

# User Manual

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**JTM-4G-WiFi**  
Telemetry Module

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Translation of the german original User Manual

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# 1 Introduction

## 1.1 Information on this document

This document forms an integral part of the product and must be read and understood prior to using the device. It contains important and safety-related information for the proper use of the product as intended.

### Target Groups

This document is intended for specialists with appropriate qualifications.

Only competent and trained personnel are allowed to put this device into operation.

During the whole product life cycle, safe handling and operation of the device must be ensured. In the case of missing or inadequate technical knowledge or knowledge of this document any liability is excluded.

### Availability of Information

Make sure this document is kept at the ready in the vicinity of the product throughout its service life.

For information on new revisions of this document, visit the download area on our website. This document is not subject to any updating service.

[Start | www.bucherautomation.com](http://www.bucherautomation.com)

For further information refer to the following information products:

- Application Notes  
Technical reports and application examples
- Online help for the JetSym software  
Functions of software products with application examples
- Application-oriented manuals  
Product-independent documentation
- Version updates  
Information about changes to the software products and operating system of your device

### Info

#### Further information

For further information on the noise immunity of a system, please refer to the Application Note 016 *EMC-Compatible Installation of the Electric Cabinet* available for download on [www.bucherautomation.com](http://www.bucherautomation.com).

## 1.2 Typographical conventions

This manual uses different typographical effects to support you in finding and classifying information. Below, there is an example of a step-by-step instruction:

- ✓ This symbol indicates requirements which have to be met before executing the following action.
- ▶ This sign or a numbering at the beginning of a paragraph marks an action instruction that must be executed by the user. Execute the instructions one after the other.
- ⇒ The target after a list of instructions indicates reactions to, or results of these actions.

### Info

#### Further information and practical tips

In the info box you will find helpful information and practical tips about your product.

## 2 Safety

### 2.1 General Information

The product corresponds to the current state of science and technology when placed on the market. In addition to this user manual, the laws, regulations and directives of the country of operation or the EU apply to the operation of the product. The operator is responsible for compliance with the relevant accident prevention regulations and generally recognized safety rules.

#### E1

The device features E1 type approval according to ECE R10 Rev. 5.

#### CE

The device is CE compliant according to the ISO 14982 standard on agricultural and forestry machinery.

#### RoHS 2

The device conforms to the EU directive 2011/65/EU (RoHS 2).

#### Radio Equipment Directive

The radio frequency components installed in the device comply with the 2014/53/EU Radio Equipment Directive.

#### 2.1.1 Regional Restrictions

Product variant JTM-4G-WiFi-E02-EU-K00 is designed for the EMEA Economic Area (Europa, Middle East and Africa). It is equipped with a Sierra Wireless module WP7607-1:

[www.sierrawireless.com/iot-solutions/products/wp7607](http://www.sierrawireless.com/iot-solutions/products/wp7607)

Observe the following notices:

- A fallback to 3G is not supported because the 3G networks are not supported by the operators in the EU.
- For applications outside the EU, local approvals may be required.
- For applications outside the EMEA region, special purchase orders and certifications are required.
- This product variant can only be used in the specified regions. Other regions are available on request. The Non-EMEA product variants are based on the corresponding WP76xx modules.

## 2.2 Purpose

### 2.2.1 Intended use

The JTM-4G-WiFi telemetry module enables wireless connection of mobile working machinery to the Internet and access to the machine.

By means of the JXM-TE-E01-G30 Ethernet adapter the JTM-4G-WiFi can be employed for remote access to an industrial controller located within a control cabinet.

The JTM-4G-WiFi is designed for low-voltage applications only.

Operate the device only in accordance with the intended conditions of use and within the limits set forth in the technical specifications.

Intended use of the product includes its operation in accordance with this manual.

### 2.2.2 Usage other than intended

The device was not developed for safety applications such as brakes, steering, response to an emergency or life-saving functions. Applications of these types are strictly prohibited.

The device is designed exclusively for low-voltage applications. A direct connection to high-voltage circuits is prohibited.

## 2.3 Warnings used in this document

### DANGER



#### High risk

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

### WARNING



#### Medium risk

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

### CAUTION



#### Low risk

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

### NOTICE



#### Material damage

Indicates a situation which, if not avoided, could result in malfunctions or material damage.

# 3 Product Description

The JTM-4G-WiFi telemetry module is designed for mobile automation applications, including agricultural and forestry machinery. It uses wireless communication via LTE CAT-1 and WiFi, or via CAN and USB within the vehicle network.

Using the JXM-TE-E01-G30 Ethernet adapter allows for the JTM-4G-WiFi to be used with applications in the industrial environment.

The JTM-4G-WiFi is designed to process the user's machine-specific software modules. The programming environment relies on the Sierra Wireless Legato Framework, itself building on the Embedded Linux system. This framework ensures access to all communication channels as well as data processing and storage options.

## 3.1 Design

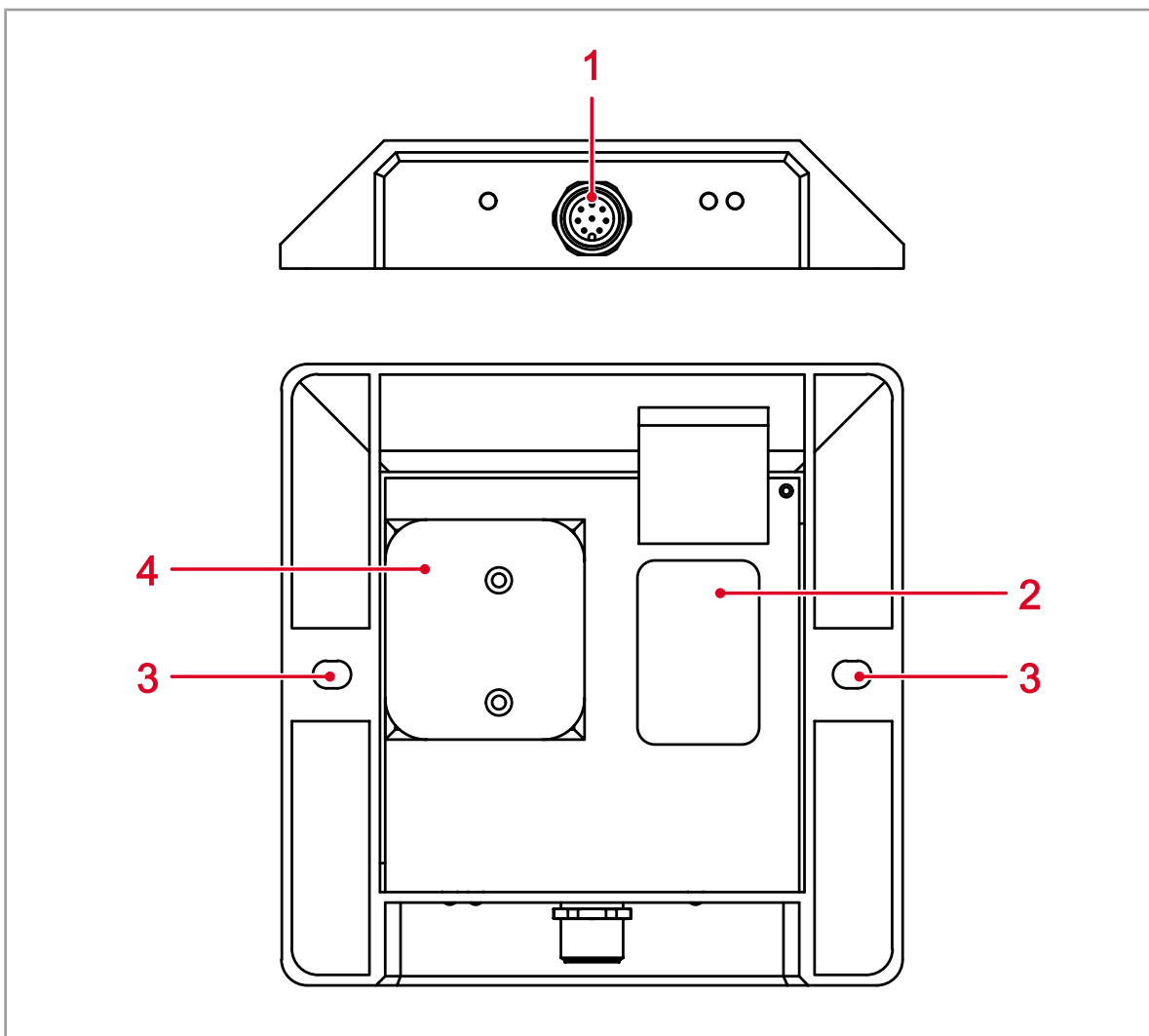


Fig. 1: Design

1	M12 male connector [▶ 22]
2	Position of the nameplate [▶ 10]
3	Fastening lugs
4	Cover [▶ 24]

### 3.2 Product features

- LTE-CAT-1 wireless connection (4G) with 2G fallback option
- Remote access to various machines
- Device management cloud
- Internal web server
- GNSS antenna
- WLAN antenna
- WiFi interface
- MicroSD card slot
- Micro-SIM slot
- Integrated eSIM from Sierra Wireless
- 2x CAN

### 3.3 LED indicators

The JTM-4G-WiFi has 3 LEDs.

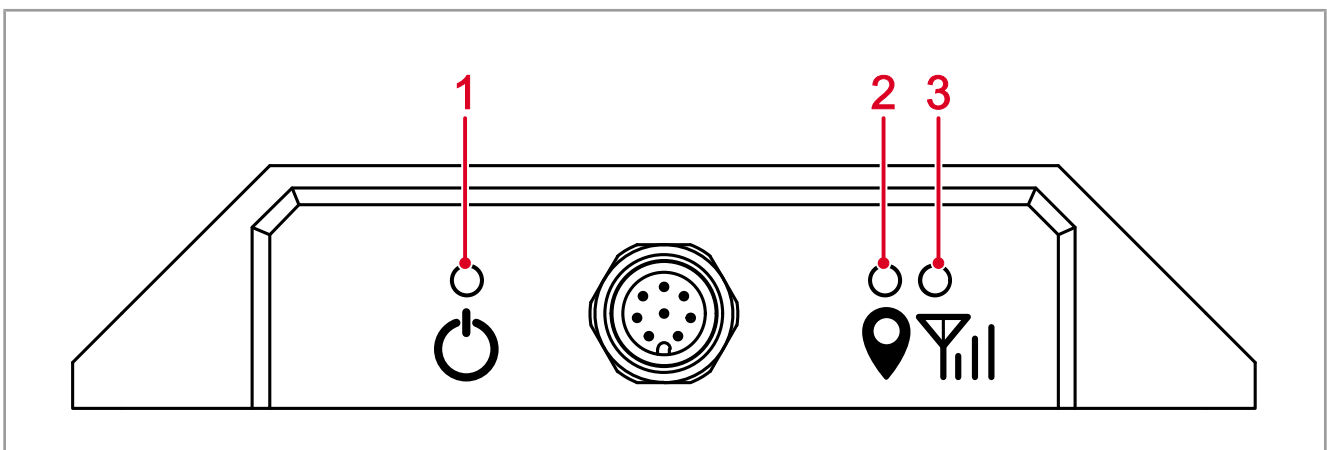








Fig. 2: LED indicators

LED	Icon	Display
1		Operating state
2		GNSS signal
3		Widiin cloud connection

### 3.3.1 Diagnostic capability via LEDs

LED	Status	Color	Description
	OFF	---	
	ON	Green	Power supply is present.
	OFF	---	
	ON	Green	<b>GNSS</b> receiver is receiving position information.
	OFF	---	
	ON	Green	Identification and connection to the Widiin cloud were successful.

### 3.4 Nameplate

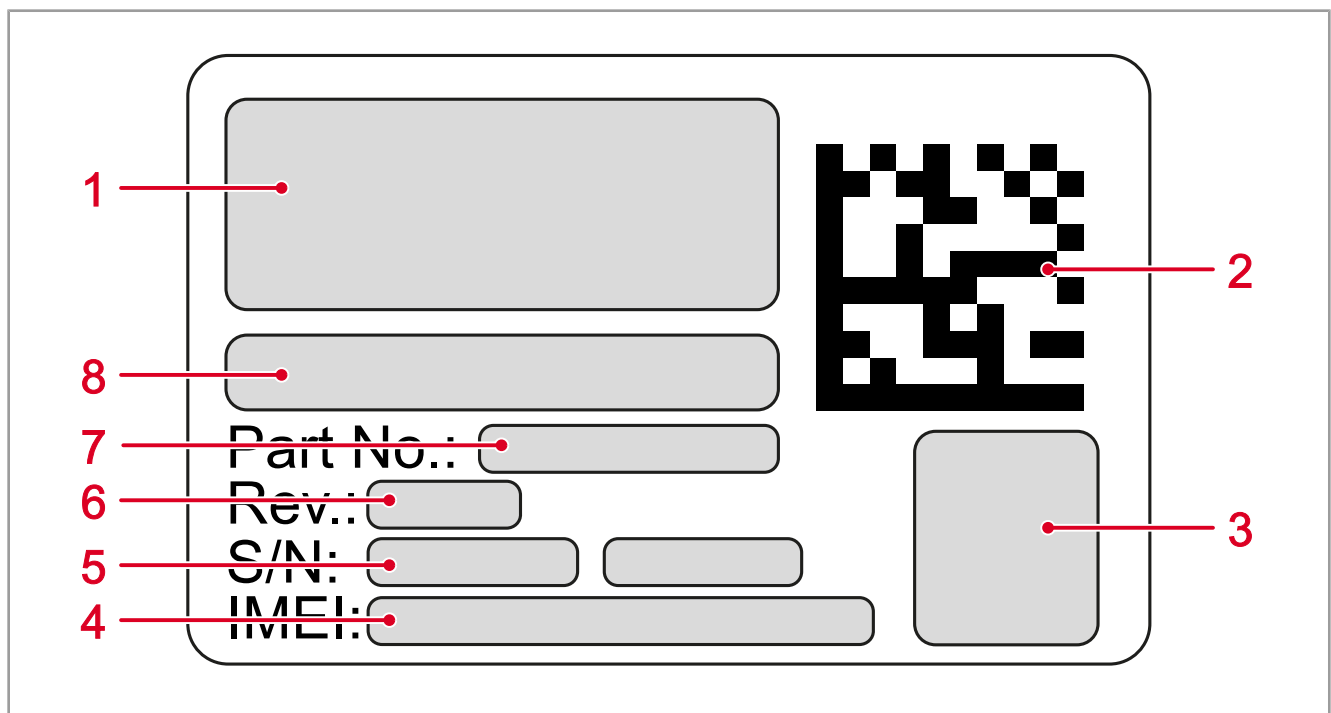


Fig. 3: Nameplate

1	Company logo
2	DataMatrix code
3	Certification mark
4	IMEI number of the Sierra Wireless module
5	Serial number
6	Hardware revision
7	Item number
8	Item name

### 3.5 Scope of Delivery

Scope of delivery	Item number	Quantity
JTM-4G-WiFi-E02-EU-K00	10001971	1

# 4 Technical Specifications

This chapter contains information on both electrical and mechanical data as well as on operating data of the JTM-4G-WiFi device.

