INSTALLATION MANUAL

Z-KEY-2ETH Series

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**: Before operating, read this document thoroughly and retain it for future reference. Non-respect of these instructions may reduce performances and safety of the devices and cause danger for people and property. The products must be installed, operated, serviced and maintained by qualified personnel in compliance with applicable standards and regulations. Don't open the device, it does not contain replaceable components, the tripping of the internal fuse (if included) is caused by an internal failure. Don't repair or modify the device, if malfunction or failure should occur during operation, send unit to the factory for inspection. No responsibility is assumed by SENECA for any consequences deriving from the use of this material.
	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.

DOCUMENTATION
Z-KEY-2ETH

SENECA

QUALITY MANAGEMENT SYSTEM
ISO 9001:2015

SENECA s.r.l.; Via Austria, 26 – 35127 – PADOVA – ITALY; Tel. +39.049.8705359 - Fax +39.049.8706287

CONTACT INFORMATION

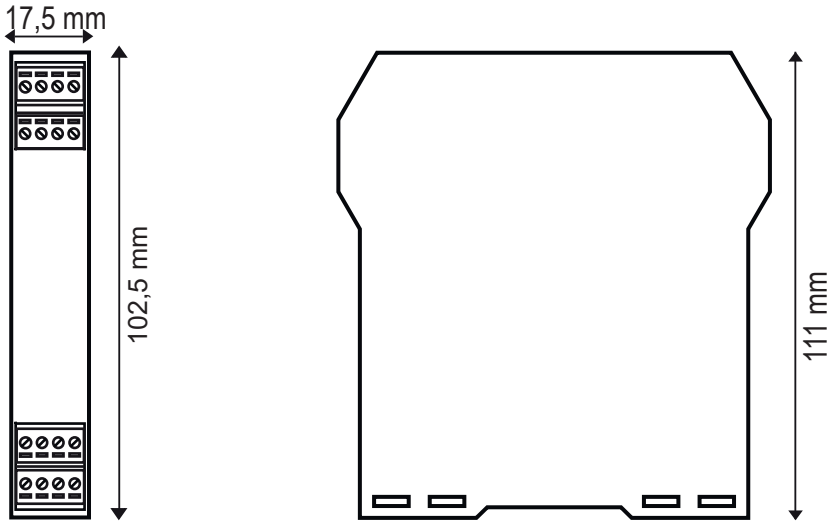
Technical support	support@seneca.it	Product information	sales@seneca.it

This document is the property of SENECA srl. Copies and reproduction are prohibited unless authorised.
The content of this document corresponds to the described products and technologies.
Stated data may be modified or supplemented for technical and/or sales purposes.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

REFERENCE PRODUCTS
Z-KEY-2ETH-0 ModBUS version
Z-KEY-2ETH-P with Profinet protocol
Z-KEY-2ETH-I with IEC 61850 protocol
Z-KEY-2ETH-U with OPC-UA protocol
Z-KEY-2ETH-E with Ethernet/IP protocol
Z-KEY-2ETH-C ModBUS to Cloud

MODULE LAYOUT



Dimensions: 17.5 x 102.5 x 111 mm, **Weight:** 100 g; **Enclosure:** PA6, black

SIGNALS VIA LED ON FRONT PANEL

LED	STATUS	LED meaning
ET2	ON	Ethernet connection present
ET1	ON	Ethernet connection present
RX2	Flashing	Data reception on port #2 RS485/RS232
TX2	Flashing	Data transmission on port #2 RS485/RS232
RX1	Flashing	Data reception on port #1 RS485
TX1	Flashing	Data transmission on port #1 RS485
COM	Flashing	LED operation varies depending on the protocol used. Please refer to the user manual for correct operation.
PWR	ON	

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.

⚠ ATTENZIONE

These devices are open type and intended for installation in an enclosure/end panel that offers mechanical protection and protection against the spread of fire.

FACTORY IP ADDRESS

The default module IP address is static: **192.168.90.101**

NOTE: The Profinet protocol version does not have a static IP address.

WEB SERVER

To access the maintenance Web Server with the factory IP address above, use the following credentials:
Username: admin; **Password:** admin

N.B.: For the Z-KEY-2ETH-P version it is first necessary to activate webserver mode

⚠ CAUTION

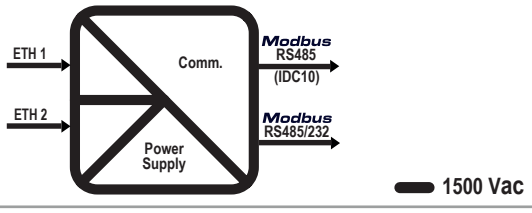
DO NOT USE DEVICES WITH THE SAME IP ADDRESS IN THE SAME ETHERNET NETWORK.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

PROFINET, OPC-UA, IEC 61850 AND WEBSERVER MODE

In devices with Profinet, OPC-UA and IEC61850 protocols, to access the internal webserver it is necessary to switch the device to Webserver mode using the Easy Setup2 or Seneca Device Discovery software, it is also possible to change the operating mode by pressing the PS1 side button following the procedure in the user manual.

