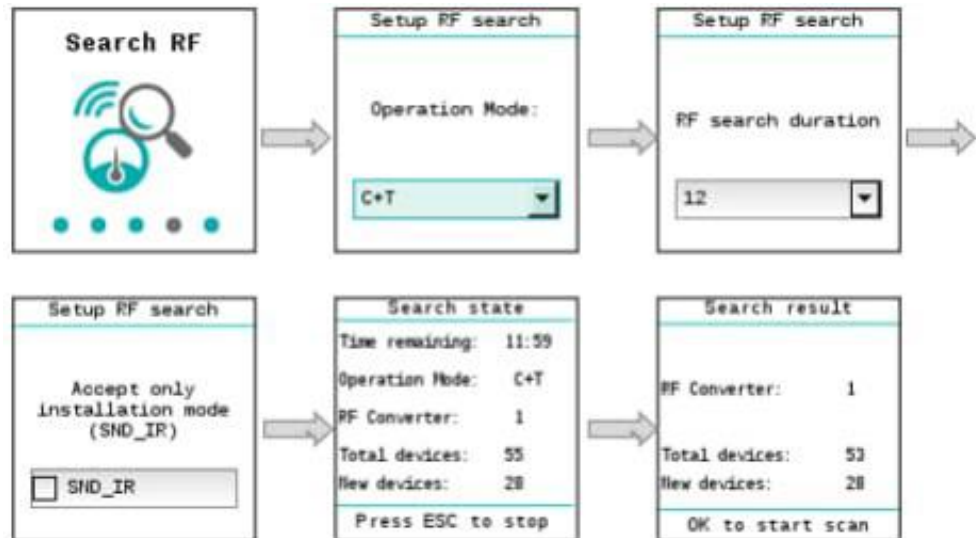
A list of devices found is displayed after the meter scan is finished.

◆ Press 'OK' to save the meters and add them to the device list. **NOTICE! The 'ESC' button does not add the newly found meters to the device list.**

To edit meter settings over web operation, see menu 'Settings' / 'Wired devices' / 'Device settings'.

13.3.5 'RF search' menu

◆ To search for RF devices, press 'OK' in the 'Search wireless'.



Operation mode

The following values are available:

- S
- T
- C+T
- C+T & S

◆ Select the operating mode. **NOTICE!** The M-bus operation mode (C+T/S-Mode) must be the same for both the RF converter and the devices on the radio network.

RF search duration

◆ Select the duration of the search.
Sample rates from 1 to 24 are available.

Installation mode

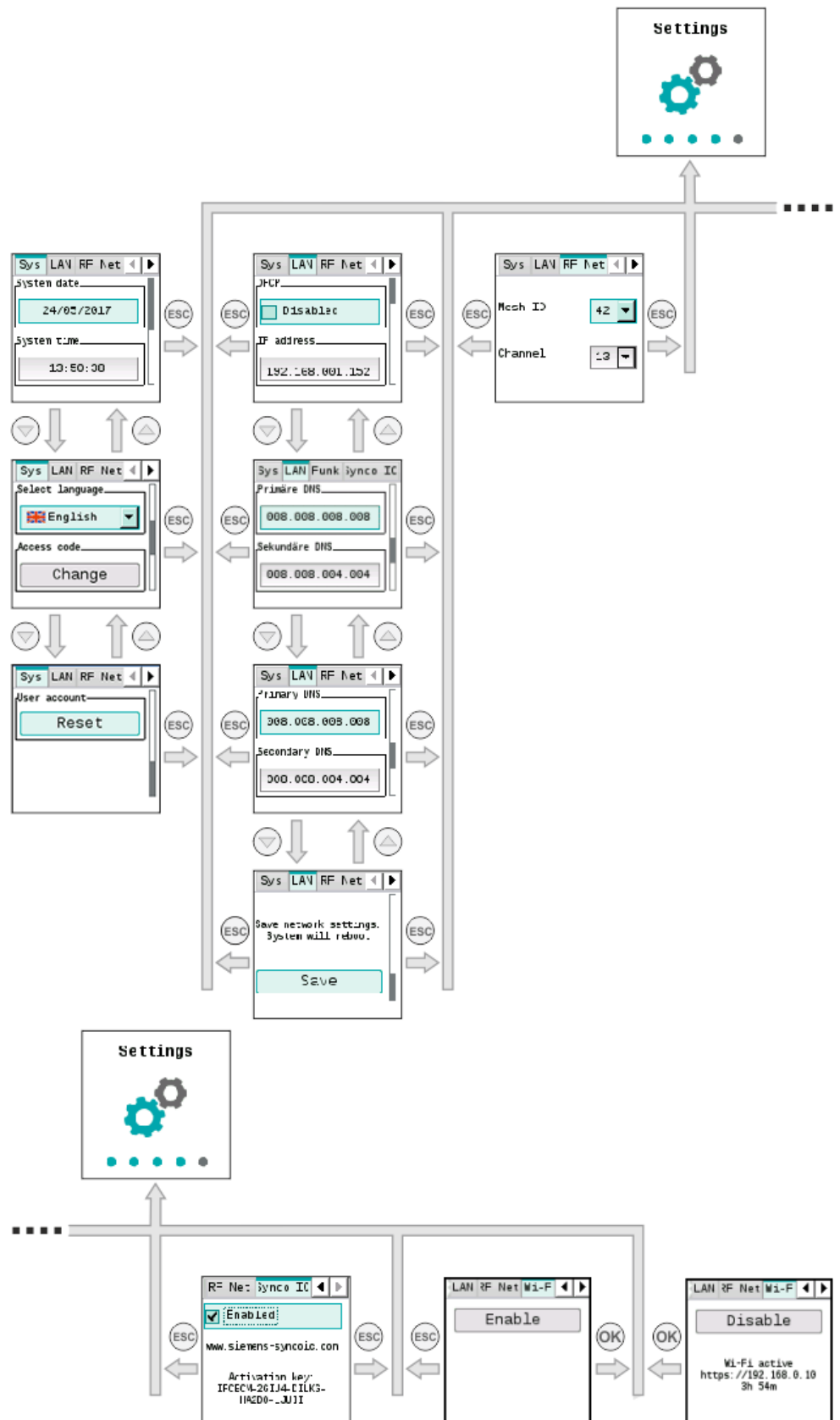
You can limit the search and only display devices in installation mode by selecting 'SND_TR: Function'.

13.3.6 'Settings' menu

The 'Settings' menu as the following submenus:

- System
- LAN
- RF network
- Synco IC

You can navigate between the submenus with the ⏪ and ⏩ navigation buttons.
You can navigate within the submenus with the ⏴ and ⏵ navigation buttons.
The 'OK' button selects a field for editing and then confirms the entered value.



'System' sub-menu

You can edit the following data in the 'System' menu:

- Current date on the WTV676
- WTV676 system clock
- Language on the WTV676 display

NOTICE**Local language**

The language set locally on the WTV676 is also used for sending emails and to generate reports and alarm notifications.

As a result, it is important to select the correct language during WTV676 commissioning.

Change access code

You can change the local access code on WTV676 at any time for security reasons.

Additional information is available in menu 'Settings' > 'System' > 'Access code'.

Reset user account

You can reset the user account over the local display if you have forgotten the login data for WTV676 via web browser. You must re-register after resetting the user account.

For details, see 'Reset user account'

'LAN' sub-menu

The 'LAN' sub-menu has the following settings:

DHCP

You can enable or disable the DHCP client for the WTV676. WTV676 draws its IP address automatically from the DHCP server (router) if the DHCP client is enabled. The following parameters must be entered manually if the DHCP client is disabled.

IP address

WTV676 IP address. Need not be set for "DHCP = Enabled" (default value: 192.168.1.110)

Default gateway

The standard gateway represents the interface between the local and public network. You typically enter the IP address for the router here. Is not set for "DHCP = Enabled" (default value: 192.168.1.1)

Network mask

The IP subnet mask sets the size of the network. Need not be set for "DHCP = Enabled" (default value: 255.255.255.0)

Primary DNS

The DNS name server (domain name system) on the Internet connects a globally valid name to a domain with an IP address (e.g. domain www.siemens.com with IP address 146.254.191.150). The setting corresponds to the IP address for the next router or DNS name server that recognizes for its part a queried name (domain) or another DNS name server. The setting is typically identical to the setting for the standard Gateway. Is not set for "DHCP = Enabled" (default value: DNS1: 8.8.8.8)

Secondary DNS

A secondary DNS name server is only defined for redundant systems. Settings are typically empty. Is not set for "DHCP = Enabled" (default value: DNS2: 8.8.4.4)

Save network settings / Restart

The current network settings are saved and the WTV676 restarts.

RF network

You can set the following in the 'RF' network submenu:

Mesh ID

Enter the mesh ID. Ensure that all RF converters are on the same mesh network.

Channel

Mesh network channel: You can change the channel ID here in the event of faults.

Synco IC

The following settings are available in the 'Synco IC' submenu:

Synco IC reports

Enable or disable the automation transmission of Synco IC reports to the cloud.

Synco IC portal

The Synco IC portal is available at: <https://www.siemens-syncoic.com>.

Activation key

Displays the activation key. The activation key is required to register the WTV676 in the Synco IC portal.

Detailed information on integrating the web server via the Synco IC portal is available in 'Web server integration in Synco IC [→ 51]'.

WLAN connection

- ◆ To enable the WLAN connection, press the ESC key on WTV676 for at least 5 seconds.

Additional information on web server buttons is available in 'M-bus web server WTV676 [→ 17]'.



The IP address and remaining time for the active WLAN connection is displayed after enabling the WLAN connection.



The WLAN connection remains active for up to 12 hours after enabling.

To display more information on the WLAN connection on the web server or to disable the WLAN connection on the display of the web server:

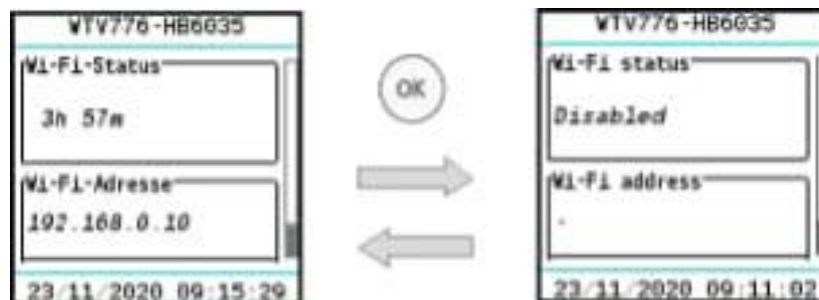
1. Press OK.
2. Enter the access code to the web server.

Additional information on the web server access code is available in section 'Access code entry'.

**WLAN status WLAN
address**

You can display the remaining time for the WLAN connection and the WLAN address in the 'System info' menu as long as the connection is active. Press the down arrow key to go to the desired information.

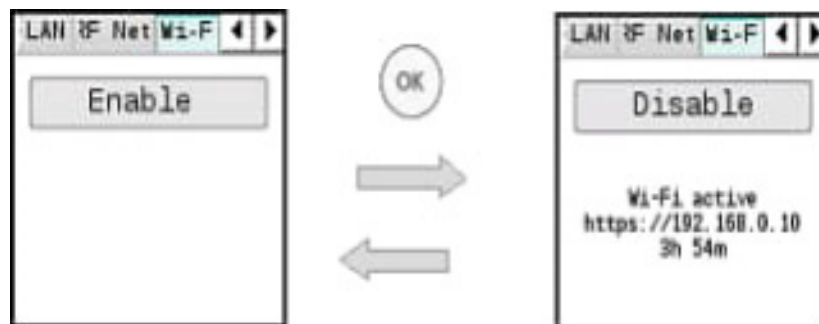
Additional information on 'System info' menu is available in the "System info' menu [→ 59]'.



Enable/disable WLAN connection

You can enable or disable the WLAN connection in the 'Settings' menu. Press the right arrow to go to the desired display. Press the 'OK' to enable or disable the WLAN connection.

Additional information on 'Settings' menu is available in the "Settings' menu [→ 64] menu.



14 Operate web server in a browser

14.1 Register and login

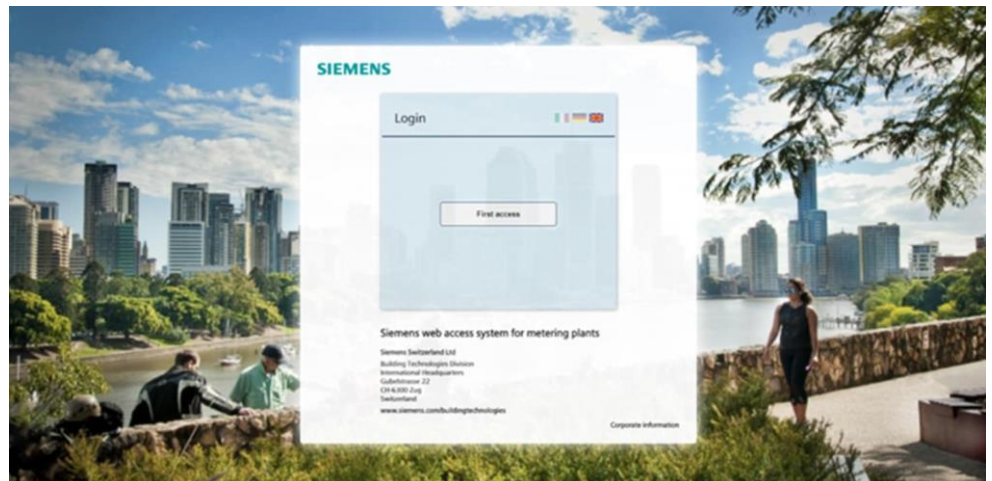
Initial registration

You must register to access the WTV676.

Password requirements

A strong password is at least 8 characters. Three of the following 4 criteria must be fulfilled:

- Latin capital letters (A...Z)
 - Latin lowercase letters (a...z)
 - Digits (0...9)
 - Non-alphabetic characters (e.g. !, \$, +, ?)
- ▷ Web server and the PC are connected to the same network.
- ▷ Access to the network is configured. See section 'Connect Web Server to PC or LAN [→ 47]'.
- ◆ Enter the web server IP address (e.g. <https://192.168.1.110>) in the browser (Chrome, Safari, FireFox).
- ⇒ The registration window opens.



- ◆ Enter the following mandatory fields to register.
- E-mail
 - Username
 - Password
 - Confirm password
 - Time zone
- ◆ Click 'Register'. **NOTICE! The 'Register' button is only enabled after meeting the conditions for passwords.**



You can also do the initial registration using your mobile device. Additional information is available in section 'Mobile'.

Incorrect login

You are notified if you enter an incorrect login or password. The login is locked on the Web Server for five minutes (300 s) after a maximum of six attempts.

Contact the administrator if the user or maintainer forgets the access data. The administrator can delete the current account and set up a new one.

NOTICE

You can reset the user account on the local display if you forgot the administrator password for web server access.

Additional information on resetting the user account is available in 'Web server operation on the device [→ 56]', 'Reset user account'.

Login

▷ You are already registered. **NOTICE! Web server goes to the Login page after successful registration.**

1. Log in with the new assigned user name and password.

2. Click 'Login'.

⇒ The browser goes to the web server main page.

The 'Mobile' option reads the WTV676 on site using your mobile phone or tablet over WLAN.

Option 'Mobile'

◆ Make sure the WLAN connection on WTV676 is active on the gateway.

Additional information on enabling WLAN and displaying the IP address is available in section 'WLAN connection'.

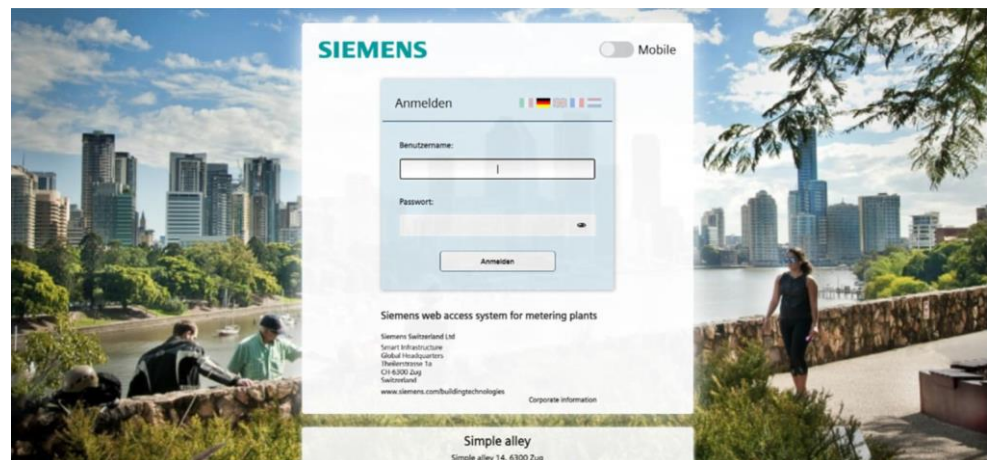
1. Open your mobile device in the browser to connect to WTV676.

2. Enter the IP address in the browser for the WTV676 (e.g. https://192.168.0.10).

⇒ Your mobile device connects to the WTV676 via WLAN.