## 4.1 Dimensions

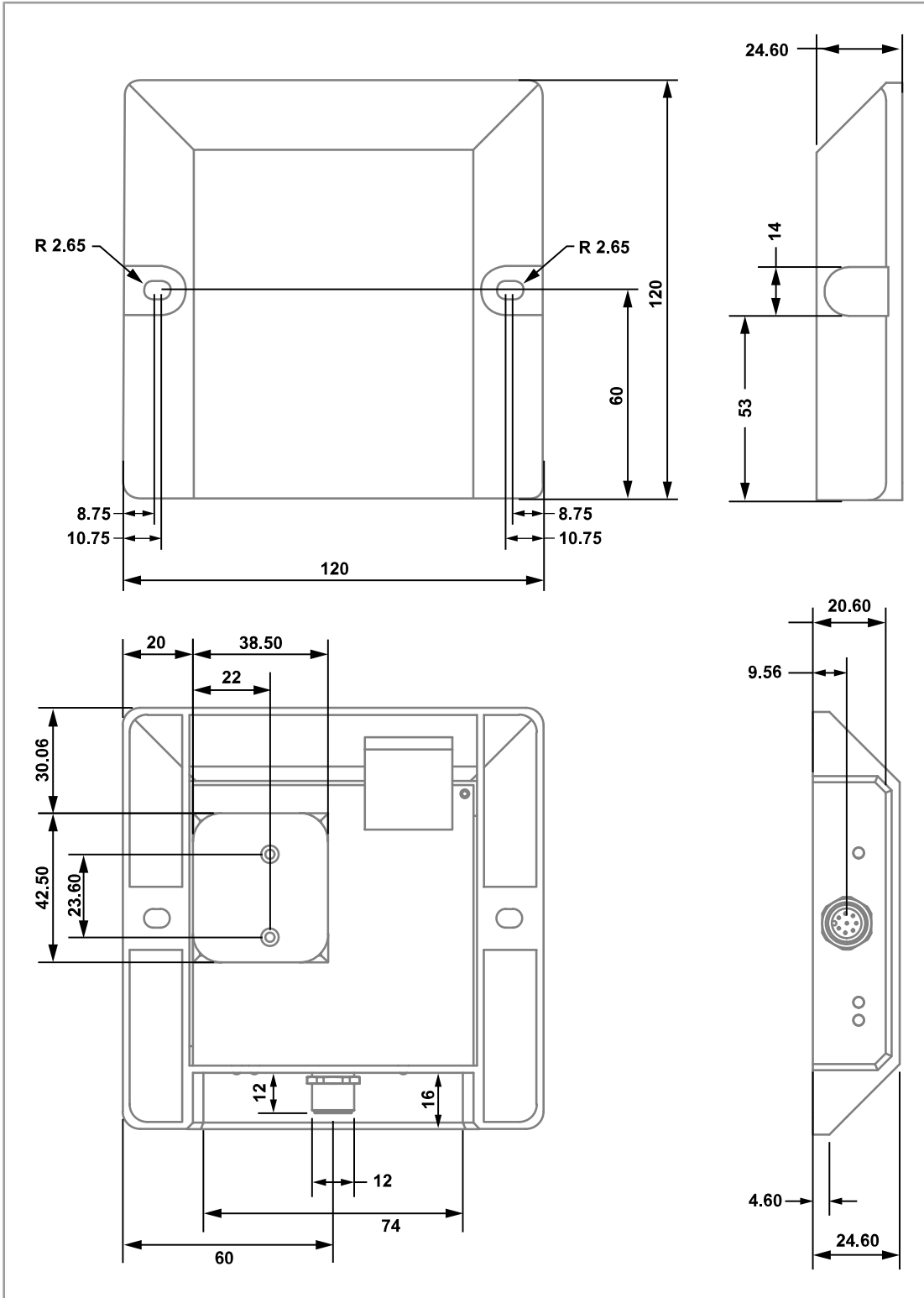


Fig. 4: Dimension in mm

 **Info**
**CAD data**

For CAD data go to [www.bucherautomation.com](http://www.bucherautomation.com) and navigate to the product page *JTM-4G-WiFi* > *Downloads*.

## 4.2 Mechanical specifications

Parameter	Description	Standards
Mounting orientation	Vertical or horizontal	
Weight	~ 350 g	
<b>Enclosure specifications</b>		
UV radiation protection	Resistant to direct sunlight	
<b>Vibration</b>		
Floating frequency	10 Hz ... 150 Hz	ISO 16750-3
Duration	6 h	
<b>Shock resistance</b>		
Type of shock	Half-sine wave	ISO 16750-3
Intensity and duration	50 g (500 m/s <sup>2</sup> ) for 11 ms	
Degree of protection	IP67	
	IP6K9K is only possible if the M12 male connector is covered with an external rubber protector against high-pressure water jets.	

Tab. 1: Mechanical specifications

## 4.3 Electrical properties

### Power supply

Parameter	Description
Operating voltage	DC 8 V ... 32 V
Load-dump protection	12 V system
Protection against polarity reversal	Reverse-polarity-tolerant
Typical consumption	<2 W with continuous LTE communication
Recommended fuse	1 A at UB+ (slow-blow)

Tab. 2: Technical data – power supply

### CPU

Parameter	Description
Application processor	ARM® Cortex™-A7 (1.3 GHz)
Co-processor	ARM® Cortex™-M3 (72 MHz)

Tab. 3: Technical data – CPU

## Memory

Parameter	Description
RAM	256 MB
Flash	512 MB

Tab. 4: Technical data – memory

## 4.4 Ports and interfaces

### EU-4G modem

Parameter	Description	
Category	LTE CAT-1 with internal double antenna	
Downstream	10 MBit/s	
Upstream	5 MBit/s	
<b>LTE bands</b>		
4G	B1, B3, B7, B8, B20, B28	
2G	EDGE, GSM, GPRS	900 MHz, 1,800 MHz

Tab. 5: Technical data – EU-4G modem

### WiFi

Parameter	Description
Antenna	internal
Frequency/ISM band	2.4 GHz
Standard design	IEEE 802.11 b/g/n-Modi

Tab. 6: Technical data – WiFi

### CAN

Parameter	Description
Format	CAN 2.0 B
Number of interfaces	2
	Operated by a special 32-bit communication processor

Tab. 7: Technical data – CAN

### USB

Parameter	Description
Standard version	USB 2.0 (Host/Client)
Number of interfaces	1
Mode	Host/Client

Tab. 8: Technical data – USB

**eSIM**

Parameter	Description
Manufacturer	Sierra Wireless

**Tab. 9:** Technical data – eSIM**4.5 Hardware****SIM-Karte**

Parameter	Description
Format	Micro-SIM
Number of slots	1

**Tab. 10:** Technical data – SIM card**SD memory card**

Parameter	Description
Format	microSD for industrial applications
Operating temperature	-40 °C ... +85 °C
Capacity	8 GB

**Tab. 11:** Technical data – SD card**Real-time clock**

Parameter	Description
Supply unit	Gold-Cap power source
Synchronization	Via network or GNSS

**Tab. 12:** Technical data – real-time clock

## 4.6 High-frequency components

Component	Manufacturer	Function
WP7607-1-G	Sierra Wireless	LTE and GNSS receiver module
LILY-W132	uBlox	WLAN module with built-in antenna
146200-0001	Molex	2x LTE and GSM antenna
		Connected with the WP7607
2JM013-010/113-UFL	2J antennas	Active GNSS antenna
		Connected with the WP7607

Tab. 13: Technical data – high-frequency components

### Maximum output power

Component	HF-Band	Maximum output power
WP7607-1-G	LTE: B1, B3, B7, B8, B20, B28	23 dBm $\pm$ 1 dB, Class 3
	EGSM 900: 880 MHz ... 915 MHz	33 dBm $\pm$ 1 dB, GMSK mode Power Class 4 27 dBm $\pm$ 1 dB, 8PSK mode Power Class E2
	DCS 1800: 1,710 MHz ... 1,785 MHz	30 dBm $\pm$ 1 dB; GMSK mode Power Class 1; 26 dBm $\pm$ 1 dB, 8PSK mode Power Class E2
	GPS: 1,575.42 MHz $\pm$ 1,023 MHz	No radiated power in the GNSS bands
	GLONASS: 1,597.52 MHz ... 1,605.92 MHz	
LILY-W1322 <sup>1</sup>	2.4 GHz, channels 1 ... 13 (2.412 GHz ... 2.472 GHz)	19 dBm EIRP

Tab. 14: Technical data – high-frequency components

### References

<sup>1</sup> The five radiation emission values not related to the wireless transmitter are adapted to ECE-R10.06:2019 CISPR25:2004, ECE-R10.05:2016 CISPR25:2004.

## 4.7 Sensors

Parameter	Description
Site	GNSS receiver (GPS and GLONASS)
Acceleration	3D acceleration sensor

Tab. 15: Technical data – sensors

## 4.8 Environmental conditions

Parameter	Description	Standards
Operating temperature	-40 °C ... +85 °C	ISO 16750-4
Storage temperature	-40 °C ... +85 °C	
Relative humidity	5 % ... 95 %	
Weather resistance	The device is designed for use in all weather conditions and is suitable for outdoor use.	
Salt water resistance	The device is not designed for maritime applications.	

Tab. 16: Environmental conditions

## 4.9 Ethernet adapter

Parameter	JXM-TE-E01-G26	JXM-TE-E01-G30
Application Range	Mobile Automation	Industrial Automation
Ethernet	10/100 BaseT	2 x 10/100 BaseT
Operating voltage range	DC 9 V ... 30 V	
Typical power consumption	1.2 W	
Weight	170 g	400 g
Degree of protection	IP67	IP20
UV radiation protection	Withstands direct sunlight	

