

EGW-02 Connectivity Edge Gateway

User's manual



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9 Network connection example**Further information**

1

Introduction to the manual

Contents of this chapter

This chapter introduces this manual.

Applicability

This manual is applicable to the EGW-02 Connectivity Edge Gateway. It is later referred to as EGW-02 gateway or gateway.

Safety



WARNING!

Obey the safety instructions of the drive. If you ignore them, injury or death, or damage to the equipment can occur. If you are not a qualified electrical professional, do not do installation, commissioning or maintenance work.



WARNING!

The gateway can be hot to touch. It heats up while in operation.

Target audience

The manual is intended for people who install, commission, or do trouble-shooting on the gateway.

The reader is expected to have basic knowledge of electrical fundamentals, electrical wiring practices and how to operate the drive.

Terms and abbreviations

Abbreviation	Explanation
CMD	ABB Ability™ Condition Monitoring for drives. CMD is a cloud service for remote storing, monitoring and analysis of the drive data.
CFR	Code of federal regulation
DDCS	Distributed Drive Communication System
FCC	Federal Communication Commission
LAN	Local area network
LTE	Long-Term Evolution, a standard for wireless broadband communication
MIMO	Multiple input multiple output technology
IoT	Internet of things
RED	Radio equipment directive
S/FTP	Shielded foil twisted pair
WAN	Wide area network

Related documents

You can find manuals on the Internet. See below for the relevant link. For more documentation, go to www.abb.com/drives/documents.

Document	Code (English)
EGW-02 Connectivity Edge Gateway user's manual	3AXD50000929719
EGW-02 Connectivity Edge Gateway quick guide	3AXD50001069537
EGW-02 Connectivity Edge Gateway cyber security guide	3AXD50001061845
EGW-02 Connectivity Edge Gateway recycling instructions and environmental information	3AXD50001069544

Cyber security disclaimer

This product is designed to be connected to and to communicate information and data via a network interface. It is Customer's sole responsibility to provide and continuously ensure a secure connection between the product and Customer network or any other network (as the case may be). Customer shall establish and maintain any appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of anti-virus programs, etc.) to protect the product, the network, its system and the interface against any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information.

ABB and its affiliates are not liable for damages and/or losses related to such security breaches, any unauthorized access, interference, intrusion, leakage and/or theft of data or information.

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Overview

Contents of this chapter

This chapter gives information about the EGW-02 gateway and ABB cloud services.

EGW-02 gateway and ABB Ability™ Condition Monitoring for drives (CMD)

The EGW-02 gateway supports ABB Ability™ Condition Monitoring for drives (later CMD service) which is part of the ABB Ability™ Digital Powertrain. CMD is a cloud service for the drive data storing, monitoring and analysis. CMD service is for monitoring only. It is not possible to control or commission the drive remotely in the CMD.

ABB activates the CMD service on a customer order and creates the user account(s). Customer needs to have an Internet connection available at the drive installation site, and the necessary hardware installed for the data transfer, for example the EGW-02 gateway. Customer can order the gateway as a factory-installed option for a new drive. ABB factory installs the gateway into the drive, and associates the gateway with the customer CMD service and account.

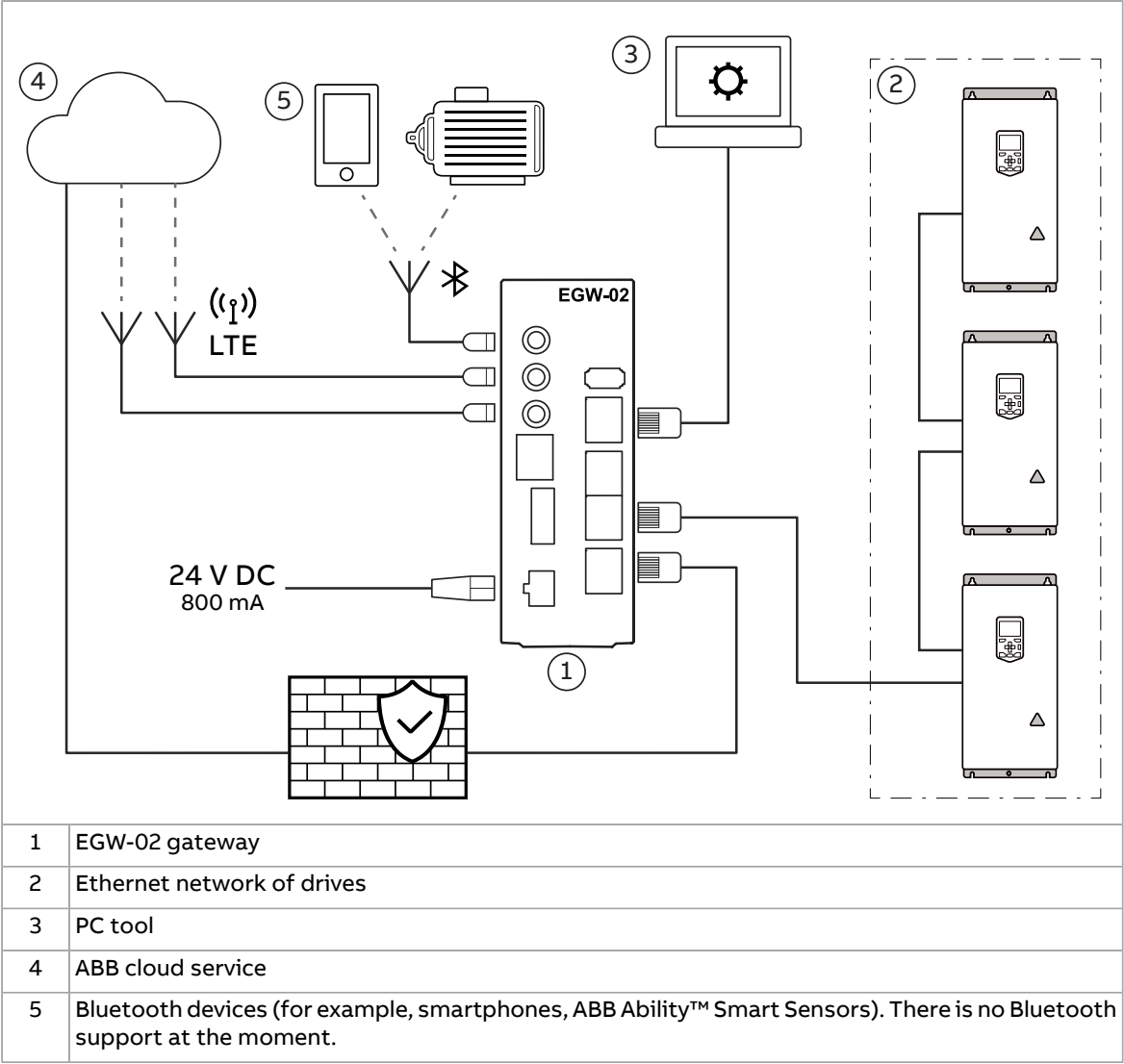
On the drive installation site, the customer (or ABB commissioning engineer) connects the gateway to Internet. Gateway uses one Internet connection interface at the time: wired (Ethernet), or wireless (mobile). If wired connection is available, it is in use.

The gateway forms a connection between the drive and the CMD service automatically when the service and necessary connections are available.

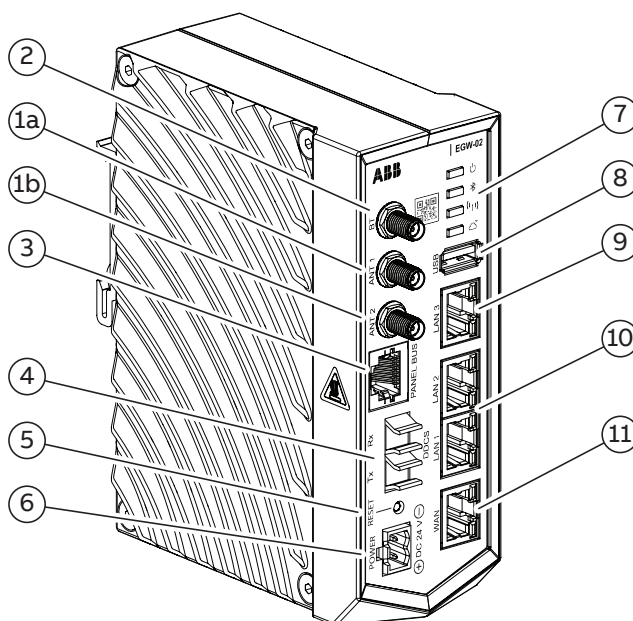
For more information on the CMD service, refer to <https://new.abb.com/service/motion/data-and-advisory-services/condition-monitoring-for-drives>.

