control solutions
TERACOM



1-Wire to Modbus Gateway

TCW320W-WMG / TCW320E-WMG

USER MANUAL

1. Product Overview

The TCW320x-WMG is a 1-Wire to Modbus Gateway designed to integrate 1-Wire sensors into Modbus RTU and Modbus TCP systems.

The gateway continuously acquires data from connected 1-Wire sensors and makes their measurements available through Modbus registers. It supports up to 20 Teracom 1-Wire sensors, as well as temperature sensors based on the DS18B20.

An embedded web interface provides convenient configuration, commissioning, diagnostics, firmware updates, and maintenance. During normal operation, the gateway is intended for unattended operation, while the web interface is primarily used for configuration and diagnostics.

This user manual applies to the following device variants:

- TCW320E-WMG – Ethernet variant
- TCW320W-WMG – Wi-Fi variant

Both variants provide identical gateway functionality and differ only by the network interface.

2. Features

- Embedded web interface for configuration and management
- 1-Wire to Modbus RTU and Modbus TCP gateway
- Support for up to 20 compatible 1-Wire sensors
- Fixed Modbus register mapping for consistent integration with PLCs, SCADA, and BMS
- Automatic 1-Wire sensor discovery with position locking
- Multiple user accounts with different access levels
- 2.4 GHz Wi-Fi or 10/100 Mbps Ethernet connectivity, depending on the device variant
- Firmware update through the web interface
- Wall mounting, as well as DIN rail and 19-inch rack mounting using dedicated mounting accessories

3. Applications

The TCW320x-WMG is intended for applications requiring integration of 1-Wire sensors into Modbus-based automation and monitoring systems.

Typical applications include:

- Data acquisition from 1-Wire sensors in PLC-based automation systems
- Integration of 1-Wire sensors into SCADA and HMI systems
- Building management systems (BMS)
- Industrial automation and process control
- Environmental monitoring using existing Modbus infrastructure
- Retrofit of existing Modbus installations with 1-Wire sensors

The gateway is suitable for installations requiring reliable long-term operation and seamless integration of 1-Wire sensors into Modbus RTU and Modbus TCP systems.

4. Specifications

- Physical characteristics
  Dimensions: 109 x 32 x 93 mm
  Weight: 110 g
- Environmental limits
  Operating temperature range: -20 to 60 °C
  Operating relative humidity range: 10 to 90 %RH (non-condensing)
  Storage temperature range: -20 to 60 °C

Storage relative humidity range: 10 to 90 %RH (non-condensing)
Ingress protection: IP20

- Power requirements
  Operating voltage range: 10 to 28 VDC
  Typical current consumption (Ethernet variant, without sensors): 60 mA @ 12 VDC
  Typical current consumption (Wi-Fi variant, without sensors): 60 mA @ 12 VDC
- RS-485 interface for Modbus RTU
  Isolation: Non-isolated
  Maximum number of nodes: 247
  Supported protocols: Modbus RTU slave
  Supported baud rates: 2400, 4800, 9600, 19200, 38400, 57600
  Supported parity: None, Even, Odd
  Supported stop bits: 1, 2
- 1-Wire interface
  Isolation: Non-isolated
  Maximum number of sensors: 20
  Supported devices: Compatible 1-Wire sensors
  Supply output voltage: 5.0 ± 0.3 VDC
  Maximum output current: 0.2 A
- Internal FLASH memory
  Endurance: 100 000 cycles (each configuration change is counted as one memory cycle)
- Wi-Fi interface
  Wi-Fi standard: IEEE 802.11 b/g/n
  Frequency band: 2.4 GHz
  Operating modes: Station (STA) and Access Point (AP)
  Security: WPA/WPA2-PSK
- Ethernet interface
  Ethernet standard: IEEE 802.3
  Supported data rates: 10/100 Mbps
  Auto-negotiation support
  Full-duplex and half-duplex operation

5. Pinout

This section describes the connectors and pin assignments of the TCW320x-WMG gateway.

The pin numbering shown in the figures corresponds to the numbering printed on the device enclosure. Ensure correct wiring according to the pinout before applying power to the device.

Connector 1

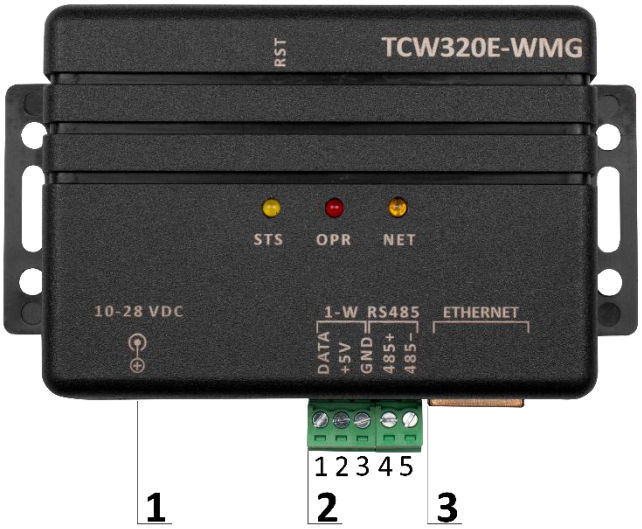
Power supply – 2.1 x 5.5 mm DC jack, center positive

Connector 2

Pin 1	1-Wire Data
Pin 2	+5 V
Pin 3	Ground
Pin 4	RS485+
Pin 5	RS485-

Connector 3

Ethernet connector
(not available on the Wi-Fi variant)



The connectors are removable terminal blocks. Ensure that the wiring is performed with the power supply disconnected.

6. LED Indicators

The following indicators show the current status of the module:

- STS (yellow) - Flashes to indicate that the module's main program is running.
- OPR (red) - Steady ON during normal operation. Blinks in sync with the STS LED in the event of a hardware error.
- NET (orange) - Provides network status information depending on the model.
  For TCW320E-WMG (Ethernet model):
  Steady ON: Network link is established.
  Blinking: Indicates network activity (data transfer).
  For TCW320W-WMG (Wi-Fi model):

Pattern (ON / OFF)	Wi-Fi Station (STA) Mode	Wi-Fi Access Point (AP) Mode
100ms / 100ms	Wi-Fi is not connected.	AP is not initialized.
100ms / 400ms	Wi-Fi is connected; waiting for DHCP IP address.	—
500ms / 2500ms	IP address assigned (Static or DHCP).	AP is active; no clients connected.
500ms / 500ms	Successful ping to the Gateway.	AP is active; at least one client is connected.

7. Installation and Initial Configuration

The device must be installed by qualified personnel.

It is not designed for direct outdoor installation and must be installed in a suitable enclosure when used in outdoor environments.

The installation process includes mounting the device, connecting it to an IP network, connecting the required peripherals, supplying power, and performing the initial configuration through a web browser.

7.1. Mounting

The TCW320x-WMG must be installed in a clean, dry, and non-flammable environment. Adequate ventilation is recommended, especially in installations with high ambient temperatures.