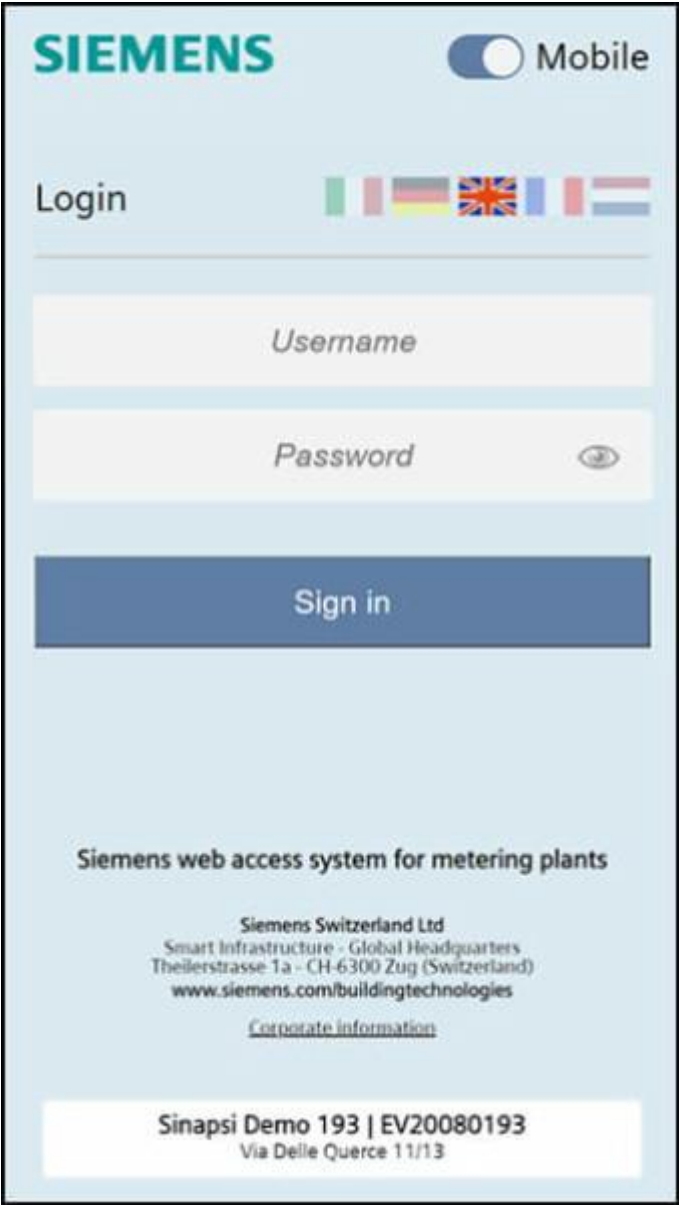
⇒ The login page for WTV676 displays in the browser.

3. Enable the 'Mobile' option to optimize the display on your mobile device.



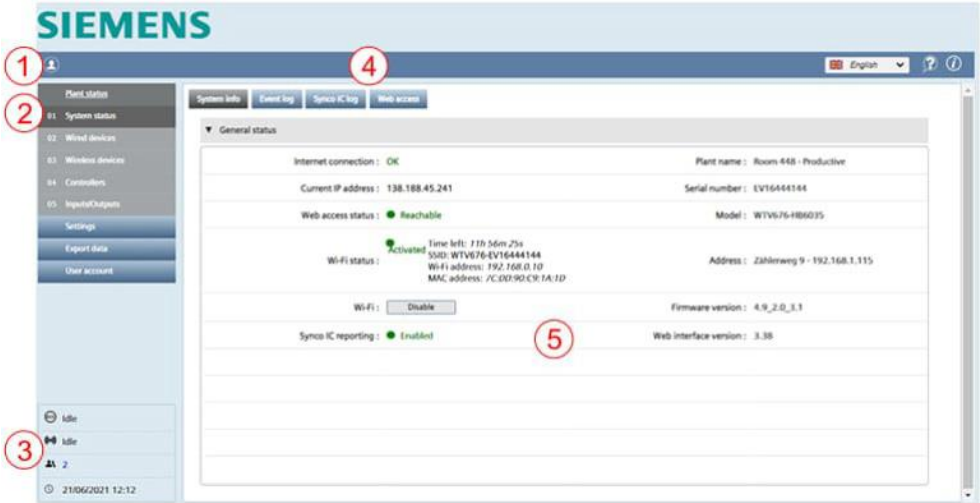
If you use the standard login page, the display of the login page is automatically optimized. Login with your username and password to go to the overview (optimized to your mobile device).

Additional information on reading out data via WLAN on your mobile device is available in section 'Readout mobile data',



14.2 Home

The software interface is structured as follows.



- ① The following information is displayed on the title line:
 - Name of the logged in user
 - Language selection
 - Information on "Open source software" packages and licenses.
- ② Primary navigation using the main menus:
 - Plant status
 - Settings
 - Export data
 - User account
- ③ Status information:
 - M-bus status
 - Status M-bus radio
 - Number of logged on users
 - Date and time.
- ④ Secondary navigation using sub-menus
- ⑤ Information on menu and sub-menu page

14.2.1 Select the web server language (software interface)

You can set the operating language for the software interface in the title line to the right.

The following languages are available:

- English
- German
- French
- Spanish
- Italian
- Dutch

NOTICE



The login always uses the default language as selected and is displayed. The language setting in the login window applies exclusively to the current session.

The language setting on the web server software interface applies exclusively for the current session after login. All automatic reports use the default language. See 'Select default operating language (local display) [[→ 56](#)].

All manual reports created on the web server use the language for the current session.

The language as set on the web server is not used to change the display language.

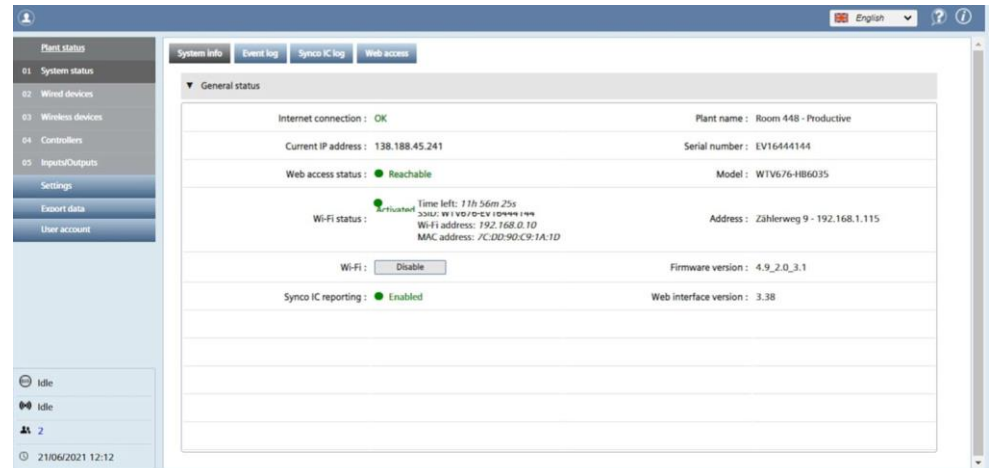
14.3 Plant status

The 'Plant status' main menu displays all important information on the web server, connected devices, and events occurring on the bus.

14.3.1 System status

'System status' displays system information, the event log, connection to the Synco IC-Cloud and web access.

System Information

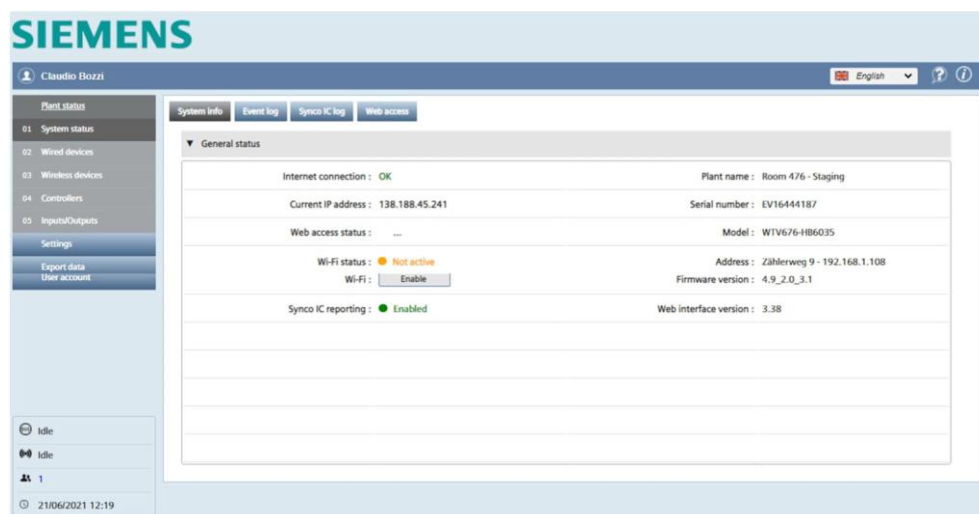


The following information is available under System status:

- Internet connection: Displays the current status of the Web Server Internet connection.
- Current IP address: Displays Web Server's last public IP address.
- Status web access: Indicates whether the web access service is active. See section 'Web access'.
- WLAN status: Displays the current state of the WLAN connection.
- WLAN: You can enable or disable the WLAN connection using the 'Enable' or 'Disable' button.
- Synco IC reporting: Display the current status of automatic transmission of Synco IC reports to the cloud. See 'Setup automatic reports [→ 114]'.
- Plant name: Name of the plant
- Web server serial number
- Model: Displays the Web Server type designation.
- Address: Plant location.
- System clock: Current web server date and time.
- Firmware version: Displays the firmware version installed on the web server.
- Web interface version: Displays the installed version of the web user interface.

WLAN status

- ◆ Click 'Enable' to enable the WLAN connection.



You can also enable the WLAN connection directly on web server. See section 'WLAN connection'.

Event log

The event protocol logs the following events:

- Alarms and warnings
- Change of state of inputs/outputs
- Send status of emails
- Send status of information via FTP

The following information can be read by event:

- Event status
- Start date/time
- End date/time
- Category
- Reference
- Description

The following event status can be displayed:



Device OK: Reported alarms or warnings are corrected.



Device fault: A device fault reported via M-bus.



Communications error: Communication with M-bus device not possible.



Email successfully sent.



The email could not be sent (over 3 days at 15 minute intervals, not successful).



The readout file was successfully transmitted to a FTP server.



The readout file was unable to be transmitted to a FTP server (over 3 days at 15 minute intervals, unsuccessful).



Change of state registered at an input.



Change of state registered at an output.

Simply set filters for each column to limit search results by specific events. The event log registers up to 1000 events. The oldest event is removed after 1000 events.

Individual lines of the event log or the entire list can be deleted.

Proceed as follows to delete a single line:

1. Select the event check box to be deleted.
NOTICE! The 'Delete event' is enabled if at least one line is selected.
2. Click 'Delete event' at the upper end of the list.

Proceed as follows to delete the entire list:

1. Select the check box on the title line and
 2. Click 'Delete event'.
- ⇒ to irretrievably delete the entire event log.



Select 'Display only active events' to list only currently pending alarms and input/output status.

Type	Start date	End date	Category	Reference	Description	Select		
⚠	2017-06-12	17:01:09	-	-	Meter	NA DEV_07411220	meter_alarm_mapipower_low	☐
⚠	2017-06-12	17:01:09	-	-	Meter	NA DEV_07411220	Permanent error	☐
⚠	2017-06-12	17:01:04	-	-	Meter	NA DEV_11111025	Permanent error	☐
⚠	2017-06-12	17:01:00	-	-	Meter	NA DEV_10300628	Permanent error	☐
⚠	2017-06-12	17:00:56	-	-	Meter	NA DEV_10300618	Permanent error	☐
⚠	2017-06-12	17:00:52	-	-	Meter	NA DEV_10000959	Permanent error	☐
⚠	2017-06-12	17:00:48	-	-	Meter	NA DEV_10000278	Permanent error	☐
⚠	2017-06-12	17:00:30	-	-	Meter	NA DEV_05205150	Permanent error	☐
⚠	2017-06-12	17:00:26	-	-	Meter	NA DEV_05205136	meter_alarm_mapipower_low	☐

Click a line displays the event details, e.g. the sent email including appendix and the last readout data just prior to the fault.

Connection Synco IC

ID	Date/Time	Type of service	Web server request	Synco IC response	Response status	File type	File name	File ID
175010	2021-06-22 14:40:07	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175030	2021-06-22 14:30:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175049	2021-06-22 14:20:05	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175048	2021-06-22 14:10:05	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175047	2021-06-22 14:00:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175046	2021-06-22 13:50:05	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175045	2021-06-22 13:40:05	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175044	2021-06-22 13:30:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175043	2021-06-22 13:20:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175042	2021-06-22 13:10:04	Keep Alive	GET /logpage.cbl...	["StatusCode":429,"m...	429	-	-	-
175041	2021-06-22 13:00:08	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175040	2021-06-22 12:50:08	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175039	2021-06-22 12:40:08	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175038	2021-06-22 12:30:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175037	2021-06-22 12:20:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175036	2021-06-22 12:10:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175035	2021-06-22 12:00:08	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175034	2021-06-22 11:50:05	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175033	2021-06-22 11:40:05	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175032	2021-06-22 11:30:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175031	2021-06-22 11:20:05	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175030	2021-06-22 11:10:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175029	2021-06-22 11:00:07	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175028	2021-06-22 10:50:05	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175027	2021-06-22 10:40:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175026	2021-06-22 10:30:06	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-
175025	2021-06-22 10:20:07	Keep Alive	GET /logpage.cbl...	null...	OK	-	-	-

The web server has a log cloud Synco IC. The log records transactions between the web server and the cloud. For example, a timestamp displays when and which files (e.g. billing files) were uploaded to the cloud.

Web access



The web access connects to the web server from anywhere. The web access is enabled by default and can be disabled with the 'Disable' button.



If deactivated, the web access can only be activated locally.

The web server link opens the web server login page using the link at 'Web server Internet address'. You must login with user name and password to proceed to the web server home page.

14.3.2 Wired devices

The 'Wire devices' overview lists all M-bus devices on the network in compact form.



If wireless devices are read out via network nodes WTX16.. / WTT16.. / WTT561.. / WTT662.., the meters are listed in 'Wired devices'. In a Mesh network, up to 5 WT.. networks can be read in parallel by a web server WTV676. 3rd party devices can also be connected to the web server WTV676.

The following information can be read out per line (per M-bus device):

- Medium
- Serial number (secondary address)
- Availability of device image
- Device name
- Description
- Main value (=> Can be selected, see 'Wired devices').
- Last readout timestamp
- Device state

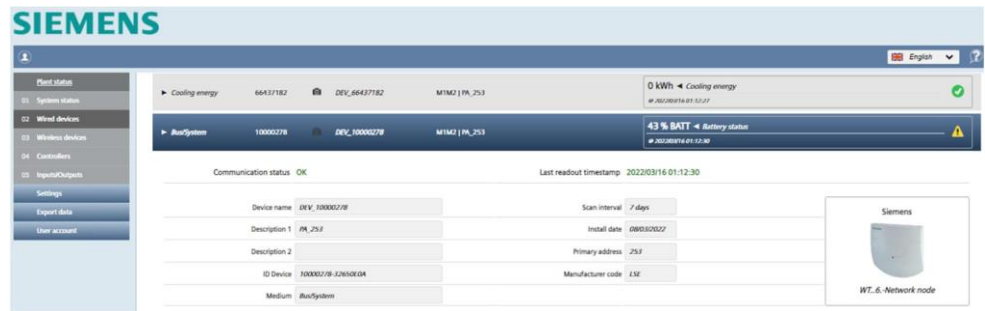
The following device status can be displayed:

-  Device ok
-  Device fault
-  Communication error

◆ Click a line to list additional information on the device.



Battery level is displayed for network nodes.



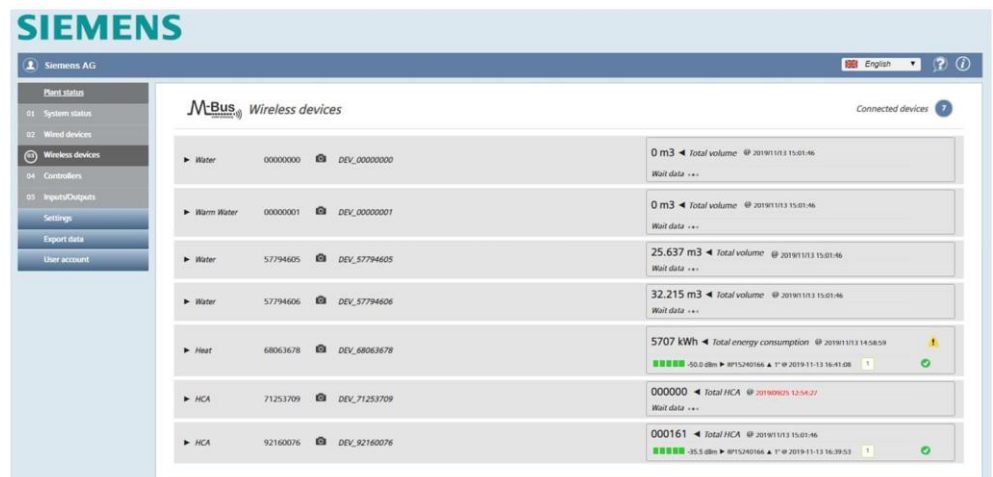
The information cannot be changes are grouped into three categories:

- Device information: General device data (name, description, ID, medium, etc.)
- Last readout timestamp: Displays the values of the last 6 readouts.
- Alarm status: Displays the faults pending on the device and which ones are registered and sent via email.

The data points for display in detail, can be predefined in the menu 'Settings' / 'Wired devices' / 'Device settings'.

14.3.3 Wired devices

The 'Wire devices' overview lists all M-bus devices on the network in compact form.



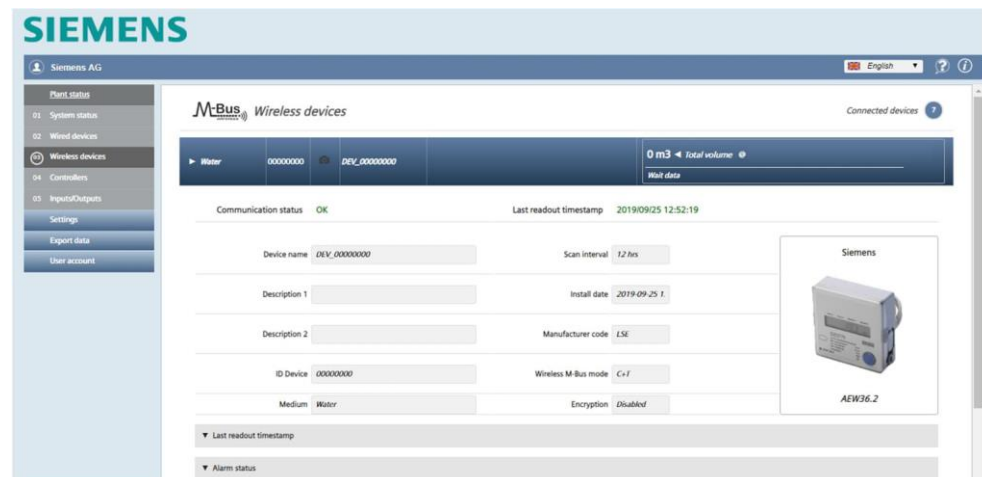
The following information can be read out per line (per M-bus wireless devices):

- Medium
- Serial number
- Availability of device image
- Device name
- Description
- Main value (=> Can be selected, see 'Wired devices [→ 107]')
- Last readout timestamp
- Device state

The following device status can be displayed:

-  Device ok
-  Device fault
-  Communication error

◆ Click a line to list additional information on the device.