System overview

EGW-02 gateway provides a cloud connectivity for ABB drives. For a cabinet-installed drive, ABB factory installs the gateway to the drive cabinet line-up, and connects the gateway to the drive control board(s) and power supply. On the drive installation site, the customer connects the gateway to the public Internet and ABB cloud service either through a mobile antenna and cellular modem, or through a wired Ethernet.



Connectors and LED indicators



No.	Explanation	Symbol
1	LTE MIMO antenna connectors for mobile Internet connection. 1a) RX diversity antenna, 1b) main antenna.	ANT 1, ANT 2 ((I))
2	Bluetooth 5 antenna connector. There is no Bluetooth support at the moment.	BT
3	RS-485 connector for panel bus	PANEL BUS
4	Fiber optic connectors for alternative drive network connection (DDCS protocol)	DDCS, TX, RX
5	Reset button	RESET
6	Power cable connector	POWER, + DC 24 V-
7	Indicator LEDs	⚡ ((I)) ⏻ ☁
8	USB memory stick connector for external storage. There is no USB support at the moment.	USB
9	Ethernet connector for service LAN network or PC tool	LAN3
10	Ethernet connectors for drives network(s)	LAN1, LAN2
11	Ethernet connector for wired Internet connection (10/100)	WAN

Type designation label



ABB Oy
Hiomotie 13
00380
Helsinki
Finland



EGW-02

INPUT: 19–32 V  600 mA

MAC1: A1-B2-C3-D4-E5-F6
MAC2: A1-B2-C3-D4-E5-F6

IMEI: 1234512345123451

eUICCID: 1234512345123451
1234512345123451

Code: 3AXD5000123456
SN: 08230101013
SW: ABC1234

Made in Estonia
Origin Estonia



FCC ID: 2AFNG-EGW02
IC: 20555-EGW02

Contains FCC ID: XMR201903EG25G
Contains IC: 10224A-201903EG25G

This is the type designation label template. Each EGW-02 gateway has the label with the valid data values. In addition, there is a separate label showing the valid certificates.

3

Mechanical installation



Contents of this chapter

This chapter contains instructions on unpacking and mechanical installation of the EGW-02 gateway, and guidelines for installing the antennas.

Tools and accessories

You can attach the gateway on an installation rail without tools.

Unpacking

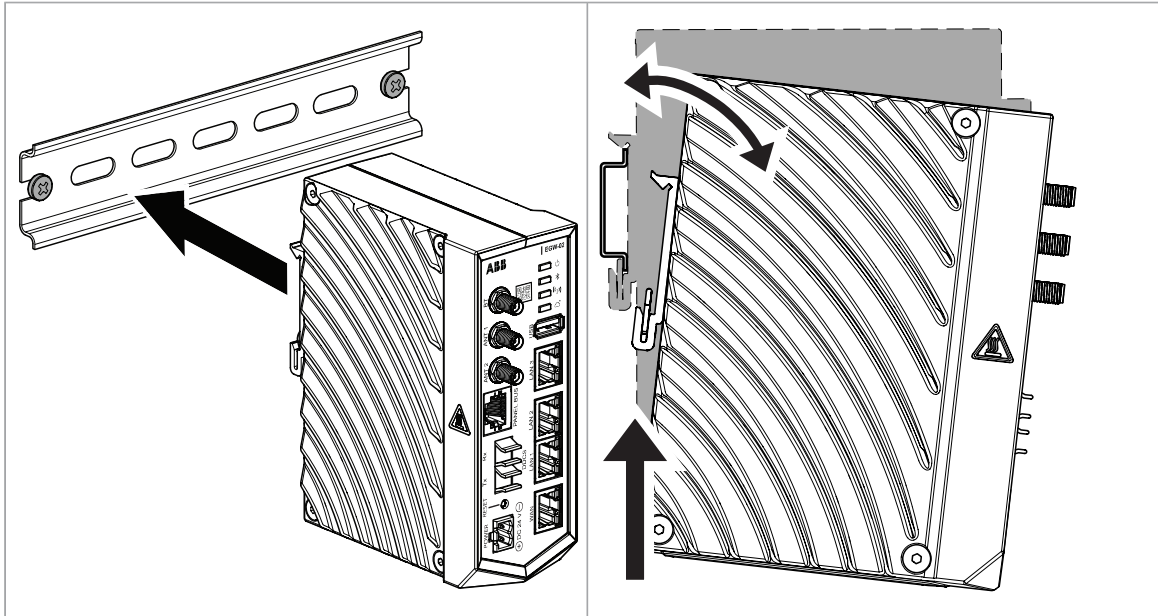
1. Open the package and make sure that it contains:
 - EGW-02 gateway
 - connector plug for a power cable
 - quick installation guide.
2. Make sure that there are no signs of damage. Do not use a damaged gateway.
3. Recycle the package material.

Installation environment

- Make sure that the installation site meets the requirements given in section [Environmental specifications \(page 38\)](#).
 - Make sure that there is at least 20 mm (0.8 in) of free space on both sides and on top of the gateway.
-

Installing the gateway to a DIN rail

1. If the installation rail is not installed, install it.
2. Attach the gateway onto the rail.



Removing the gateway from the installation rail

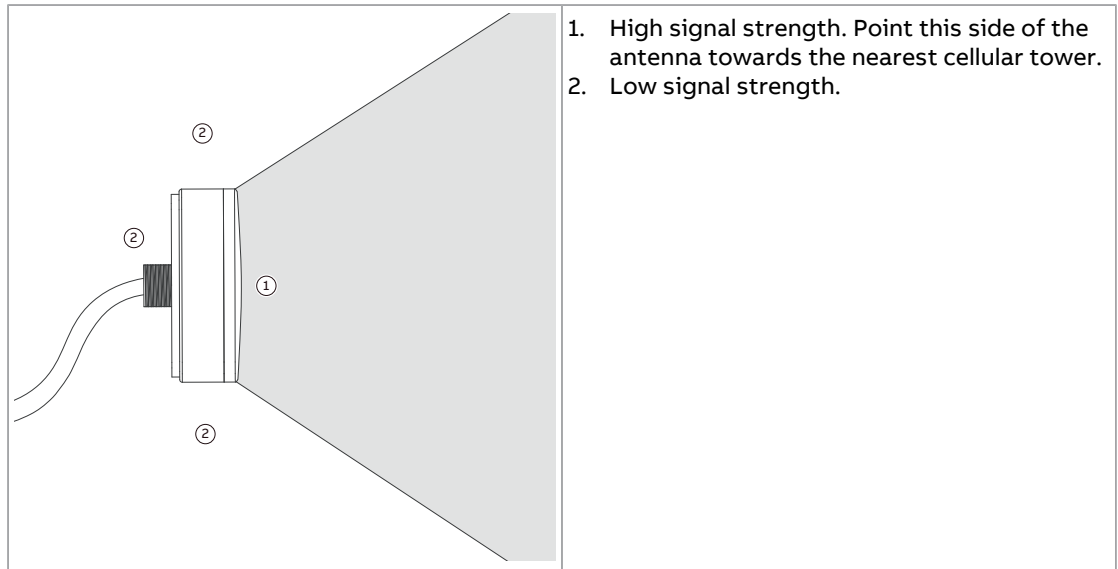
1. Lift the module against the spring until the upper locking claw releases behind the rail.
2. Turn the upper part of the gateway forward and pull the module out of the rail.

Antenna selection and installation guidelines

Use only the antenna types specified in sections [LTE antenna specification \(page 39\)](#) and [Bluetooth antenna specification \(page 40\)](#).

Install the antennas according to the manufacturer's instructions. Obey these generic guidelines:

- Install the antennas indoors only, and outside the drive cabinet.
- Make sure that the distance between the Bluetooth and cellular antennas is at least 20 cm (8 in).
- Before installation, verify the antenna location and orientation by monitoring the signal strength in the gateway. Change location and/or orientation until the signal strength is good.



4

Electrical installation

Contents of this chapter

This chapter introduces how to connect the EGW-02 gateway to an ABB drive.

