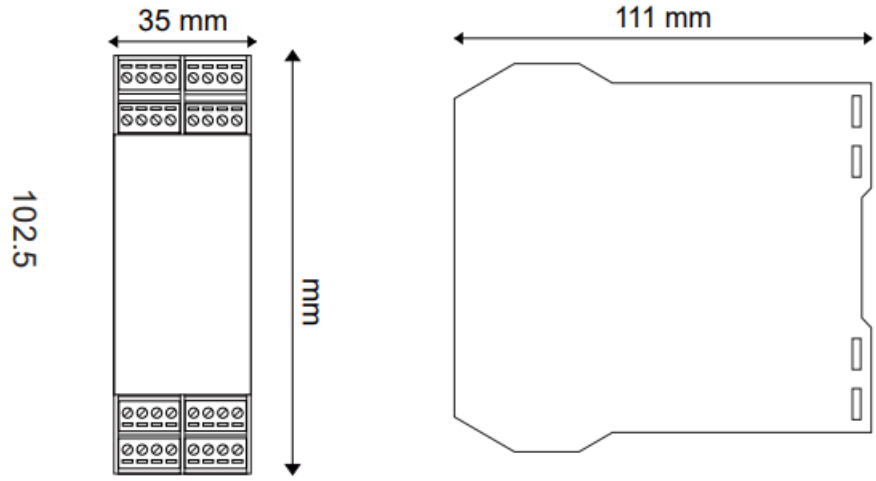
SENECA Z-KEY-WIFI Gateway Module/Serial Device Server with WIFI Installation Guide

Contents

SENECA Z-KEY-WIFI Gateway Module/Serial Device Server with WIFI

MODULE LAYOUT



- **Dimensions:** LxHxD 35 x 102.5 x 111;
- **Weight:** 220 g;
- **Enclosure:** PA6, Black

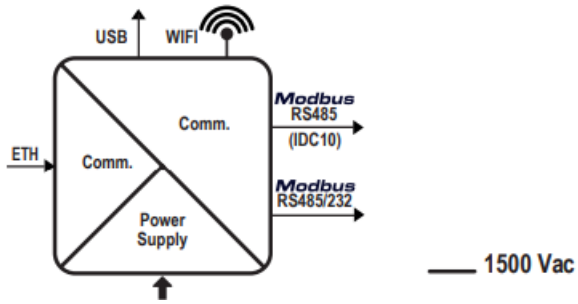
SIGNALS VIA LED ON FRONT PANEL

LED	STATUS	LED meaning
PWR Green	ON	The device is powered correctly
SD Red	Flashing	Accessing the microSD card
TX1 Red	Flashing	Data transmission on port #1 RS485
RX1 Red	Flashing	Data receipt on port #1 RS485
TX2 Red	Flashing	Data transmission on port #2 RS485/RS232
RX2 Red	Flashing	Data reception on port #2 RS485/RS232
ETH ACT Green	Flashing	Packet transmission on Ethernet port
ETH ACT Green	ON	No activity on Ethernet port
ETH LNK Yellow	ON	Ethernet connection present
ETH LNK Yellow	Off	No Ethernet connection
4 LED	On	Signal strength (0 = min. / 4 = max.)
AP	On	Access Point mode active
AP	Flashing	Access Point mode first configuration
ST	On	Station mode active

PRELIMINARY WARNINGS

- The word WARNING preceded by the symbol ⚠ indicates conditions or actions that put the user's safety at risk.
- The word ATTENTION preceded by the symbol ⚠ indicates conditions or actions that might damage the instrument or the connected equipment. The warranty shall become null and void in the event of improper use or tampering with the module or devices supplied by the manufacturer as necessary for its correct operation, and if
  the instructions contained in this manual are not followed.
- WARNING: The full content of this manual must be read before any operation. The module must only be used by qualified electricians. Specific documentation is available via QR-CODE shown on page 1.
- The module must be repaired and damaged parts replaced by the Manufacturer. The product is sensitive to electrostatic discharges. Take appropriate measures during any operation.
- Electrical and electronic waste disposal (applicable in the European Union and other countries with recycling). The symbol on the product or its packaging shows the product must be surrendered to a collection centre authorized to recycle electrical and electronic waste.