The information cannot be changes are grouped into three categories:

- Device information: General device information (Name, description, ID, medium, query interval, installation date, manufacturer code, RF mode, encryption, etc.)
- Last readout timestamp: Displays the values of the last 6 readouts.
- Alarm status: Displays the faults pending on the device and which ones are registered and sent via email.



Query intervals are required to generate reports. A query interval can be individually defined for each device. The interval determines the intervals at which the device read outs are saved. Additional information on query intervals is available in 'Creating reports [→ 123]'.

The data points for display in detail, can be predefined in the menu 'Settings' / 'Wired devices' / 'Device settings'.

14.3.4 Controller

The 'Controller' overview lists all RVD controllers (compact) connected to the network.

The following information can be read out per line (per RVD controller):

- Availability of device image
- Device type
- Serial number
- Device name
- M-Bus line
- Device description
- Available plant type
- Plant type
- Main value (temperature)

- Date/time of last device readout
- Device state

The following device status can be displayed:



Device ok



Device fault



Communication error

◆ Click a line to list additional information on the device.

This information cannot be edited and compiled into the following categories:

- Communication state: Indicates whether the device can be reached on the network
- Time stamp for last readout: Displays the data and time of the last readout
- Alarm state: Lists the current alarm messages with date and time
- Plant diagram: Displays the plant-specific diagram and the associated data points.

Additional information is available in section 'Data point settings'. Additional information on plant types is available in document G2383. See 'Reference documentation [→ 8]'.



Displays the last read data from a controller. The date and time of the last readout are visible in the timestamp for the last readout. Controllers RVD230, RVD235, RVD240, RVD245, RVD250, RVD255, RVD260 and RVD265 can be read out.

Read out controller data now

- ◆ Click 'Read out now'.
 - ⇒ All data points and alarms for the corresponding devices are read out immediately, regardless of the readout interval.



Only reads out individual controllers. The other devices are not read out. All connected devices are listed in the report with the last read data.

List all data points

- ◆ Click the xls icon
 - ⇒ Lists all data points for the corresponding controller and plant type. The most recent values are read out.

Serial number	Device name	Description	Device type	Plant type	M-Bus line	
00050240	RVD_00050240	RVD_PA_000	RVD230	1-0	M1M2	
Setpoint						
Number	Line number	Data point	Value	Units	Last readout timestamp	
1	[164]	Outside temp composite	0	°C	07 Nov 2019 00:00:42	
2	[1]	Room temperature setpoint 1	20	°C	07 Nov 2019 00:00:42	
5		Flow temp setpoint resulting HC1	50	°C	07 Nov 2019 00:00:42	
7		Return temp max limitation secondary	---	°C	07 Nov 2019 00:00:42	
18		Actual setpoint temp differential HC1	---	°C	07 Nov 2019 00:00:42	
Plant I/O						
Number	Line number	Data point	Value	Units	Last readout timestamp	
1	[25]	Outside temp	---	°C	07 Nov 2019 00:00:46	
3		Primary return temp actual value	---	°C	07 Nov 2019 00:00:46	
4		Flow temp actual value heat circuit 1	---	°C	07 Nov 2019 00:00:46	
5		Return temp actual value HC1	---	°C	07 Nov 2019 00:00:46	
6		Room temperature actual value 1	---	°C	07 Nov 2019 00:00:46	
16		Analog input U1	---	V	07 Nov 2019 00:00:46	
19		SecPressSens	/	bar	07 Nov 2019 00:00:46	
20		Primary pressure sensor	/	bar	07 Nov 2019 00:00:46	
22		Stroke model HC1	/	%	07 Nov 2019 00:00:46	
27		Heat circuit pump speed HC1	/	%	07 Nov 2019 00:00:46	

'Configuration' pane

In the 'Configuration' pane, various setting parameters for RVD controllers can be displayed, edited, backed up and restored. The data from the last readout of the controller is displayed (see last readout timestamp).

- ◆ Click 'Read out now'.
 - ⇒ Manually start data read out.

The 'Configuration' pane is divided into:

- Backup and restore controller settings
- Plant-specific setting parameters (e.g. for heating circuits or DHW, etc.).
- Schedulers for operation (e.g. heating circuit or DHW, etc.).



The 'Program switch' indicates whether the scheduler is active.

Back and restore controller settings

You can back up the current controller settings in this pane and eventually write them to the controller (restore). Values from other controllers can be taken over.



The function 'Backup and restore' is only visible if you are logged on as administrator or Maintainer.



Create backup file

You can back up the current controller settings in the menus 'Plant status' > 'Controller' > 'Configuration' and 'RVD configuration and settings'.

◆ To back up the current controller settings, click 'Create'.

The file name suggested by the system is composed by default of the following:

- Date and time
- Device type
- Device name
- Number of the plant diagram

1. To edit the suggested file name, click the pencil icon.

⇒ The file name that you enter is automatically supplemented with the current date and time.

2. To export the backup file and save it to desktop, click 'Export'.



You can only create backup files from the last read controller settings. No backup is possible if certain controller settings are highlighted in blue or red. You must write the settings to the controller before you can create a backup file.



Click 'Back' to reset the entered file name. The file name as suggested by the system displays. To fully delete a backup file from the WTV676, click 'X'.

Restore backup file

You can select the backup file and upload it if you want to return to prior controller settings.

Access the backup file as follows:

- On the WTV676:
 - ◆ Select the backup file from the list.
- On the desktop:
 1. Click 'Import'.
 2. Select the backup file. **NOTICE! The letters 'IMP' are added as a prefix to a backup file that is uploaded from the desktop (IMP = Imported).**
 - ◆ Select the appropriate check box to determine the settings.

The following options are available:

- Check box 'RVD configuration': Overwrites the settings taken over in menu 'Plant status' > 'Controller' > 'Configuration'
- Check box 'RVD settings': Overwrites the settings taken over in menu 'Settings' > 'Wired devices' > 'Controller settings'

Only the following parameters in menu 'Settings' > 'Wired devices' > 'Controller settings' are overwritten:

- User-defined parameters
 - Main value
 - Trend file – Received data points
1. To overwrite the controller settings, click 'Restore'.
 - ⇒ The corresponding settings are highlighted in blue and can be edited as needed.
 2. Click 'Write'.
 - ⇒ All settings are taken over.



You can write controller settings saved to a backup file to another RVD controller. The controller settings saved in the backup file, the other RVD controller must, however, have the same device type, device name, and corresponding plant diagram as the original. An error message displays if a value does not match, no settings are overwritten in this case.

Plant-specific setting parameters

The following data points can be written via M-bus, depending on

- connected RVD controller type
- the corresponding plant diagram

Designation	RVD23x	RVD24x	RVD25x	RVD26x
DHW temperature nominal value	X	X	X	X
DHW temperature reduced setpoint	X	X	X	X
Temperature difference solar on	X	X	X	X
Temperature difference Solar off	X	X	X	X
Date of the first day of the heating period	X	X	X	X

Designation	RVD23x	RVD24x	RVD25x	RVD26x
Date of the last day of the heating period	X	X	X	X
Heating limit ECO heating circuit 1	X	X	X	X
Room temperature reduced setpoint heating circuit 1	X	X	X	X
Heating curve parallel shift Heating circuit 1.	X	X	X	X
Heating limit ECO Heating circuit 2.	-	X	-	X
Room temperature reduced setpoint Heating circuit 2.	-	X	-	X
Room temperature setpoint holiday mode/frost protection Heating circuit 2.	-	X	-	X
Heating curve parallel shift Heating circuit 2.	-	X	-	X
Legionella function, frequency	X	X	X	X
Time	X	X	X	X
Scheduler, heating circuit 1 Monday	X	X	X	X
Scheduler Heating circuit 1 Tuesday	X	X	X	X
Scheduler Heating circuit 1 Wednesday	X	X	X	X
Scheduler Heating circuit 1 Thursday	X	X	X	X
Scheduler Heating circuit 1 Friday	X	X	X	X
Scheduler Heating circuit 1 Saturday	X	X	X	X
Scheduler Heating circuit 1 Sunday	X	X	X	X
Scheduler HC2 Monday	-	X	-	X
Scheduler HC2 Tuesday	-	X	-	X
Scheduler HC2 Wednesday	-	X	-	X
Scheduler HC2 Thursday	-	X	-	X
Scheduler HC2 Friday	-	X	-	X
Scheduler HC2 Saturday	-	X	-	X
Scheduler HC2 Sunday	-	X	-	X
Scheduler DHW Monday	X	X	X	X

Designation	RVD23x	RVD24x	RVD25x	RVD26x
Scheduler DHW Tuesday	X	X	X	X
Scheduler BW Wednesday	X	X	X	X
Scheduler, DHW Thursday	X	X	X	X
Scheduler DHW Friday	X	X	X	X
Scheduler DHW Saturday	X	X	X	X
Scheduler DHW Sunday	X	X	X	X

The parameters can be edited with a slider or manually. All edited parameters are highlighted in blue.

◆ Click 'Write' to write the edited, blue highlighted parameters to the controller.

Create a backup file after setting the parameters to restore the setting parameters at any time.

Additional information on creating a backup file is available in section 'Create backup file'.



Parameters outside the range are highlighted in red. No data is written to the controller in the event of erroneous values.

Scheduler

The scheduler defines when a part of the plant, e.g. a heating circuit or DHW plant, is operated.

For example, you can program a time switch for individual days of the week (Monday through Sunday) in the pane 'Scheduler for heating circuit 1'.

- ◆ Enter the start time and end time of operation. Multiple entries per day are possible. **NOTICE! You can individually program the time switch for each day. You can create schedules for each day of the week.**
- ◆ Click 'Write'.
 - ⇒ The entered parameters are saved and written to the controller.



To apply the scheduler for Monday to other days of the week, click the icon and select the option 'Monday to Sunday' or 'Monday to Friday'.

Proceed as follows to copy, for example, the scheduler for heating circuit 1 to heating circuit 2 and write it to the controller:

1. Click 'Copy' in the pane 'Scheduler for heating circuit 1'.
 2. Select 'Apply this to scheduler to:'.
 3. Click 'Copy'.
 - ⇒ The scheduler settings are copied to the heating circuit.
- ◆ Click 'Write'.
 - ⇒ The scheduler settings are written to the controller.



Create a backup of the parameters to restore the setting parameters at any time.

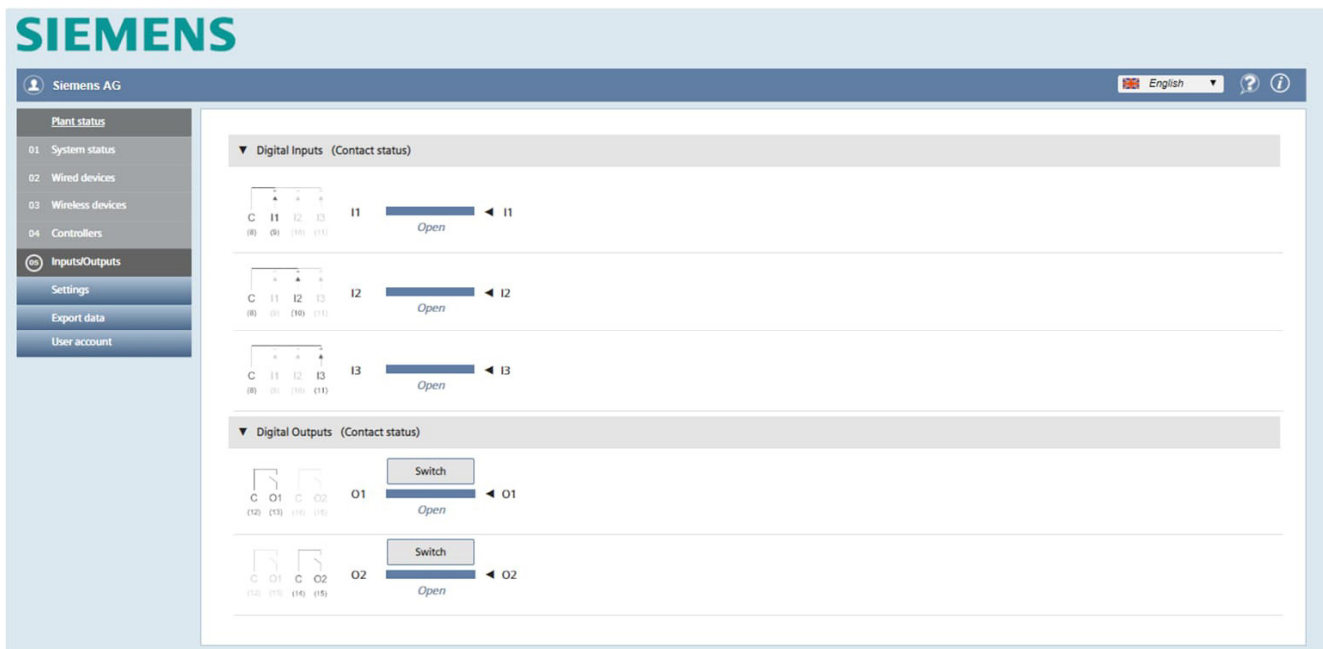
14.3.5 Inputs/outputs

Displays the current status (open/closed) of inputs/outputs on the WTV776.

The following information can be read by input/output:

- Figure of connection terminals on the WTV776
- Short description: I = Input, O = Output
- Status: Open/closed
- Designation

◆ Click 'Switch' to manually switch the digital outputs.



You must be logged in as an administrator to switch digital outputs.

14.4 Settings

14.4.1 System

Plant data

The following plant data can be assigned to the WTV676:

- Plant name
- Plant address
- Installer name
- Customer name
- Install date (the current date by default)



Save the edited data to confirm.

The plant name and address is displayed on the home page in the lower section to easily ID the WTV676, even before logging in.



Alarms

As soon as the WTV676 detects an alarm, it sends an alarm notification to the designated email address(es):

Emails are only sent if 'Enable alarm notifications via email' is selected.

The alarm notification can be simultaneously sent to multiple recipients. Separate multiple email addresses with a semi-colon (;).

The email subject line can be individually set to simplify classification in the event of multiple plants.

Synco IC can simultaneously transmit alarm messages from multiple WTV676 to multiple recipients.

Alarm messages in the cloud can be sent either with or without attachments.



The settings for the alarms in menu "Settings > System have no influence on the Synco IC alarm notifications.

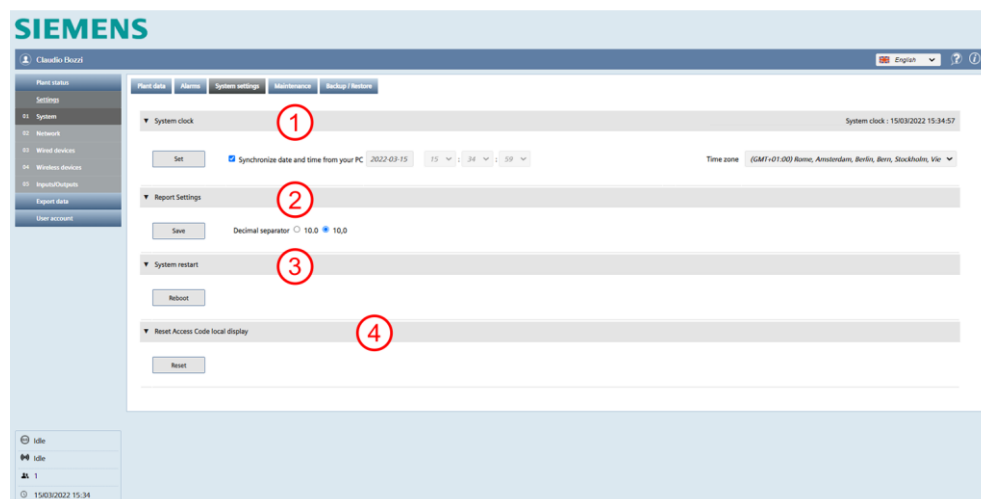


You can define the email structure in the Synco IC portal and save as a template. You can use templates for multiple plants and customize the configuration.

Additional information on setting up alarm notifications is available in the Synco IC user guide, document A6V10500249. See 'Reference documentation [→ 8]'.
'Save' to confirm the entries.

System settings

System settings has four areas:



- ① System clock: Automatically sync the system clock to the PC or enter it manually. Select the time zone.
- ② Report settings: Selects whether to use a period or a comma as the decimal separator.
- ③ System restart: Remotely restarts the system with System restart.
- ④ You can reset the access code for local access on web server. For security reasons, immediately change the password locally on the web server after a reset.

NOTICE

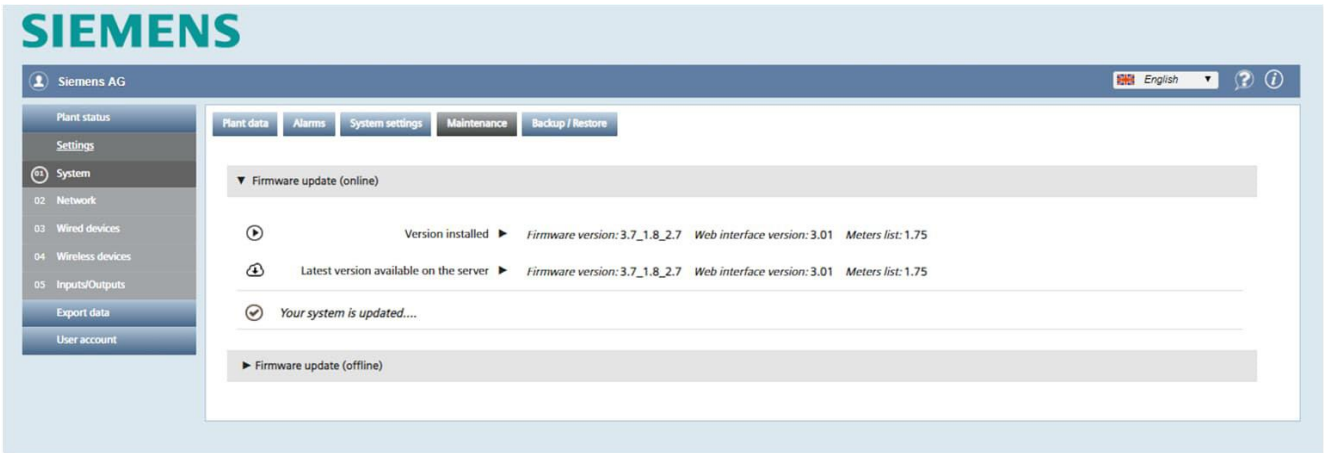
The local access code cannot be entered remotely. You must visit the plant.