Safety

**WARNING!**

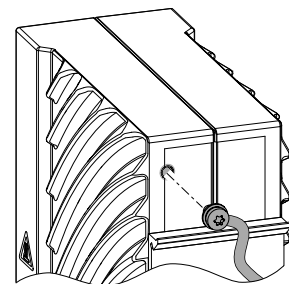
Obey the safety instructions of the drive. If you ignore them, injury or death, or damage to the equipment can occur. If you are not a qualified electrical professional, do not do installation, commissioning or maintenance work.

Grounding

If the mounting rail is connected to a noiseless ground, additional grounding of the gateway is not necessary. The mounting clip connects the ground terminal of the gateway to the mounting rail and further to the noiseless ground.

If the mounting rail is not connected to a noiseless ground, ground the gateway with a separate grounding wire.

1. Connect the wire under the grounding screw of the gateway. Tighten the screw to a torque of 1 N·m (9 lbf·in).
2. Connect the other end of the wire to a noiseless ground.

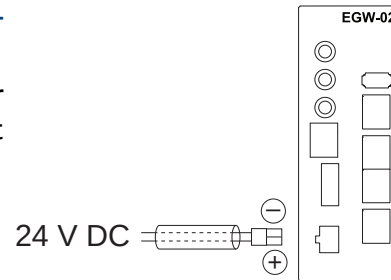


Connections

■ Power supply connection

Use power supply that complies with [Electrical specifications \(page 38\)](#).

1. Connect the power supply cable to the plug connector in the gateway delivery. Pay attention to the correct polarity (+,-).
2. Insert the plug connector to POWER terminal.



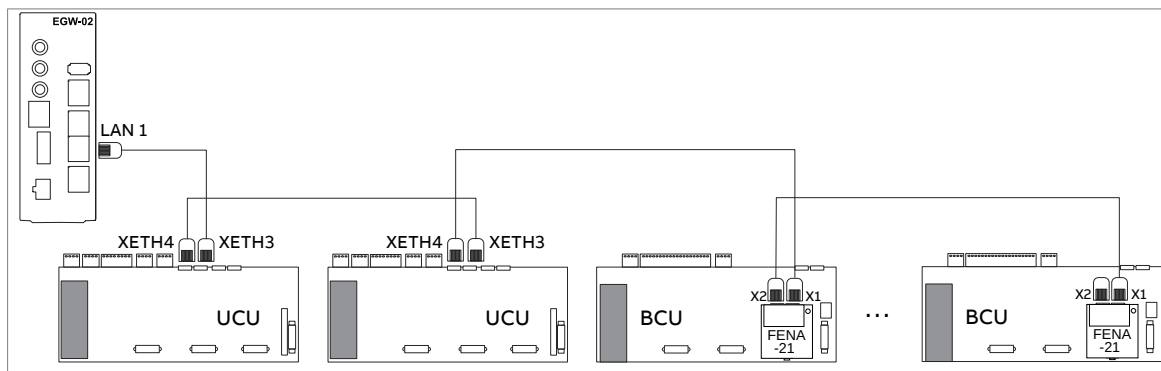
■ Drive communication link connection - Ethernet

Use a cable that complies with [Cable specification \(page 39\)](#). Maximum number of drive control units connected to one Ethernet connector of the gateway is 10.

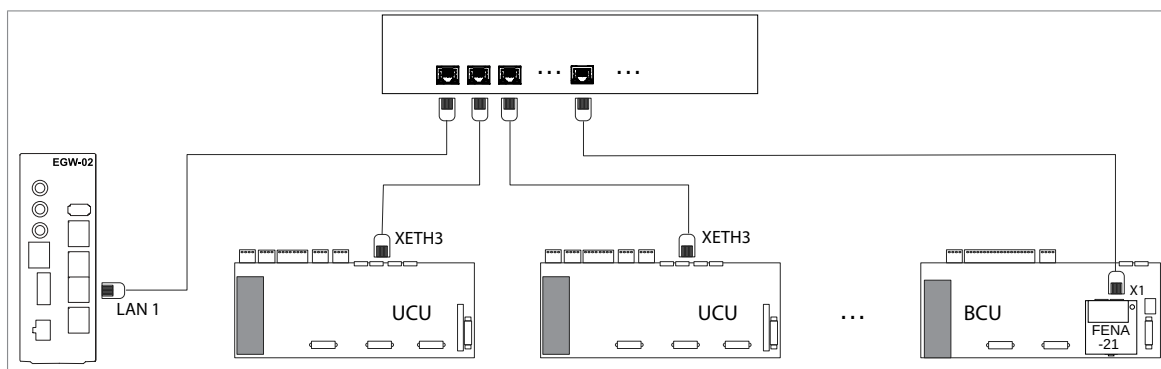
Connect the Ethernet link to LAN1 or LAN2 connector of the gateway. Use a daisy chain or star connection. For the star connection, use an Ethernet switch as the central node in the link.

The diagrams below show example connections of ACS880 drives with UCU and BCU control units. The UCU control unit supports embedded Ethernet connection. The BCU control unit, and most other drive control units, only support the connection via an Ethernet adapter (for example, FENA-21 Ethernet adapter module).

Daisy chain:



Star:

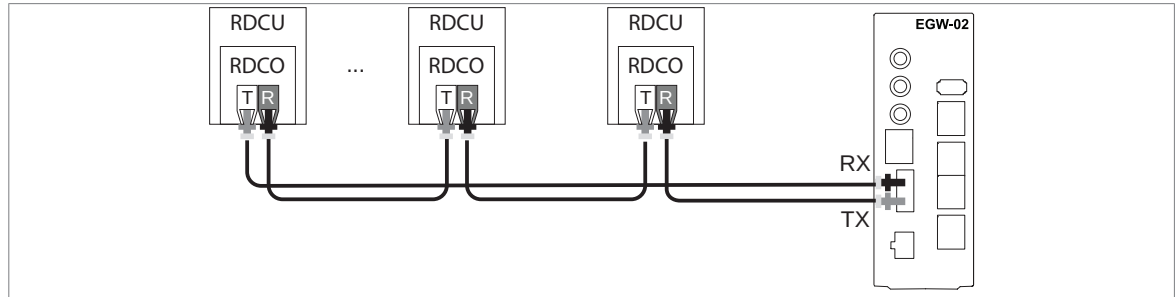


■ Drive communication link connection - DDCS fibre optic link

Use cable that complies with [Cable specification \(page 39\)](#).

Connect the fibre optic cables to DDCS connector of the gateway. The maximum number of devices per fiber optic link is 10.

The diagram below shows an example connection of drives with RDCU control units and RDCO adapter modules.



■ Drive communication link connection - Panel bus

Use cable that complies with [Cable specification \(page 39\)](#).

Connect the panel bus to PANEL BUS connector. Maximum of 32 nodes can be connected to the panel bus.

■ Internet connection - Ethernet (wired)

Connect the Ethernet cable to WAN connector. Do not connect the WAN connector directly to Internet, but through a firewall device. Use a cable that complies with [Cable specification \(page 39\)](#).

■ Internet connection - Antenna (mobile)

Use only the antenna type that is specified in [LTE antenna specification \(page 39\)](#).

Connect the antenna to ANT1 and ANT 2 connectors. Use torque of 0.5 N·m (4.5 lbf·in).

■ Bluetooth connection

There is no Bluetooth support at the moment.

■ USB connection

There is no USB support at the moment.



5

Configuration and start-up

Content of this chapter

This chapter contains the start-up instructions of the EGW-02 gateway.

Registering the gateway

Contact ABB to register the gateway: <https://new.abb.com/contact/form#>.

Configuring the gateway

When a new gateway is taken into use, the customer needs to log in to the EGW-02 user interface to configure the gateway. Refer to [Local user interface \(page 23\)](#).

Start-up

1. Make sure that the gateway is registered. Refer to [Registering the gateway \(page 21\)](#).
 2. Make sure that the gateway is installed and ready for use.
 3. Make sure that the drives are configured for the gateway communication.
 4. Power up the gateway.
-

6

User instructions

Contents of this chapter

This chapter contains instructions on how to start the use of the EGW-02 gateway local user interface.

Device management and firmware updates

EGW-02 gateway is managed in Device Management Service (DMS). After registration in DMS you can:

Basic user	• see the status of the gateway.
Principal user	• see the status of the gateway • update the firmware.

Local user interface

When a new gateway is taken into use, the customer needs to log in to the EGW-02 user interface to configure the gateway.