For wall mounting, use two plastic dowels (e.g. Würth GmbH 0912 802 002) and two dowel screws (e.g. Würth GmbH 0157 06 70) to secure the device. Mechanical dimensions and mounting hole positions are shown in Figure 1 in Appendix A.

A minimum clearance of 50 mm on all sides must be maintained to ensure proper ventilation and electrical isolation, as shown in Figure 2 in Appendix A.

The device can also be mounted on a standard DIN rail (35 mm × 7.55 mm) using a dedicated DIN rail mounting accessory.

For installations in 19-inch racks, the device can be mounted using a dedicated 19-inch rack mounting accessory.

7.2. Connection

Warning! Disconnect the power supply before wiring the device.

Follow these steps for correct wiring:

- Disconnect the power supply
- Connect the wires to the appropriate terminals
- Reconnect the power supply.

Ensure that all wires are securely attached to the terminals and properly tightened. Improper wiring or incorrect configuration may cause permanent damage to the TCW320x-WMG or to connected equipment.

7.2.1 Power supply connection

The TCW320x-WMG must be powered using the SYS1308(N)-2412-W2E power adapter or an equivalent power supply unit. The power supply must be suitable for overvoltage category II and certified for safety compliance.

The power supply device should be capable of withstanding short circuits and secondary circuit overloads. The equipment must be installed in a way that allows easy access to the power supply disconnect during operation.

7.2.2 RS-485 connection

The RS-485 interface is not galvanically isolated from the power supply.

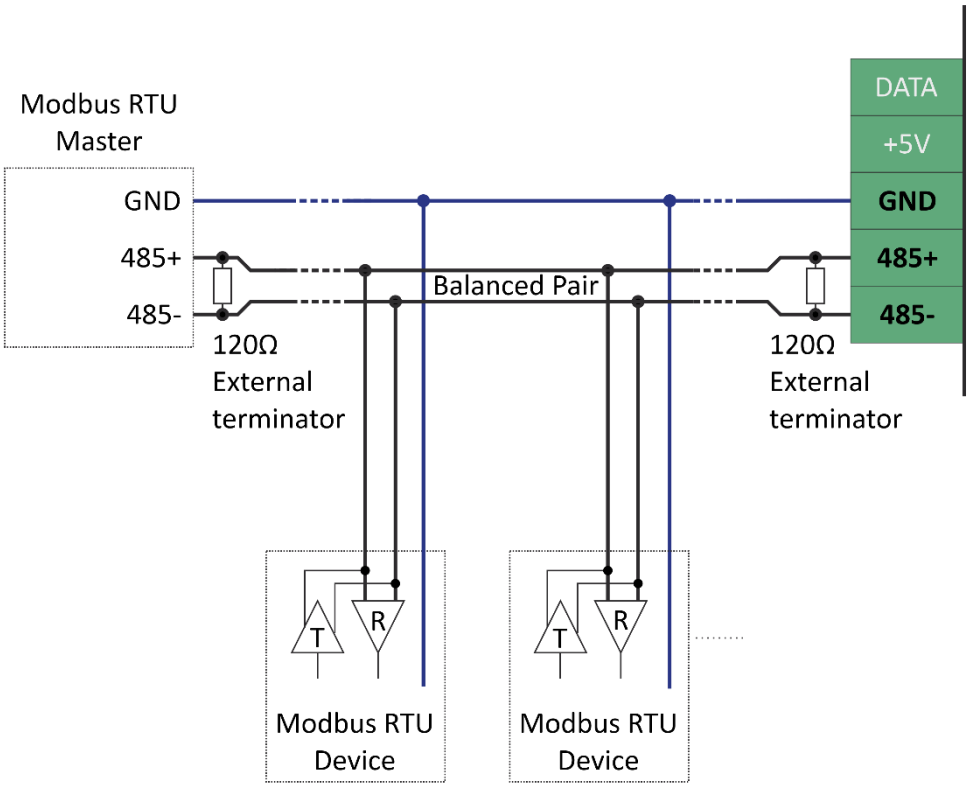
The TCW320x-WMG is designed for installation in multidrop RS-485 networks. Connect all devices in a linear (daisy-chain) topology. Star and branched connections are not recommended.

Because the RS-485 interface is not galvanically isolated, all devices connected to the RS-485 bus, including the Modbus RTU master, must share a common signal ground (GND). This common reference is required for reliable communication.

Some manufacturers use opposite polarity for the A and B signal names. Always connect the bus according to the signal polarity rather than relying only on the A/B labels. The TCW320x-WMG terminals are marked 485+ and 485−.

A 120 Ω termination resistor should be installed at both ends of the RS-485 bus. Proper termination reduces signal reflections and improves communication reliability, especially on longer cables and at higher baud rates. Incorrect termination may cause communication errors, intermittent data loss, or unstable operation.

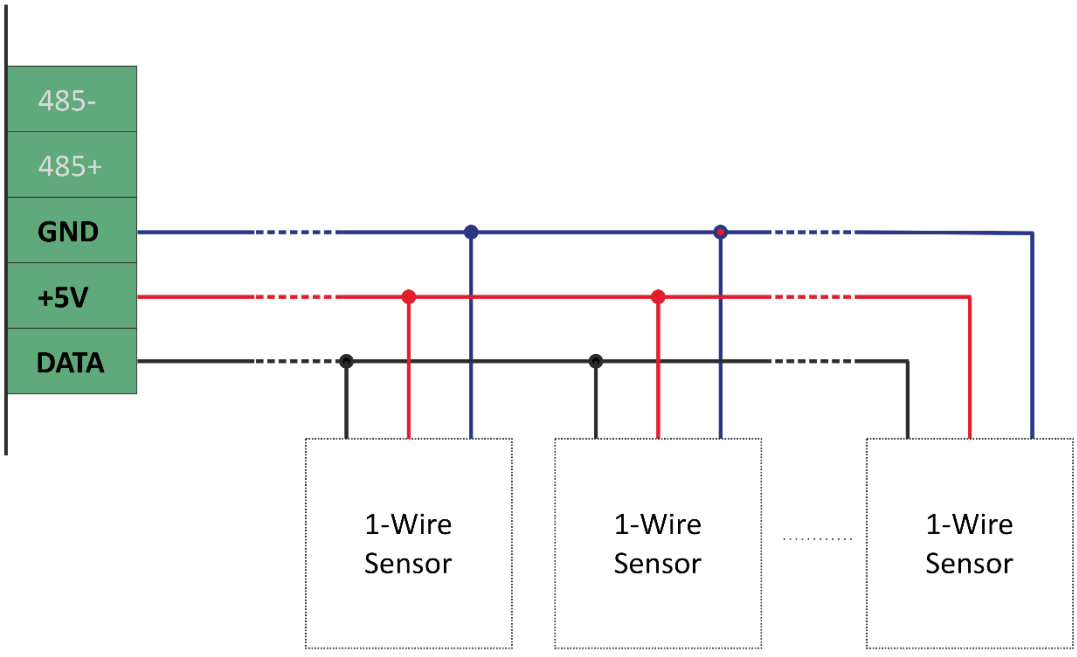
Shielded twisted-pair cable is recommended. To minimize ground-loop currents and improve noise immunity, connect the cable shield to protective earth at a single point, preferably near the Modbus RTU master device.