Maintenance

The page is used to update the WTV676 firmware. The firmware can be updated online or offline. The appropriate firmware can be installed directly from the Internet on the WTV676 (online) or via PC (offline).

Update firmware (online)

- ◆ Click 'Service'.
 - ⇒ Check if newer firmware is available online. **NOTICE!** The system notifies you that it is up to date, if it does not find a newer version.



You are also notified if a newer version of the software is found.

Load firmware

- ◆ To load the available firmware on the WTV676, click 'Download'.
 - ⇒ The firmware is loaded to the WTV676.
 - ⇒ The 'Update' button displays.

Install firmware

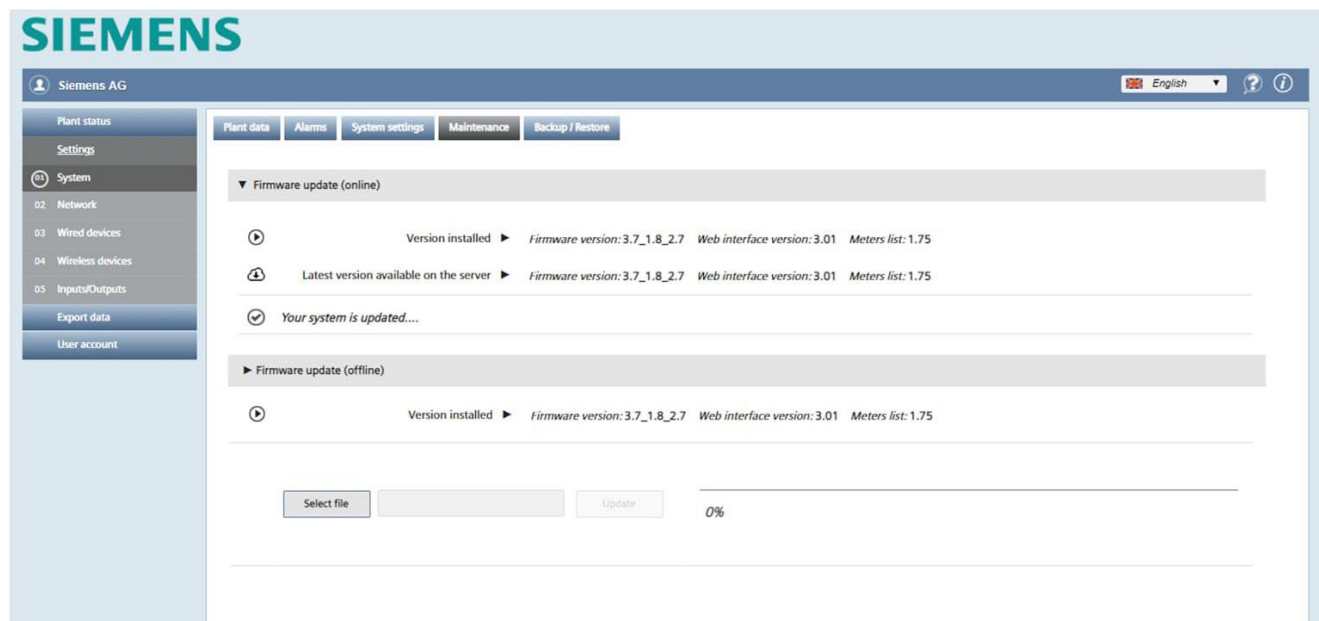
1. Click 'Update'.
 - NOTICE!** The update may take a few minutes. You can close and reopen the web browser if the update takes more than 15 minutes.
 - ⇒ The WTV676 restarts after updating.
 - NOTICE!** The progress of the installation as well as the new start is displayed.
 - ⇒ After restart, the WTV676 login page displays.
2. Log in again on the WTV676.
3. Check the update under 'Settings' > 'System' > 'Maintenance', to ensure the installed version on the server matches the available version.

See section 'Update firmware online'.

NOTICE	
	Firmware as of version is available online as of SIE.WTV676_WI-2.29_FW-3.0-17-2.6.

Update firmware (offline)

You can also update the firmware offline if you do not have an Internet connection.



Proceed as follows to update the firmware:

1. Save the latest firmware on your PC.
2. Click 'Select file'.
3. Select firmware file 'xxx.bin' in your local folder.
⇒ The 'Update' button displays.

For additional information on firmware installation on the WTV676, see section 'Install firmware'.

NOTICE



All data is available again after a firmware update. We recommended backing up the WTV676 and saving the data on a PC before the updating.

Backup/Restore

All WTV676 data is backed up and restored on this page.

NOTICE



We recommend regularly backing up WTV676 data.

Data backup

The following information is displayed on each data backup:

- File name
- Size
- Last modified
- Backup file status

1. Select the download icon or file name to download a backup file to a PC.
2. Load the backup file to the same or another WTV676.

NOTICE	
	Always copy backup files to your PC. This is the only way to load the backup file from a defective WTV676 to a new WTV676.

NOTICE	
	The backup file is encrypted. The device data cannot be altered.

Data restore

Proceed as follows to transfer a backup file to a WTV676.

1. Click 'Select file'.
2. Select the file.
3. Install the file using 'Update'.
 - ⇒ The WTV676 restarts after updating.
NOTICE! The progress of the installation as well as the new start is displayed.

NOTICE	
	This workflow irretrievably removes all data and settings on the current WTV676. We recommend backing up current data prior to restoring.

14.4.2 Network

Network settings

The following information and settings are available.

- Web server MAC address.
- External port for web server: The setting is only used to add the external port number to the external IP address which is part of the email header. The external port number must be the same as the external port number used in the port forwarding settings of the router. See pg. 135.
- Enable DHCP for the DHCP server (router) to automatically assigned the IP address.
- Web server IP address if a fixed IP address is assigned.
- Network mask.

- Gateway IP address: IP address for the standard gateway (e.g. Router).
- Primary DNS: The primary DNS name server (Domain Name System) address
- Secondary DNS: Secondary DNS name server address

Click 'Save' to confirm.

NOTICE



Incorrect configuration

Ask your network administrator for the required data on network configuration.

Web server is not suitable for connecting directly to the Internet; it must be connected via a Firewall. This type of router typically has a firewall.

Web access

Web server WTV676.. and the router must be on the same network to use remote access. Check the IP address of the web server and the gateway (router) in menu 'Settings' > 'Network' > 'Network settings'.



Ask the network administrator when operating the web server on a customer's network.

- ◆ Check the status of the Internet connection in menu 'Plant status' > 'System status' > 'System information'. **NOTICE! The same menu also displays an active connection to Synco IC.**

Additional information on web access is available in section 'Connect Web Server to PC or LAN [→ 47]'.

DHCP service

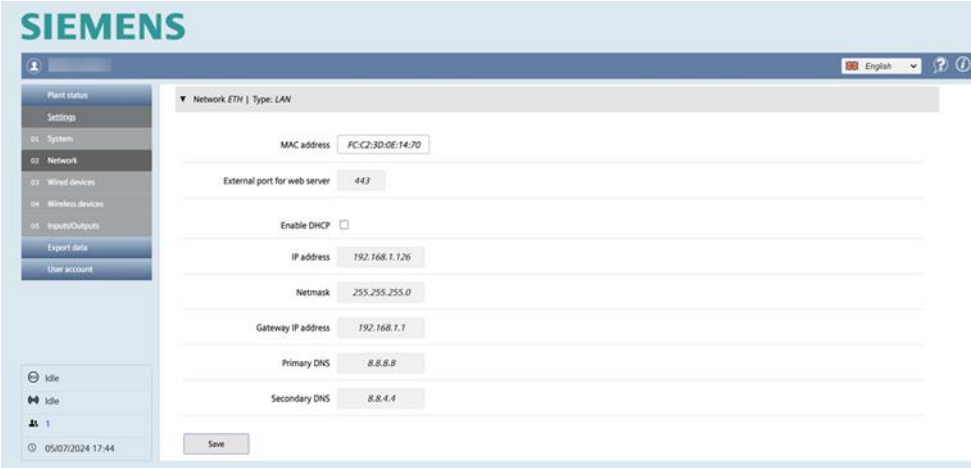
You can enable or disable the DHCP client for the WTV676.

WTV676 draws the following information automatically from the DHCP server (router) if the DHCP client is enabled.

- IP address
- Network mask
- Gateway IP address
- Primary DNS

The following information must be entered manually when the DHCP client is switched off:

- IP address
- Network mask
- Gateway IP address
- Primary DNS



1. Select or clear 'Enable DHCP'.
2. Select 'Save'.



WTV676 may restart after saving.

Additional information on the DHCP service is available in the "Settings' menu [→ 64]' menu.

Email configuration

The following data must be saved on web server to send emails:

Email server settings

The following email server settings are available:

- SMTP server name: The address for the SMTP server.
- SMTP port: The port number used by the SMTP server.
- SMTP security: Selection of either SSL or TLS security. The setting NO sends the emails without encryption; we recommend not using this setting for security reasons.
- SMTP authentication: Enter whether the SMPT server requires authentication.
- Sender name: Name of the sender that appears in the from email address in the email.
- Sender email address: The email address of the sender

NOTICE	
	Incorrect configuration Check with your email provider for the required email server settings. Click 'Save' to confirm.

Test connection to e-mail server.

You can test the server connection to the email server by sending yourself a report to an email address of your choice.

The result is displayed as soon as the message is sent:



The settings listed above are required for the web server to send alarms and reports directly by email. The settings above are not required if web server is integrated in Synco IC (you can query the reports via Synco IC).

Dynamic DNS

The web server can communicate directly with the fixed IP address or domain if a fixed IP address or domain (e.g. www.myname.com) is available for the Internet connection.

Dynamic DNS settings

DNS servers are available on the Internet for dynamic IP addresses that connect customized domain names with dynamic IP addresses of the web server.

Registration

You must first set up an account at the provider to use the DynDNS server.

Report dynamic address

The router must inform the service of changes to the dynamic IP address for the Web Server to communicate via the setup DynDNS service. The Dynamic DNS must be set on the Web Server as follows:

- Enable Dynamic DNS settings: Allows Web Server to use a dynamic DNS service
- Server DynDNS: The following two Dynamic DNS providers are available:
 - No-IP.com
 - DynDNS.com
- Domain name: Name provided to you by your dynamic DNS supplier.
- Username: Username for accessing the dynamic DNS server
- Password: Password for accessing the dynamic DNS server

NOTICE



Incorrect configuration

Ask your network administrator for the required data on network configuration.

Click 'Save' to confirm.



Dynamic DNS service must be set up if web server is not connected to Synco IC and web access is not needed. This ensures that the web server can always be found on the Internet.

Test connection to the DynDNS server.

Click 'Test server connection' to test the connection to the DynDNS server.

▼ Server connection test

Last server response ► nochg 85.4.236.248 @2018-05-25 04:55:03

Server connection test

Server No-IP.com response ► nochg 85.4.236.248

14.4.3 Wired devices

Device settings

In this pane, you have access to the device list and can change settings.



The list empty until a device search is performed. The devices that are found and saved are displayed on the list after a device search.

The display is structured as follows:

- ① Search field
- ② List of all devices found on M-bus
- ③ Data points settings
- ④ Meter alarm settings

Search field

Enter the serial number, device name, or device description to filter by wired M-bus devices. Press enter to display the search results. Delete the content of the search field to remove the filter and press enter.

Device list

The following information is in the device list:

- First column: Display the medium
- M-bus line: Displays the M-bus line of the connected device. Lines M1M2 and ABC are available.
- Serial number: Displays the device serial number.
- Device name: Displays the entered name.
- Description: Displays the text entered under Description 1
- (Camera icon): Indicates that a product image is available for the device.
- Manufacturer / model: Displays data on the manufacturer and model to improve device detection.
- Scan interval: Displays the time intervals for saving device readouts.
- OMS: Displays whether the device has OMS data points. See section 'OMS-Code, OBIS-Code'.
- Deleted: Click the trash can to delete the device from the list.

The list of wired devices can be exported as an .xls or .csv file, edited and then reimported. It is easier to edit the device information in xls or csv formats, especially when editing the fields for multiple devices.

1. Click the xls or csv icon to export the list.
2. Edit the fields. **NOTICE! You can edit fields in columns 'Device name (X)' and 'Description (X)'.**

Serial number	Device name (X)	Description (X)	Manufacturer code	Medium	M-Bus line
7805	PA_000	DEV_00007805	LSZ	Breaker	M1M2
28964	PA_000	DEV_00028964	LSZ	Breaker	M1M2
71725	PA_000	DEV_00071725	WZG	Warm Water	M1M2
65891387	PA_000	DEV_65891387	LSE	Heat	M1M2
66287579	PA_000	DEV_66287579	LUG	Heat	M1M2
67132999	PA_000	DEV_67132999	LUG	Heat	M1M2

1. Save the changes.
2. Select the following icon to import the list.



Device settings

The following settings can be freely edited:

- Device name: You can assign a name to the device (e.g. Apartment 123).
- Description 1: Device description as indicated in the device list.
- Description 2: Additional description
- Scan interval: 15 min / 30 min / 60 min, 2 h, 4h, 6 h, 12 h, 1 day, 7 days, 1 month

- Installation date
 - The device image can be set by selecting the pencil icon. You can select the appropriate image from the WTV676 device database.
1. Click the device line to view the settings for the device.
 2. Click 'Backup' to save the changed values.



Query intervals are required to generate reports. A query interval can be individually defined for each device. The interval determines the intervals at which the device read outs are saved. Additional information on query intervals is available in 'Creating reports [→ 123]'.

Settings that cannot be changed:

- ID Device: Displays the device serial number
- Read by: Displays whether the meter is read via the primary or secondary address.
- Medium: Displays the medium measured by device.
- Primary address: Displays the device's primary address (1...250)
- Baud rate: Displays the transmission rate between the device and web server.
- Manufacturer code: Displays the manufacturer's code (if included in the database) .
- Version (HEX): Displays the device version.

Integrated devices

The WTV676 supports a series of Siemens and third-party devices. Integrated devices display a product image, and the data is available in all reports.

Non-integrated devices

Non-integrated devices are devices

- from an unknown manufacturer that Siemens or WTV676 does not recognize or is not in the product range.
- Unrecognized device types
- Supported devices of unknown configuration

Non-integrated devices do not display a product image.

Automatic recognition

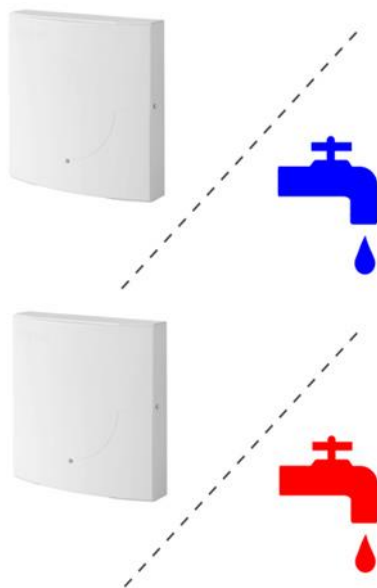
The configuration and data points, to include descriptions, of non-integrated devices can be easily recognized automatically. So that non-integrated third-party devices can also be connected to the WTV676 and easily recognized. This lessens the expense of manually configuring non-integrated devices. The recognized data points, to include descriptions, and the configuration are displayed on the WTV676 and can be read and processed. Details on the data points are available below in 'Data point settings'.

Read out meters via network nodes

If RF devices are read out via network node, the network node and the respective meter device are displayed in the image. Example:



The water meters are only distinguished into warm water and cold water meters.



If a pulse water meter is read out via a pulse adapter AEW36.., no corresponding pair image is displayed. Only the current volume, the cut-off date value as well as the date and time can be read from a pulse water meter.

Data points settings

SIEMENS

Plant status

Settings

01 System

02 Network

03 Wired devices

04 Wireless devices

05 Inputs/Outputs

Export data

User account

Device name: DEV_10300618 (**) Scan interval: 7 days

Description 1: PA_253 Install date: 08/03/07

Description 2: Primary address: 253

ID Device: 10300618-37650F1E Baudrate: 2400

Read by: Secondary address Manufacturer code: LSE

Medium: Bus/System Version (HEX): 1E

WT-6- Network node

▼ Data Points settings (**)

Main Value	Description	OMS M9-Tag	OMS-Codes	Standard Report - Data point mapping	Custom Report - Data point to be included	Trend report - Data point to be included (X)	...
☐	On time			none	☒	☐	...
☐	Device date time	DT11		device_date_time	☒	☐	...
☐	Model antenna			none	☒	☐	...
☐	Customer ID			none	☒	☐	...
☐	Error date			none	☒	☐	...
☐	Bus address			none	☒	☐	...
☒	Battery status			none	☒	☐	...

- **Main Value:** You can select the value for display on the Plant status/Wire devices overview (see pg. 75).
- **User description:** The data point designation can be edited. The description displays each time the data point is available (except for default report).
- **OMS MB tag:** Displays the OMS data points. The OMS protocol recognizes connected devices. See section 'OMS-Code, OBIS-Code'.
- **OBIS code:** Displays the data points with OBIS code. See section 'OMS-Code, OBIS-Code'.
- **Standard report – Data point mapping:** Assigns data points to predefined columns on the standard report. Only one data point can be assigned to a specific column for each device. Data points with the "none" setting are not displayed in the standard report. The standard report permits the setting up of an individual summary report using a default format.
- **Custom Report – Data point to be included:** Select the data points to be included in the custom report.
- **Trend report – Data point to be included (x):** Select the data points for inclusion in the trend file. The (x) selects all check boxes for the entire column.
- **Click the "..."** column to display additional details (Multiplier, Storage, Subunit, Tariff, Type value and Units) on the selected data point. The details can be help you come up with a meaningful user description.