Tab. 17: Technical data – Ethernet adapter

**Dimensions - JXM-TE-E01-G26**

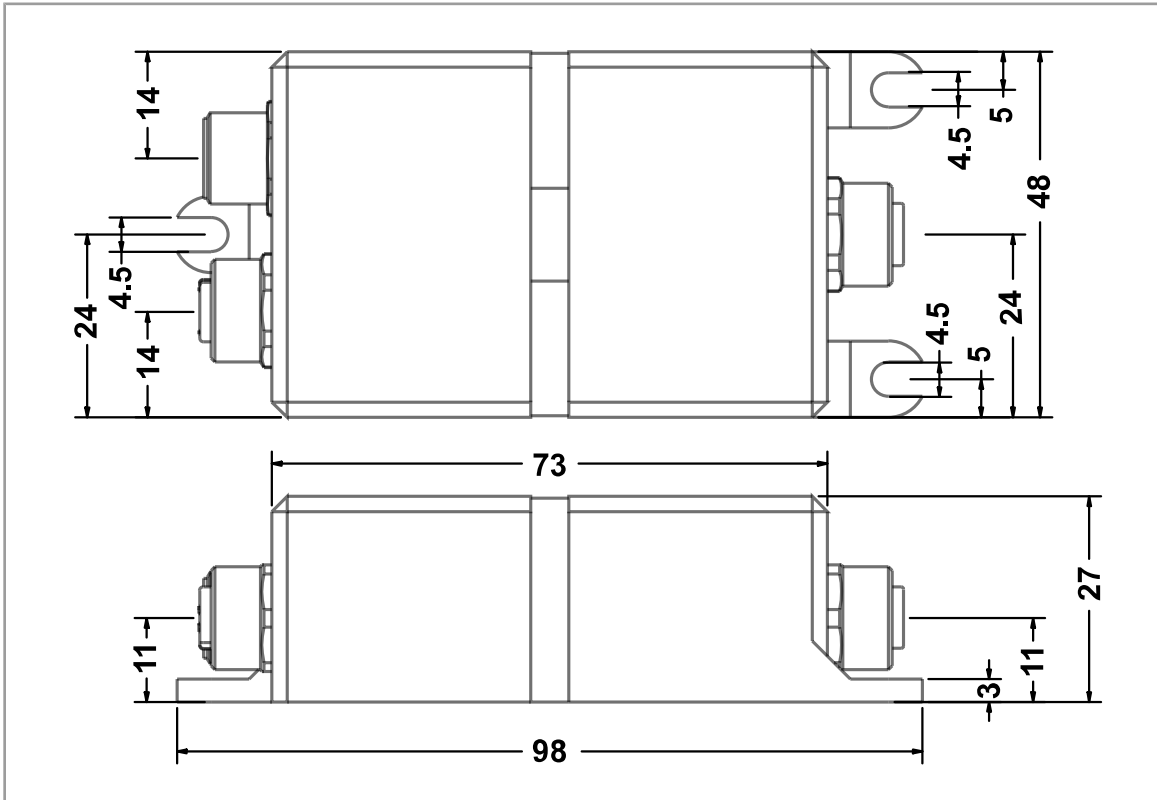


Fig. 5: Dimensions of JXM-TE-E01-G26 in mm

**Dimensions - JXM-TE-E01-G30**

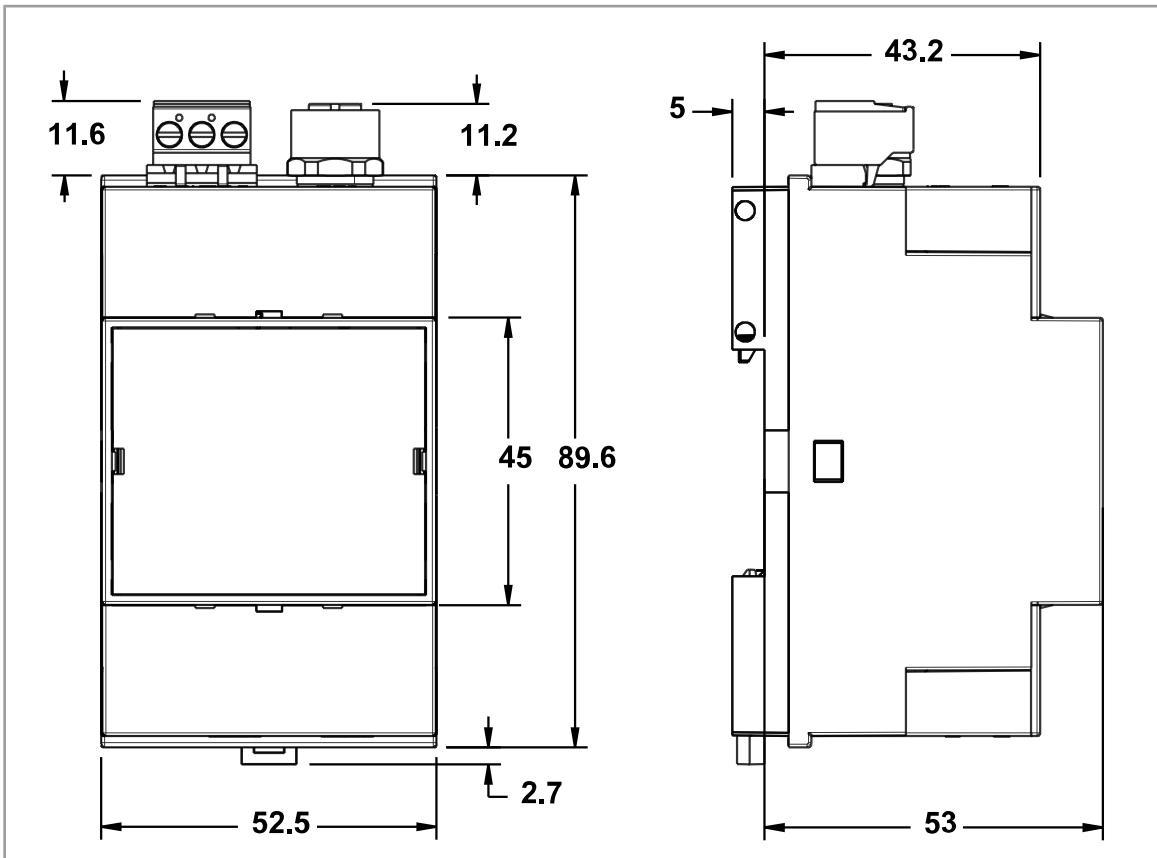


Fig. 6: Dimensions - JXM-TE-E01-G30

## 5 Mechanical installation

### ⚠ WARNING



#### Health risk due to radio signals

The device contains a radio transceiver. Mounting inside the vehicle cab is not permitted. This requirement refers to mounting situations where there is no metal object between the user and the device (such as the roof or cab wall).

- ▶ Maintain a minimum distance of 100 cm between the user and the device.

### NOTICE



#### Functional impairment due to improper paneling

Panels made from conductive materials (e.g. metal) may impair the proper functioning of the device.

- ▶ Do not cover the box using conductive materials.
- ▶ Do not use steel strappings.

### NOTICE



#### Functional impairment due to interfering signals

Signals from other antennas installed on the machine may interfere with the radio signals of the device.

- ▶ Maintain a minimum distance of 100 cm from any other antennas installed on the machine.

## 5.1 Requirements for installation location and mounting surface

### Installation location

The JTM-4G-WiFi can either be permanently installed on the machine or on a removable device.

### Mounting surface

Note the following requirements for the mounting surface:

- The installation surface must be level.

## 5.2 Mounting orientation

When mounting, observe the permitted and prohibited mounting orientations.

### 5.2.1 Allowed mounting orientations

Place the JTM-4G-WiFi with its bottom on the flat mounting surface.

Vertical and horizontal installation positions are permitted. Any mounting angle is permitted between vertical and horizontal installation position ( $0^\circ \dots 90^\circ$ ).

In vertical installation position, the M12 male connector is pointing down.

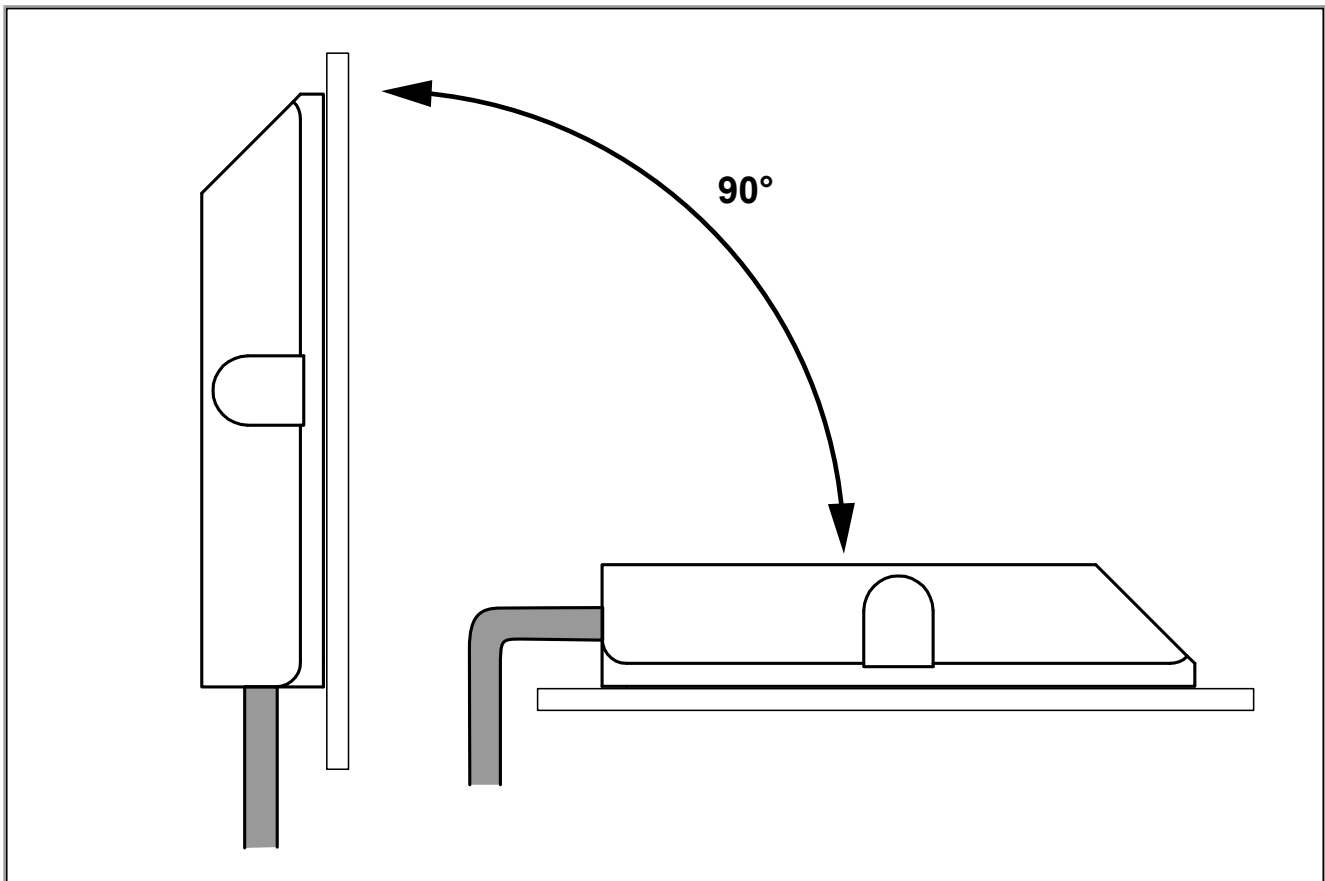


Fig. 7: Allowed mounting orientations

### 5.2.2 Forbidden mounting orientations

#### NOTICE



#### Compliance with degree of protection

Degree of protection IP67 is only ensured for the device if the mating connector of the M12 male connector is plugged in. To achieve degree of protection IP6K9K, the M12 male connector must be covered with an additional rubber protector.

Installation positions with the M12 male connector pointing up are prohibited.

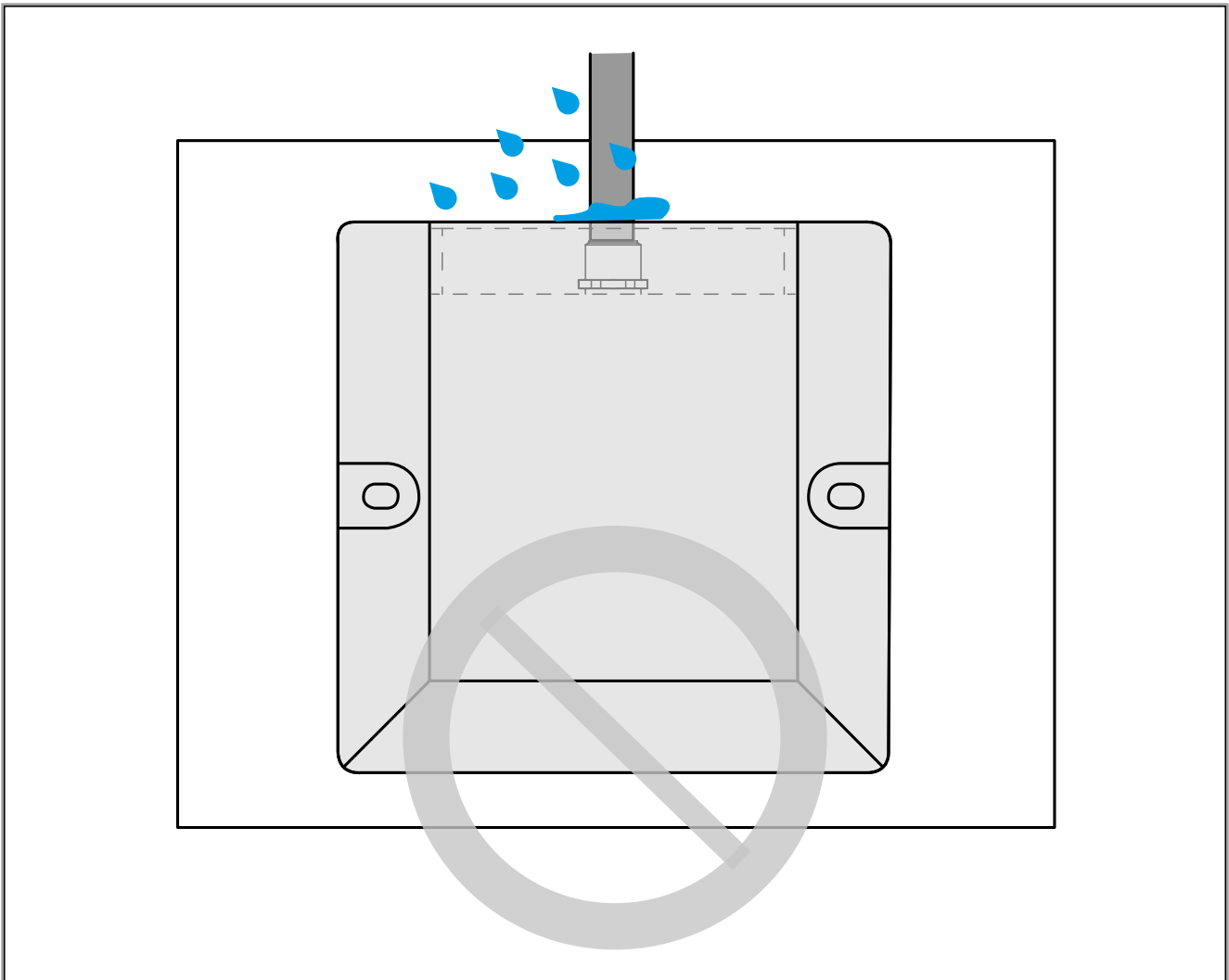


Fig. 8: Forbidden mounting orientation

### 5.3 Preparing for installation

#### Fastening material

Installation hardware is not included in the scope of delivery.