Note: The gateway must be registered to access the user interface. Refer to [Registering the gateway \(page 21\)](#).

Note: If you do a hard reset for the device (refer to [System recovery \(page 35\)](#)) it will set all the configurations back to defaults. There is no backup for the configurations so they can not be restored after the reset. Take notes when you set the values, if you want to restore them.

■ Logging in

To log in to the EGW-02 UI:

1. Request an access token from ABB. Access to local UI requires an access token through DMS. Only authorized personnel can create the token.
2. Go to EGW-02 user interface and paste the token to **Access Token** field. Select **Log In**. You are redirected to the UI home page.

■ Home/Overview

The Home/Overview page gives information on the EGW-02 and its active settings. The page consists of these parts:

1. Navigation bar:
 - home
 - configuration
 - diagnostics
 - drives
 - logout.
2. Gateway details:
 - gateway serial number
 - host name
 - firmware version
 - architecture
 - kernel
 - connectivity type.
3. Active network settings
 - Eth0 IP address
 - Eth1 IP address
 - DNS servers
 - Eth0 MAC address
 - Eth1 MAC address
 - gateway IP address.
4. Proxy settings
 - address
 - port.
5. Gateway time
 - time
 - time zone
 - up time.
6. Memory
 - total memory
 - available memory
 - free memory.

The data is view only, no settings can be adjusted on this page.

■ Configuration

Network settings

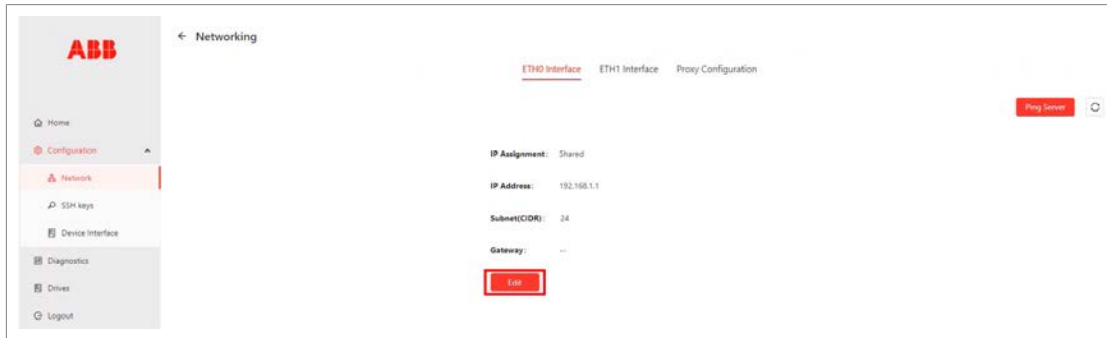
In this page you can configure the network settings.

ETH0 interface

To adjust ETH0 settings:

1. Go to **Configuration > Network > ETH0 interface** to connect to drive-facing network (that is usually a secure or private network inside customer's environment).
 2. Select **Edit**.
-

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3. Select **Automatic DHCP, DHCP server** or **Manual**:
 - automatic DHCP: the DHCP server has already been set up in the customer's environment and the gateway will get the IP address from the server.
 - DHCP server: the gateway should run as a DHCP server (IP address should come from the gateway). You can set the start IP address, subnet mask and default gateway (normally the IP address of the edge gateway in question).
 - manual: you need to set the IP address, subnet mask and the default gateway.
4. Select **Submit**.

A screenshot of the 'Edit IP Settings' dialog box. It has a title bar with 'Edit IP Settings' and a close button (X). The dialog contains a dropdown menu set to 'DHCP Server', a 'Start IP Address' field with placeholder text 'Enter IP Address', a 'Subnet(CIDR)' dropdown menu set to 'Select Subnet', and a 'Gateway' field with placeholder text 'Enter Gateway'. A red 'Submit' button is at the bottom left.

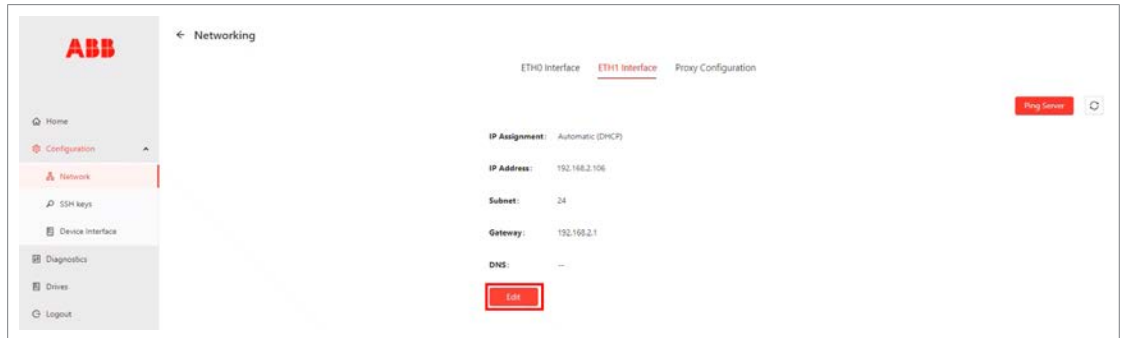
5. To check the connection between two nodes, select **Ping server**.
6. Insert the IP address.
7. Select **Ping**. It will show on the window if the connection is successful or not.

A screenshot of the 'Server to Ping' dialog box. It has a title bar with 'Server to Ping' and a close button (X). The dialog contains a text input field with placeholder text 'Enter IP or URL'. A red 'Ping' button is at the bottom right.

ETH1 interface

To adjust ETH1 settings:

1. Go to **Configuration > Network > ETH1 interface** to connect to Internet.
 2. Select **Edit**. Edit IP settings window opens.
-



3. Select **Automatic DHCP** or **Manual**:
 - automatic DHCP: the DHCP server has already been set up in the customer's environment and the gateway will get the IP address from the server.
 - manual: you need to set the IP address, subnet mask, default gateway and preferred DNS server.
4. Select **Submit**.

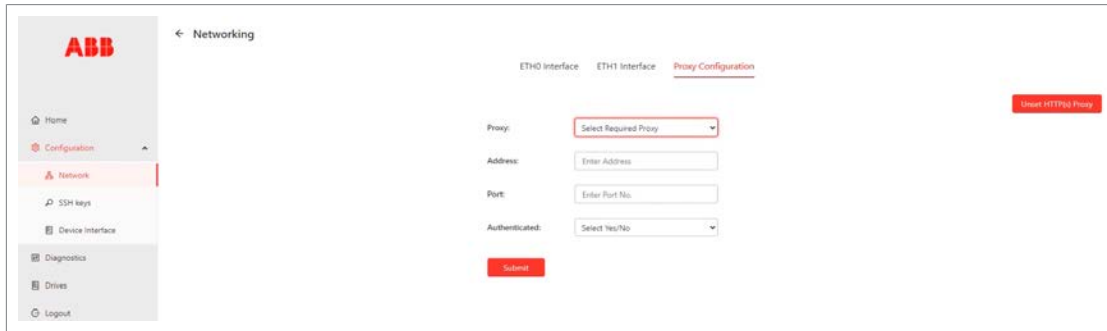
5. To check the connection to Internet, select **Ping server**.
6. Insert a web address. Make sure the domain accepts ping requests.
7. Select **Ping**. It will show on the window if the connection is successful or not.

Proxy configuration

To adjust proxy settings:

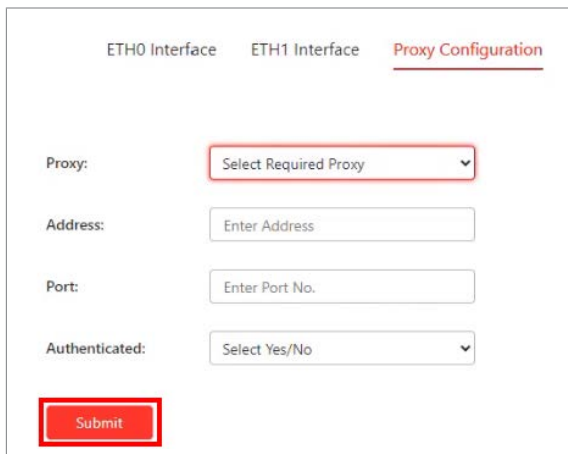
1. Go to **Configuration > Network > Proxy Configuration**.