	Energy	Energy	none		
Multiplier	0.1				
Storage	0				
Subunit	0				
Tariff	0				
Type value	Instantaneous Value				
Units	kWh				

◆ Click 'Backup' to save the changed settings.

Automatic data assignment

The data points are automatically assigned for each new device and displayed in the default report.

The automatically assigned data points can be manually changed at any time.

Detailed information on the default reports is available in 'Creating reports', 'Default reports'.

The value also displays in the 'ACT HOME' mobile app, if one of the following values is selected in the column 'Default report – Data mapping':

- heat_energy
- cool_energy
- HCA
- heat_water_volume
- cool_water_volume
- water_volume

Detailed information on the 'ACT HOME' mobile app is available in 'ACT HOME mobile app'.

OMS-Code, OBIS-Code

OMS and OBIS code simplify standardization of non-recognized meter data points, to include descriptions. More data points are recognized from devices using OMS and OBIS code. The description is quite precise on data points using OBIS code and is only taken over from non-integrated devices. The descriptions are only taken over on non-integrated devices. Descriptions of integrated devices are not overwritten.

The description is taken over where OBIS code is available. These descriptions are quite precise. The OMS description is used where OMS code is available, but there is no OBIS code. These descriptions are quite precise. Where neither OMS nor OBIS code are available, the description is taken over from M-bus standard. These descriptions are more of a generic nature.



You can still manually overwrite the data points and descriptions of the recognized and non-recognized meters.

Data points and descriptions are forwarded to the customer using OMS MB Tag and OBIS code standard. OMS, OBIS, and KNX IoT data points and descriptions are available on the Internet.



Not all M-bus data points are OMS data points, and not all OMS data points have an OBIS code.

Meter alarm settings

Each device has a series of error messages available to it over M-bus.

The following information and settings are available.

- LOG: Displays whether the error message was registered in the event log.
- Email: Displays whether an email was sent due to the error message.
- Event name: The event name is predefined. It can, however, be changed as needed.
- Event type: Displays the event type received from the device.
- Status: Displays whether the alarm is active or not active.

- ◆ Click "...".
 - ⇒ A new window opens with the following settings:
- Actions:
 - Add to log: Select whether this alarm is added to the event log.
 - Send email: Selected whether notification is sent by email when this alarm occurs.
- Input conditions: You can select the bit from the M-bus status byte for the device that represents the corresponding alarm notification.
- ◆ Click 'Backup' to apply the alarm settings. **NOTICE! You must confirm to apply the settings.**



Settings identified by (**) can transfer the settings to all devices of one type by selecting the check box if multiple devices of the same type are installed on the plant.

Controller settings

In this pane, you have access to the meter list and can change settings.



The list empty until a device search is performed. The devices that are found and saved are displayed on the list after a device search.

The screenshot shows the Siemens web interface for device settings. The interface is divided into several sections:

- Left Sidebar:** Contains navigation options like 'Plant status', 'Settings', '01 System', '02 Network', '04 Wired devices', '05 Wireless devices', 'Inputs/Outputs', 'Export data', and 'User account'.
- Top Header:** Displays the Siemens logo, user name 'Claudio Bozzi', and language 'English'.
- Main Content Area:**
 - Search Field (1):** A search bar with the placeholder text 'What are you looking for?'.
 - Device List (2):** A table showing a list of controllers found on the M-bus. The table has columns for Device type, M-Bus line, Serial number, Device name, Description, and Plant type.
 - Device Details (3):** A form for editing device settings, including fields for Device name, Description 1, Description 2, ID Device, Primary address, Read by, Secondary address, Baudrate, Install date, Manufacturer code, Model, and Version (HEX).
 - Data Points Settings (4):** A section for configuring data points, including a 'Plant diagram' and a 'Plant type' dropdown.
- Bottom Status Bar:** Displays 'Idle', '1', and the date/time '06/11/2019 12:38'.

The display is structured as follows:

- ① Search field
- ② List of all controllers found on M-bus (Device list)
- ③ Settings that can be edited (Device details)
- ④ Data points settings

Search field

1. Enter the serial number, device name, or device description in the search field to filter by devices.
2. Press enter to display the search results.
3. Delete the content of the search field to remove the filter and press enter.

Device list

The following information is in the device list:

- First column: Displays the device type
- M-bus line: Displays the M-bus line of the connected device. Lines M1M2 and ABC are available.
- Serial number: Displays the device serial number
- Device name: Displays the entered name.
- Description: Displays the text entered under Description 1
- Plant type: Displays the plant type. The number of the plant diagram is displayed to the right of the symbol.
- Delete: Click the trash can to delete the device.

The list of controllers can be exported as an .xls or .csv file, edited and then reimported. It is easier to edit the device information in xls or csv formats, especially when editing the fields for multiple devices.

1. Click the xls or csv icon to export the list.
2. Edit the fields. **NOTICE! You can edit fields in columns 'Device name (X)' and 'Description (X)'.**

Serial number	Device name (X)	Description (X)	Device type	Plant type	M-Bus line
00007118	RVD_00007118	RVD_PA_002	RVD240	1-4	M1M2
00013873	RVD_00013873	RVD_PA_000	RVD240	1-0	M1M2
00050240	RVD_00050240	RVD_PA_000	RVD230	1-0	M1M2

1. Save the changes.
2. Select the following icon to import the list:



Device details

The following settings can be freely edited.

- Device name: You can assign a name to the device (e.g. Apartment 123).
- Description 1: Device description as indicated in the device list.
- Description 2: Additional description
- Scan interval: 60 min, 6 h, 12 h, 1 day, 7 days,
- Alarm read out interval: 60 min, 6 h, 12 h, 1 day, 7 days
- Installation date
- Trend read interval: 15 min / 60 min, 6 h, 12 h, 1 day, 7 days, 1 month

1. Click the device line to view the settings for the device.
2. Edit the settings.
3. Click 'Backup'.



Query intervals are required to generate reports. A query interval can be individually defined for each device. The interval determines the intervals at which the device read outs are saved. Additional information on query intervals is available in 'Creating reports [→ 123]'.

- ID Device: Displays the device serial number
- Read by: Displays whether the meter is read via the primary or secondary address.
- Medium: Displays the medium measured by device.
- Model: Displays the device type.
- Primary address: Displays the device's primary address (1...250)
- Baud rate: Displays the transmission rate between the device and web server.
- Manufacturer code: Displays the manufacturer's code (if included in the database) .
- Version (HEX): Displays the device version.
- Plant diagram: Displays the plant type.

Data points settings

The following application blocks are available:

1. Setpoint
2. Plant I/O
3. Device ID and error
4. General configuration
5. Device configuration
6. Heating circuits 1 and 2
7. DHW
8. Connection settings
9. Load management
10. Scheduler for heating circuit 1 only
11. Scheduler for heating circuit 2 only
12. Scheduler for DHW
13. Service

1. Click 'Open all'.

- ⇒ Expands all the application blocks.
- ⇒ Displays individual data points (drop-down list).

2. Select the check box of the data points to be included in the trend file.

NOTICE! You can set a data point as the main value for each application block. The main value is displayed in the overview 'Plant state' > 'Controller'.

3. Click 'Close all'.

- ⇒ Hides all the data points on all the application blocks.

4. Click 'Backup'.



Plant type determines which application blocks are enabled and which data points are shown.



If multiple devices of the same type (make and model) are installed on a plant, settings identified by (**) can be transmitted by selecting the check box on all devices of this type.



Create a backup after commissioning and setting the parameters. This backup can restore the configuration at any time. Additional information on creating a backup is available in section 'Create backup file'.

Searching devices

You can select the M-bus line to scan for the device search.

You can search for devices as follows:

- Individual devices on line M1M2.
- Individual devices on line ABC.
- Parallel on both lines.

You can also select whether to use the default settings or whether to search by specific criteria.

Total devices found: Displays the number of meter and number of controllers.

The entire bus is scanned for connected M-bus devices if 'Use default settings' is selected and you click 'Start scan'.



Start by scanning with 'Use default settings'. Only use the customized device search if the search by default settings fails to recognized one or more devices. This is can be the case if a data collision occur on the bus during the automatic search or if the device does not operate at the standard Baud rate (refer to the device documentation for the data).

The WTV676 searches for devices by the secondary address and a baud rate of 2400 bps.

Customized search M-bus-line M1M2 / M-bus line ABC

You can customize a search to search on both M-bus lines by the following criteria:

- Primary address
- Secondary address
- Baud rate

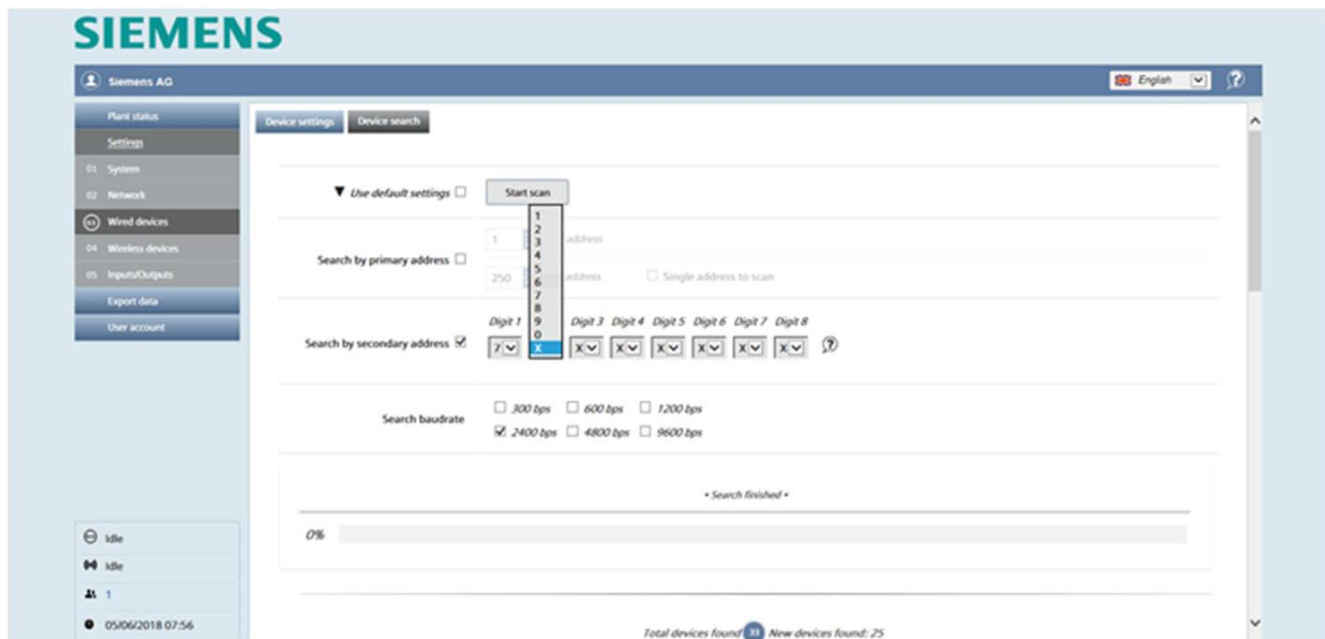
Search by primary address:

You can select are clear a search by primary address.

- First address: You can define the start address for the search.
- Last address: You can define the end address for the search.
- Single address to scan: You can scan by a specific primary address.

Search by secondary address:

You can select or clear a search by secondary address (serial number).



- ◆ To reduce search time, you can limit the search range for secondary addresses using the settings for Digit 1 through Digit 8.

Search baud rate:

You can enter the corresponding baud rate for the device search if devices deviate from the default baud rate (refer to the device documentation for the baud rate).

You can search for devices by a specific baud rate (300 / 600 / 1200 / 2400 / 4800 / 9600 bps). Multiple baud rates can be selected as well. The device search is longer, if multiple baud rates are selected at the same time.

- ◆ Click 'Start query' to start the search.
 - ⇒ Progress is indicated by the progress bar.

Search results

All found devices are listed at the conclusion of the device search.

1. Select the one or multiple devices.
2. Click 'Add'.
 - ⇒ Discovered devices are added to the device list.

NOTICE**Loss of data**

Devices that are not saved are rejected.

The following must be listed at a minimum for any found device:

- Serial number
- Primary address
- Medium
- Manufacturer code with optional device image
- Automatically generated device name

14.4.4 Wired devices

Device settings

In this panel, you have access to the list of wireless devices and can change settings.

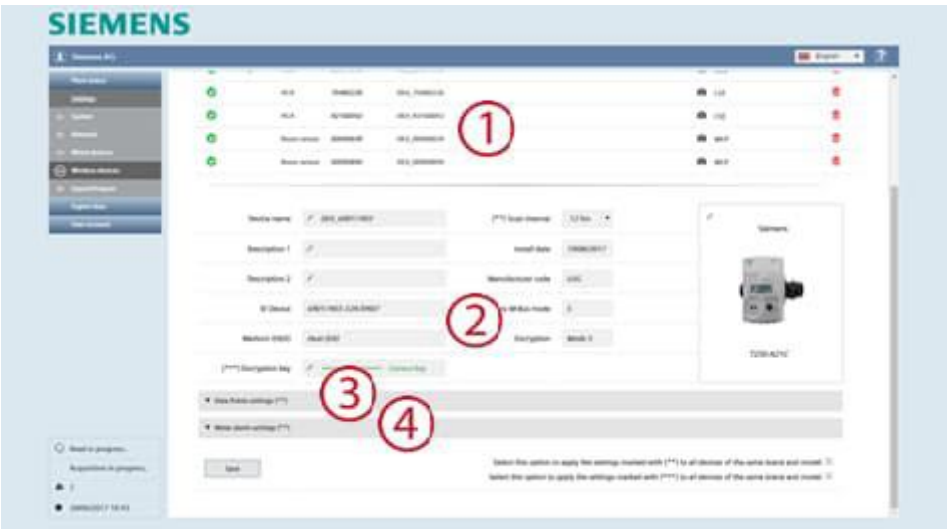


The list empty until a device search is performed. The devices that are found and saved are displayed on the list after a device search.



If wireless devices are read out via network nodes WTX16.. / WTT16.. / WTT561.. / WTT662..., the meters are listed in 'Wired devices'.

The display is structured as follows:



①

List of all wireless devices found on M-bus

②

Device settings

③

Data points settings

④

Meter alarm settings

Device list

▼ Log	▼ Encryption	▼ Medium	▼ Serial number	▼ Device name	▼ Description	▼ Manufacturer / Model	▼ Scan interval	▼ OMS	
✓		Heat	66400395	DEV_66400395	Z	Siemens WI.50..	1 day	OMS	
✓		Heat	66437181	DEV_66437181	Z	Siemens WI.50..	1 day	OMS	
✓		Water	35026219	DEV_35026219	Z	Siemens WI.2661	1 day	OMS	
✓		Cooling energy	66437182	DEV_66437182		LSE	12 hrs	OMS	
✓		Cooling energy	66400396	K		LSE	12 hrs	OMS	

- First column: Indicates whether the device was accepted or not.
- Encryption: Indicates whether the device is encrypted.
- Medium: Displays the medium.
- Serial number: Displays the device serial number.
- Device name: Displays the entered name.
- Description: Displays the text entered under Description 1
- (Camera icon): Indicates that a product image is available for the device.
- Manufacturer / model: Displays data on the manufacturer and model to improve device detection.

- Scan interval: Displays the time intervals for saving device readouts.
- OMS: Displays whether the device has OMS data points. See section 'OMSCode, OBIS-Code'.
- Delete: Click the trash can to delete the device.

The list of wireless devices can be exported as an .xls or .csv file. Click the corresponding symbol: It is easier to edit the device information in xls or csv formats, especially when editing the fields for multiple devices.

- ◆ Click the corresponding icon to export the list.

You can edit fields in columns 'Device name (X)' and 'Description (X)'.

Serial number	Device name (X)	Description (X)	Manufacturer code	Medium	AES Key	Current status
65707854		DEV_65707854 LSE		Heat	NO	OK
57794606		DEV_57794606 LSE		Water	NO	OK
57794605		DEV_57794605 LSE		Water	NO	OK
90546092		DEV_90546092 LSE		HCA	NO	OK
90546089		DEV_90546089 LSE		HCA	NO	OK
65707855		DEV_65707855 LSE		Cooling energy	NO	OK

1. Save the changes.
2. Select the following Icon to import the list.



Device settings

The following settings can be freely edited:

- Device name: You can assign a name to the device (e.g. Apartment 123).
- Description 1: Device description as indicated in the device list.
- Description 2: Additional description
- Scan interval: 15 min. / 60 min., 6 h, 12 h, 1 day, 7 days, 1 month
- Installation date
- The device image can be set by selecting the pencil icon. You can select the appropriate image from the Web Server device database.

1. Click the device line to view the settings for the device.
2. Click 'Backup'.



Query intervals are required to generate reports. A query interval can be individually defined for each device. The interval determines the intervals at which the device read outs are saved. Additional information on query intervals is available in section 'Creating reports'.

The following settings cannot be edited:

- ID Device: Displays the device serial number
- Medium (HEX): Displays the medium measured by the meter.
- Manufacturer code: Displays the manufacturer's code (if included in the database) .
- Radio mode: Indicates the device's radio mode.
- Encryption: Indicates whether encryption is enabled or disabled.
- Encryption key: AES-128 key for encrypting messages.

Details on integrated and non-integrated devices are available in sections 'Integrated devices' and 'Non-integrated devices'.

Data points settings

- **Main Value:** You can select the value for display on the Plant status/Wireless overview (see page 76).
- **User description:** The data point designation can be edited.
- **OMS MB tag:** Displays the OMS data points. The OMS protocol recognizes connected devices. See section 'OMS-Code, OBIS-Code'.
- **OBIS code:** Displays the data points with OBIS code. See section 'OMSCode, OBIS-Code'.
- **Standard report – Data point mapping:** Assigns data points to predefined columns on the standard report. Only one data point can be assigned to a specific column for each device. Data points with the "none" setting are not displayed in the standard report. The standard report permits the setting up of an individual summary report using a default format.
- **Custom Report – Data point to be included:** Select the data points to be included in the custom report.
- **Trend report – Data point to be included (x):** Select the data points for inclusion in the trend file. The (x) selects all check boxes for the entire column.
- **Click the "..."** column to display additional details (Storage, Subunit, Tariff, Type value) on the selected data point. The details can help you come up with a meaningful user description.