Bucher Automation AG recommends the following mounting hardware:

Material	Size	Properties	Quantity
Screws/bolts	M5		2
Spring washers	M5	Max. against unlocking caused by vibration	2

Tab. 18: Fastening material

### 5.4 Mounting the telemetry module

#### NOTICE



#### Compliance with degree of protection

Degree of protection IP67 or IP6K9K is only ensured for the device if the cover is correctly closed. Without a cover, the degree of protection is reduced to IP00.

In mounted state, access to the slots of the Micro-SIM and microSD card is not possible.

#### Mechanical installation

- ✓ The cover is correctly closed.
- ▶ Fasten the JTM-4G-WiFi onto the two fastening lugs. The max. torque is 3 Nm.

### 5.5 Installing the JXM-TE-E01-G26 Ethernet adapter

#### Installation location

The JXM-TE-E01-G26 Ethernet adapter can be installed either permanently on the machine, or on a removable device.

#### Mounting surface

Note the following requirements for the mounting surface:

- The installation surface must be level.

#### Mounting hardware

- M4 screws with washer
- Tightening torque: 3 Nm

### 5.6 Installing the JXM-TE-E01-G30 Ethernet adapter

#### Installation location

- When using LAN, install the Ethernet adapter vertically on a DIN rail (DIN EN 60715) in the control cabinet.
- When using WAN, the control cabinet housing may interfere with the receive signal. Install the telemetry module outside the control cabinet.

# 6 Electrical connection

## 6.1 Pin assignment

### 6.1.1 M12 male connector - power supply, CAN, USB

The JTM-4G-WiFi is equipped with an 8-pin M12 male connector (A-coded).

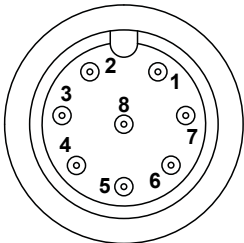
Connect the following to the M12 male connector:

- Power supply to the JTM-4G-WiFi
- CAN port
- USB data transmission

#### Recommended cable

A connection cable for the power supply of the JTM-4G-WiFi is available separately as an **accessory** [▶ 48].

#### Pin assignment



**Fig. 9:** M12 male connector

Pin	Signal	Connection cable wire color
1	UB+ Power supply +12 V	white
2	GND	brown
3	CAN2-L	Green
4	USB Data+	Yellow
5	CAN1-L	gray
6	USB Data-	pink
7	CAN2-H	blue
8	CAN1-H	Red

### Wiring

Note the following points for the wiring:

- The JTM-4G-WiFi is supplied with power by the machine battery.
- USB pins 4 and 6 must be connected to a shielded, high-frequency and twisted-pair line. The maximum permitted cable length is 5 m.  
**NOTICE! With longer cables or if pins 4 and 6 are not used, these pins must be disconnected.**
- The CAN1 and CAN2 pins are signal pairs. Pins 3 and 7, and pins 5 and 8 are twisted-pairs.
- The cable and connector shielding must be connected to GND.

## 6.2 Slots – Micro-SIM card and microSD card

The JTM-4G-WiFi is equipped with a pre-installed micro SIM card and a microSD card. The two cards are interchangeable.



**Fig. 10:** Slots – SIM card and microSD card

1	Slot for micro SIM card
2	Slot for microSD card

### 6.2.1 Opening and closing the cover

The micro SIM and microSD card slots are located under the cover in the housing.

#### NOTICE



#### Compliance with degree of protection

Degree of protection IP67 or IP6K9K is only ensured for the device if the cover is correctly closed. Without a cover, the degree of protection is reduced to IP00.

In mounted state, access to the slots of the Micro-SIM and microSD card is not possible.

#### Opening the cover

1. Disconnect the M12 male connector.
2. Remove the device from the machine.
3. Turn the device on its back.
4. Loosen the screws of the cover.

**NOTICE! Do not lose the sealing rings (1) on the screws.** A larger sealing ring (2) is fitted in the edge of the cover.



Fig. 11: Opening the cover

1	Sealing ring of the screws
2	Sealing ring of the cover

#### Closing the cover

- ✓ Check the sealing rings (2 and 3) for damage.  
**NOTICE! Replace the sealing rings if they are worn.**
- 1. Insert the cover.  
**NOTICE! The cover is not symmetrical. Ensure the correct position of the screws.**  
**Do not try to fasten the cover in a distorted position.**
- 2. Fasten the screws.

## 6.2.2 Exchanging the Micro-SIM and microSD card

### NOTICE



#### Dirt and moisture


Exchanging the cards in an unsuitable environment can lead to malfunctions.

- ▶ Exchange the cards only in a dry and dust-free environment.

- ✓ The cover is open.
- 1. Unlock the card holder.
- 2. Exchange the card.
- 3. Fold the cover of the card holder shut.
- 4. Check to make sure the cover of the card holder is locked.



## 6.3 Commissioning

- ▶ Connect the JTM-4G-WiFi to a DC 12 V ... 24 V power source.

⇒ When the device is supplied with power, the LED  is lit.

# 7 Configuration

## 7.1 Setting up a GNSS connection

- ✓ The JTM-4G-WiFi is connected with a power source.
- ✓ The LED  is lit.
  - ▶ Conduct a cold start synchronization lasting several minutes with a direct view of the GNSS satellites.
- ⇒ The LED  is lit if the position information of the GNSS receiver can be accessed.

## 7.2 Setting up a mobile wireless network connection

The JTM-4G-WiFi is equipped with a pre-installed Micro-SIM card and automatically sets up a connection with the mobile wireless network. Then the connection to the cloud server starts via the VPN channel.

The LED  is lit if the identification and connection were successful.

## 7.3 Access data label

An individual access data label is enclosed with each JTM-4G-WiFi.

The access data label contains the access data required for the connection with the Widiin cloud and the WiFi.

### Info

#### Affixing the access data label in the driver's cab

For fast access affix the access data label in the driver's cab.

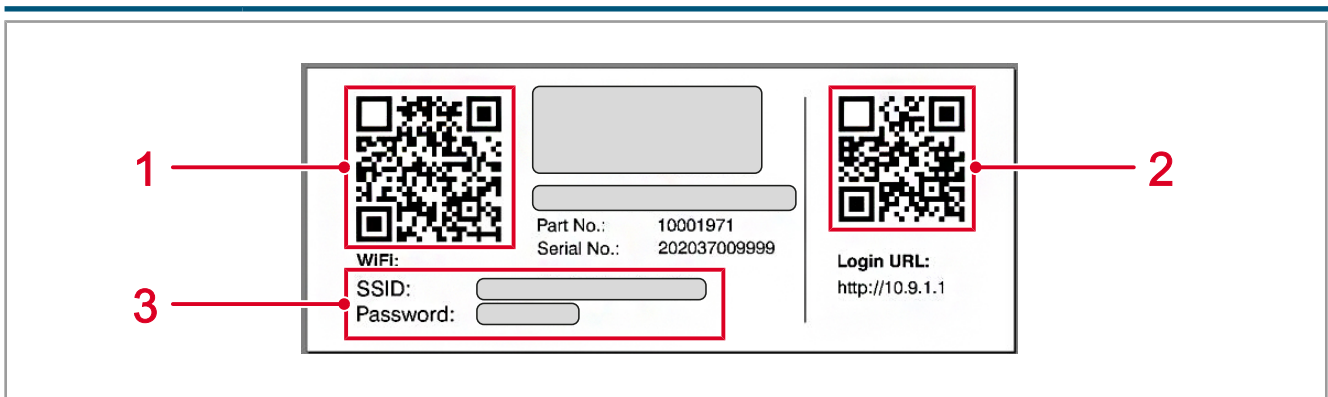


Fig. 12: Access data label

1	QR code for the automatic WiFi connection
2	QR code for calling the web interface automatically
3	Access data for the WiFi connection; the password is also used for the connection with the Widiin cloud.

### Lost access data label

If the access data label is lost please contact [Customer Service](#) [▶ 47].

## 7.4 Setting up a WiFi connection

The JTM-4G-WiFi is accessible locally via WiFi and starts as a WiFi hotspot. A connection with the mobile wireless network is not required in this case.

### WiFi hotspot mode

An integrated DHCP server is available to clients. WiFi client operation is also possible from a hotspot defined by the user. WiFi hotspot mode manages max. 8 clients simultaneously.



### Logging in

To log in you need the SSID and the password, both of which are indicated on the [access data label](#) [▶ 26].

#### Info

#### Automatic WiFi connection

To set up the WiFi connection automatically, scan the left QR code on the access data label. Then a password does not need to be entered.

- ✓ The LEDs  and  of the JTM-4G-WiFi are lit.
1. Switch to the network & Internet settings of your PC or mobile terminal device.
  2. Choose the JTM-4G-WiFi from the displayed list of networks. The name of the network corresponds to the SSID on the access data label.
  3. Enter the password.
- ⇒ Your PC or mobile terminal device is connected with the JTM-4G-WiFi.

## 7.5 Web interface

The device has a web interface with a graphical user interface. You can access the web interface with a web browser. The web interface consists of several pages.

### Opening the web interface

- ✓ A WiFi connection to the JTM-4G-WiFi has been set up.
- 1. Open page <http://10.9.1.1> in a web browser.
- 2. The web interface opens on the Info page.

Info	
<b>Identification</b>	
Device	JTM-4G
SerialNumber	XXXXXXXXXX
IMEI	XXXXXXXXXXXX
ICCID	XXXXXXXXXXXX
MSISDN	
<b>Connection</b>	
Network operator	Things Mobile
Current RAT	LTE
Signal	4
Traffic	18.6 KByte
<b>Environment</b>	
Temperature	35 °C
Supply voltage	12245 mV
<b>Times</b>	
Uptime	0 day 0:12:06
Device	Tue Aug 30 09:21:59 +02 2022
Work hour	
<b>Position</b>	
Latitude,Longitude	<a href="#">not available</a>
Horizontal accuracy	not available
Altitude	not available
Vertical accuracy	not available

**Fig. 13:** Web interface: Info page

- The Info page provides information about the JTM-4G-WiFi.
- The System page provides information about versions, the network and USB.
- On the Control page you can reboot the system, set up WiFi hotspots and set the APN of the SIM card.

## 7.6 Managing telemetry modules in the Widiin cloud

In the Widiin cloud <https://widiin.com/> you can manage and configure one or more JTM-4G-WiFis.

### 7.6.1 Setting up a Widiin cloud connection

#### Logging in for the first time

To be able to use the Widiin cloud, you need access data. The first time you log in, use the data on the [Access data label \[▶ 26\]](#) as access data.

1. To open the Widiin cloud, use the link <https://widiin.com/> in a web browser.

⇒ A login mask opens.



The screenshot shows a web browser window displaying the Widiin login interface. At the top, there is a dark blue header with the 'Widiin' logo in white. Below the header, the main content area is white. It features two input fields: the first is labeled 'User Name (email or serial number)' and contains a red '1'; the second is labeled 'Password' and contains a red '2'. Below these fields are two buttons: a light blue 'Login' button and a light blue 'Forgot Password' button.

2. Enter the serial number (1) and the WiFi password (2).

⇒ The Overview page opens.

⇒ Now you can manage the JTM-4G-WiFi directly or create a user profile.

#### **i** Info

##### **Login with the access data does not work**

When you log in with the access data of the module, you are managing the JTM-4G-WiFi directly. If login with the access data does not work, it may be that the module has been assigned to a certain user (see [User and access management \[▶ 32\]](#)).

## 7.6.2 User interface of the Widiin cloud

The user interface of the Widiin cloud will differ depending on whether you logged in with the access data of a JTM-4G-WiFi or as a user. Certain menus are only visible to logged in users.