Keep the total cable length within 30 m; however, reliable operation has been observed over longer distances under suitable installation conditions.

7.2.3 1-Wire connection

1-Wire, a registered trademark of Analog Devices, Inc., is designed for connecting multiple sensors over short wiring distances. It is not suitable for long distances or environments with significant electromagnetic interference (EMI). For best practices, refer to the Guidelines for Reliable Long-Line 1-Wire Networks.



The 1-Wire interface is implemented as a three-wire connection consisting of power, ground, and data lines.

A linear (bus) topology is recommended for reliable operation, with a total cable length of up to 30 meters. This topology provides predictable signal characteristics and stable communication with connected 1-Wire devices.

Star topologies are not recommended, as they may cause signal reflections and communication instability, especially with longer cable lengths or multiple connected devices.

7.2.4 Ethernet connection

The Ethernet interface is used for network communication.

The TCW320E-WMG is connected to an Ethernet network using a standard Ethernet cable. The Ethernet interface supports 10/100 Mbps operation with auto-negotiation of speed and duplex mode.

The device should be connected to a network switch, router, or directly to a host system, depending on the network topology and application requirements.

The use of standard CAT5e or higher Ethernet cables is recommended.

Ensure that the Ethernet cable is securely connected and routed away from sources of strong electromagnetic interference, such as power cables, contactors, and motors. Improper cable routing may result in communication instability or packet loss.

Network parameters can be configured through the web interface. Depending on the network environment, the device can obtain an IP address automatically via DHCP or be configured with a static IP address.

7.2.5 Wi-Fi connection

The Wi-Fi interface is used for network communication and access to the device web interface on the TCW320W-WMG variant.

The device supports two Wi-Fi operating modes: Access Point (AP) mode and Station (client) mode. By default, the device operates in Access Point (AP) mode.

In Access Point mode, the device creates its own Wi-Fi network, allowing direct connection from a computer or mobile device for initial configuration. This mode is intended for commissioning and setup when no existing Wi-Fi infrastructure is available.

In Station mode, the device connects to an existing Wi-Fi network as a client. In this mode, network communication is performed through the connected wireless network, and the device becomes accessible to other systems on the same IP network.

Wi-Fi configuration parameters, including operating mode and network credentials, are configured through the web interface. After configuration, the device may require a restart for the new settings to take effect.

For reliable operation, ensure adequate Wi-Fi signal strength at the installation location and avoid placing the device near sources of strong electromagnetic interference or metal enclosures that may attenuate the wireless signal.

7.3. Initial network configuration

This section describes how to access the device web interface using the factory default network settings during initial installation.

7.3.1 Default network settings

By default, the devices are shipped with the following network settings, depending on the device variant.

TCW320E-WMG (Ethernet variant):

- IP address: 192.168.1.2

- Subnet mask: 255.255.255.0
- Default gateway: 192.168.1.1
- Web interface user name: admin
- Web interface password: admin

TCW320W-WMG (Wi-Fi variant, Access Point mode):

- Operating mode: Access Point (AP)
- SSID: tcw320ap; Password: tcw320ap
- Security: WPA2-PSK
- IP address: 192.168.4.1
- Subnet mask: 255.255.255.0
- Web interface user name: admin
- Web interface password: admin

These default settings allow direct access to the device web interface during initial installation, without requiring prior network configuration.

7.3.2 Initial access via Ethernet

To access the TCW320E-WMG via Ethernet, connect the device to a computer or to an Ethernet network using a standard Ethernet cable.

If the connected computer is configured to obtain an IP address automatically and no DHCP server is available on the network, assign a temporary static IP address to the computer in the same subnet as the device.

Once the computer and the device are in the same IP network, open a web browser and enter the device IP address. When prompted, log in using the default user name and password specified above.

7.3.3 Initial access via Wi-Fi Access Point

On the TCW320W-WMG, the device operates in Wi-Fi Access Point mode by default.

Connect a computer or mobile device to the Wi-Fi network created by the device using the default SSID specified above. After establishing the wireless connection, open a web browser and access the device web interface using the default IP address. When prompted, log in using the default user name and password specified above.

8. Setup concept

The primary configuration interface of the gateway is the embedded web interface. It provides access to all configuration parameters, including network settings, Modbus communication parameters, connected 1-Wire sensors, and system administration.

For reliable operation, it is recommended to configure the gateway in the following sequence:

- Network configuration

  Configure the Ethernet or Wi-Fi network settings and verify that the gateway is accessible from the intended network.
- Modbus configuration

  Configure the Modbus RTU communication parameters and, if required, enable Modbus TCP. Verify that the communication settings match those of the Modbus master.
- 1-Wire sensor configuration

  Connect the 1-Wire sensors and perform a sensor scan. It is recommended to add sensors one by one and lock each sensor to its assigned position before connecting the next one. Verify that all connected sensors are detected correctly and their values are displayed on the Monitoring page.

- Security and administration

  Configure user accounts and perform a backup of the completed configuration.

After completing the configuration, verify correct operation by checking the sensor values on the Monitoring page and confirming successful communication with the Modbus master.

In summary, the recommended setup sequence is:

Network configuration → Modbus configuration → 1-Wire sensor configuration → Security and administration → System verification.

9. Web Interface

Access to the device web interface is protected by HTTP authentication.

When a user accesses the device IP address using a web browser, the browser displays a standard authentication dialog requesting a user name and password. No separate login page is used.

After entering valid credentials, the web interface becomes accessible and the device pages are loaded in the browser.

The device supports three user accounts with different access levels. The access level associated with the authenticated user determines which pages and functions are available in the web interface.

Default login credentials are provided for initial access and should be changed after commissioning to prevent unauthorized access.

9.1. Monitoring

The Monitoring page provides real-time information about the connected 1-Wire sensors.

1-Wire Sensors

Position	Description	Parameter 1	Parameter 2	ID
1	S1:TST1xx	27.875°C	------	28843A60070000FB
2	S2:TST1xx	27.000°C	------	2854396007000071
3	S3:TST1xx	27.938°C	------	2874F85F070000FA
4	S4:TST1xx	27.688°C	------	282CA35F07000090
5	S5:TST1xx	27.812°C	------	283C8F5F10000022
6	S6:TST1xx	27.000°C	------	28AA56600700006E
7	S7:TST1xx	27.750°C	------	286AAE5F070000BB
8	S8:TST1xx	27.125°C	------	28DA4E5F07000066
9	S9:TST1xx	27.250°C	------	28BABC5F100000B0
10	S10:TST1xx	27.062°C	------	28D6885F070000A5
11	S11:TST1xx	27.938°C	------	28D60E5F070000F2
12	S12:TST1xx	26.938°C	------	288EE25F07000086
13	S13:TST1xx	27.938°C	------	28CE0160070000B5
14	S14:TST1xx	27.000°C	------	28D9FB5F070000A2
15	S15:TST1xx	27.750°C	------	2885955F10000072
16	S16:TST1xx	28.000°C	------	2845C75F070000CB
17	S17:TST1xx	27.062°C	------	2865F55F0700007A
18	S18:TST1xx	27.000°C	------	2855705F100000BE
19	S19:TST1xx	27.875°C	------	28CBC45F0700007C
20	S20	------	------	0000000000000000

The page displays the current values of all detected sensors together with their descriptions and unique 1-Wire IDs. Depending on the sensor type, up to two measurement parameters may be displayed for each sensor.