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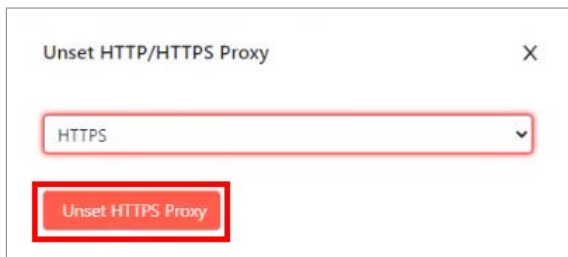
The screenshot shows the ABB Networking configuration interface. On the left is a sidebar with navigation links: Home, Configuration, Network (highlighted), SSH keys, Device Interface, Diagnostics, Drives, and Logout. The main area is titled 'Networking' and contains tabs for 'ETH0 Interface', 'ETH1 Interface', and 'Proxy Configuration' (which is active). The 'Proxy Configuration' section includes a 'Proxy' dropdown menu (set to 'Select Required Proxy'), an 'Address' text input (placeholder 'Enter Address'), a 'Port' text input (placeholder 'Enter Port No.'), and an 'Authenticated' dropdown menu (set to 'Select Yes/No'). A red 'Submit' button is at the bottom. A red button labeled 'Unset HTTP Proxy' is visible in the top right corner.

2. Select the proxy: HTTP or HTTPS.
3. Set address.
4. Set port number.
5. Select if the proxy is authenticated or not:
 - authenticated: insert username and password.
 - not authenticated: no username or password needed.
6. Select **Submit**.



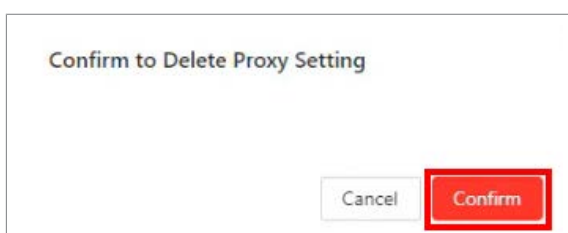
This is a close-up of the 'Proxy Configuration' form. It shows the 'Proxy' dropdown menu (set to 'Select Required Proxy'), the 'Address' text input (placeholder 'Enter Address'), the 'Port' text input (placeholder 'Enter Port No.'), and the 'Authenticated' dropdown menu (set to 'Select Yes/No'). A red 'Submit' button is highlighted at the bottom left.

7. To clear the proxy settings, select **Unset HTTPS proxy**.



The screenshot shows a dialog box titled 'Unset HTTP/HTTPS Proxy' with a close button (X) in the top right. Inside the dialog, there is a dropdown menu currently set to 'HTTPS'. Below the dropdown is a red button labeled 'Unset HTTPS Proxy'.

8. Select the proxy you want to unset.
9. Select **Confirm**. All proxy settings are cleared.

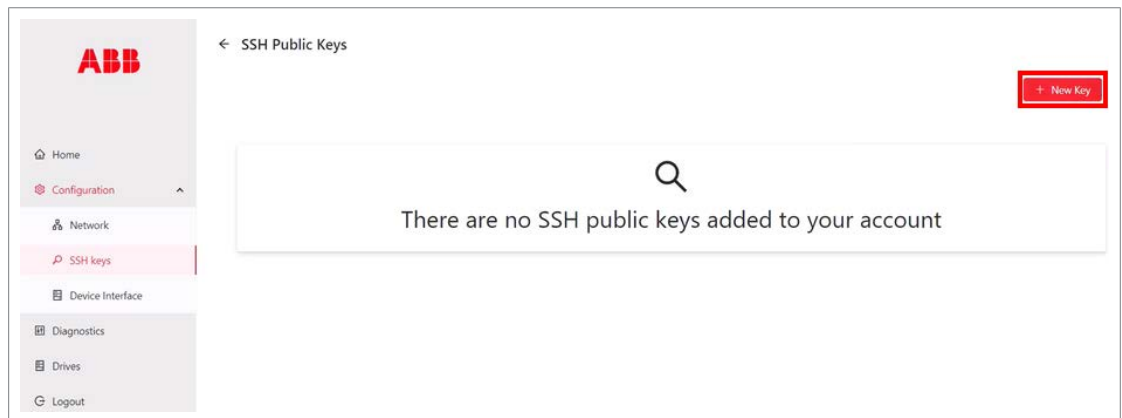


The screenshot shows a dialog box titled 'Confirm to Delete Proxy Setting'. At the bottom of the dialog are two buttons: 'Cancel' and 'Confirm' (highlighted with a red border).

SSH keys

To generate and use a SSH key:

1. Go to **Configuration > SSH keys**.
2. Select **New key**. New SSH key window opens.

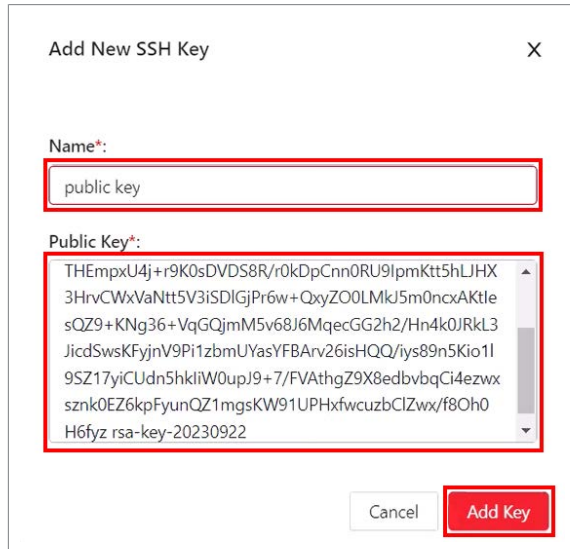


3. Select the **Public key** field.

The screenshot shows a modal dialog box titled 'Add New SSH Key' with a close button (X) in the top right. It contains two input fields: 'Name*' and 'Public Key*'. The 'Public Key*' field is highlighted with a red rectangular border. At the bottom of the dialog are two buttons: 'Cancel' and 'Add Key'.

4. Open a tool for generating SSH keys on your PC.
5. Use the tool to generate a new SSH key.
6. Copy the generated key to **Public key** field in the EGW-02 UI.
7. Add name to the **Name** field.
8. Select **Add key**. The key is added to the SSH keys page in the UI.

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A dialog box titled "Add New SSH Key" with a close button (X) in the top right corner. It contains two input fields: "Name*" with the value "public key" and "Public Key*" containing a long alphanumeric string. At the bottom are "Cancel" and "Add Key" buttons.

Add New SSH Key X

Name*: public key

Public Key*: THEmpxU4j+r9K0sDVDS8R/r0kDpCnn0RU9lpmKtt5hLJHX3HrvCWxVaNtt5V3iSDIGjPr6w+QxyZO0LMkJ5m0ncxAKtle sQZ9+KNg36+VqGQjmM5v68J6MqecGG2h2/Hn4k0JRkL3 JicdSwsKFyjnV9Pi1zbmUYasYFBArv26isHQQ/iys89n5Kio1l 9SZ17yiCUdn5hkliW0upJ9+7/FVAthgZ9X8edbvqCi4ezwx sznk0EZ6kpFyunQZ1mgsKW91UPHxwfcuzbClZwx/f8Oh0 H6fyz rsa-key-20230922

Cancel Add Key

Device interface

Two device interfaces are supported: DDCS through optical fiber connection and Ethernet.

DDCS

To adjust DDCS settings:

1. Go to **Device Interface > DDCS**.



A screenshot of the "Device Interface" settings page. The left sidebar shows the navigation menu with "Device Interface" selected. The main area shows "DDCS" settings: "Optical Power" set to 4, "Communication Speed" set to 1 Mbit/s, and "Network Topology" set to Ring. There is an "Edit" button and a "Spec" button in the top right.

ABB Device Interface

DDCS Ethernet Spec

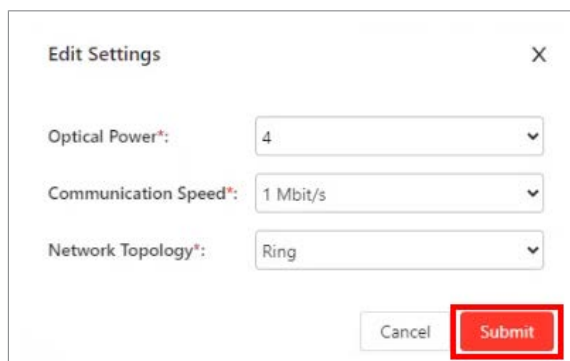
Optical Power: 4

Communication Speed: 1 Mbit/s

Network Topology: Ring

Edit

2. Select **Edit**. A new window opens.
3. Set optical power.
4. Set communication speed.
5. Set network topology.
6. Select **Submit**.