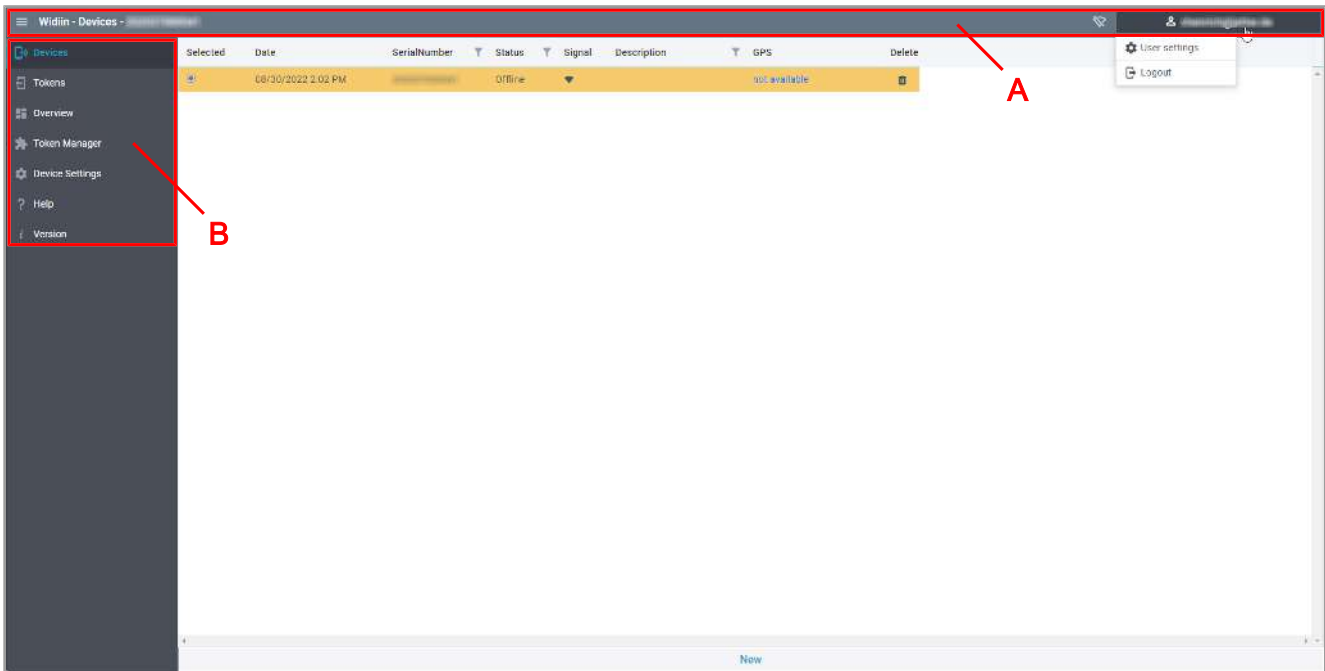


Fig. 14: User interface of the Widiin cloud

A	Status bar
B	Menu Bar

### Status bar (A)

The following buttons and details are shown in the upper status bar (A):

- 1 – Click on this button to expand the menu bar.
- 2 – Serial number of the currently selected JTM-4G-WiFi
- 3 – Connection status
- 4 – Logged in user or logged in JTM-4G-WiFi

When you click on the button:

- User settings (only as user): In the user settings you can manage your user profile.
- Device Settings (only if you are managing the module directly): In the device settings you can create a new user profile and more.
- Logout: Logout

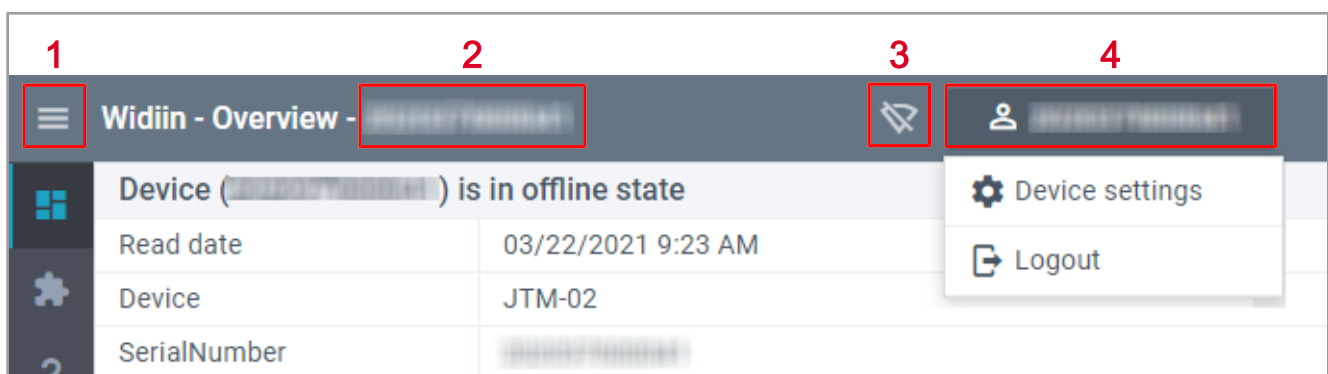


Fig. 15: Status bar

## Menu bar (B)

The available menus are displayed in the menu bar (B):

- Devices (only as user): Overview of all JTM-4G-WiFis assigned to the user
- Tokens (only as user): Overview of all tokens assigned to the user
- Overview: Overview of the transmission data of the selected JTM-4G-WiFi
- Token Manager: In the Token Manager you can manage access tokens for the selected JTM-4G-WiFi.
- Device Settings (only as user): Device settings
- Help: Help page
- Version: Software version information

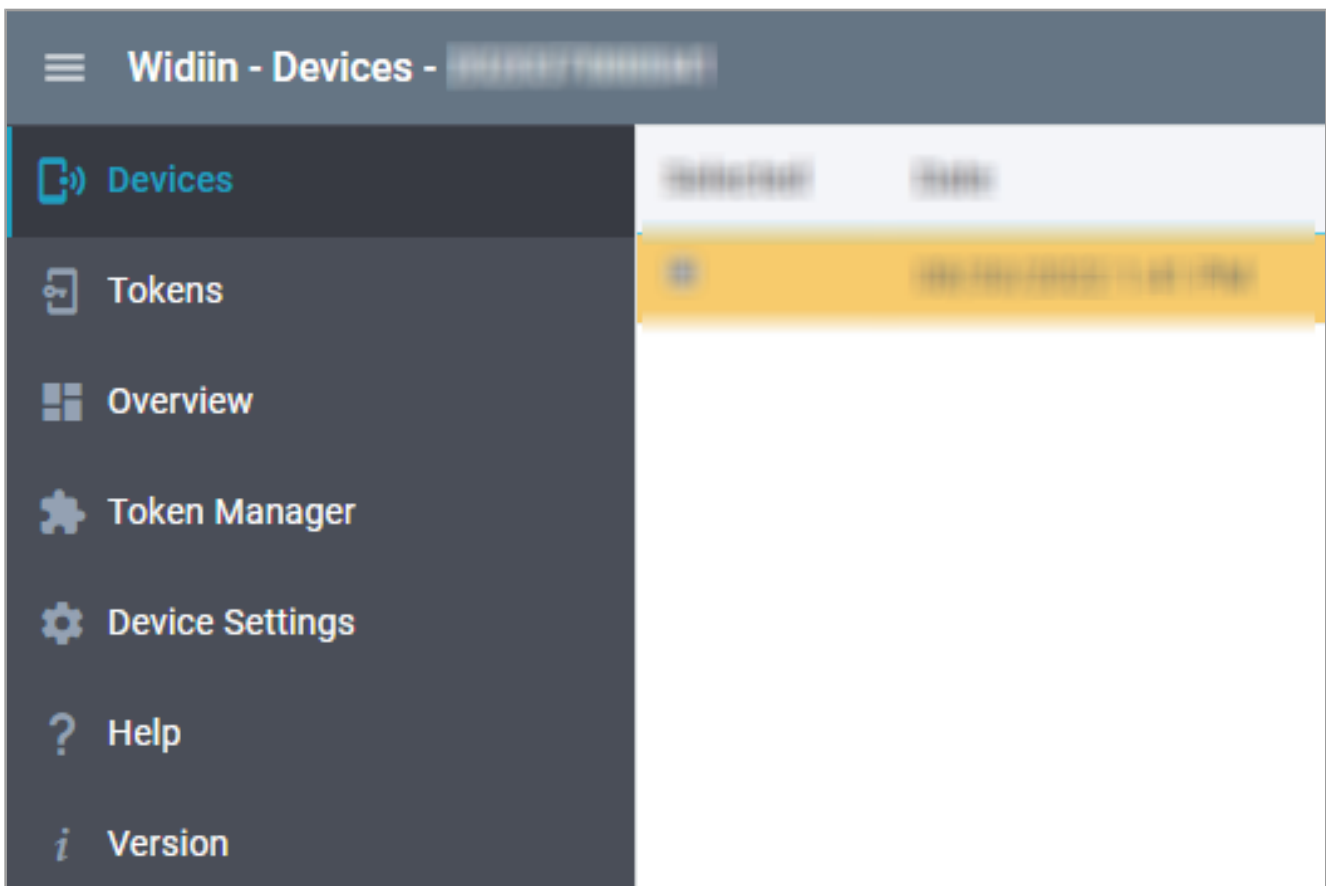


Fig. 16: Menu Bar

### 7.6.3 User and access management

In the Widiin cloud you can manage the JTM-4G-WiFi directly or create a user profile in which the JTM-4G-WiFi is managed.

#### Direct management

- Login with the access data on the access data label
- Anyone who has the access data can create and manage access tokens for the module.

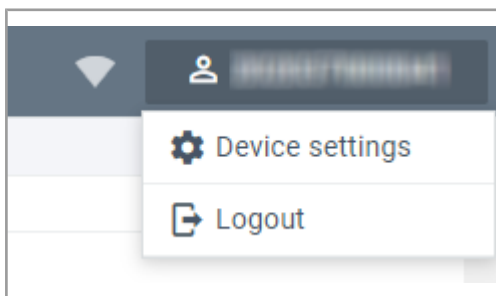
#### Management in a user profile

- Login with personal access data
- Only the user can create and manage access tokens for the module.
- A user can manage multiple modules in one profile.

#### Creating a new user

✓ You have logged in with the access data of a JTM-4G-WiFi.

1. Select User > Device settings.

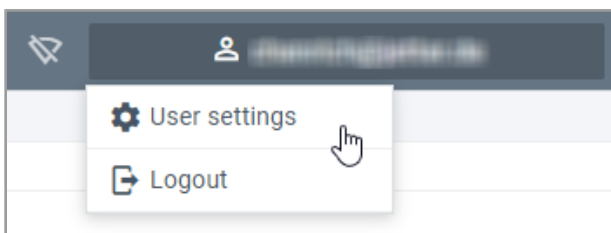


2. In the Profile area, enter the desired data and confirm with Save.
  - ⇒ Widiin sends an email to the email address that was entered for verification.
3. Open the link from the email.
4. Log in under <https://www.widiin.com> with your new access data.
  - ⇒ The Devices view opens.
  - ⇒ A managing user profile for the JTM-4G-WiFi has been created.

#### Changing the user password

✓ You are logged in with your access data.

1. Select User > User settings.



2. In the Profile area enter the desired data and confirm with Change password.
  - ⇒ Your password has been changed.

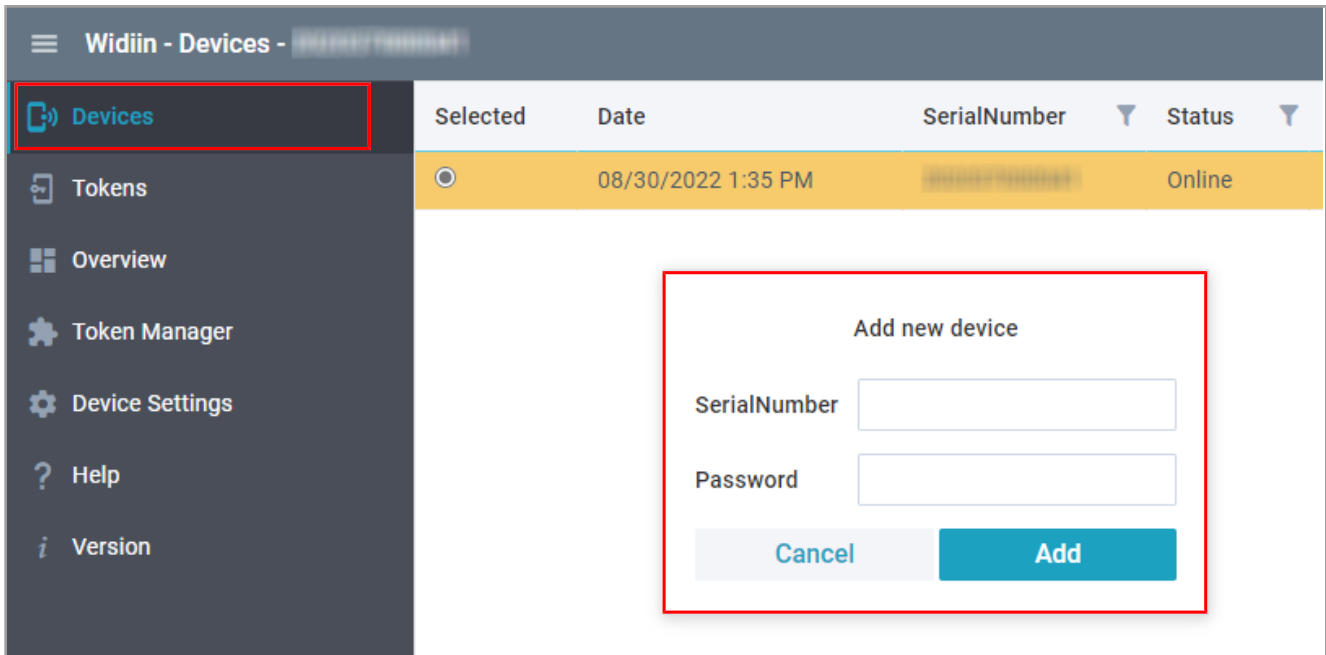
## 7.6.4 Adding additional telemetry modules

You can add additional telemetry modules to your user profile in the **Devices** view.

- ✓ You are logged in as a user.
- ✓ You are in the **Devices** view.

1. Select **New**.

⇒ The **Add new device** window opens.



The screenshot shows the 'Widiiin - Devices' interface. On the left is a navigation menu with options: Devices (highlighted), Tokens, Overview, Token Manager, Device Settings, Help, and Version. The main area displays a table with columns: Selected, Date, SerialNumber, and Status. A single device is listed with a selected radio button, a date of 08/30/2022 1:35 PM, a masked serial number, and a status of Online. An 'Add new device' dialog box is overlaid on the table, containing input fields for 'SerialNumber' and 'Password', and 'Cancel' and 'Add' buttons.