The displayed sensor values are refreshed automatically, providing a convenient overview of the current operating status of all connected sensors.

For users logged in with the User account, the Monitoring page is the only accessible page and is available in read-only mode.

The Monitoring page can be used during normal operation to verify sensor readings, identify connected sensors by their unique IDs, and confirm proper operation of the 1-Wire network.

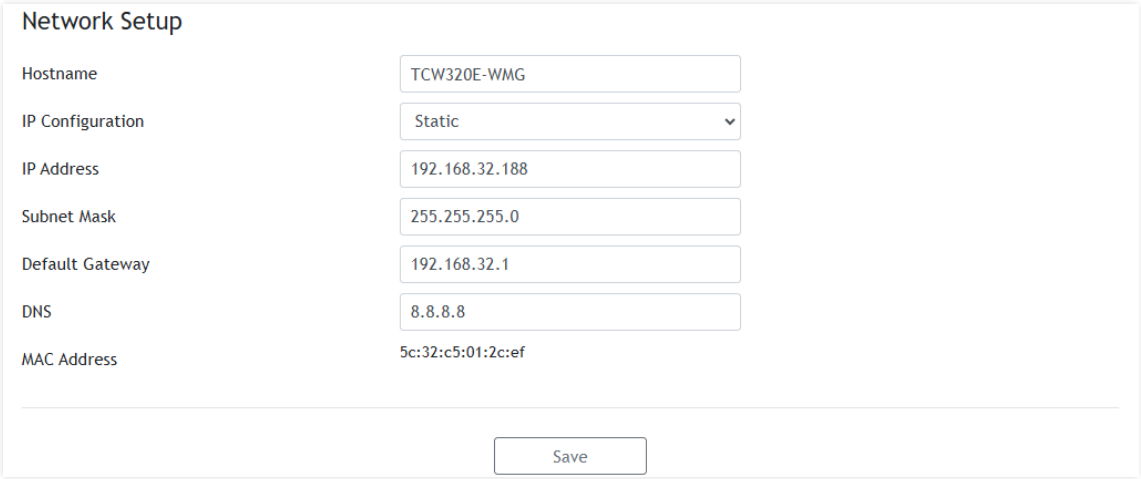
9.2. Setup

The Setup section provides access to the network, Modbus, and 1-Wire sensor configuration pages.

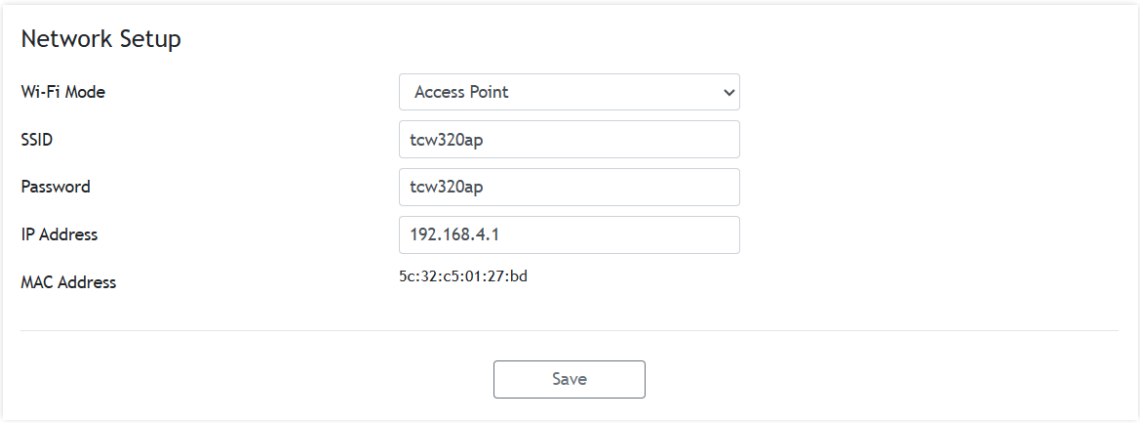
9.2.1 Network settings

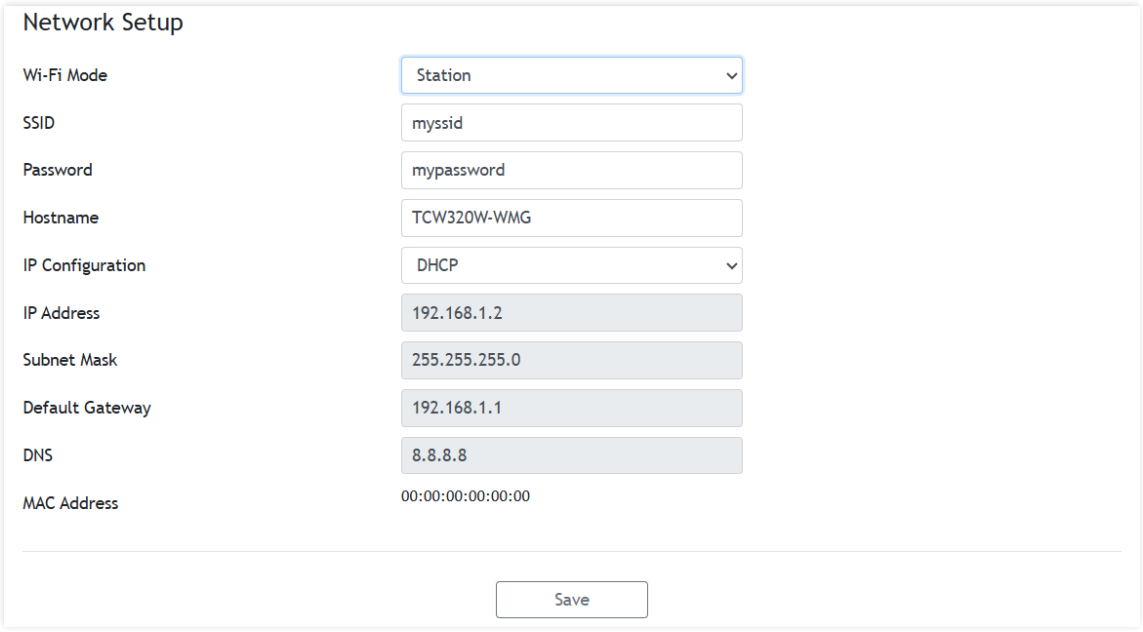
The Network settings section is used to configure the network parameters of the device, depending on the selected network interface and operating mode.

For the Ethernet variant, this section allows configuration of IP addressing parameters, including automatic configuration via DHCP or manual assignment of a static IP address.