An "Edit Settings" dialog box with three dropdown menus: "Optical Power*" set to 4, "Communication Speed*" set to 1 Mbit/s, and "Network Topology*" set to Ring. At the bottom are "Cancel" and "Submit" buttons.

Edit Settings X

Optical Power*: 4

Communication Speed*: 1 Mbit/s

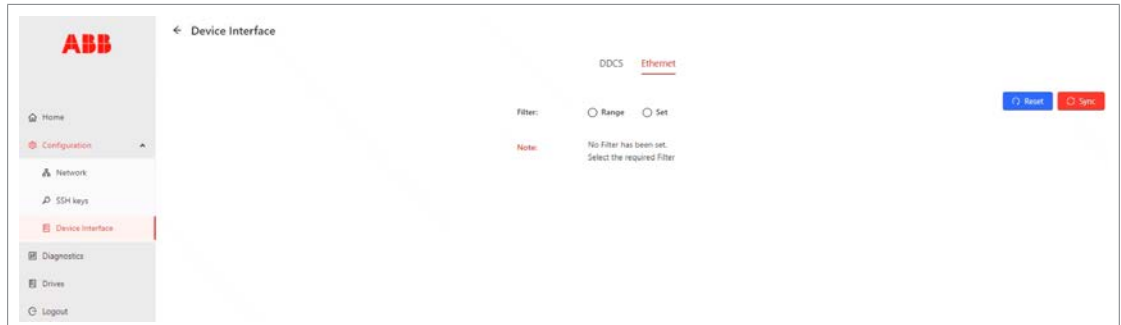
Network Topology*: Ring

Cancel Submit

Ethernet

To adjust Ethernet settings:

1. Go to **Device Interface > Ethernet**.



2. Select the way to filter the drives you want to discover:
 - range: set the start IP address and end IP address. Only drives that are within the range will be discovered

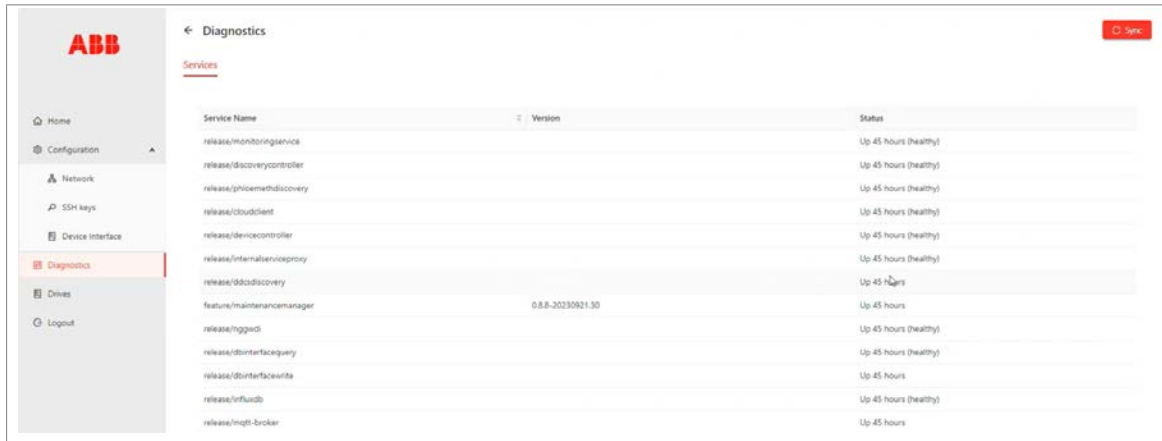
- set: add up to 10 individual IP addresses. Select **Submit** once you have added the IP addresses.

Note: If you do not select a filter, the gateway will discover the drives that are in the same network.

■ Diagnostics

List of services that are running (name, version and status) is shown on this page.

The data is view only, no settings can be adjusted on this page.



Service Name	Version	Status
release/monitoringservice		Up 45 hours (healthy)
release/discoverycontroller		Up 45 hours (healthy)
release/phiomethdiscovery		Up 45 hours (healthy)
release/cloudclient		Up 45 hours (healthy)
release/devicecontroller		Up 45 hours (healthy)
release/internal-service-proxy		Up 45 hours (healthy)
release/ddiscovery		Up 45 hours (healthy)
feature/maintenance-manager	0.8.8-20230921.30	Up 45 hours
release/hggedi		Up 45 hours (healthy)
release/dbinterfacequery		Up 45 hours (healthy)
release/dbinterfacevnta		Up 45 hours
release/influxdb		Up 45 hours (healthy)
release/mqtt-broker		Up 45 hours

■ Drive details

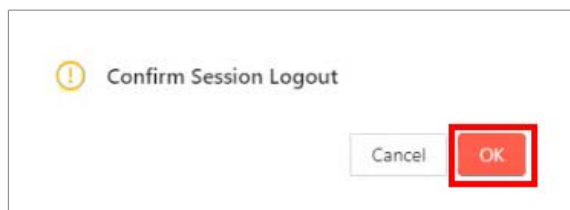
On **Drive details** page, you see a list of drives that are connected to the gateway.

The data is view only, no settings can be adjusted on this page. If you want to pair the serial numbers, send a screenshot of this view to the person who does the DMS configuration.

■ Logging out

To log out from the UI:

1. Select **Logout** from the navigation bar. A new window opens.
2. Select **OK**.



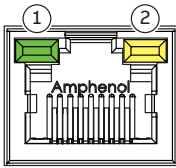
7

Troubleshooting

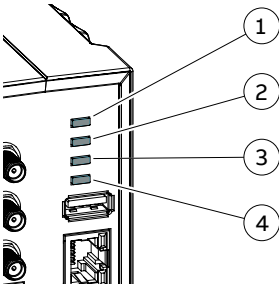
Contents of this chapter

This chapter contains description of the LEDs and related diagnostics and troubleshooting instructions.

Ethernet connector LEDs

LEDs	No.	Explanation	Status
	1	Link data transfer speed	<u>Off</u> : 10 Mbps <u>Green</u> : 100 Mbps
	2	Link status	<u>Off</u> : Link not established <u>Yellow flashing</u> : Activity in the link <u>Yellow</u> : Link established

LEDs on the top right corner

LEDs	No.	Symbol	Explanation	Status
	1		Power	<u>Off</u> : Not connected or not in use
	2		Bluetooth connection	<u>Red</u> : Error <u>Green flashing</u> : Start-ing/connecting
	3		Mobile connection	<u>Green</u> : Ready/connected
	4		Cloud server connection	<u>Blue* flashing</u> : Pairing <u>Blue*</u> : Paired *Bluetooth LED. Other LEDs use green and red.