Selected	Date	SerialNumber	Status
<input checked="" type="radio"/>	08/30/2022 1:35 PM	XXXXXXXXXX	Online

2. Enter the serial number and password of the JTM-4G-WiFi and confirm with **Add**. The details can be found on the enclosed **Access data label [▶ 26]**.

⇒ The JTM-4G-WiFi has been added and appears in the device list.

### 7.6.5 Creating and managing access tokens

To set up a connection to a JTM-4G-WiFi, you need an access token.

The **Token Manager** view shows a list of all existing access tokens. Here you can delete access tokens, declare them invalid or send them again.

#### Rights

As the managing user of a JTM-4G-WiFi, you are the sole person authorized to create access tokens for this telemetry module.

If the JTM-4G-WiFi has not been assigned to any specific user, there are no restrictions on creating access tokens.

#### Creating access tokens

✓ You have the rights to create an access token for the JTM-4G-WiFi.

1. Select the desired JTM-4G-WiFi in the **Devices** view.  
If you are managing the JTM-4G-WiFi directly, this step is not required.

2. Switch to the **Token Manager** view.

3. Select **New**.

⇒ The **Add/Edit Token** form opens.

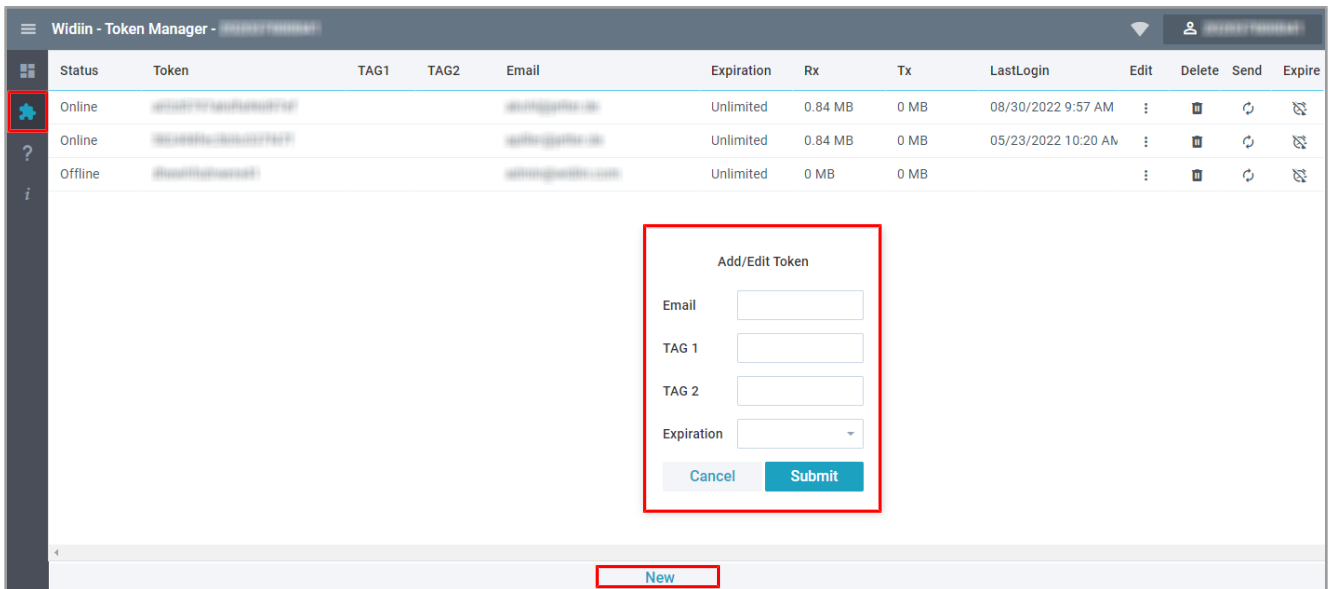
4. Enter the desired data. Entries in fields **TAG 1** and **TAG 2** are optional.

5. In the **Expiration** field select the period of time you want the access token to be valid for.

6. To send the form, select **Submit**.

⇒ The access token is created and appears in the **Token Manager**.

⇒ The access data is sent to the specified e-mail address.



## 7.7 Setting up a connection to a telemetry module via access tokens

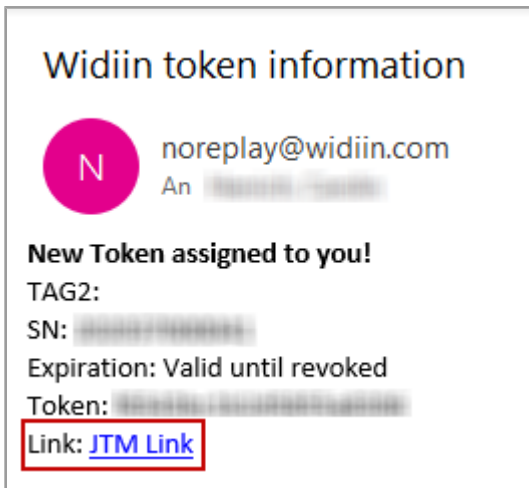
The connection to a telemetry module is set up by the **JTM Link** application (version 1.0.0.12) of Bucher Automation AG.

You can either create an access token yourself in the Widiin cloud or receive it from another user. In either case you will receive an e-mail from Widiin containing the access token.

### Access token via e-mail

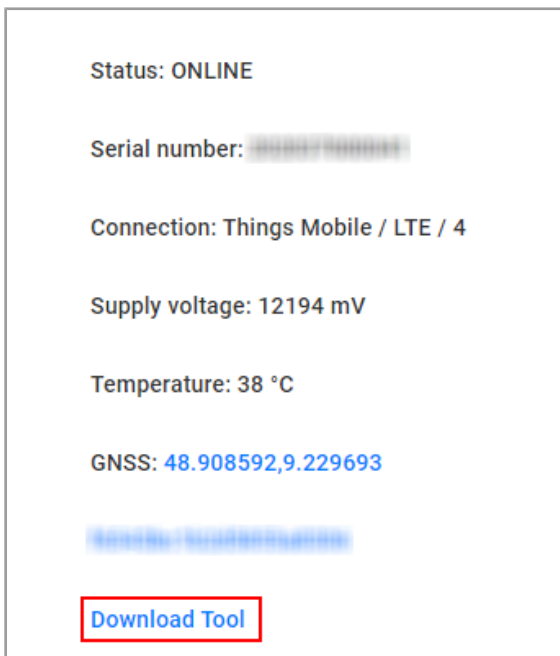
✓ You have received an e-mail from Widiin containing an access token.

1. Select the link **JTM Link** from the e-mail.



⇒ A website opens. The website contains basic information about the telemetry module.

2. If the **JTM Link** application is not installed yet, select **Download Tool**.



⇒ You can download the installation file from the website. Admin rights are required for the installation.

- ⇒ If the **JTM Link** application is already installed, the application opens directly. A connection to the JTM-4G-WiFi has been set up.

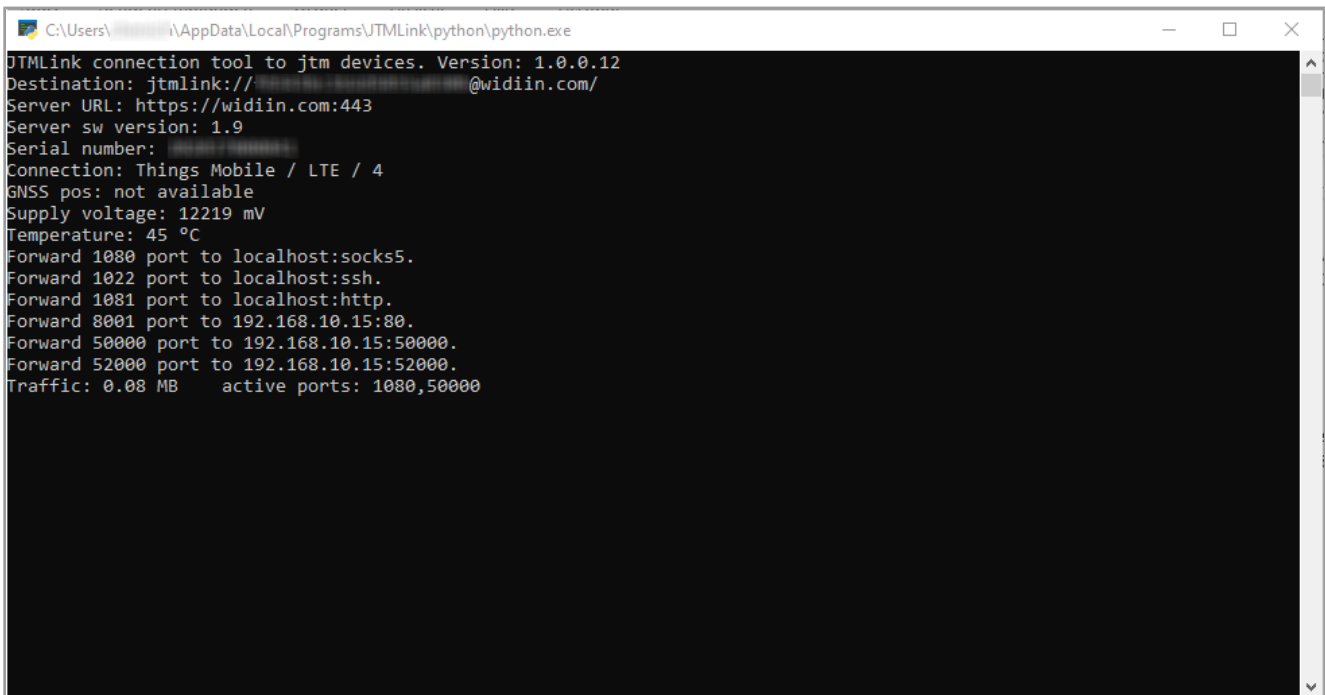
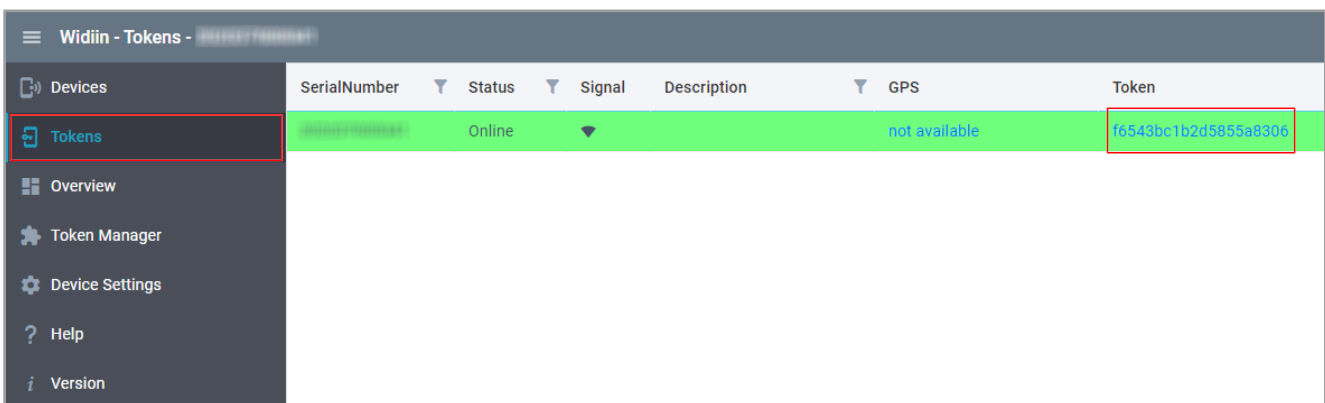


Fig. 17: JTM Link application

### Access token via Widiin cloud

As a user you can find an overview of your access tokens in the Tokens view in the Widiin cloud.

- ✓ You are logged in as a user in the Widiin cloud.
  - ✓ You have generated an access token in the Token Manager view or an access token has been assigned to you.
  - ✓ The **JTM Link** application is installed.
1. Switch to the Tokens view.
  2. Click on the desired access token in the list.



⇒ The **JTM Link** application opens. The connection to the JTM-4G-WiFi has been set up.

## 7.8 Replacing the SIM card or transferring it to a personal account

Each JTM-4G-WiFi features a ThingsMobile™ SIM card.

### 7.8.1 Replacing the SIM card

You can replace the pre-assembled SIM card with a card of your own choice (see [Slots – Micro-SIM card and microSD card \[▶ 23\]](#)).

Please inform [Technical Support \[▶ 47\]](#), if you chose to not use the pre-assembled SIM card. This is a mandatory step in order for the pre-assembled SIM card to be deactivated.

### 7.8.2 Transferring the SIM card

You must transfer the SIM card to a personal ThingsMobile™ account to be able to use the following SIM card features:

- Recharging the SIM card
- Changing the pricing plan
- Tracking data traffic
- Changing the roaming profile
- Suspending, re-enabling and resetting the SIM card
- Transferring the SIM card to another user

For a comprehensive list of available features go to the mobile service provider's website: [www.thingsmobile.com](http://www.thingsmobile.com).

#### NOTICE



##### No data carryover with SIM card transfer

When transferring a SIM card, any existing data allowance will not be carried over.

- ▶ To re-enable data traffic, recharge the SIM card after it was transferred.

#### Preparing SIM card transfer

Prior to initiating the transfer process, observe the following :

1. Check if your JTM-4G-WiFi device is registered in the Widiin cloud.
2. Create a user account on [www.thingsmobile.com](http://www.thingsmobile.com).