TECHNICAL SPECIFICATIONS

STANDARDS	**Safety: EN60950, EN62311** **Radio equipment device: EN301489-1 V2.1.1, EN301489-17 V3.1.1, EN300328 V2.1.1** **Additional notes:** a 1 A delayed fuse must be installed near the module, in series with the p ower supply connection.
INSULATION	
ENVIRONMEN TAL CONDITIO NS	*Temperature*: -25 – + 65 °C *Humidity*: 30%– 90% non condensing. *Altitude:* Up to 2000 m above sea level *Storage temperature:* -30 – + 85 °C *Protection rating:* IP20 (Not evaluated by UL)
ASSEMBLY	IEC EN60715, 35mm DIN rail in vertical position.
CONNECTION S	3-way removable screw terminals, pitch 5 mm Rear connector IDC10 for DIN bar 46277 RJ4 5 front connector SMA antenna connector front micro USB microSD card slot
POWER SUPP LY	Voltage: 11 – 40 Vdc; 19 – 28 Vac 50 – 60 Hz Absorption: Max. 3,8W
WIFI	IEEE 801.11 b/g/n Security WEP / WPA / WPA 2
COMMUNICATI ON PORTS	RS242 or RS485 switchable on terminal 10 – 11 – 12: Maximum baud rate 115 k, maximum RS232 cable length <3m, ModBus RTU master / modBus RTU slave protocol.
	RS485 IDC10 rear connector: Maximum baud rate 115 k, ModBus RTU master / ModBus RT U slave protocol.
	RJ45 front Ethernet connector: 100 Mbit/s, maximum distance 100 m
	Micro SD: plug-in: lateral micro USB

ATTENTION
The device may only be powered by a power supply unit with a limited energy electric circuit max. 40Vdc / 28Vac Max output in accordance with CAN/CSA-C22.2 No. 61010-1-12 / UL Std. No. 61010-1 (3rd Edition) chapter 6.3.1/6.3.2 and 9.4 or class 2 according to CSA 223/UL 1310.

FACTORY IP ADDRESS

The default module IP address is static: 192.168.90.101

WEB SERVER

To access the maintenance Web Server with 192.168.90.101 factory IP address: Default user: admin, Default password: admin, **http://192.168.90.101**

SETTING THE DIP-SWITCHES

SETTINGS OF FACTORY PARAMETERS

This procedure returns the IP to the factory one (192.168.90.101) and the Web Server/FTP server access credentials to user: admin and password: admin.

1. Turn the Z- KEY WIFI module off and set all eight SW1 DIP-switches ON.
2. Turn on the Z-KEY WIFI module and wait 10 seconds.
3.
4.
5. Turn the Z- KEY WIFI module off and set all eight SW1 DIP-switches OFF.

KEY				
1	ON			
0	OFF			

RS232/RS485 SETTING: RS232 or RS485 configuration on terminals 10-11-12 (serial port 2)

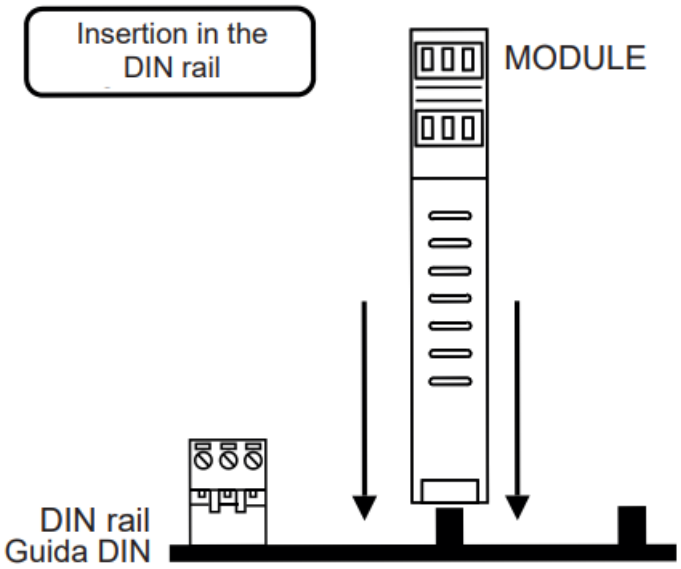
SW2					
1	ON				**RS232 ACTIVATION**
0	OFF				**RS485 ACTIVATION**