◆ Click 'Backup'.

Automatic data assignment

The data points are automatically assigned for each new device and displayed in the default report.

The automatically assigned data points can be manually changed at any time.

Detailed information on the default reports is available in 'Creating reports', 'Default reports'.

The value also displays in the 'ACT HOME' mobile app, if one of the following values is selected in the column 'Default report – Data mapping':

- heat_energy
- cool_energy
- HCA
- heat_water_volume
- cool_water_volume
- water_volume

Detailed information on the 'ACT HOME' mobile app is available in 'ACT HOME mobile app'.

Meter alarm settings

Each device has a series of error messages available to it over M-bus.

The following information and settings are available.

- **LOG:** Displays whether the error message was registered in the event log.
- **Email:** Displays whether an email was sent due to the error message.
- **Event name:** The event name is predefined. It can, however, be changed as needed.
- **Event type:** Displays the event type received from the device.
- **Status:** Displays whether the alarm is active or not active.

◆ Click "...".

⇒ Another window opens with the following settings:

- **Actions:**
 - **Add to log:** Select whether this alarm is added to the event log.

- Send email: Selected whether notification is sent by email when this alarm occurs.
- Input conditions:
 - You can select the bit from the M-bus status byte for the device that represents the corresponding alarm notification.
- ❖ Click 'Save' to apply the alarm settings. **NOTICE! You must confirm to apply the settings.**



Settings identified by (**) can transfer the settings to all devices of one type by selecting the check box if multiple devices of the same type are installed on the plant.

Device search

For device search, you can select whether to search for an RF converter on a specific mesh network or for a wireless meter that communicates with a specific RF converter within an M-bus radio network.

Configure the M-bus wireless network

Communication between the RF converters and wireless devices takes place over the M-bus wireless network. Settings that can be freely edited:

- Global encryption key: Used during the automatic search.
- Global AES Key 1: Used during the automatic search.
- Global AES Key 2: Used during the automatic search.
- M-bus wireless operation mode: You can enter the M-bus operation mode. The following values are available: C+T, S, T, C+ T, S & C + T. You can further limit the search to devices in installation mode only (SND_IR).
- Acquisition phase duration: You can enter the duration of the device search in hours (1 to 24).

Click 'Save' to save the edited values.

Option

You can select both check boxes as an option to further limit the device search:

- 'Only devices in installation mode are accepting during the search (SND_IR)': Use this function for plant extension or when exchanging devices. The search is only by new devices in installation mode.
- "Readout only devices with walk-by telegrams": This function is only used to search for devices that communicate in walk-by mode. The goal is for remote readout of walk-by device over web server access.

Configure mesh network

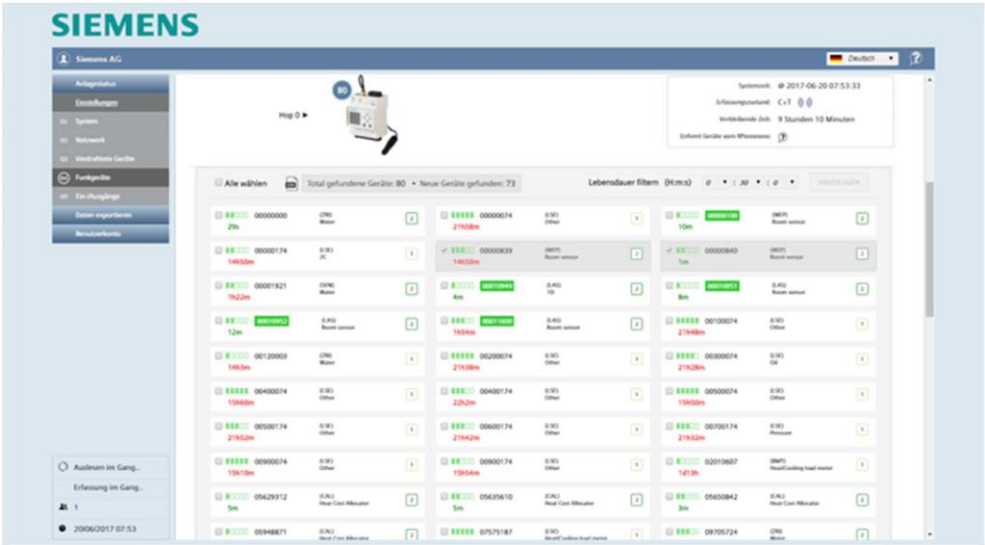
The communication between the web server and RF converters takes place over a mesh RF protocol (backbone network). Settings that can be freely edited:

- Mesh ID: You can enter the mesh ID for the mesh network. Ensure that all RF converters are on the same mesh network.
- Channel: For faults, you can enter the channel ID for the desired RF converter.

1. Click 'Save' to save the values.
2. Click 'Start scan'. **NOTICE! The wireless symbol flashes while searching.**

Search results

All found devices are listed at the conclusion of the device search.
Select one or more devices and 'Add', to add the new devices to the device list.



Device list management

You can add the devices to the device list that were newly found or need to be considered.

NOTICE	
!	Loss of data Devices that are not saved are rejected.

The following must be listed at a minimum for any found device:

- Serial number
- Medium
- Manufacturer code with optional device image
- Automatically generated device name

14.4.5 Inputs/outputs

The WTV676 has three digital inputs (I1, I2, I3) and 2 digital outputs (O1, O2).

Digital inputs/outputs

The following settings are possible on each digital input and output:

- Description: Each input/output can be labeled with an individual name.
- Add to log: Select whether to log in the event log a change of state to an input/output:
 - Never
 - Open: Only if the state is open or changes to open.
 - Closed: Only if the state is closed or changes to closed.
 - Open/close: For any change of state.
- Email: Select whether to send an email (see 'Settings' / 'System' / 'Alarms'), if the input/output registers a change of state:
 - Never
 - Open: Only if the state is open or changes to open.
 - Closed: Only if the state is closed or changes to closed.
 - Open/close: For any change of state.

You can also select the output state for an output after a loss of power:

- Hold the last output state.
- Set to default state 'Open'.

Click 'Save'.

14.5 Export data

Data logged by Web Serve on one or more devices can be exported as a report for further processing.

There are two ways to create a report:

- Manual reports
- Automatic reports

14.5.1 Manual reports

Billing report

The meter must first be read to create a report.

1. Click 'Read and post now'.
2. Select the devices to be included in the report.



Select the check box in the title line to select all the devices on the list.

The screenshot shows a web interface for generating a report. At the top left is a 'Read now' button. At the top right is a 'Connected devices' link with a blue circle containing the number 3. Below these is a table with columns: 'Select', 'Serial number', 'Device name', 'Description', and 'Manufacturer code'. The first row is highlighted in grey and has a red circle around its 'Select' checkbox. The table contains three rows of data. Below the table are several controls: a 'Create report' button, a 'Report type' dropdown menu set to 'Standard Report', a 'Select day' dropdown menu set to '2018-09-23', and a 'File type' dropdown menu set to 'xls'.

Select	Serial number	Device name	Description	Manufacturer code
☒	45589679	DEX_45589679	PH_000	L3E
☐	45589680	DEX_45589680	PH_000	L3E
☐	07927586	DEX_07927586	PH_001	L3E

Create report Report type: Standard Report Select day: 2018-09-23 File type: xls



Sort alphabetically by clicking by pressing ▼ to simplify the search.

The following selections need to be made before you can generate the report:

- Device settings are assigned to a standard column.
 - Custom report:
This reports includes only data points on devices selected in the 'Customized report' column in device settings.
 - Report all data:
Includes all data points from all devices.
 - Trend file:
Includes only the data points selected in the device settings in the 'Trend file' column. A history trend file includes an evaluation of past meter data. History trend files can be created in the 'Manual reports' menu. Trend files in the future are created in the 'Automatic reports' menu. Additional information is available in section 'Creating reports', pg, 129.

- 'Select day': Select the read date (start date) of device data for the report. The current date is always the default date. You can also select a past date. The selection applies to report types "Standard Report", "Custom Report" and "All Data Report".
- For history trend files, set a start and end date with start and end time.



A start and end data in the future is not permitted for history trend files. The number of read outs is in red font if the entry is erroneous. The number of read outs is also in red font if the selected timeframe for read outs is too large. Shorten the timeframe in this case or reduce the number of data points.

Report type *Trend report* Start date *2018-09-24* Start time *00* : *00* *Trend report summary*
Devices No: 3
Data point No: 3
Meter readout interval: 1hrs
Readout No: 0

End date *2018-09-23* End time *23* : *45*

- File type: Select one of the following file formats:

- .csv format: Exports the data as a .csv file.
- .xls format: Exports the data as an .xls file.
- .txt format: Exports the data as a .txt file.

Click 'Create report' to generate the report and start the download. The filename is automatically generated.

Additional information on the various report types is available in 'Creating reports [→ 123]'.

Monitoring report

Monitoring reports include raw data in XML format from connected devices. You can interpret the raw data as needed. You must first read out the devices to generate a monitoring report. Click 'Read now' to read the device.

The following selections need to be made before you can generate the report:

- 'Select day': Select the read date (start date) of device data for the report. The current date is always the default date. You can also select a past date. A date in the past always takes the last report for the selected date at 11:59 pm (23:59). On the current date, the most current report is generated at the time the 'Create report' is clicked.



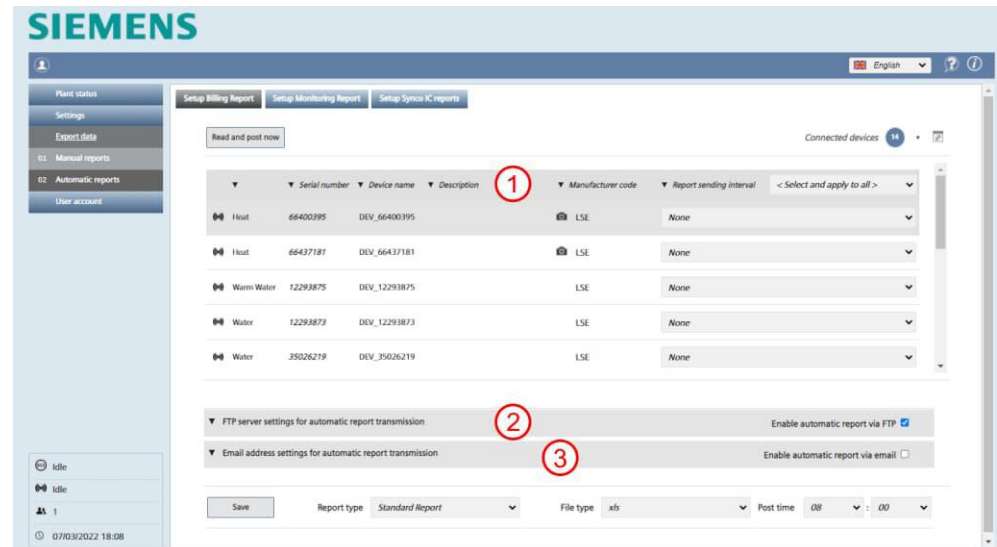
The read interval is one day. As a consequence, device data may be taken from the previous day.

Click 'Create report' to generate the report and start the download. All connected devices are automatically included in the report and the last saved device data from web server WTV676 is used for the report. The file name of the report is generated automatically and is composed of the serial number of the web server WTV676 as well as the date and time.

14.5.2 Setup automatic reports

Setup billing reports

'Read and post now' immediately reads all the devices on the overview list and sends the data per the settings below.



The following data is available on each device:

- Medium
- Serial number
- Device name
- Description
- Manufacturer code
- Report interval

Report interval

- ◆ Select the interval for generating a report.

The following options are available:

- None: No report is generated.
- Daily: The report is generated daily at the post time for the previous 24 hours.
- Weekly: The report is sent each Monday at the post time for the last week.
- Monthly: The report is generated on the last day of the month at the post time.
- All 2 months: The report is generated on the last day of the second month at post time for the last two months.
- All 3 months: The report is generated on the last day of the third month at the post time.
- All 4 months: The report is generated on the last day of the fourth at the post time.
- All 6 months: The report is generated on the last day of the sixth at the post time.
- Yearly: The report generated on the last day of the year a midnight for the previous year.

1. Select the yearly interval for for generating a report.
2. Save your entries.



Selecting a report interval in the title applies the setting for all devices on the list.

Set up FTP server for automatic report transmission

Select 'Enable automatic reports' via FTP if the report each report is sent to an FTP server and enter the data on the FTP server.

- FTP server name: The address for the FTP server
- Path (Remote): You can enter a path on the FTP server for saving reports.
- FTP server server port: The Port for the FTP server
- FTP protocol: Select the FTP protocol. The following protocols are available:
 - SFTP – File Transfer Protocol (SSH)
 - FTP – File Transfer Protocol (TLS)
 - FTP – Unencrypted (unsecured)

NOTICE! We recommend against using “FTP- unencrypted” for security reasons.

- Username: Username to access the FTP server.
- Password: Password for FTP server access

1. Enter the server information.
2. Save your entries.



Click 'Server connection test' to test the connection to the FTP server. The file ftp_test_connection.txt is saved to the FTP server.

Set up email address for automatic report transmission

Enable 'Enable automatic reports via email' to send a report to one or more email address and enter the corresponding email addresses including the subject line. You can separate individual addresses with the semicolon (;) if a report is set to multiple addresses.

- Report type: Select between (for details, see 'Manual reports'):
 - Standard report:
 - Custom report
 - "All data" report

Additional information on the various report types is available in 'Creating reports [→ 123]'.

- File type: Select one of the following file formats:
 - .csv format: Exports the data as a .csv file.
 - .xls format: Exports the data as an .xls file.
 - .txt format: Exports the data as a .txt file.
- Post time: The time the readout of the selected devices is performed and the report file is generated and sent out.

This process may take a few minutes depending on the number of devices and the baud rate on M-bus.

1. Enter the settings to generate automatic reports.
2. Save your entries.

Set up monitoring report Monitoring reports include raw data in XML format from connected devices.

As a rule, monitoring reports have a shorter send interval than billing reports. The longest interval for monitoring reports is 1 day; the shortest 30 minutes. (The shortest interval for billing reports is 1 day).

Monitoring

The shorter interval for automatic monitoring reports improves monitoring. Third-party meter data can, for example, be retrieved every 30 minutes from the FTP server and integrated in the third-party management system (integration).

Select a send interval before you can generate the report:

- 1 day
- 30 min
- 60 min
- 2 h
- 4 h
- 6 h
- 12 h

You must first read out the devices to generate a monitoring report.

- ◆ Click 'Read and post now'.
 - ⇒ The devices are read out.
- ◆ Click 'Create report'.
 - ⇒ The report is generated as an XML file.

All connected devices are automatically included in the report and the last saved device data from web server WTV676 is used for the report.

The file name is generated automatically and is composed of the serial number of the web server WTV676 as well as the date and time.



The report can only be sent to a FTP server. The FTP server does not need to be the same server as the one used for billing (read out of meter data).

Test server connection

- ◆ Click 'Test server connection' to test sending a monitoring report.
 - ⇒ A control report is generated as XML and sent to the FTP server.

The following message is displayed in green, and the monitoring report is available for download if successful.

File name	Size	System clock	FTP transmission log
1. RAW_MITEL_report_EV16444144_2022-03-16T15-15.xml	10K	2022-03-16 15:15	2022-03-16 15:15:21 • FTP(secure) - successfully uploaded RAW_MITEL_report_EV16444144_2022-03-16T15-15.xml



The read-out data may be outdated if the scan interval for the device is greater than the send interval. Example: A scan interval for a device, set to 7 days, but with a sending interval set to only 1 day always reads the same data. The scan data does not need to be changed, but you can change the interval as needed. You can change the interval as needed. Details on changing the scan interval is available in section 'Scan interval'.

SIEMENS

Plant status | Settings | Report data | 01 Manual reports | 02 Automatic reports | User account

Save | Report type: Raw M-Bus Telegram Report | Report sending interval: 1 day

Attention!
The selected sending interval of the report ("Report sending interval") is lower than the reading interval ("Scan interval") of the following meters. The report may contain outdated reading data. Please adjust the scan interval of the meters.

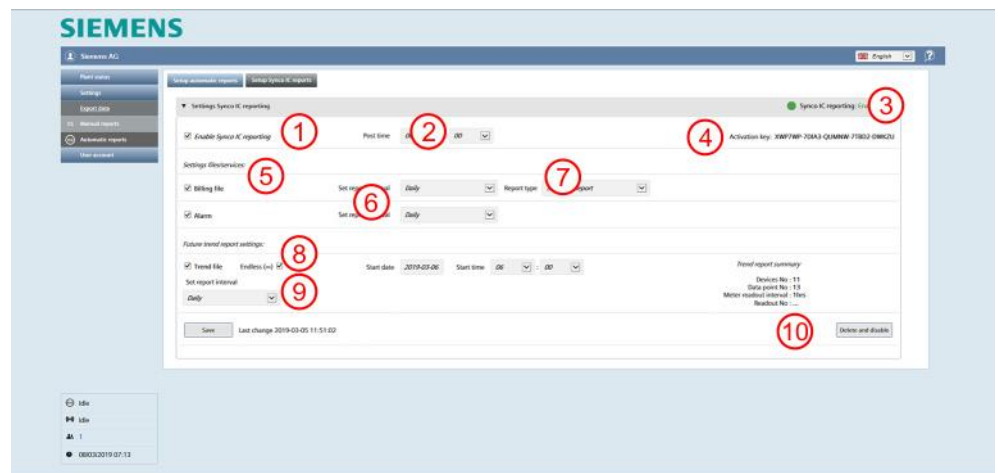
Medium	M-Bus line	Serial number	Device name	Description	Scan interval
BusSystem	M1M2	10000278	DEV_10000278	PA_253	7 days
BusSystem	M1M2	10300618	DEV_10300618	PA_253	7 days
BusSystem	M1M2	10300628	DEV_10300628	PA_253	7 days
BusSystem	M1M2	11111025	DEV_11111025	PA_253	7 days
Water	M1M2	35026219	DEV_35026219	PA_253	7 days
Heat	M1M2	66400395	DEV_66400395	PA_253	7 days
Cooling energy	M1M2	66400396	DEV_66400396	PA_253	7 days
Heat	M1M2	66437181	DEV_66437181	PA_253	7 days
Cooling energy	M1M2	66437182	DEV_66437182	PA_253	7 days
HCA	M1M2	71253662	DEV_71253662	PA_253	7 days
HCA	M1M2	71253664	DEV_71253664	PA_253	7 days
HCA	M1M2	71253665	DEV_71253665	PA_253	7 days
HCA	M1M2	71253667	DEV_71253667	PA_253	7 days
HCA	M1M2	71253676	DEV_71253676	PA_253	7 days
HCA	M1M2	71253679	DEV_71253679	PA_253	7 days
HCA	M1M2	71253680	DEV_71253680	PA_253	7 days
HCA	M1M2	71253684	DEV_71253684	PA_253	7 days
HCA	M1M2	71253736	DEV_71253736	PA_253	7 days
HCA	M1M2	71253739	DEV_71253739	PA_253	7 days
HCA	M1M2	90546089	DEV_90546089	PA_253	7 days
HCA	M1M2	90546092	DEV_90546092	PA_253	7 days

16/03/2022 15:16

Set up Synco IC reports

In addition to automatic transmission of reports per FTP server and email, reports can also be transmitted automatically to the cloud Synco IC and stored at a centralized location.