For the Wi-Fi variant, network settings include selection of the Wi-Fi operating mode, configuration of wireless network parameters, and IP addressing settings. In Station mode, the device connects to an existing wireless network, while in Access Point mode it provides its own wireless network for direct access.



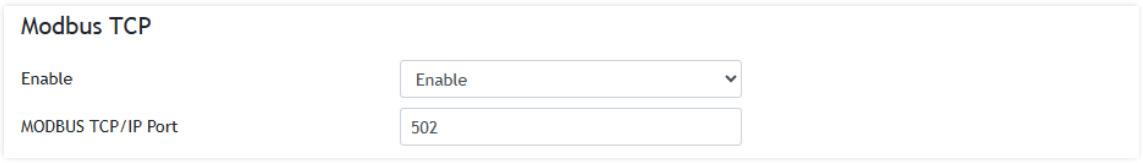


Changes to network settings affect how the device is accessed and how it communicates with other systems on the network. Incorrect configuration may result in loss of connectivity to the web interface.

9.2.2 Modbus

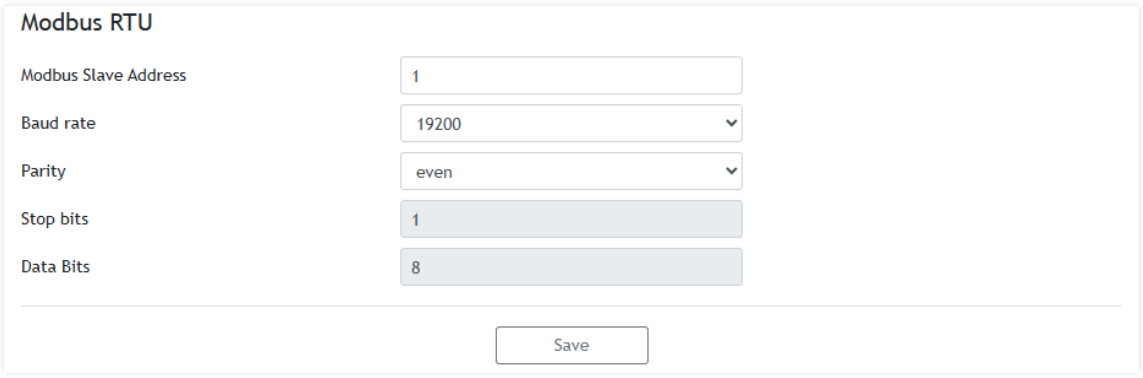
The Modbus page is used to configure the Modbus communication parameters of the gateway.

The Modbus TCP section allows enabling or disabling the Modbus TCP server and configuring the TCP port used for communication. The default Modbus TCP port is 502.



The Modbus RTU section is used to configure the Modbus slave address, baud rate, and parity. These parameters must match the communication settings of the Modbus master device.

The Stop bits and Data bits fields cannot be modified by the user; they are displayed for information only.



Changes to the Modbus communication parameters take effect after saving the configuration.

9.2.3 1-Wire sensors

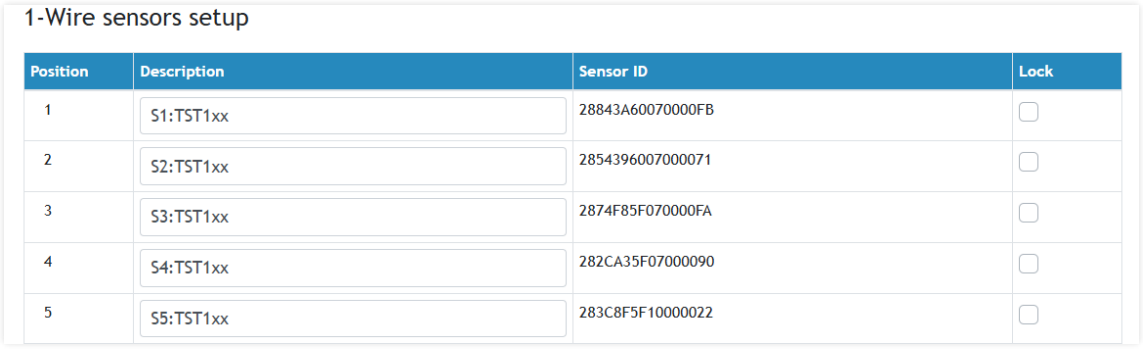
The Sensors page is used to detect, configure, and assign descriptions to connected 1-Wire sensors.

The gateway supports up to 20 sensor positions. Each position stores the sensor description, unique 1-Wire ID, and lock status.

Click Scan Sensors to detect all connected 1-Wire sensors. Newly detected sensors are automatically assigned to the first available unlocked positions.

The Description field can be used to assign a user-defined name to each sensor, making it easier to identify sensors on the Monitoring page and in the Modbus register map.

Selecting the Lock checkbox binds the detected sensor to its current position. During subsequent sensor scans, locked sensors remain assigned to the same positions, ensuring consistent Modbus register mapping even if additional sensors are added or disconnected.



After making changes, click Save to store the configuration in the gateway.

9.3. Administration

The Administration section is used to configure system-level parameters of the gateway and perform maintenance operations.

This section is available only to users logged in with the Administrator account. It provides access to device identification settings, user account management, configuration backup and restore functions, firmware updates, and device restart operations.

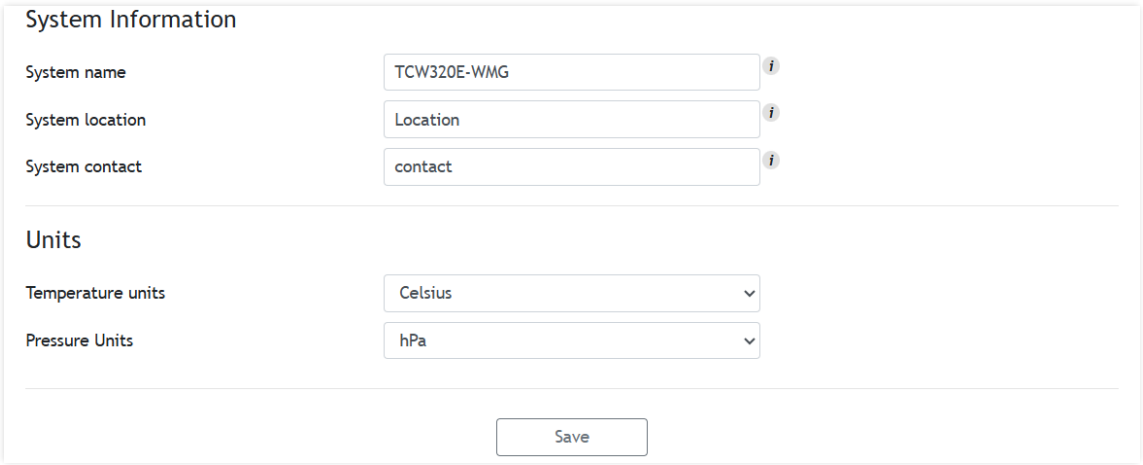
9.3.1 System

The System page is used to configure general information about the gateway and the measurement units used throughout the web interface.