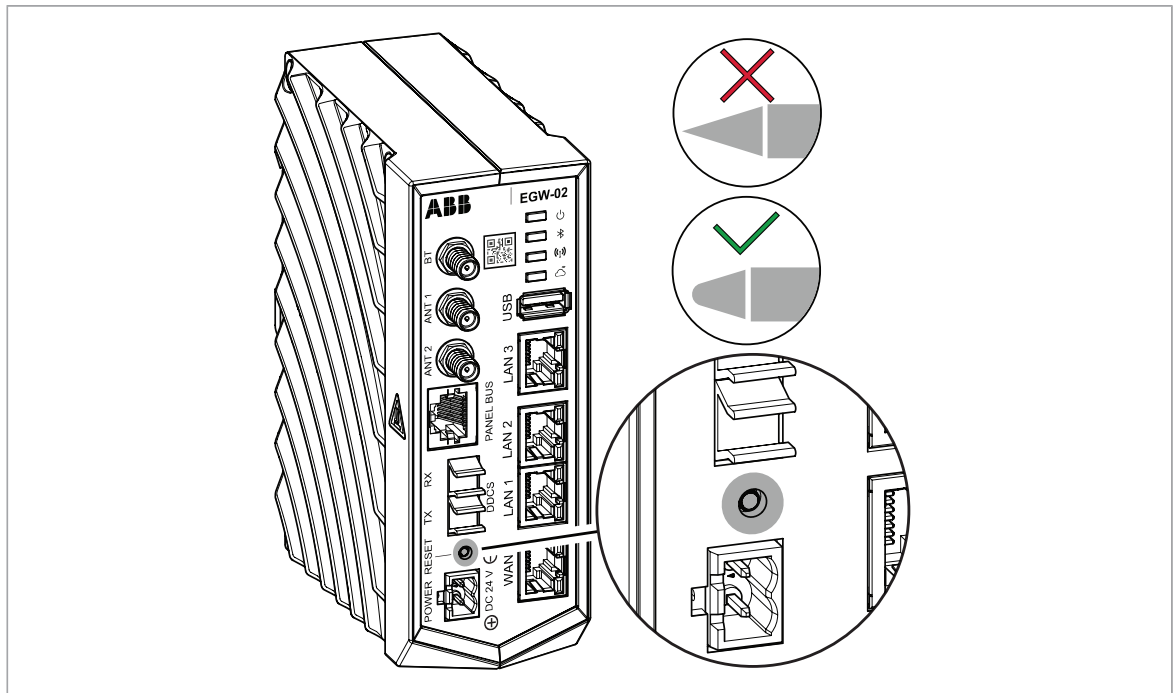
34 Troubleshooting

Missing LED indication	Cause	What to do
Power LED is off.	No power supply.	Make sure that the power supply is in operation and the power cable is connected to the gateway.
Bluetooth connection LED	Connection is not in use: No Bluetooth antenna is connected or the connection is poor.	Make sure that the antenna cable is connected to Bluetooth antenna connector (BT). Re-tighten the antenna connection.
	Gateway error.	Reset the gateway. Refer to section System recovery (page 35) .
Mobile connection LED	Connection is not in use: No LTE antenna is connected or the connection is poor.	Make sure that the antenna cables are connected to LTE MIMO antenna connectors (ANT1 and ANT2). Re-tighten the antenna connection.
	Gateway error.	Reset the gateway. Refer to section System recovery (page 35) .
Cloud server connection LED	No Internet connection.	Make sure that the Internet connection is available. Make sure that the Ethernet cable is connected (or the mobile antenna is connected and the connection is tightened).
	Gateway error.	Reset the gateway. Refer to section System recovery (page 35) .
	Gateway is not registered.	Contact ABB.
	No ABB cloud service is available.	Contact ABB.

System recovery

To do a reset, push the reset button with a blunt object. Do not use a sharp object.

- To do a soft reset, push the reset button for 5 seconds.
- To do a hard reset, push the reset button for 15 seconds.



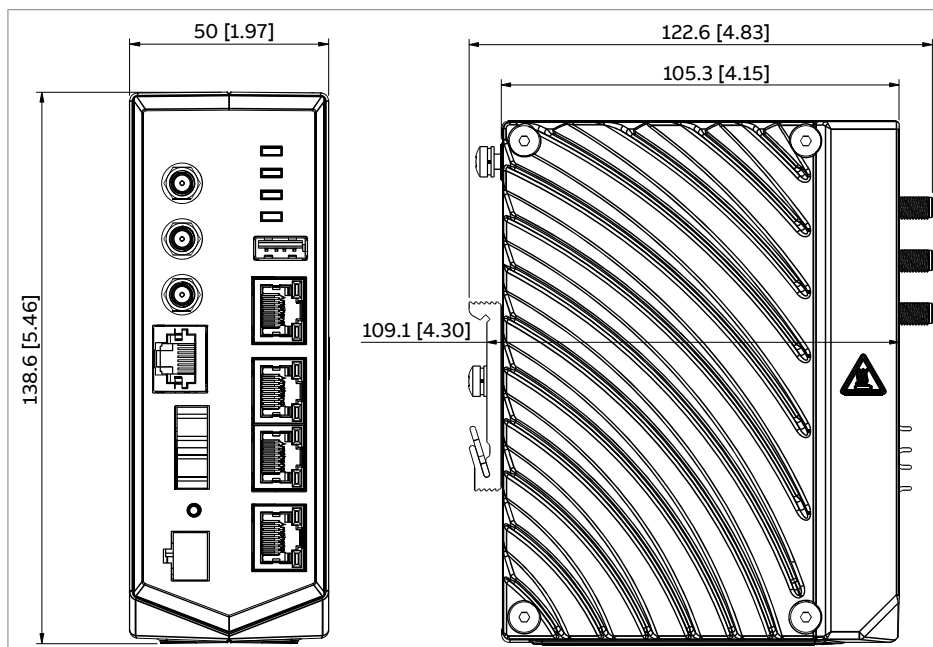
8

Technical data

Contents of this chapter

This chapter contains technical data of the EGW-02 gateway.

Dimension drawings



The dimensions are in millimeters and [inches]. The weight of the gateway is 800 g (1.76 lb).

Package dimensions

Width × depth × height: 220 × 56 × 149 mm (8.7 × 2.2 × 5.9 in).

Environmental specifications



Do not use the WiFi or Bluetooth of this gateway within a 20 km radius of the center of Ny-Ålesund at Svalbard, Norway.

Environmental specifications	
Storage temperature	−40...85 °C (−40...185 °F)
Operating temperature	−40...70 °C (−40...158 °F)
Maximum relative humidity (operating and storage)	95%
Maximum altitude	5000 m (16404 ft)
Usage life	10 years at 60 °C.
IP protection	IP40

Electrical specifications

Power and current	Specifications
Power supply input	Input voltage: 19...32 V DC Nominal input voltage: 24 V DC Nominal input current: 600 mA Maximum input current: 800 mA
Power consumption	15 W (max.)
Reverse voltage protection	Input protected against 28 V DC reverse voltage.

Wired connectivity features and intended usage

Connectivity	Function	Description	Symbol or text on the front panel
Single port RJ45	Panel bus connection port (RS-485)	Local connection to drives	Panel bus
Dual port RJ45	Network port for Tool Ethernet network	Local connection to drives	LAN 1 LAN 2
Single port RJ45	Port for service Ethernet (10/100)	Local connection to PC tool	LAN 3
Optical link	DDCS fiber optic interface	Local connection to drives	DDCS
Single port RJ45	WAN port for public Internet connection (10/100)	Outbound connection (cloud)	WAN

Cable specification

Connection type	Cable requirement	Maximum length of the cable
Ethernet	minimum Ethernet CAT5e S/FTP	100 m (228 ft)
Panel bus	minimum Ethernet CAT5e S/FTP	100 m (228 ft)
DDCS	Plastic optical fiber (POF) or Hard Clad Silica (HCS) cables	POF: 10 m (30 ft) HCS: 100 m (330 ft)

Wireless connectivity features and their intended usage

Connectivity	Usage	Description
LTE cellular modem	Cloud connection	Outbound connection to cloud
Bluetooth 5	Connect to sensors	Local short-range connection for sensors, e.g. ABB Ability™ Smart Sensor

Supported cellular bands

Region	Technology	Supported bands
US	LTE	B2, B4, B5, B7, B8, B12, B13, B20, B25, B26, B38, B41
	WCDMA	B2, B4, B5
	GSM	850/1900
EU	LTE	B1, B3, B7, B8, B20, B28, B38, B40
	WCDMA	B1, B8
	GSM	900/1800
Other regions	LTE	B18, B19, B39
	WCDMA	B6, B19

LTE antenna specification

Supported frequency bands	699...960 MHz 1710...1785 MHz 1805...1995 MHz 2110...2170 MHz 2300...2400 MHz 2496...2690 MHz
Nominal impedance	50 ohm
Antenna cable	50 ohm, low-loss coaxial cable 0.5...20.0 m (1...65 ft) with SMA male connector
Antenna type	Manufacturer: 2J Antennas Model: 2J6983Ba (MIMO) Band: 2G/3G/4G Installation kit ordering code: 3AXD50001082796

Bluetooth antenna specification

Frequency range	2400...2483.5 MHz
Nominal impedance	50 ohm
Antenna cable	50 ohm, low-loss coaxial cable 0.5...20.0 m (1...65 ft) with SMA male connector
Antenna type	Manufacturer: 2J Antennas Model: 2J6702B Band: 2.4 GHz Installation kit ordering code: 3AXD50001082802

Interfaces

Function	Specifications
Processor	Dual-core ARM Cortex-A53 Dual-core ARM Cortex-R5
Programmable logic	154 kLC
RAM	4 GB DDR3-1600, 64 bit, ECC
Mass storage	64 GB eMMC
Ethernet	3 x 10/100M LAN, 1 x 10/100M WAN
Hardware Security Module	TPM 2.0
USB	USB 2.0 host
Bluetooth	Bluetooth 5, external antenna
Cellular IoT	LTE Cat4, external MIMO antenna, Embedded SIM (eUICC)
Panel bus	Drive connectivity using Panel port
DDCS link	Drive connectivity using fiber optic interface
Sensors	Temperature, humidity

Compliance and directives

Compliance and directives	
EU: Radio Equipment Directive (RED) SEPARATE ANNEX FOR COMPLIANCE REQUIREMENTS	2014/53/EU
USA: Federal Communication Commission (FCC) SEPARATE ANNEX FOR COMPLIANCE REQUIREMENTS	CFR
Technical documentation for CE, FCC & ISSED	Separate annex for compliance requirements

■ Simplified EU declaration of conformity

Hereby, ABB declares that the radio equipment type EGW-02 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available in Internet by ABB.