INSTALLATION REGULATIONS

The module has been designed for vertical installation on a DIN 46277 rail. For optimal operation and long life, adequate ventilation must be provided. Avoid positioning ducting or other objects that obstruct the ventilation slots. Avoid mounting modules over heat-generating equipment. Installation in the bottom part of the electrical panel is recommended.

Insertion in the DIN rail
As shown in figure:

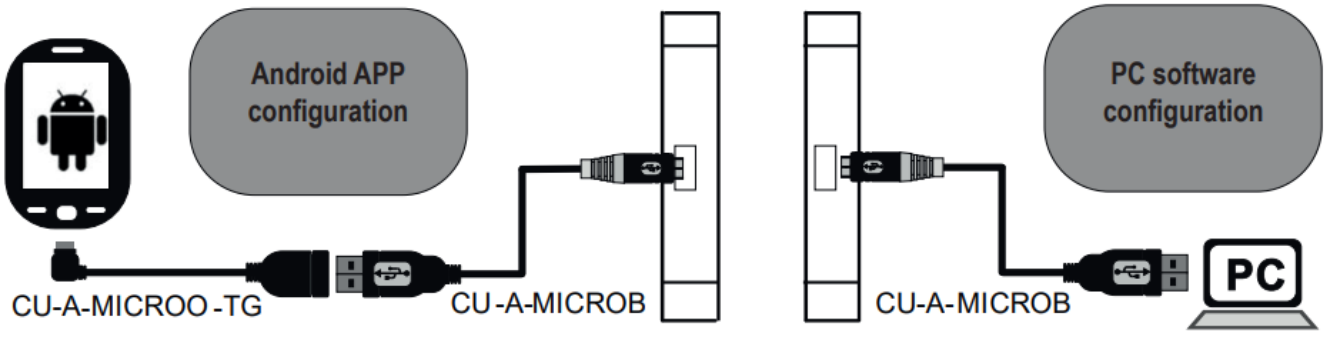
1. Insert the IDC10 rear connector of the module on a free slot of the DIN rail (the insertion is univocal since the connectors are polarized).
2. To secure the module to the DIN rail, tighten the two hooks on the sides of the IDC10 rear connector.



ATTENTION
These are open-type devices and intended for installation in an end enclosure / panel offering mechanical protection and protection against spread of fire.

USB PORT

- The module is designed to exchange data according to the modes defined by the MODBUS protocol. It has a micro USB connector on the front panel and can be configured using applications and/or software programs.
- The USB serial port uses the following communication parameters: 115200,8,N,1
- The USB communication port responds exactly like the serial ports, with the exception of the communication parameters.
- For more information, visit www.seneca.it/products/z-key-wifi

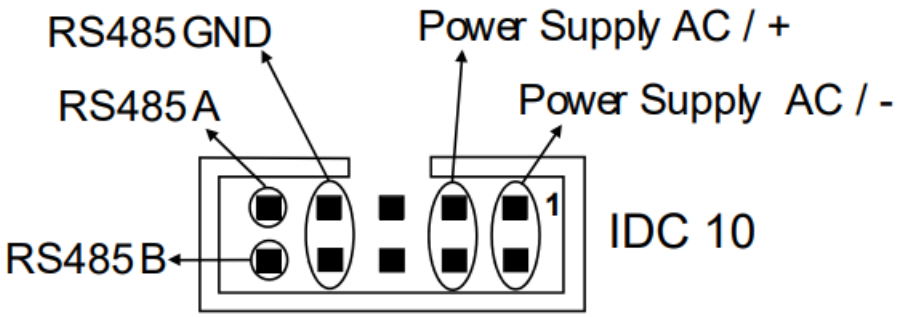


- Check that the device in question is included in the list of products supported by the Easy Setup APP in the store.