The System name, System location, and System contact fields are intended for device identification and documentation purposes. These values help identify the gateway in larger installations and maintenance records.

The Temperature units setting selects whether temperature values are displayed in degrees Celsius or degrees Fahrenheit.

The Pressure units setting selects the unit used to display pressure measurements from compatible 1-Wire sensors.

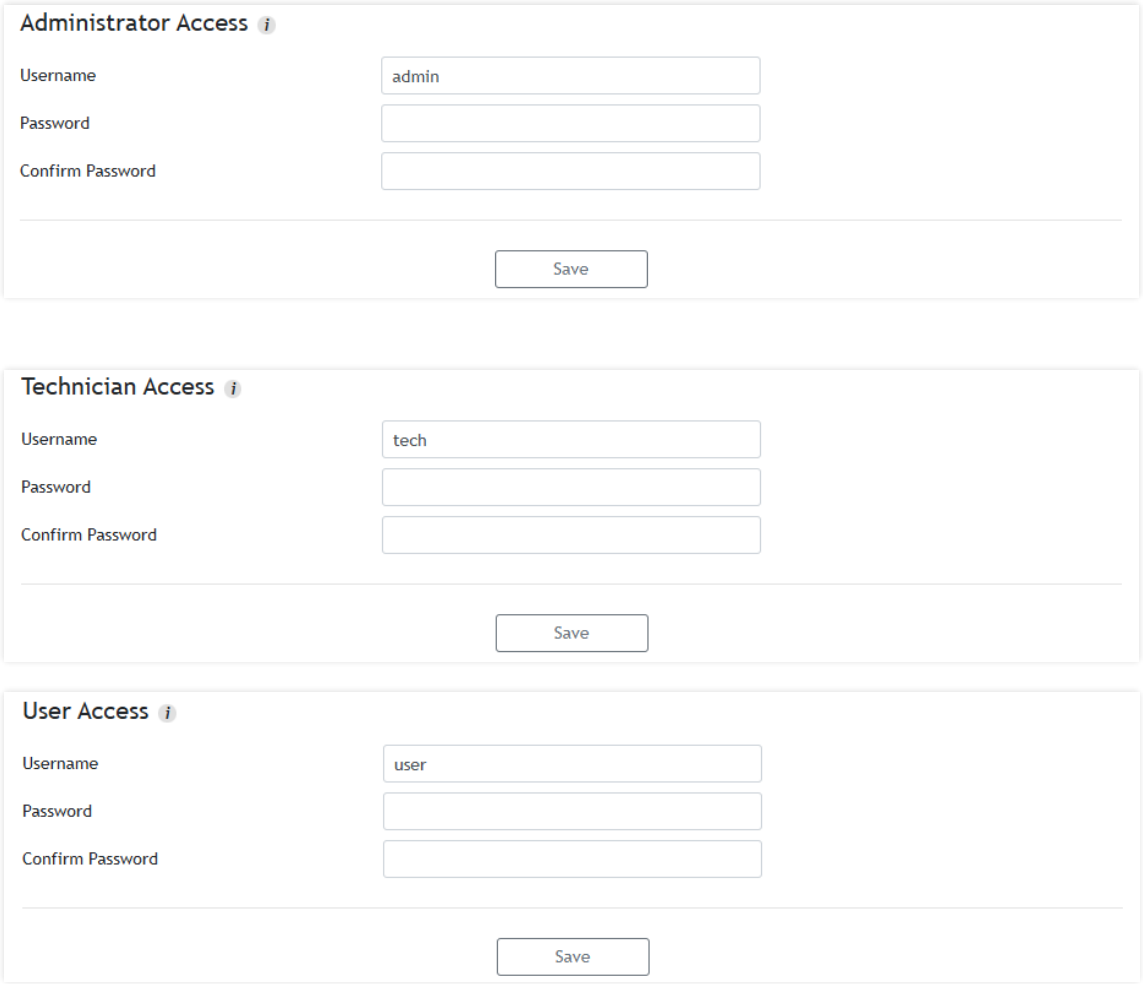


After making changes, click Save to store the configuration.

9.3.2 User management

The User management section is used to configure access credentials for the device web interface.

The device supports three predefined user accounts with different access levels: Administrator, Technician, and User.



By default, the password for each account is identical to the corresponding user name. It is strongly recommended to change the default passwords during the initial device configuration.

A user account is considered active only if a user name is defined. If no user name is configured for a given account, that account cannot be used to access the web interface.

Passwords are configured by entering a new password and confirming it. Changes are applied after saving the configuration.

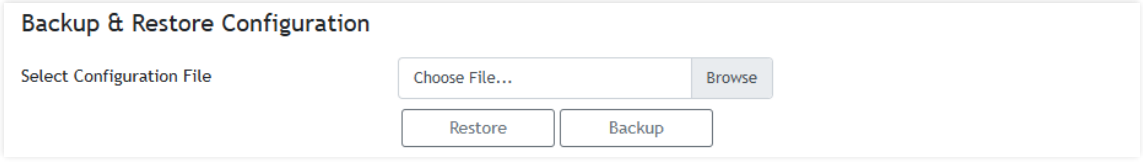
Access rights are defined as follows:

- The User account has access only to the Monitoring section.
- The Technician account has access to the Monitoring and Setup sections.
- The Administrator account has unrestricted access to all sections of the web interface.

Operations related to firmware updates, backup and restore functions, user management, and system administration are available only to the Administrator account.

9.3.3 Backup and restore

The Backup and Restore section is used to export and import the device configuration.



The configuration is stored in an XML file containing the device parameters. When performing a backup operation, the current configuration is saved to an XML file that can be downloaded and stored externally.

The XML configuration file can also be edited manually if required, allowing selective modification of specific parameters before restoring it to the device. This makes it possible to modify only selected configuration parameters while preserving all other settings unchanged.

The restore function applies the parameters from the uploaded XML file to the device configuration. This feature is especially useful for replicating identical or similar configurations across multiple devices, reducing setup time and minimizing configuration errors.

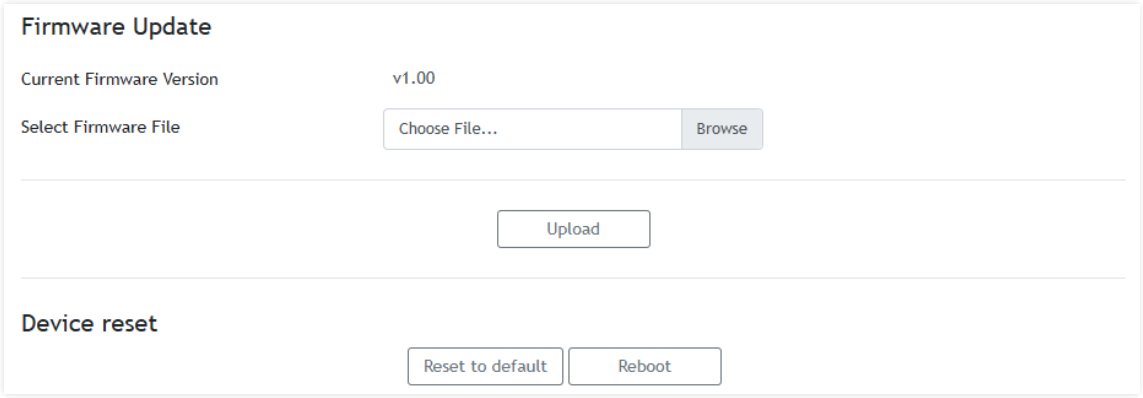
9.3.4 Firmware Update and Device Reset

The Update & Reset page is used to update the gateway firmware and perform device reset operations.