■ Regulatory information

Federal Communications Commission Notice (FCC – United States)

FCC ID: 2AFNG-EGW02

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications made to this equipment not expressly approved by ABB may void the FCC authorization to operate this equipment.

Innovation, Science and Economic Development Notice (ISED – Canada)

IC: 20555-EGW02

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s) and complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. L'appareil ne doit pas produire de brouillage.
2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

ISED Statement

This radio transmitter IC ID: 20555-EGW02 has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated.

List of antennas

Manufacturer	Type	Band
2J Antennas	2J6983Ba (MIMO)	2G/3G/4G
2J Antennas	2J6702B	BLE 2.4 GHz ISM

■ Radio frequency radiation exposure information

Note: This equipment complies with <47 CFR § 2.1091 > < IC RSS-102> < 47 CFR § 1.1310 and ISED> radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Ce transmetteur ne doit pas être placé au même endroit ou utilisé simultanément avec un autre transmetteur ou antenne.

■ Radio frequency, antenna gain and transmitted output power information

Technology	Band EU	Frequency range	Maximum radiated average output power
		MHz	dBm
GSM/2G	900	880...915	29
	1800	1710...1785	28.4
WCDMA/3G	B1	1920...1980	30.6
	B5	1710...1785	30.6
	B8	880...915	28.2
LTE/4G	B1	1920...1980	30.6
	B3	1710...1785	30.6
	B5	824...849	28.2
	B7	2500...2570	30.6
	B8	880...915	28.2
	B20	832...862	28.2
	B28	703...748	28.2
	B38	2570...2620	30.6
	B40	2300...2400	30.6
BLE	2.4 GHz	2400...2483.5	<10

Technology	Band USA	Frequency range	Maximum antenna gain ¹⁾	Maximum conducted average output power
		MHz	dB _i	dBm
GSM/2G	850	824...849	3.2	25.8
WCDMA/3G	B2	1850...1910	5.6	25
	B4	1710...1785	5.6	25
	B5	1710...1785	5.6	25

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Technology	Band USA	Frequency range	Maximum an- tenna gain ¹⁾	Maximum conduc- ted average out- put power
		MHz	dBi	dBm
LTE/4G	B2	1850...1910	5.6	25
	B4	1710...1785	5.6	25
	B5	1710...1785	5.6	25
	B7	2500...2570	5.6	25
	B12	699...716	3.2	25
	B13	777...787	3.2	25
	B25	1850...1915	5.6	25
	B26	814...849	3.2	25
	B38	2570...2620	5.6	25
	B41	2496...2690	5.6	25

¹⁾ 2J Antennas: 2J6983Ba

Technology	Band USA	Frequency range	Maximum an- tenna gain ¹⁾	Maximum radi- ated average out- put power
		MHz	dBi	dBm
BLE	2.4 GHz	2400...2483.5	2.3	7

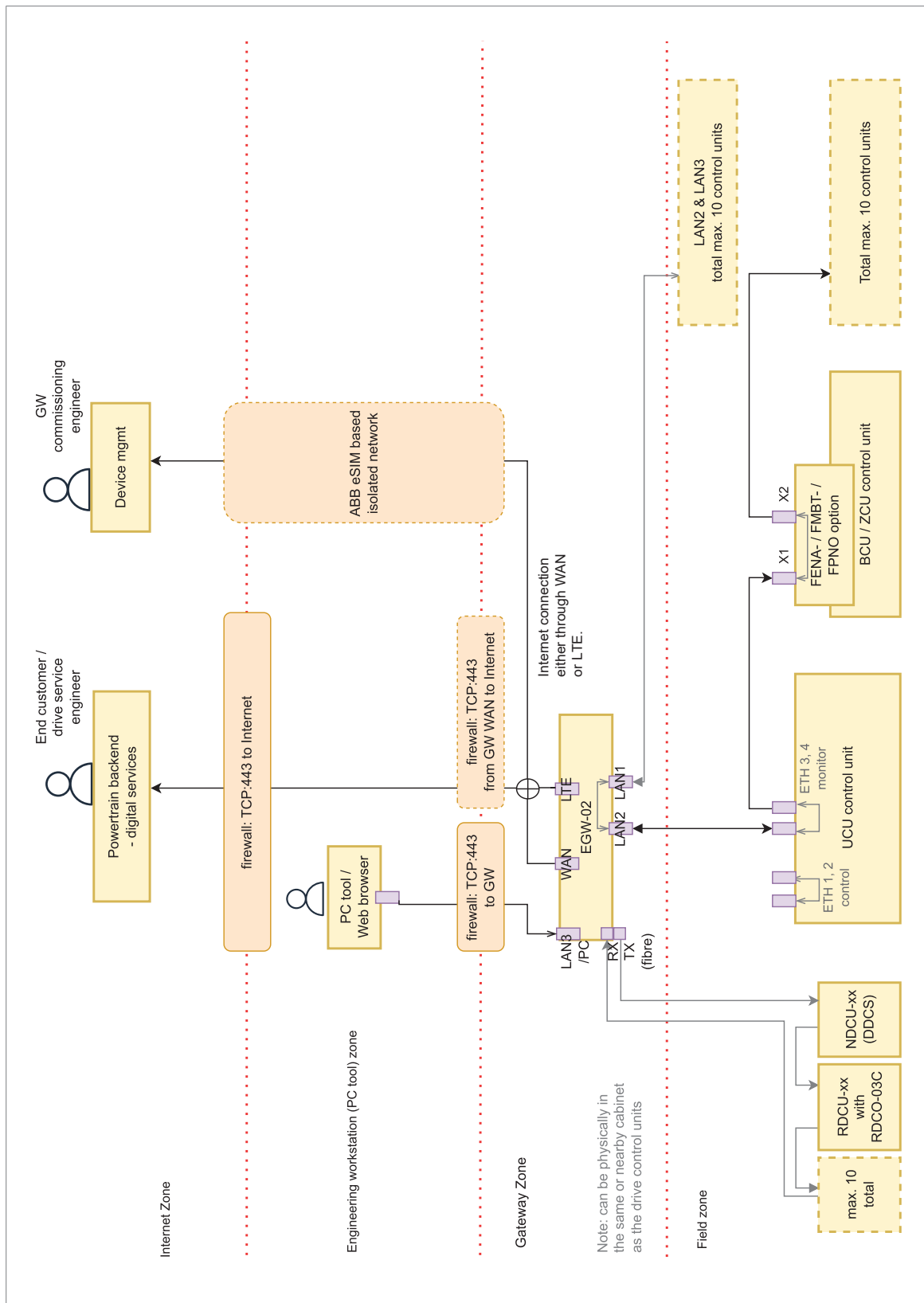
¹⁾ 2J Antennas: 2J6702B

Technology	Band Other/rest of the world
LTE	B18, B19
WCDMA	B6, B8, B19

A large black number 9 is centered within a light gray rounded square. The square has a soft drop shadow, giving it a three-dimensional appearance as if it is floating above the page.

Network connection example

46 Network connection example





Further information

Product and service inquiries

Address any inquiries about the product to your local ABB representative, quoting the type designation and serial number of the unit in question. A listing of ABB sales, support and service contacts can be found by navigating to www.abb.com/contact-centers.

Product training

For information on ABB product training, navigate to new.abb.com/service/training.

Providing feedback on ABB manuals

Your comments on our manuals are welcome. Navigate to new.abb.com/drives/manuals-feedback-form.

Document library on the Internet

You can find manuals and other product documents in PDF format on the Internet at www.abb.com/drives/documents.



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