ELECTRICAL CONNECTIONS

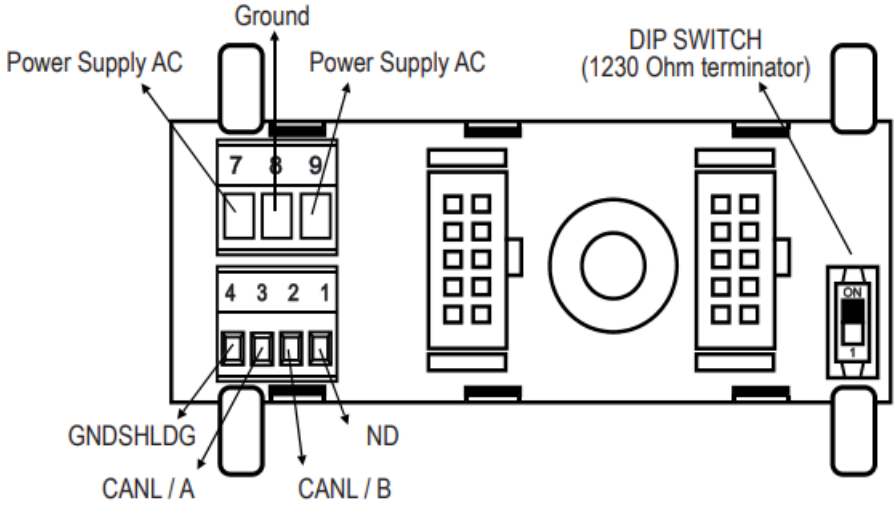
Power supply and Modbus interface are available using the Seneca DIN rail bus, via the IDC10 rear connector, or the Z-PC-DINAL-17.5 accessory.

ATTENTION
Use only copper or copper-clad aluminium or AL-CU or CU-AL conductors



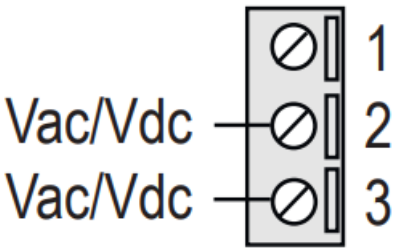
Back connector (IDC 10)
The illustration shows the meanings of the various IDC10 connector pins if signals are to be sent via them directly.

Z-PC-DINAL2-17.5 accessory use
If the Z-PC-DINAL2-17.5 accessory is used, signals can be sent via terminal boards. The illustration shows the meaning of the various terminals and DIP-switch position (found in all supports for the DIN rail listed in Accessories) for the termination of the CAN network (not used for the Modbus network). GNDSHLD: Connection cable signal protection shield (recommended).



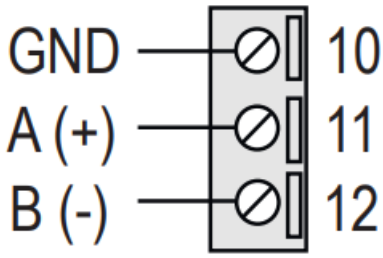
Power supply

- Terminals 2 and 3 can be used to provide the module with power supply as an alternative to the connection using the Z-PC-DINx bus.
- The power supply voltage must remain in the range of either 19 and 40V Vdc (any polarity), or 19 and 28V Vac.
- The upper limits must not be exceeded as this can seriously damage the module.
- If the power supply source is not protected against overload, a safety fuse with a 1 A max permissible value must be installed in the power supply line.



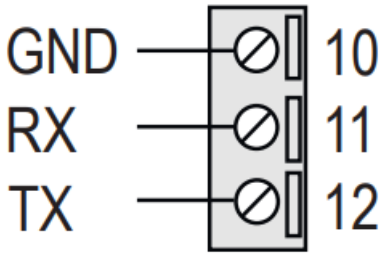
Serial port 2: RS485 SW2 = OFF

- Z- KEY WIFI has a serial port that can be set with the SW2 switch.
- If switch SW2 is in the OFF position, the RS485 COM 2 port is available at terminals 10-11-12. The illustration shows how to complete connections.
- N.B.: the indication of the RS485 connection polarity is not standardised and in some devices may be inverted.