The currently installed firmware version is displayed for reference.

To update the firmware, select the appropriate firmware file and click Upload. During the update process, do not disconnect the power supply or restart the gateway, as this may result in an incomplete firmware installation.

After a successful firmware update, the gateway automatically restarts and activates the new firmware version.



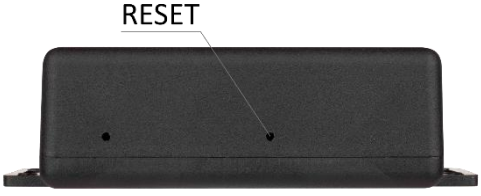
Click Reset to default to restore all configuration parameters to their factory default values while preserving the current network settings. This allows the gateway to be reconfigured without losing network connectivity.

Click Reboot to restart the gateway without modifying any configuration parameters.

Firmware update and device reset operations are available only to users with administrative privileges.

10. Hardware reset

The gateway provides additional reset functions using the RESET button on the device. These functions are intended for recovery when access to the web interface is unavailable.



10.1. Network settings reset

If the RESET button is pressed and held for more than 5 seconds while the gateway is powered on, all network-related parameters are restored to their factory default values.

This reset method affects only the network configuration and does not modify other settings, such as Modbus parameters, configured sensors, or user accounts.

Use this reset method when network access to the gateway has been lost due to incorrect network configuration.

10.2. Full factory reset

A full factory reset restores all configuration parameters, including network settings and user credentials, to their factory default values.

To perform a full factory reset, follow these steps:

Press and hold the RESET button.

Apply power to the gateway while holding the button.

The OPR LED flashes rapidly for 5 seconds.

Continue holding the button until the OPR LED turns off and the STS LED lights continuously, indicating that the reset process is complete.

Release the button and allow the gateway to restart.

After the restart, the gateway operates with factory default settings.

11. Factory default settings

After a full factory reset, the device is configured with the following default settings.

Web interface credentials

- Username: admin
- Password: admin

Network settings Ethernet variant (TCW320E-WMG):

- IP address: 192.168.1.2
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.1.1

Network settings Wi-Fi variant (TCW320W-WMG, Access Point mode):

- SSID: tcw320ap
- Password: tcw320ap
- Security: WPA2-PSK
- IP address: 192.168.4.1
- Subnet mask: 255.255.255.0

Modbus RTU settings

After a full factory reset, the Modbus RTU communication parameters are restored to the following default values, in accordance with the Modbus over Serial Line Specification:

- Baud rate: 19200
- Data bits: 8
- Parity: Even
- Stop bits: 1

12. Modbus addressing

Modbus RTU uses PDU (Protocol Data Unit) addresses, which are zero-based register addresses transmitted in every Modbus request. These are the only register addresses used during communication.

Many PLCs, SCADA systems, and Modbus tools display logical register addresses instead of PDU addresses. Logical addresses are created by adding an offset to the PDU address. For example, holding register PDU address 0 is commonly displayed as 40001, while PDU address 13 may appear as 40014.

The offset and address format are not defined by the Modbus protocol and may vary between software applications and manufacturers. A commonly used convention applies an offset of 00001 to coils, 10001 to discrete inputs, 30001 to input registers, and 40001 to holding registers. Other systems may use different offsets or expect the zero-based PDU address directly.

For this reason, all register addresses in this manual are presented as PDU addresses. When configuring your Modbus master, always use the addressing convention required by your software.

For a detailed explanation of Modbus addressing and address conversion, see Demystifying Modbus RTU addressing.

13. Modbus register table

Register name	R/W	FC	PDU Address (Decimal)	Data size	Default	Valid values
RS-485 address	R/W	03/06	10	16-bit unsigned integer	1	1-247
Baud rate*	R/W	03/06	11	16-bit unsigned integer	19200	2400, 4800, 9600, 19200, 38400, 57600
Parity, data, stop bits *	R/W	03/06	12	16-bit unsigned integer	1	1=E81, 2=O81, 3=N81
Data order	R/W	03/06	13	16-bit unsigned integer	1	1=MSWF (MSW, LSW) 2=LSWF (LSW, MSW)
Device code	R	03	14	16-bit unsigned integer		0x104
FW version	R	03	15	16-bit unsigned integer		
Vendor URL	R	03	18	64-byte UTF-8 string		teracomsystems.com
Float test value (MSWF)	R	03	82	32-bit float		-9.9(0xC11E6666)
Float test value (LSWF)	R	03	84	32-bit float		-9.9(0xC11E6666)
Signed integer test value	R	03	86	16-bit signed integer		-999(0xFC19)
Signed integer test value (MSWF)	R	03	87	32-bit signed integer		-99999(0xFFFE7961)
Signed integer test value (LSWF)	R	03	89	32-bit signed integer		-99999(0xFFFE7961)
Unsigned integer test value	R	03	91	16-bit unsigned integer		999(0x03E7)
Unsigned integer test value (MSWF)	R	03	92	32-bit unsigned integer		99999(0x0001869F)
Unsigned integer test value (LSWF)	R	03	94	32-bit unsigned integer		99999(0x0001869F)
System Name	R	03	100	32-byte UTF-8 string	TCW320x-WMG	
System Location	R	03	200	32-byte UTF-8 string	Location	
System Contact	R	03	300	32-byte UTF-8 string	Contact	
Sensor 1 Parameter 1	R	03	1010	32-bit float		
Sensor 1 Parameter 2	R	03	1012	32-bit float		
Sensor 2 Parameter 1	R	03	1020	32-bit float		
Sensor 2 Parameter 2	R	03	1022	32-bit float		
Sensor 3 Parameter 1	R	03	1030	32-bit float		
Sensor 3 Parameter 2	R	03	1032	32-bit float		
Sensor 4 Parameter 1	R	03	1040	32-bit float		
Sensor 4 Parameter 2	R	03	1042	32-bit float		
Sensor 5 Parameter 1	R	03	1050	32-bit float		
Sensor 5 Parameter 2	R	03	1052	32-bit float		
Sensor 6 Parameter 1	R	03	1060	32-bit float		
Sensor 6 Parameter 2	R	03	1062	32-bit float		
Sensor 7 Parameter 1	R	03	1070	32-bit float		
Sensor 7 Parameter 2	R	03	1072	32-bit float		