The display is structured as follows.



① Enable Synco IC reporting

Enable the check box "Enable Synco IC reports", if reports are to be automatically transmitted effective immediately. Simply clear the check box to stop the transmission of reports at any time.

The following options are available for setting report transmission:

② Post time

You can set the report time to within 15 minutes.

- ◆ Select the time to send the reports. **NOTICE! The setting applies to all reports.**
- ◆ Save your entries.

③ Status of Synco IC reports

The status for automatic transmission of Synco IC reports changes to "enabled" when the "Enable Synco IC reports" is check box is selected.

You can enable or disable the "Enable Synco IC reports" check box at any time. The status changes to "Stopped manually" after disabling and no more reports are transmitted to Synco IC. The status "Not enabled" displays at first log in.



The Synco IC URL <https://www.siemens-syncoic.com/> takes you directly to the Synco IC login page.

④ Activation key

The activation key is required to register the web server in the Synco IC portal. Additional information on web server registration is available in 'Web server integration in Synco IC [→ 51]'.

⑤ Files/services settings

The following files and services are available.

- Billing file: Includes the consumption data and device information from all devices connected to the web server such as radio and wireless and wired meters and sensors.
- Alarms: Web server alarms transmitted to Synco IC. In addition, the last corresponding alarm file is saved in Synco IC. An email notification is sent per Synco IC user settings as soon as the web server detects an alarm.

The billing files and alarms are enabled by default.

- ◆ Select the check box or boxes alongside the files and services to be sent to Synco IC. **NOTICE! You can make multiple selections.**
- ◆ Save your entries.

⑥ Report interval

The following options are available:

- Daily: The report is generated daily at the post time for the previous 24 hours.
- Weekly: The report is sent each Monday at the post time for the last week.
- Monthly: The report is generated on the last day of the month at the post time.

Default settings:

- Billing file: Monthly
- Alarms: Daily
- ◆ Select the interval for generating a report.
- ◆ Save your entries.

⑦ Report type

You must select the report type to generate automatic reports:

- Custom report
- Standard report
- "All data" report

A custom report is generated by default.

Details on report types is available in 'Creating reports [→ 123]'.

- ◆ Save your entries.

⑧ Settings Trend report – Future

A trend in the future includes an evaluation of the meter data over a timeframe set in the future.

Select the 'Trend file' check box to create a trend file in the future and set a start and end date with start and end time in the future. A trend file is sent to the Synco IC cloud as soon as the web server creates a trend over this timeframe. The trend files and alarm reports include both meter and controller data. Trend files are cleared by default.

A start and end date in the past are not permitted for trend files in the future. The number of read outs is in red font if the entry is erroneous.

The number of read outs is also in red font is the selected timeframe for read outs is too large. Shorten the timeframe in this case or reduce the number of data points.

☐ Trend file ☐ Endless (∞) Start date: 2019-03-14 Start time: 07 : 30
 Set report interval: Daily End date: 2019-03-07 End time: 01 : 00
 Trend report summary: Devices No : 13, Data point No : 51, Meter readout interval : 15min, Readout No : 0

9 Report interval

As an option, you can create a monitoring report for meter data.

The check box 'Endless' determines whether interim reports are created for an unspecified period or whether an overall report is created on the entered end date. If cleared, the overall report is sent to Synco IC on the preset end date.

The following options are available:

- Daily: The report is created at the preset post time for the previous 24 hours and sent to Synco IC.
- Weekly: The trend file is sent each Monday at the preset post time for the past week and sent to Synco IC.
- Monthly: The trend file is created on the first day of each month at the present post time for the past month and sent to Synco IC.

'Daily' is the default setting.

The check box 'Endless' is hidden if no report interval is selected.

- ◆ Set the interval at which an interim report of meter data is created.
- ◆ Save your entries. **NOTICE! The date and time of the last save is displayed to the right of the button after saving.**

10 Delete Synco IC data including disabling Synco IC reports

Delete SyncoIC Data incl. Disable SyncoIC reporting

Delete and Disable

NOTICE	
!	Loss of data and settings Caution: The function 'Delete Synco IC data including Disable Synco IC reports' irretrievably deletes all data and resets the status for 'Enable Synco IC reports' to 'Disabled'. All Synco IC procedures must be reassigned. For a change of web server ownership only: Click the button "Delete and disable".

Readout mobile data

Your mobile device can be comfortably read out the meter data on site and download it to your mobile device, regardless of platform. You do not have to enter any settings.

- ◆ Make sure the WLAN connection and 'Mobile' option are enabled.

Additional information on the WLAN connection is available in 'WLAN connection'.

1. Connect your mobile device to the web server.
2. Log in with your user name and password.

Additional information on connecting your mobile device and logging in is available in section 'Mobile' option.

The following view displays after logging in.

The screenshot shows a mobile web interface for a Siemens device. At the top is the 'SIEMENS' logo and a back arrow. Below are two blue buttons: 'DOWNLOAD REPORT' and 'READ NOW'. The main content area consists of several white input fields with labels and values:

- Plant name: *Sinapsi Demo 193 | EV20080193*
- Serial number: *EV16444161*
- Model: *WTV676-HB6035*
- Address: *Via Delle Querce 11/13*
- Firmware version: *4.6_2.0_3.1*
- Web interface version: *3.28*
- Internet connection: *OK*
- Current IP address: *185.20.64.226*
- Synco IC reporting: *Enabled*
- Wi-Fi status: *Time left: 11h 59m 16s*, *SSID: WTV676-EV16444161*, *Wi-Fi address: 192.168.0.10*, *MAC address: 7C:DD:90:C9:1A:01*

At the bottom of the Wi-Fi status section is a 'Disable' button. The footer shows a user icon with '1' and a timestamp '© 23/11/2020 09:53'.



The view on your mobile device is simplified. As a consequence, you are unable to run all applications; you can only download reports and read out meter data.



You cannot select the report type when reading out the web server on your mobile device via WLAN. The web server sends the last report type selected in menu 'Setup automatic reports'.

Download report

- Click 'Download report' to download meter data from the last readout as a report on your mobile device.

Read out meter data

- Click 'Read and post now' to read out the data from all connected meters.
NOTICE! The procedure may take several minutes.



Select 'Disable' to disconnect the WLAN as soon as the meter data is read out or the report is downloaded.

You can forward the report per email from your mobile device to the appropriate recipient.

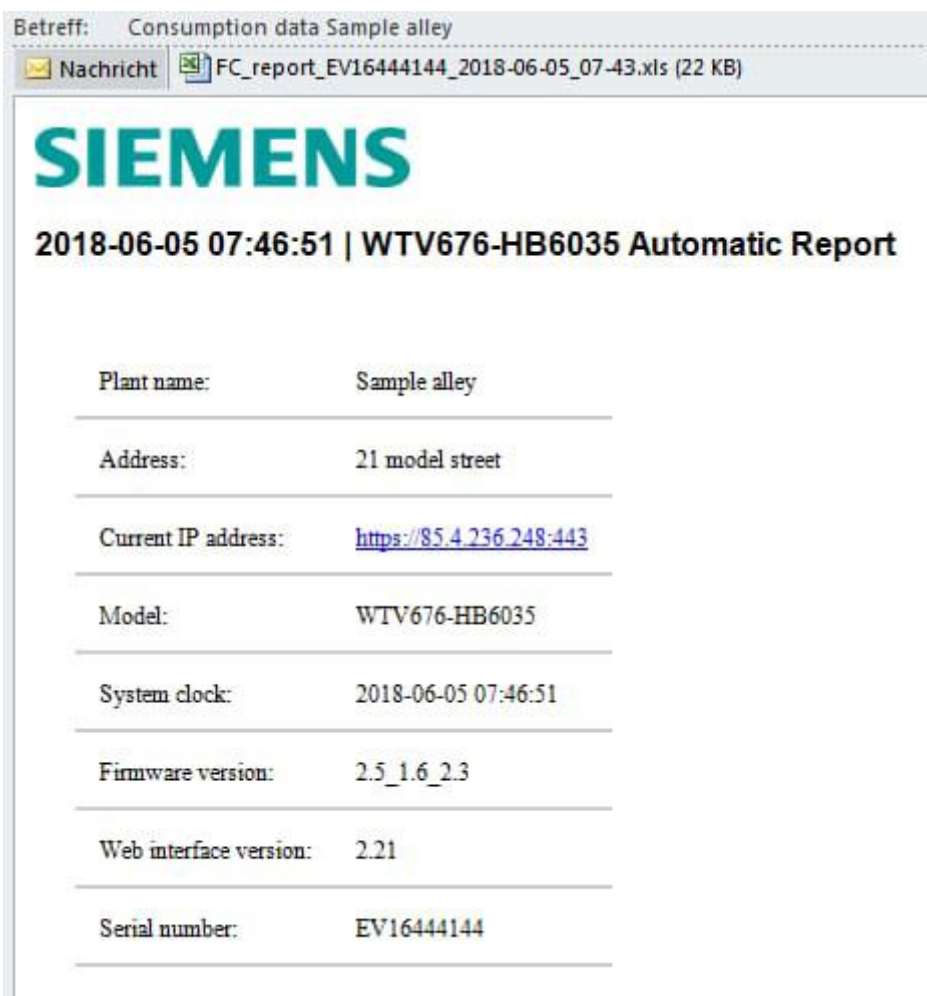
14.5.3 Creating reports

Reports can be sent via:

- E-mail
- FTP server
- Synco IC

E-mail

The email looks as follows:



- Header: See settings in section 'Setup automatic reports'.
- Plants: Displays the name of the read file including the Web Server serial number, creation data and time.
- Plant information: Displays information on the object and Web Server (see System Status)

The following report types are available:

- Standard report
- Individual reports
- All data report

History trend files and trend files in the future are available in addition to the reports.

NOTICE



The web server can only read out information that the device sent via M-bus telegram. Check the corresponding telegram if information is missing in the report.

Standard report

The standard report lists all read devices. A device corresponds to one line. The columns with the corresponding titles are preset. The corresponding field is empty if a device does not report a value.

The columns must be assigned to the corresponding data point in the device settings.

File Name	Report Date	Report Time	Plant Reference	Firmware version	Total devices cabled	Total devices wireless	Serial Number			
PC_report_EV0000000_2016-06-16.xls	16.06.2016	10:54:06	Helmstedt - Musterlinie 25, 6300 Zug	1.0711_0_16_1.0	25	0	EV00000000			
count	primary_address	device_serial_number	name_device	device_description	device_detail	device_measure_hex	0-wired/1-wireless	model_id	readout_date	readout_time
0	0	65071608	DEV_65071608	PA_000		04Heat	0		16.06.2016	10:53:28
1	0	65990399	DEV_65990399	PA_000		04Cooling	0	Siemens - WFA5177	16.06.2016	10:54:00
2	0	65990398	DEV_65990398	PA_000		04Heat	0	Siemens - WFA5178	16.06.2016	10:53:28
3	0	65976340	DEV_65976340	PA_000		04Cooling	0	Siemens - WFA52141	16.06.2016	10:53:57
4	0	65976339	DEV_65976339	PA_000		04Heat	0	Siemens - WFA52140	16.06.2016	10:53:22
5	0	65990390	DEV_65990390	PA_000		04Heat	0	Siemens - WFA52114	16.06.2016	10:54:03



Check the data points in the event a meter does not appear in a standard report. In menu "Settings" > Wire devices or Wireless devices, you can define under Data point settings in column "Standard report – Data assignment", which value (data point per meter is listed in the standard report and the title. The standard report permits the setting up of an individual summary report using a default format.

▼ Data Points settings (**)					
Main Value	User description	M-bus description	Standard Report - Data point mapping	Custom Report - Data point to be included	...
☐	Time Point	Time Point	none	☐	...
☒	Energy	Energy	none	☒	...
☐	Time Point	Time Point	device_data_time	☐	...
☐	Energy	Energy	error_flag_decimal	☐	...
☐	Error Flag	Error Flag	fabrication_number	☐	...
☐	Size of Storage Block	Size of Storage Block	heat_energy	☒	...
☐	Time Point	Time Point	cool_energy	☐	...
☐	Time Point	Time Point	HCA	☐	...
☐	Time Point	Time Point	heat_water_volume	☐	...
☐	Time Point	Time Point	cool_water_volume	☐	...
☐	Time Point	Time Point	water_volume	☐	...
☐	Time Point	Time Point	aux1_volume	☐	...
☐	Time Point	Time Point	aux2_volume	☐	...
☐	Time Point	Time Point	aux3_volume	☐	...
☐	Time Point	Time Point	gas_volume	☐	...
☐	Time Point	Time Point	electricity_active_energy	☐	...
☐	Time Point	Time Point	electricity_reactive_energy	☐	...

Custom report

A customized report displays each device with two lines: The first line describes the content and the second the corresponding values. The number of columns varies depending on the device and selected data points. Only data points defined under 'Wired devices [→ 95]' are listed.

File Name	Report Date	Report Time	Plant Reference	Firmware version	Total devices cabled	Total devices wireless	Serial Number			
CUST_report_EV00000000_2016-06-16.xls	16.06.2016	11:13:08	Reinhalte - Musterallee 25, 6030 Zug	1.011.4.1.4.1.0	20	0	EV00000000			
count	primary_address	device_serial_number	name_device	device_description	device_detail	device_measure_hex	0-wired 1-wireless	model_id	readout_date	readout_time
0	0	66071928	DEV_66071928	PA_000	04 rest	0	0		16.06.2016	11:12:37
count	primary_address	device_serial_number	name_device	device_description	device_detail	device_measure_hex	0-wired 1-wireless	model_id	readout_date	readout_time
1	0	65900399	DEV_65900399	PA_000	04 Cooling	0	0	Siemens - WF45177	16.06.2016	11:13:10
count	primary_address	device_serial_number	name_device	device_description	device_detail	device_measure_hex	0-wired 1-wireless	model_id	readout_date	readout_time
2	0	65900398	DEV_65900398	PA_000	04 rest	0	0	Siemens - WF45176	16.06.2016	11:12:35
count	primary_address	device_serial_number	name_device	device_description	device_detail	device_measure_hex	0-wired 1-wireless	model_id	readout_date	readout_time
3	0	65976340	DEV_65976340	PA_000	04 Cooling	0	0	Siemens - WF452141	16.06.2016	11:13:06
count	primary_address	device_serial_number	name_device	device_description	device_detail	device_measure_hex	0-wired 1-wireless	model_id	readout_date	readout_time
4	0	65976339	DEV_65976339	PA_000	04 rest	0	0	Siemens - WF452140	16.06.2016	11:12:31



For the Custom report, you can select data points to be reported in the report in the column 'Custom report - Data points to be included'.

▼ Data Points settings (**)					
Main Value	User description	M-bus description	Standard Report - Data point mapping	Custom Report - Data point to be included	...
☐	Time Point	Time Point	none	☐	...
☒	Energy	Energy	none	☒	...

"All data" report

Report all data displays each device with two lines: The first line describes the content and the second the corresponding values. The number of columns vary for each device depending on device type. All data points are listed that can be read.

File Name	Report Date	Report Time	Plant Reference	Firmware version	Total devices cabled	Total devices wireless	Serial Number			
RAINF_report_EV00000000_2016-06-16.xls	16.06.2016	11:56:06	Reinhalte - Musterallee 25, 6030 Zug	1.011.4.1.5.1.0	20	0	EV00000000			
count	primary_address	device_serial_number	name_device	device_description	device_detail	device_measure_hex	0-wired 1-wireless	model_id	readout_date	readout_time
0	0	66071928	DEV_66071928	PA_000	04 rest	0	0		16.06.2016	11:56:12
count	primary_address	device_serial_number	name_device	device_description	device_detail	device_measure_hex	0-wired 1-wireless	model_id	readout_date	readout_time
1	0	65900399	DEV_65900399	PA_000	04 Cooling	0	0	Siemens - WF45177	16.06.2016	11:56:44
count	primary_address	device_serial_number	name_device	device_description	device_detail	device_measure_hex	0-wired 1-wireless	model_id	readout_date	readout_time
2	0	65900398	DEV_65900398	PA_000	04 rest	0	0	Siemens - WF45176	16.06.2016	11:56:09
count	primary_address	device_serial_number	name_device	device_description	device_detail	device_measure_hex	0-wired 1-wireless	model_id	readout_date	readout_time
3	0	65976340	DEV_65976340	PA_000	04 Cooling	0	0	Siemens - WF452141	16.06.2016	11:56:41

The numbers in the reports are depicted as follows:

- Comma as a decimal point separator.

Trend file

In principle, there are two types of trends: History trends and trends in the future. A **history trend file** includes an evaluation of past meter data. You can evaluate meter data in the past at any time. The data remains on the web server and is not sent to Synco IC.