TECHNICAL SPECIFICATIONS

CERTIFICATIONS	CE UKCA c UL us LISTED 3LUT
INSULATION	
POWER SUPPLY	Voltage: 11 ÷ 40Vdc; 19 ÷ 28Vac; 50 ÷ 60Hz; Absorption: Max. 2W Supplied with limited energy according to UL 61010-1 3rd Ed, section 9.4 or LPS in conformance with UL 60950-1 or Class 2 in compliance with UL 1310 or UL 1585; Pollution degree 2; Overvoltage category II
ENVIRONMENTAL CONDITIONS	*Temperature*: -25°C÷ + 65°C; *Humidity*: 30% ÷ 90% non-condensing; Altitude up to 2000m; *Storage temperature:* -30°C÷ + 85°C; *Degree of protection:* IP20 (not UL evaluated) Open Type.
ASSEMBLY	IEC EN60715, 35mm DIN rail in vertical position.
CONNECTIONS	3-way removable screw terminals, pitch 5 mm
COMMUNICATION PORTS	RS232 or RS485 switchable on terminal Maximum Baud rate 115K, Maximum cable length RS232 < 3 m.
	RS485 IDC10 rear connector: Maximum Baud rate 115k.
	2 Ethernet with front RJ45 connector: 100Mbit/s, maximum distance 100m

SETTING THE DIP-SWITCHES

⚠ WARNING

The DIP-switch settings are read only at boot time. At each change, perform a restart.

SW1 DIP-SWITCH: Through DIP-SWITCH-SW1 it is possible to set the IP configuration of the device:

DESCRIPTION	DIP 1	DIP 2	DIP 3	DIP 4
To obtain the configuration from the Flash memory, both SW1 DIP switch selectors must be set to OFF			RESERVED	RESERVED
To reset the device to factory settings both SW1 DIP switches must be set to ON			RESERVED	RESERVED
To force the device's IP address to the standard value of SENECA Ethernet products: 192.168.90.101 (versions -P, -I, -U)			RESERVED	RESERVED
To disable the WEB-SERVER (versions -0, -E, -C)			RESERVED	RESERVED
Reserved			RESERVED	RESERVED

KEY	
ON	
OFF	

⚠ CAUTION

Where present, DIP3 and DIP4 must be set to OFF.
If set differently, the instrument will not work correctly.

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

SW2		
ON		**RS232 ACTIVATION**
OFF		**RS485 ACTIVATION**

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

ELECTRICAL CONNECTIONS

⚠ CAUTION

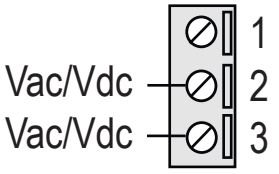
Switch the module off before connecting inputs and outputs.
To meet the electromagnetic immunity requirements:
- use shielded signal cables;
- connect the shield to a preferential instrumentation earth system;
- separate shielded cables from other cables used for power installations (transformers, inverters, motors, etc...).

⚠ CAUTION

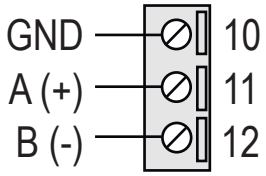
Use AWG size 30-12 or two 24-16, torque 5 lb in. (For UL approval)

⚠ CAUTION

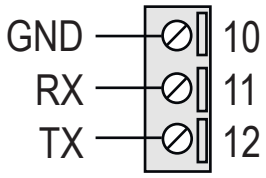
Minimum temperature rating of the cable to be connected to the field wiring terminals, 95°C



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.
Power voltage must be between 11 and 40Vdc (any polarity) or between 19 and 28Vac.
The upper limits must not be exceeded in order to avoid serious damage to the module.
If the power supply source is not protected against overload, a safety fuse with a 1A max permissible value must be installed in the power supply line.

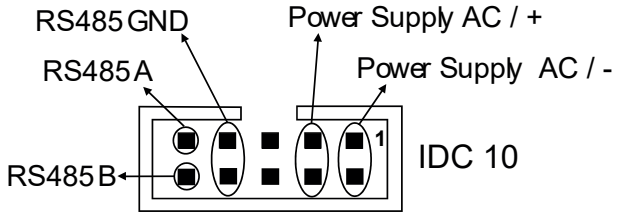


Serial port 2: RS485 SW2 = OFF
The module has a serial port that can be configured with the SW2 switch.
If switch SW2 is in the OFF position, the RS485 COM 2 port is available at terminals 10-11-12. The illustration shows how to complete connections.
N.B.: the indication of the RS485 connection polarity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



Serial port 2: RS232 SW2 = ON
The module has a serial port that can be configured 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.

Power supply and Modbus interface are available using the Seneca DIN rail bus, via the IDC10 rear connector, or the Z-PC-DINAL2-17.5 accessory.



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

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000