Sensor 8 Parameter 1	R	03	1080	32-bit float		
Sensor 8 Parameter 2	R	03	1082	32-bit float		
Sensor 9 Parameter 1	R	03	1090	32-bit float		
Sensor 9 Parameter 2	R	03	1092	32-bit float		
Sensor 10 Parameter 1	R	03	1100	32-bit float		
Sensor 10 Parameter 2	R	03	1102	32-bit float		
Sensor 11 Parameter 1	R	03	1110	32-bit float		
Sensor 11 Parameter 2	R	03	1112	32-bit float		
Sensor 12 Parameter 1	R	03	1120	32-bit float		
Sensor 12 Parameter 2	R	03	1122	32-bit float		
Sensor 13 Parameter 1	R	03	1130	32-bit float		
Sensor 13 Parameter 2	R	03	1132	32-bit float		
Sensor 14 Parameter 1	R	03	1140	32-bit float		
Sensor 14 Parameter 2	R	03	1142	32-bit float		
Sensor 15 Parameter 1	R	03	1150	32-bit float		
Sensor 15 Parameter 2	R	03	1152	32-bit float		
Sensor 16 Parameter 1	R	03	1160	32-bit float		
Sensor 16 Parameter 2	R	03	1162	32-bit float		
Sensor 17 Parameter 1	R	03	1170	32-bit float		
Sensor 17 Parameter 2	R	03	1172	32-bit float		
Sensor 18 Parameter 1	R	03	1180	32-bit float		
Sensor 18 Parameter 2	R	03	1182	32-bit float		
Sensor 19 Parameter 1	R	03	1190	32-bit float		
Sensor 19 Parameter 2	R	03	1192	32-bit float		
Sensor 20 Parameter 1	R	03	1200	32-bit float		
Sensor 20 Parameter 2	R	03	1202	32-bit float		

* The settings will take effect after restarting the device by powering it off and on.
MSWF - Most Significant Word First - (bits 31 … 16), (bits 15 … 0); LSWF - Least Significant Word First - (bits 15 … 0), (bits 31 … 16).
When a floating-point value is not available, the returned value is “NaN” (e.g. in case of a measurement error).

14. Operating environment

The device is intended for operation in a Pollution Degree 2 environment, at altitudes up to 2000 meters above sea level.

When the device is integrated into a larger system, all other system components must comply with applicable EMC (Electromagnetic Compatibility) requirements and be suitable for operation under the same environmental conditions.

15. Safety precautions

The device must not be used for medical, life-support, or life-saving applications, or in any system where a failure of the device could result in serious injury or loss of life.

To reduce the risk of fire, only flexible stranded conductors with a minimum cross-sectional area of 0.5 mm² must be used for wiring.

To prevent electric shock and fire hazards, the device must not be exposed to liquids, rain, or excessive moisture. Objects containing liquids must not be placed on or near the device.

Ensure adequate ventilation around the device. Failure to maintain the recommended free space around the device may result in overheating and potential damage. Sufficient space must also be provided to allow safe connection and disconnection of cables.

The device must be operated strictly within the limits specified in this documentation. Operation outside the specified conditions may impair the protection provided by the device and lead to unreliable operation.

Teracom OOD does not guarantee correct operation of the product if it is used under conditions that differ from those specified by the manufacturer. In no event shall Teracom OOD be held responsible or liable for indirect or consequential damages resulting from the use or application of this product.

16. Maintenance

After any service or repair, and at least once per year, a safety check must be performed to verify that the device is in proper operating condition.

The device must be cleaned using a dry cloth only. Do not use liquid or aerosol cleaners. Magnetic or electrostatic cleaning devices, as well as abrasive materials, must not be used.

Following these maintenance guidelines helps ensure reliable operation and extends the service life of the device.

17. Disposal and recycling

Please recycle all applicable materials in accordance with local regulations.



Do not dispose of the device as regular household waste.

Electronic components should be properly recycled to minimize environmental impact.

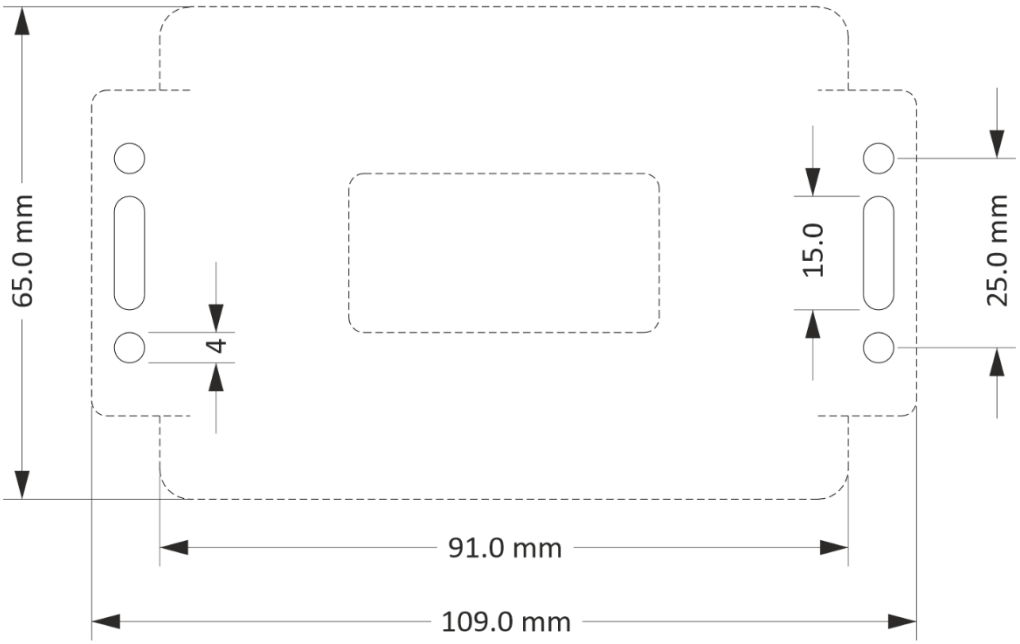

65.0 mm
4
15.0
25.0 mm
91.0 mm
109.0 mm

Fig.1

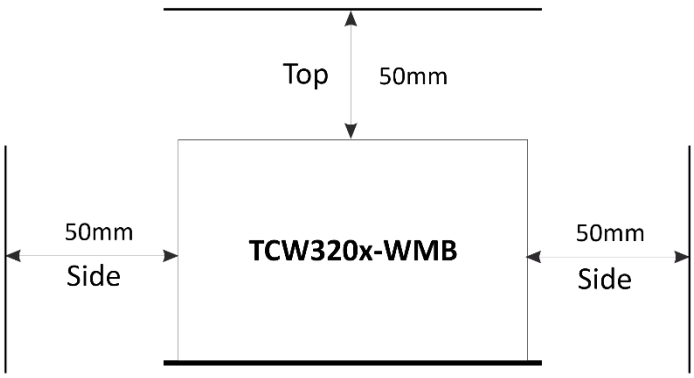

Top
50mm
50mm
Side
TCW320x-WMB
50mm
Side

Fig.2