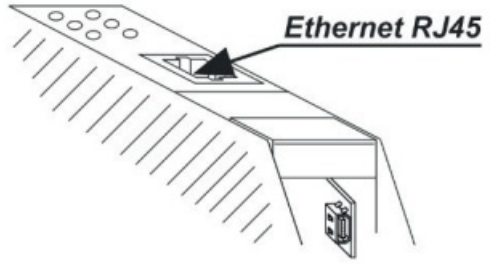
Serial port 2: RS232 SW2 = ON

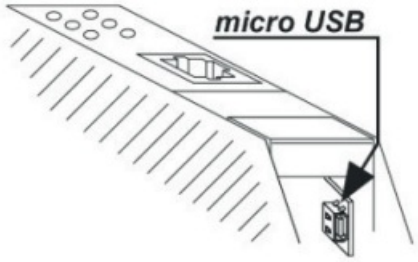
- Z- KEY WIFI has a serial port that can be set with the SW2 switch.
- If switch SW2 is in the ON position, the RS232 COM 2 port is available at terminals 10-11-12.
- The illustration shows how to complete connections.
- The RS232 interface is fully settable.

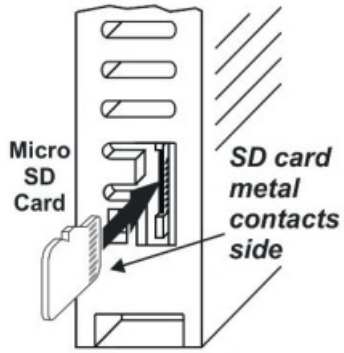


COMMUNICATION PORT IDENTIFICATION

- **RJ45 Ethernet port (on front)**
  Z-KEY-wifi has an Ethernet 100 port with RJ45 connector on the module front.
- **Micro USB port**
  Z-KEY-wifi has a USB connector that can be used as a configuration port via the Easy Setup software.
- **Micro SD card slot**
  Z-KEY-WIFI has a micro SD card slot on the side of the case. To insert the SD card in the corresponding slot, make sure the metal contacts are facing right (as shown in the side figure). The SD card can be of any capacity.







ACCESS POINT: FIRST CONFIGURATION

To activate the first configuration Access Point function, follow the following steps:

1. Press the side button of the Z-KEY-WIFI;
2. Keeping the button pressed, power the instrument;
3. Release the button after 5 seconds.
   Through this procedure, the device switches to first configuration AP mode without password to enter the parameters of the WIFI. The AP led will flash.

OPERATION IN ACCESS POINT MODE

In this mode, a device can function as an Access Point and accept the connection of up to 6 station devices without the aid of an external Access Point.
This configuration can be activated from the web server.

OPERATION IN STATION MODE

In this mode, the device can connect to an existing Access Point. This function can be activated from the web

server.

INSTRUMENT CONFIGURATION

- Z-KEY-WIFI can be fully set up via integrated web server.
- The product programming tools can be downloaded free of charge from www.seneca.it, in the Z- KEY-WIFI section.
- To access the configuration, connect with a browser to the maintenance page at the IP address of the Z-KEY-WIFI, for example: **http://192.168.90.101** and, when requested, enter the following credentials: Username: admin Password: admin. in the Z-KEY-WIFI section.
- FOR FURTHER INFORMATION, REFER TO THE USER MANUAL available for download at **www.seneca**.it in the Z-KEY-WIFI section.

CONTACT INFORMATION

- Technical support : **support@seneca.it**
- Product information: **sales@seneca.it**

Documents / Resources

	**SENECA Z-KEY-WIFI Gateway Module/Serial Device Server with WIFI** [pdf] Installation Guide Z-KEY-WIFI Gateway Module Serial Device Server with WIFI, Z-KEY-WIFI, Gateway Module, S erial Device Server with WIFI, Device Server with WIFI, Gateway Module WIFI, WIFI Gateway Module, WiFi Module, WIFI Module

References

- **SENECA | Automation Interfaces | Official Website**
- **Z-KEY-WIFI | ModBUS / Ethernet Gateways | SENECA**