Network gateway
Short guide

1. Overview

The GW-24-Cloud network gateway is designed to connect the network devices working with the Modbus protocol over the RS485 interface to the cloud service akYtec Cloud via Wi-Fi.

The detailed user guide is available for download at www.akytec.de.

2. Specifications

Table 1 Specifications

Parameter	Value
Power supply	
Power supply	24 (10…48) VDC
Power consumption, max.	6 W
Galvanic isolation	1770 V
Network interface	
Interface	RS485
Protocols	Modbus RTU, Modbus ASCII, akYtec*
Baud rate	1200...115200 bps
Cable length, max.	1000 m
Cloud interface	
Interface	Wi-Fi 802.11 b/g/n
Operating frequency	2.4...2.5 GHz
Protocols	TCP, DNS, DHCP
Antenna	External, SMA connector
Antenna cable length, max.	3 m
Configuration interface	
Interface	USB 2.0 (Micro-USB) Wi-Fi 802.11 b/g/n
Mechanical	
Dimensions (without antenna)	55 × 96 × 58 mm
IP code	IP20
Average service life	10 years
Weight	approx. 150 g

NOTE
Only devices listed in the library can be connected via the akYtec protocol.

3. Environmental conditions

The device is designed for natural convection cooling which should be taken into account when choosing the installation site.

The following environmental conditions must be observed:

- clean, dry and controlled environment, low dust level
- closed non-hazardous areas, free of corrosive or flammable gases

Table 2 Environmental conditions

Condition	Permissible range
Ambient temperature	−40...+55 °C
Relative humidity	10...95 % (non-condensing)
Altitude	up to 2000 m above sea level
EMC emission / immunity	conforms to IEC 61131-2
Vibration / shock resistance	

4. Dimensions

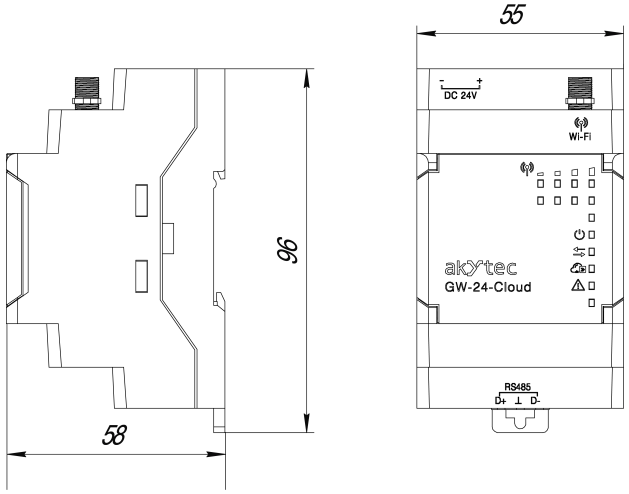


Fig. 1 Dimensions

NOTE
Cabinet design should allow for antenna dimensions.

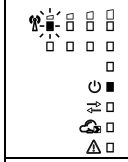
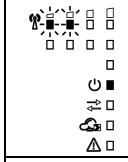
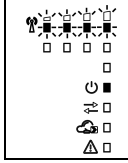
5. Indication and control

There are 8 LEDs on the front cover.

Table 3 LED indicators

LED	State	Description
	ON (Wi-Fi 1...4)	Wi-Fi signal level
	ON one after the other ("ticker") (Wi-Fi 1...4)	Connection to Wi-Fi access point not configured
		Device own Wi-Fi access point not configured
	ON	Power is on
	Flashing	Data transfer over RS485 interface
	Flashing	Command transfer from akYtec Cloud
	OFF	No error
	ON	Error (see *Table 5*).

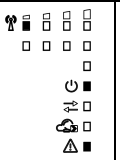
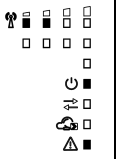
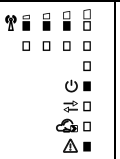
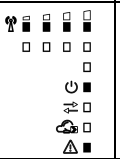
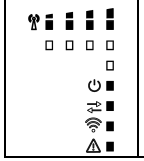
Table 4 Startup steps indication

LED	State	Description
	Flashing (Wi-Fi 1)	Wi-Fi module configuration
	Flashing (Wi-Fi 1, 2)	Connection to Wi-Fi access point
	Flashing (Wi-Fi 1...4)	Connection to akYtec Cloud

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Table 5 Error indication and remedy

LED	State	Description	Remedy
	ON (⚠ and Wi-Fi 1)	Wi-Fi module errors: • Module does not respond • Module responds incorrectly • Module is not powered	Contact akYtec service staff
	ON (⚠ and Wi-Fi 1, 2)	Access point connection errors: • Incorrect configuration • Access point rejects connection requests	Ensure the correctness of Wi-Fi network name Ensure the correctness of password Check antenna connection
	ON (⚠ and Wi-Fi 1–3)	Server connection configuration errors: • Error setting static IP address • Error setting dinamic IP address (DHCP mode)	Check network settings of the device and access point
	ON (⚠ and Wi-Fi 1–4)	Connection terminated by server	Ensure the device is added and configured in akYtec Cloud Contact akYtec service staff
	ON (All LEDs)	Firmware boot error	Restart the device. Repeat firmware update

Under the front cover:

1. Service button
2. 4 DIP switches
3. Micro-USB connector

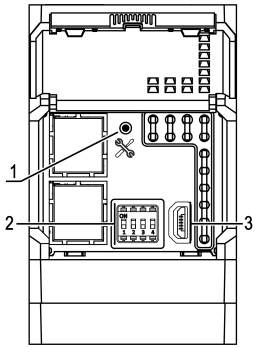


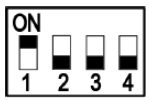
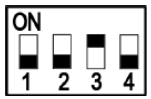
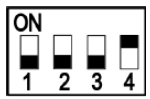
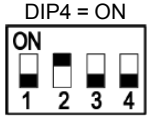
Fig. 2 Under the front cover

To restart the device, press the service button shortly. To reset the device to the factory settings, press and hold the service button for at least 12 s.

Power must be disconnected and reconnected after pressing the button (reset the gateway to factory settings).

Pressing the button without holding it down restarts the gateway.

Table 6 DIP switches

DIP switch	Description
 DIP1 = ON	120 Ω terminating resistor is connected
 DIP3 = ON	Write commands via RS485 interface are disabled
 DIP4 = ON  DIP2 = ON	Only for akYtec service staff. The switch must be turned off during normal operation

NOTE
DIP switch positions are read in ascending order starting from 1.

6. Startup

After mounting and powering the network gateway:

1. Connect the gateway to a PC over USB.
2. Set up the gateway network parameters using akYtec Tool Pro.

NOTE
To connect to akYtec Cloud server, use the local port 25001.

3. Connect the gateway to Wi-Fi access point.
4. Power off the gateway.
5. Connect all devices to the gateway. Ensure all devices are configured before being connected.
6. Power on the gateway and all connected devices.
7. Add the devices connected to the gateway to akYtec Cloud.
8. Ensure the connection to akYtec Cloud is established checking the LEDs on the gateway front cover (see *Table 5*).

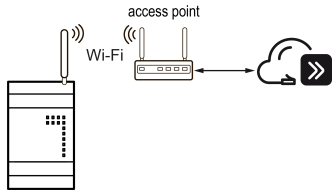


Fig. 3 Connection to akYtec Cloud

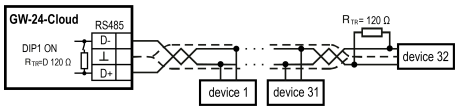


Fig. 4 Connection to RS485 interface

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