#### NOTICE



##### ThingsMobile™ account name

Take care to ensure that the name of your ThingsMobile™ account is correct. Bucher Automation AG cannot cancel or revoke an incorrect new registration once the transfer process has started.

## Requesting transfer

To request SIM card transfer, email [admin@widiin.com](mailto:admin@widiin.com).

Typically, it takes 1 office day to validate your registration data and transfer the SIM card.

Missing or invalid data will abort the process. If this happens, the sender will be notified by email. Failure to identify the sender against the Widiin database will cause the request to be denied.

### Email message text

Re: SIM transfer request

Minimum email message text:

- Your account name with ThingsMobile™
- Your user profile in the Widiin admin cloud (the user manages the telemetry modules)
- List of telemetry module serial numbers. Check the **nameplate [▶ 10]** of your JTM-4G-WiFi for the 12-digit serial number.

### Example

The following example shows the SIM card transfer of 2 telemetry modules:

Subject: SIM Transfer request  
 From: [yourname@yourcompany.com](mailto:yourname@yourcompany.com)  
 To: [admin@widiin.com](mailto:admin@widiin.com)

TM account: [yourname@yourcompany.com](mailto:yourname@yourcompany.com)  
 Widiin account: [yourname@yourcompany.com](mailto:yourname@yourcompany.com)

SN: 202145 123456  
 SN: 202145 123457

## Process feedback

If the SIM card transfer was successful, an email including the SIM card details is sent.

The network operator is able to identify the telemetry modules and SIM cards against the serial number list.

If the process fails, you will receive an email including the error details.

### Example of successful card transfer

Subject: Bucher Telemetry / SIM card transfer: Operation Completed

MSISDN	ICCID	Telemetry S/N
882365312244047	8944500710206512345	202145-123456
882365315577048	8944500710209876543	202145-123457

### Following successful transfer

- Processing the transfer typically takes 1 office day, with variations depending on the roaming region.
- While the card is being transferred, the JTM-4G-WiFi is not accessible.
- Check your ThingsMobile™ account for the SIM cards that have been transferred.
- As soon as you recharge the SIM card, data transfer is resumed.
- The subscriber number (MSISDN) and SIM card ID (ICCID) remain unchanged.
- The settings of your Widiin account remain unchanged after the transfer was completed.
- The pre-assembled SIM card is not PIN-protected. While this is an optional feature, it will affect the firmware configuration of the telemetry module.

Please contact [Technical Support \[▶ 47\]](#) with any questions or issues.

# 8 Setting up remote access to a controller

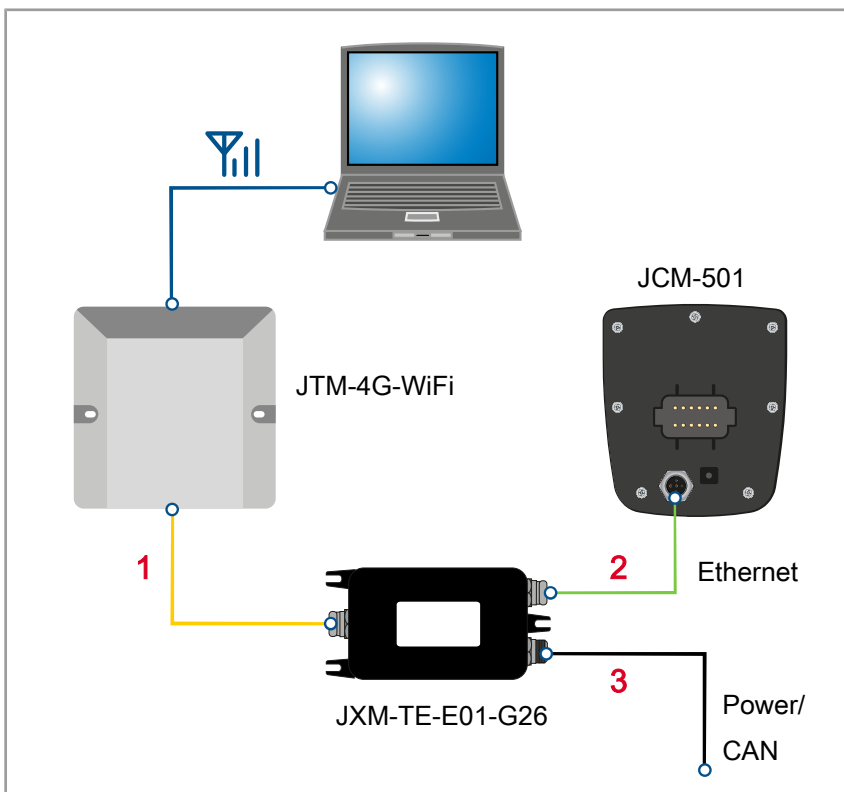
Integrating the Bucher Automation AG JXM-TE-E01 Ethernet adapter for remote access to a controller via JetSym or FTP.

Matching Ethernet adapters for mobile or industrial applications are available as an [accessory](#) [▶ 48].

## 8.1 Sample configuration

Remote access to a controller is based on the following sample configuration:

### Sample configuration - mobile



**Fig. 18:** Sample configuration - mobile

1	Cable KAYM_ETH-02-0300
2	M12 Ethernet cable
3	Power/CAN cable connecting to a DC 12 V power source (min. 1 A)

The devices and cables listed here can be found in the [Accessories](#) [▶ 48] section.

### Sample configuration - industrial

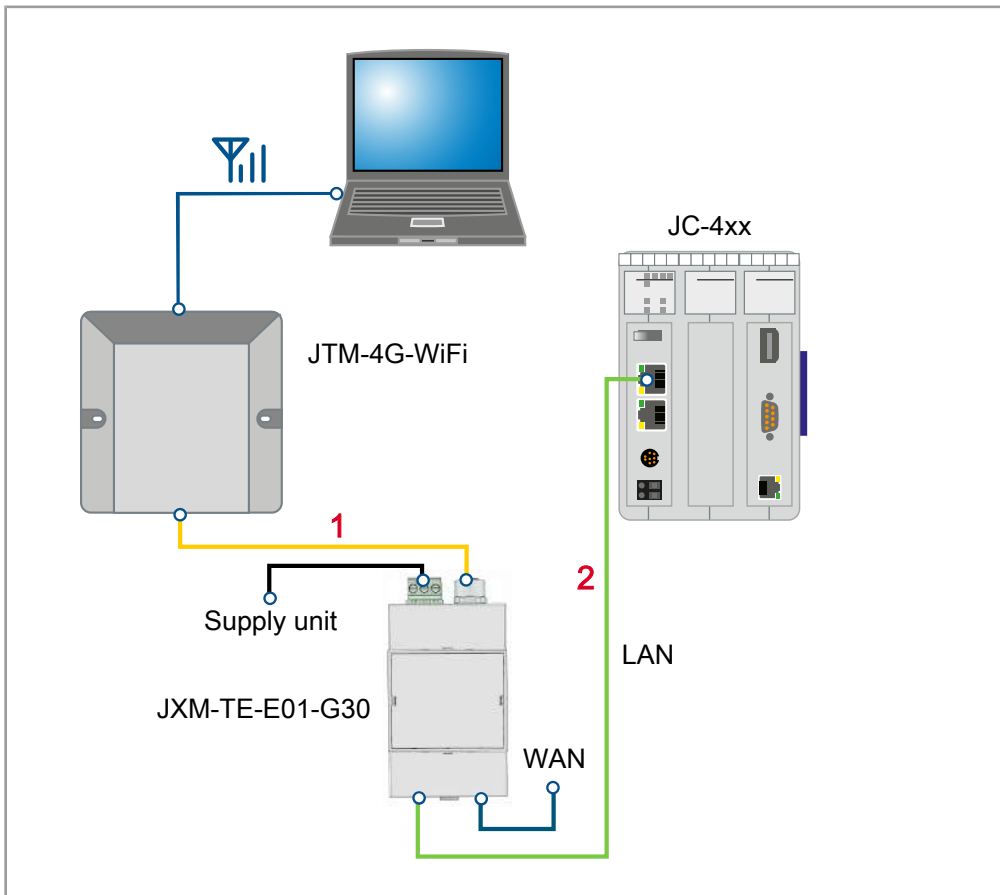


Fig. 19: Sample configuration - industrial

1	Cable KAYM_ETH-02-0300
2	Ethernet Cable

The devices and cables listed here can be found in the [Accessories \[▶ 48\]](#) section.

### Software

Application	Version	Development
Windows	7, 10, 11	Microsoft
JTM Link	1.0.0.12	Bucher Automation AG
JetSym	5.6.0 or later	Bucher Automation AG
Total Commander (FTP client)	10.00	<a href="https://www.gishler.com/">https://www.gishler.com/</a>

Tab. 19: Software

## 8.2 Access via JetSym

### Prerequisites

To be able to access a controller via JetSym, a connection must be set up to the JTM-4G-WiFi that is connected to the controller (see section [Setting up a connection to a telemetry module via access tokens \[▶ 35\]](#)).

### Adjustment to the IP address

Remote access is identical to access to a controller via Ethernet cable. Simply adapt the IP address in JetSym.

- ▶ Instead of the usual IP address 192.168.10.15 use IP address 127.0.0.1.

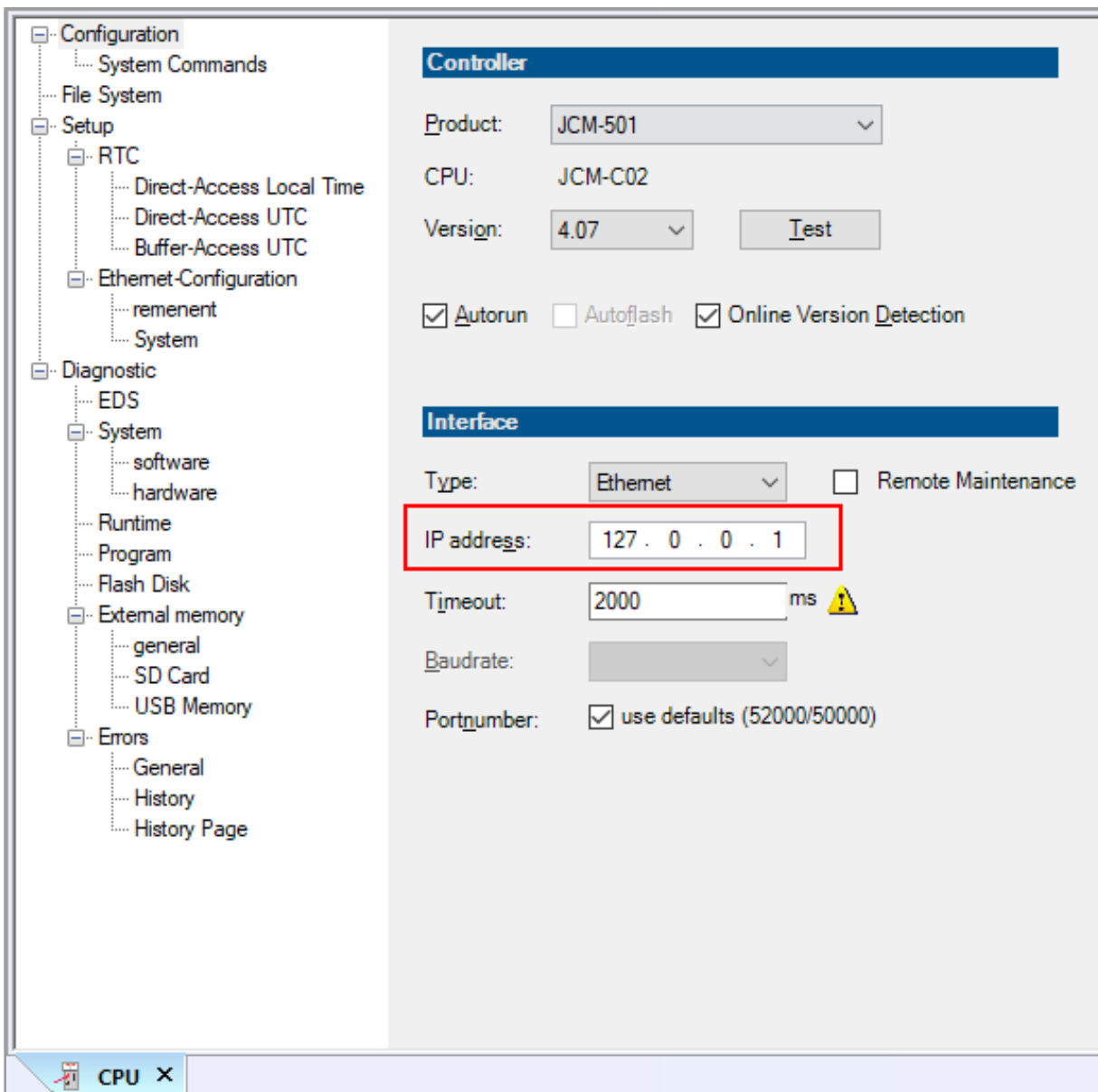


Fig. 20: Adjustment to the IP address in JetSym

- ⇒ After the IP address has been adjusted there is a connection between JetSym and the controller. You can now use JetSym as usual.

### **i** Info

#### Further information

For more information on this subject, refer to the JetSym Online Help.