In menu 'Manual reports', select report type 'Trend file' and set a start and end date. Finish by clicking 'Create report'.

Additional information on manual reports is available in 'Manual reports [→ 112]'.

A **trend file in the future** includes an evaluation of meter data over a timeframe in the future. You can set a timeframe in the future at any time to read the meter data. The web server generates a web server once the timeframe expires and sends the file to Synco IC. To generate a trend file in the future, enter a start and end date with time in the future in the 'Automatic reports' menu. Additional information on automatic reports is available in section 'Setup automatic reports [→ 114]'.

Information on Synco IC is available in document A6V10500249, see Reference documentation [→ 8].



A history or future trend file is created one time. To create a new trend file in the future, select 'Trend file' and set a new timeframe in the future. History trend files are generated with 'Create report' and are available immediately.

The trend data is saved to an Excel worksheet.

A trend file is set up as follows:

Report Date	Report Time	Plant Reference	Firmware version	Total devices cabled	Total devices wireless	Serial Number	File Name
29.08.2018	11:32:08	Sample alley	2.23(2.7_1.7_2.4	1	1	EV16444187	TREND_report_EV16444187_2018-08-29_2018-08-29.csv
Query interval	15min						
Beginning	00:00:00	29.08.2018					
End	23:45:00	29.08.2018					
Fabr. No	[35026219]	[00071725]					
Log Interval	1hrs	15min					
Data point	Total volume (m3)	Volume (m3)					
2018-Aug-29 00:00		7.098					
2018-Aug-29 00:15		7.098					
2018-Aug-29 00:30		7.098					
2018-Aug-29 00:45		7.098					
2018-Aug-29 01:00	5.386	7.098					
2018-Aug-29 01:15		7.098					
2018-Aug-29 01:30		7.098					
2018-Aug-29 01:45		7.098					
2018-Aug-29 02:00	5.386	7.098					
2018-Aug-29 02:15		7.098					
2018-Aug-29 02:30		7.098					
2018-Aug-29 02:45		7.098					
2018-Aug-29 03:00	5.386	7.098					

① Plant data

This area displays the creation date of the trend file with time as well as plant data and the number of connected devices.

② Timeframe

This area indicates the query interval as well as the timeframe for reading out meter data. The query interval displayed here corresponds to the shortest query interval that was set for a device in this trend file.

Additional on query intervals in available below.

③ Meter readout data

This area summarizes the meter information by column. This includes the device ID (fabrication number), readout interval, and read out data point.

Additional on query intervals in available below.

④ Date / time

The data and time are indicated in the first two columns. The data and time of the readout with the corresponding meter data is displayed per line. The time intervals correspond to the shortest query interval that was set for a device.

Additional on query intervals in available below.

⑤ Meter data

This area displays the values of read out data point per meter. A column corresponds to a meter.

The meter can also be depicted graphically in a diagram, in addition to display in tables. Use the diagram function in Excel.

Scan interval

A query interval can be individually defined for each device. This interval determines the time intervals at which the device is read. The shortest query interval determines the interval between trend files if individual, connected devices have different query intervals.

For example, a device with a query interval of seven days means that a value is only entered in the trend file every seven days.

The query interval can be set under device settings. See 'Wired devices [→ 95]' and 'Wired devices [→ 107]'.

14.6 User account

The User account menu displays all registered users and creates a new user. All log in attempts are registered (logbook).

Click 'Exit' to log off web server.

14.6.1 User configuration

New user

The 'New user' creates a new user account on web server.

At the same time, it provides information on all previously registered users, including access rights (user type).

You must be logged in as an administrator to change user data or create a new user.

◆ Enter the new user data.

- First name
- Last name
- E-mail address
- Username
- Password including confirm password
- User type
 - User: Users have a restricted view on Web Server and cannot change or enter settings.
 - Maintainer: Maintainers have a restricted view on Web Server. They can change or enter some settings compared to users.
 - Administrator: Administrators have access to all data and functions.

Menu	Administrator	Maintainer	User
Plant state	U	E	E
Settings	U	E	-
Export data	U	U	U
User account	U	-	-

U = Unrestricted access

R = Restricted access

- = no access

◆ Click 'Add'.

Users access login

All log in actions are registered on Web Server.

Last Login	Logged	User	User Type	IP
2016-09-15 10:03:42	Connected	Miller & Son (hartmann)	Maintainer	192.168.1.1
2016-09-15 08:36:03	Not Connected	Miller & Son (hartmann)	Maintainer	192.168.1.1
2016-09-14 15:25:33	Not Connected	Miller & Son (hartmann)	Maintainer	192.168.1.1
2016-09-14 15:01:54	Not Connected	O		192.168.1.1
2016-08-29 17:54:09	Not Connected	O		192.168.1.1

The following information is retained for each log in:

- Last login: Date & time the user logged in.
- Logged: User status.
- User: First and last name of the user
- User type: Administrator / Maintainer / User
- IP address: IP address of the PC used by the user to access web server

The logins for the last 28 days is registered.

14.6.2 Customer configuration

'Customer configuration' assigns meters to a specific location (room or area) in the building. One customer login is created for the location.

Each customer (owner, renter) can access their own meter data and check current energy consumption.

Location

'Location' lists all wired and wireless meters in the building and the meters can be assigned to a specific location in the building. These meters can be assigned to a specific location in the building.

All meters with the same Location ID are assigned to the same location in the building, such as the basement and are grouped.

The meters are identified by location and not customer.

The following data is displayed in a row per meter:

- Location ID: ID of the location assigned to the meter (e.g. ID= 1, 2 etc.).
Default value = 'No Location'
The meters can be sorted by Location ID.
- Serial number: Displays the device serial number.
- Device name: Displays the entered name.
- Description 1 and 2: Display the text entered under Description 1 or 2.
- Medium: Displays the medium measured by device.
- Manufacturer / model: Displays data on the manufacturer and model to improve device detection.
- M-bus line: Displays the M-bus line of the connected device.
Lines M1M2 and ABC are available.
- Scan interval: Displays the time intervals for saving device readouts.

The following fields can be edited:

- Location ID
- Device name
- Description 1
- Description 2

To edit meter data on a single line:

- ◆ Select the pencil
- ⇒ The meter data for a single line can be edited.
- 1. Tap the checkmark to save.
- 2. Tap the checkmark to save.
 - ⇒ The changes are saved.

Assign location

Proceed as follows to assign a meter to a location:

1. Select the pencil
 2. Enter the ID of the location in the 'Location ID' column.
 3. Tap the checkmark to save.
- ⇒ The meter is assigned to the location.

Remove location

Proceed as follows to remove a meter from a location:

1. Select the pencil
 2. Delete the ID of the location in the 'Location ID' column.
 3. Tap the checkmark to save.
- ⇒ The meter is removed from the location.

Customer login

'Customer Login' creates a login for the customer for a location ID. The username is automatically generated as soon as a location ID is created.

There is only one username (i.e. one customer), per location.

Additional information in customer registration is available in 'ACT HOME mobile app'.

Create report

The administrator can create a report to allow a customer to register using the automatically generated username and initial password. The report includes the following:

- Location ID
 - Username
 - Initial password
 - QR code to register the customer
 - Link to register the customer. The link works for PCs, tablets, and smart phones.
- ◆ Click 'Create report'.

Print report

Select the print symbol to print the report with the login data.

First access

In the customer login submenu, the First access field is checked the first time the customer logs in using the 'Mobile App link' for the 'ACT HOME' mobile app. The customer must change the initial password at first login. The edited administrator password is no longer displayed.

The administrator can reset the password under the following conditions:

- The customer forgot the password. The customer must reregister.
- The customer (renter) changed.

To reset the password:

◆ Click 'Reset registration'.

⇒ The password is reset.

Delete location ID

The location can be deleted as follows if it has no meters assigned.

◆ Click 'Delete location ID'.

⇒ The location is deleted.



The warning sign  indicates that no meters are assigned to the location.

Settings

A disclaimer displays the first time a customer logs in with 'ACT HOME'.

Additional information in first access is available in 'ACT HOME mobile app'.

Terms and conditions

The terms and conditions can be adapted for the customer/administrator. Click 'Backup' to apply the changes.

Date format

Select one of the following formats:

- Date and time of last readout.
- Date of last readout
- None

1. Select the format for displaying the date and time on the 'ACT HOME' app.
2. Click 'Backup'.

14.6.3 ACT HOME mobile app

With the 'ACT HOME' mobile app, customers can log in directly to the WTV776 using a mobile phone and view current consumption values.

Customer registration

1. Scan the QR code from the report.
⇒ Your mobile phone connects directly to the WTV776.
2. Register with the username and initial password.
3. Accept the terms and conditions.
⇒ You can now use the 'ACT HOME' mobile app.

NOTICE	
	Change the password after initial login.

Details on initial login is available in section 'Create report'.

ACT Home

← **Register**

EV:

New password* 

Confirm new password* 

First name

Last name

Email

Terms and Conditions:

The information herein is provided due to energy efficiency regulation. The data is saved only locally on the webserver database. If you have any questions with regard to the data that you can see or if you need to reset your password, please contact your administrator. NEW Test123-RD1243

☐ I accept the Terms and Conditions

Register

Shortcut icon

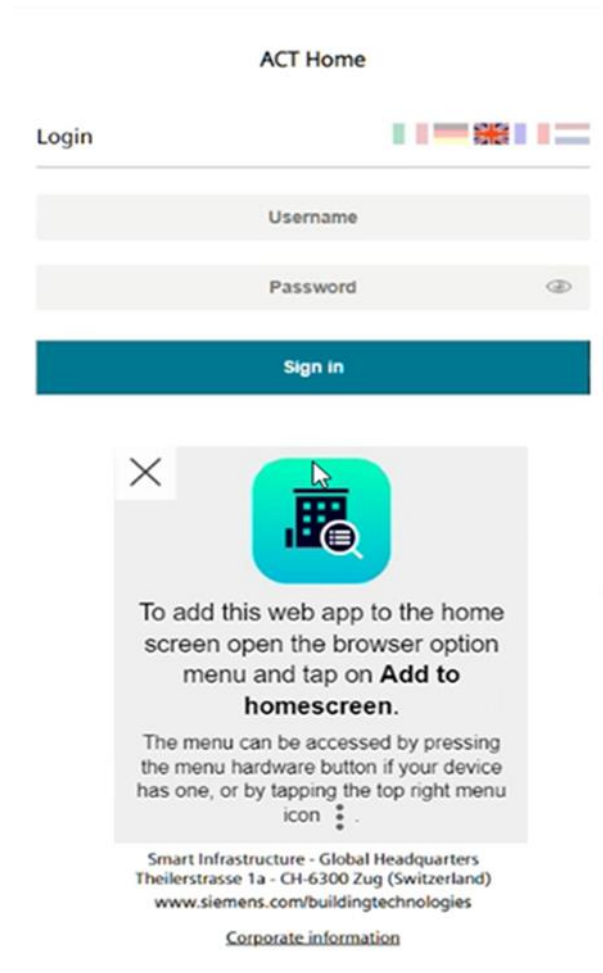


'ACT HOME' does not require the installation of software on the mobile phone. You can manually add a shortcut with icon for the 'ACT HOME' website. Tapping the shortcut takes you directly to the website in your browser.

Proceed as follows to manually add a shortcut:

Android mobile phones

1. Open the Google Chrome browser.
2. Go to the main page doe WTV776.**NOTICE! The QR code to go to the main page.**
3. Tap the 3 dots in the bottom right.



1. Tap 'Add to start page'.
 2. Enter the shortcut name.
 3. Tap 'Add'.
- ⇒ The shortcut is added to your mobile phone.

iPhone

1. Open Safari.
2. Go to the home page for WTV776. **NOTICE! You can also scan the QR code to go to the main page.**

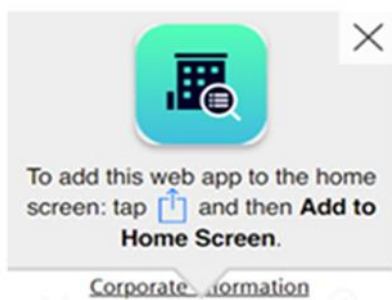
ACT Home

Login 

Username

Password 

Sign in



1. Tap 'Share'.
 2. Tap 'Add to start page'.
 3. Enter the shortcut name.
 4. Tap 'Add'.
- ⇒ The icon is added to the home screen.



The web site always opens in Safari on the iPhone.

Customer login

You can log in with the user name and new password from your mobile phone after First Access.

NOTICE



Forgotten password

The administrator can reset your password if you forget your password. The user must reregister.

Change of renter

The administrator resets the password for a change in renter. The new customer receives a report to register. See 'Create report'.

Meter data

The customer can view the following information on the meters:

- Meter type: Heating or cooling meter, etc.
- Serial number
- Consumption
- Date and time (optional)



Proceed as follows to add customize texts:

1. Select the pencil
 2. Tap the pencil to add customized texts, such as 'Kitchen' or 'Laundry room' to the meters.
 3. Tap the checkmark to save.
- ⇒ The texts are added.

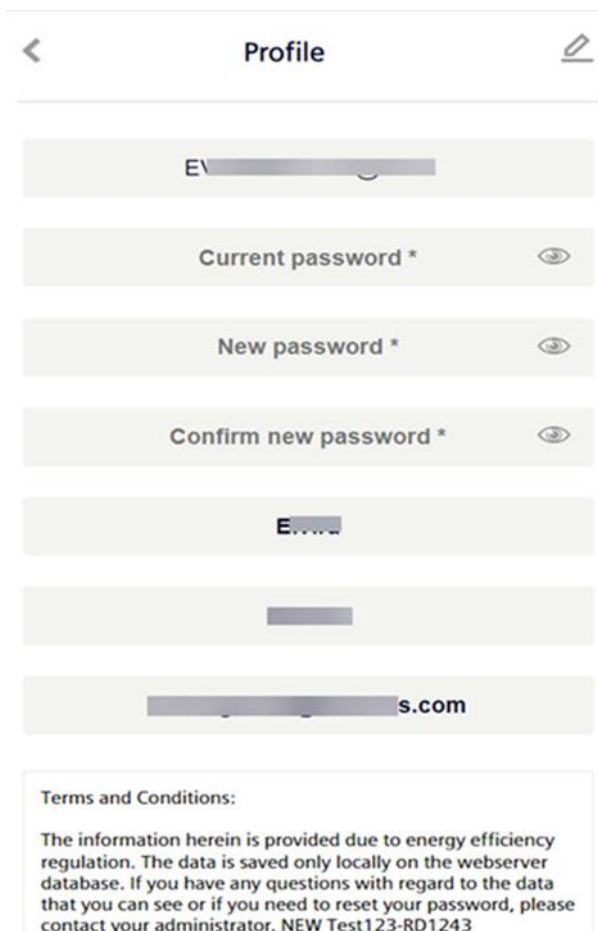
Change profile

You can change your password, first name, last name, and email at any time. Proceed as follows:

- ◆ Tap the pencil in the upper right.



- ◆ Tap the checkmark to save.



- ◆ Select the checkmark ✓ to save the changes.
- ⇒ The changes are saved to your profile.

14.6.4 Log off

- ◆ Press 'Log off' top left.
- ⇒ It exits the web server or mobile app without warning.

15 Appendix

15.1 Router configuration

Contact your local IT administrator and ensure the following firewall settings are configured:

- UDP/53 (DNS)
- TCP/443 (https)
- TCP/1194 (Web access)
- UDP/1194 (Web access)

15.2 Open Source Software

Open Source Software (OSS) is used on WTV676.

License information

The license texts of all Open Source Software packages can be viewed individually at by clicking the question mark.

Third-Party Software Information

This product, solution or service ("Product") contains third-party software components listed in this document. These components are Open Source Software licensed under a license approved by the Open Source Initiative (www.opensource.org) or similar licenses as determined by SIEMENS ("OSS") and/or commercial or freeware software components. With respect to the OSS components, the applicable OSS license conditions prevail over any other terms and conditions covering the Product. The OSS portions of this Product are provided royalty-free and can be used at no charge.

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Siemens AG
Otto-Hahn-Ring 6
81739 Muenchen
Germany
Keyword: Open Source Request

SIEMENS may charge a handling fee of up to 5 EUR to fulfill the request.

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Tools for packet updating

All packets subject to the GPL-3 or LGPL-3 license must be made by experienced users for legal licensing reasons.

The packets are labeled on the list with .

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License name	Size	Last Modified
1 ► Artistic	6k	December 16, 1996
2 ► BSD	1k	November 30, 2023
3 ► GFDL	22k	November 03, 2008
4 ► GPL	34k	November 30, 2023
5 ► GPL-1	12k	March 24, 2010
6 ► GPL-2	18k	March 24, 2010
7 ► GPL-3	34k	November 30, 2023
8 ► LGPL	7k	March 24, 2010
9 ► LGPL-2	25k	March 25, 2010
10 ► LGPL-3	7k	March 24, 2010

Siemens regularly provides firmware updates to WTV676.

This occurs exclusively through firmware updates (online or offline). The tool for updating packets is not needed to operate and maintain WTV676. The latest firmware also includes the latest features and WTV676 functionality.

Preparing firmware updates

Connect web server to PC to install the new firmware.

For additional information on connecting web server to a PC, see section 'Connect Web Server to PC or LAN [→ 47]'.

◆ Back up your web server data.

Additional information on backing up data is available in section 'Backup/Restore'.

◆ Update the firmware (online or offline).

Additional information on firmware updates is available in sections 'Update firmware online' and 'Update firmware offline'.

NOTICE



Lost of web server data

You can no longer access web server over the web or locally once you use the tool to update that packet. All data is deleted on web server for security reasons! The process can not be undone. You must purchase a new web server. Only the Linux base system is only the device after completing a packet update.

The device can then be accessed via an SSH connection through Ethernet port 192.168.1.110. Use username 'root 'and password '12345678'.

16 Technical design

The technical data for the level converter and WTV676 is available in the appropriate datasheets:

M-bus level converter	WTV531-GA5060	A6V10844290
M-bus level converter	WTX631-GA0090	A6V11742346
M-bus Web-Server	WTV676 -HB6035	A6V11157961
RF converter	WTX660-E05060	A6V10455680

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