### 8.3 Access via FTP client

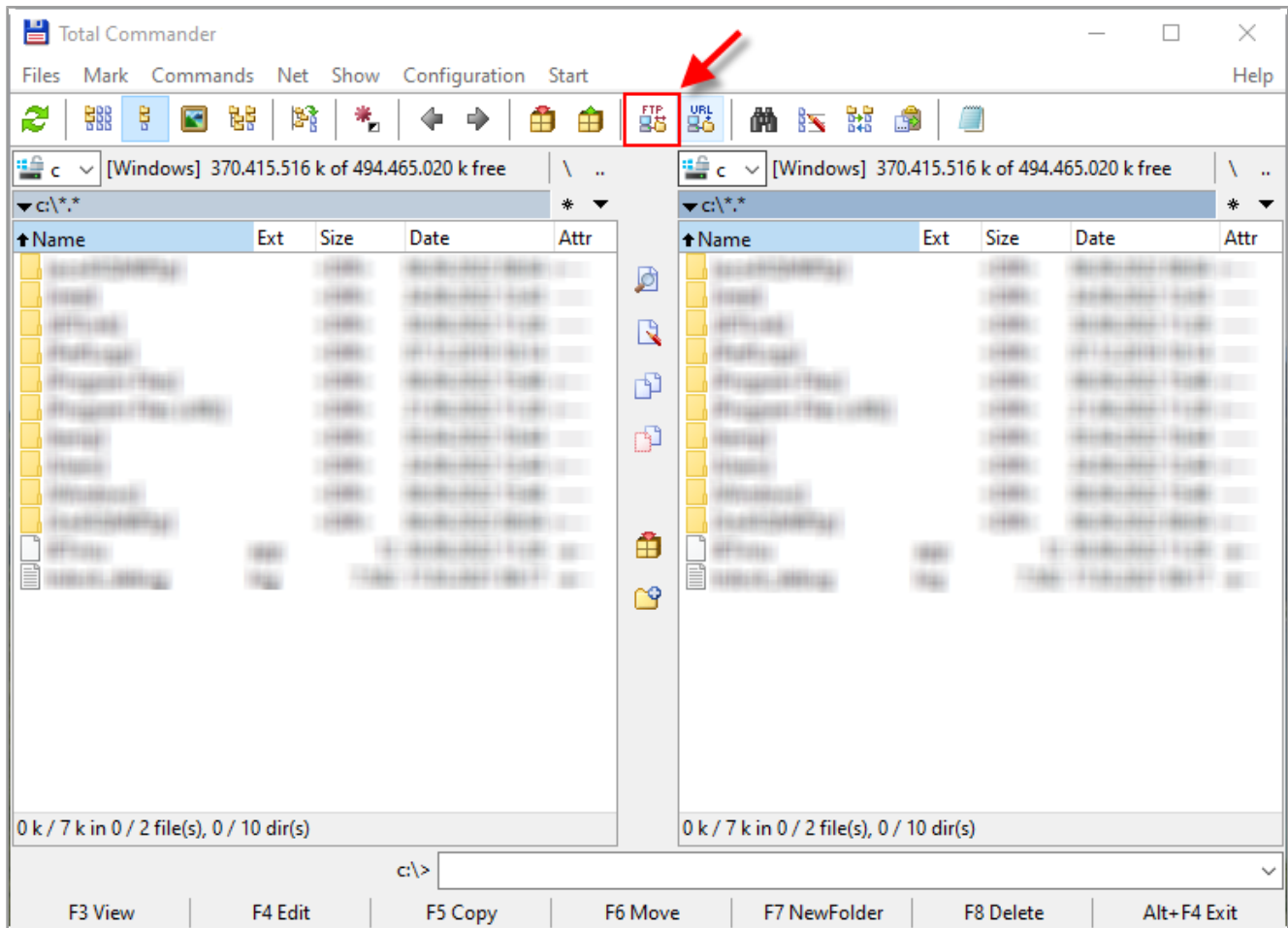
With the **Total Commander** application you can remotely access the file system of the controller to which the JTM-4G-WiFi is controller.

#### Prerequisites

To be able to access a controller via FTP client, a connection must be set up to the JTM-4G-WiFi to which the controller is connected (see section [Setting up a connection to a telemetry module via access tokens](#) [▶ 35]).

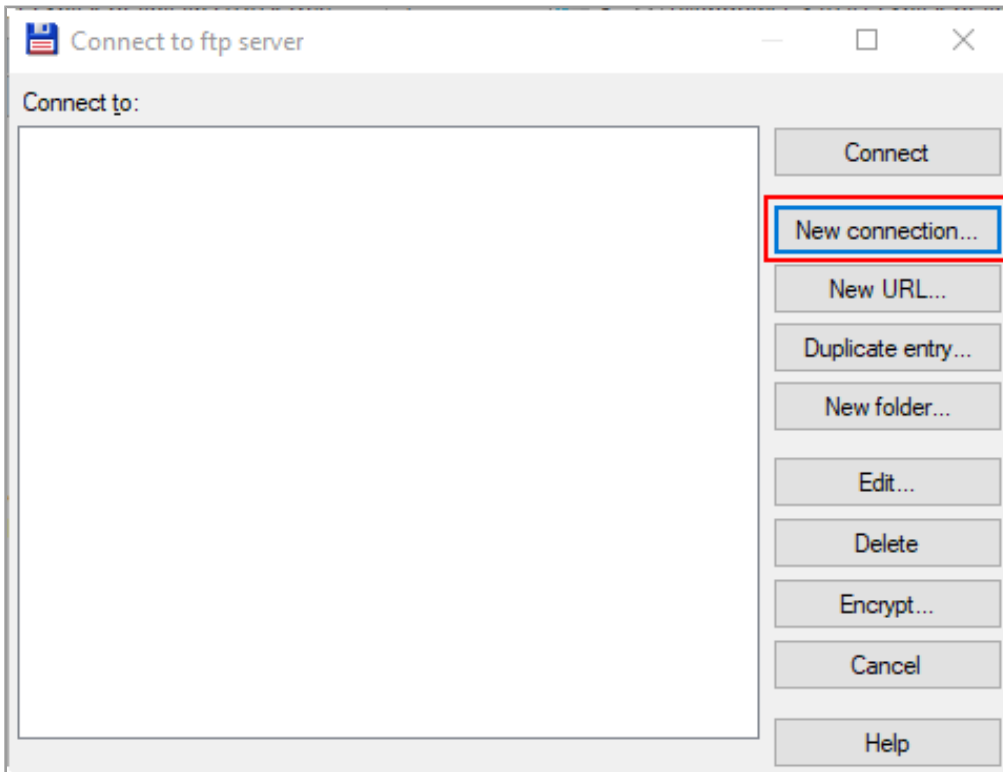
#### Setting up a connection

- ✓ There is a connection to the JTM-4G-WiFi.
- 1. Open the **Total Commander** application.
- 2. In the toolbar select FTP.



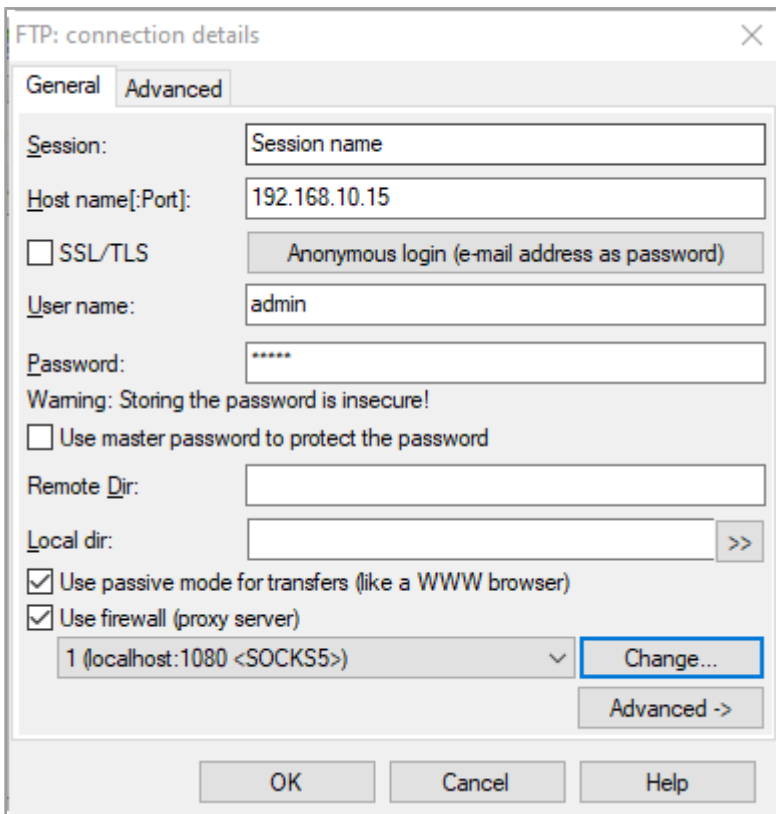
⇒ The Connect to FTP server window opens.

3. To create a new connection, select **New connection...**



⇒ The FTP: connection details window opens.

4. Make the following settings and confirm with **OK**.  
 You can select any Session name you want.  
 User name: *admin* Password: *admin*



⇒ The FTP connection between **Total Commander** and the controller is set up.

# 9 Maintenance

This product is maintenance-free. The operation of the product does not require inspection or maintenance efforts.

## 9.1 Repairs

Defective components can cause dangerous malfunctions and compromise safety.

Only the manufacturer is authorized to perform repair work.

It is forbidden to open the product.

### Product modifications

Modifications and alterations to the product and its functions are not allowed. The manufacturer exempts from liability for any modifications made to the product.

The original parts are specifically designed for the product. Parts and equipment from other manufacturers must not be used.

The manufacturer exempts from liability for any damage resulting from the use of non-original parts and equipment is excluded.

## 9.2 Storage and Shipment

### Storage

When storing the product, observe the environmental conditions given in chapter "Technical specifications".

### Shipment and packaging

The product contains electrostatically sensitive components which can be damaged if not handled properly. Damages to the product can impair its reliability.

To protect the product from impact or shock, it must be shipped in its original packaging, or in an appropriate protective ESD packaging.

If the packaging is damaged, inspect the device for any visible damage, and immediately inform your freight forwarder and Bucher Automation AG of the damage caused during shipment. It is strictly forbidden to use a product that has been damaged or dropped.

## 9.3 Return and Disposal

The WEEE icon (crossed-out wheeled bin) says that end users must not dispose of waste electrical and electronic equipment together with household waste, but separately in an appropriate way. Applicable local environmental directives and regulations must be complied with.

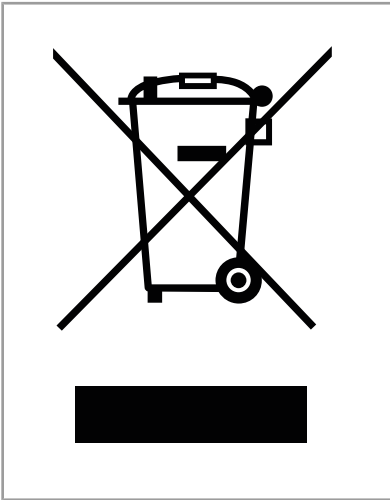


Fig. 21: WEEE icon – crossed out wheeled bin

### Disposal options

To do so, you may either resort to professional disposal service providers or return waste electronics to Bucher Automation AG.

Find detailed information along with the required Return Delivery Form on our [website](#).

### Batteries

Prior to disposing of waste electronics, remove any batteries where this is possible in a safe and non-destructive way. Dispose of batteries properly.

### Personal data

It is the responsibility of the end user to delete any personal data stored on waste electric and electronic equipment prior to disposal.

### Packaging material

The product's packaging materials must not be disposed of together with household waste. Find detailed information on how to return packaging material to Bucher Automation AG on our [website](#).

# 10 Service

## 10.1 Technical support

In case of questions, suggestions, or issues, please contact our experts from Technical Support. You may reach out by phone or through the contact form on our homepage:

[Technical Support | www.bucherautomation.com](http://www.bucherautomation.com)

Or email us:

[support@bucherautomation.com](mailto:support@bucherautomation.com)

Please supply the following information when contacting Technical Support:

- Hardware revision and serial number  
The hardware revision and serial number is printed on the nameplate of the product.
- OS version  
The operating system version can be found on the Widiin cloud.

# 11 Spare parts and accessories

## NOTICE



### Inadequate accessories might cause damage to the product

Parts and equipment from other manufacturers might impede the function of the device and cause damage to the product.

- ▶ Only use accessories recommended by Bucher Automation AG.

## 11.1 Accessories

### **i** Info

#### Ordering Accessories

The accessories are not part of the scope of delivery.

Suitable accessories can be obtained from Bucher Automation AG.

Accessories	Item number
<b>KAY_JXM-JVM-104-0500</b> Power supply cable of the telemetry module	60882261
<b>KAYM_ETH-O2-0300</b> Cable linking the telemetry and Ethernet modules	60885237

#### For mobile automation applications

Accessories	Item number
<b>JXM-TE-E01-G26</b> Ethernet module for mobile automation applications	60885238
<b>M12 Ethernet cable</b> D-coded (JCM-501)	60882386
<b>M12 Ethernet cable</b> X-coded (JCM-630)	60887275

#### For industrial automation applications

Accessories	Item number
<b>JXM-TE-E01-G30</b> Ethernet module for industrial automation applications	60887623

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# Glossary

## 2G

2G (GSM) is an abbreviation for the second generation of the mobile wireless standard.

## 4G

4G (LTE) is an abbreviation for the fourth generation of broadband mobile wireless technology.

## GNSS

A global navigation satellite system or GNSS is a system for position determination and navigation on the ground and in the air by receiving signals from navigation satellites and pseudolites.

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