SENECA

**INSTALLATION MANUAL** *Serie Z PC*

EN

# Z-LOGGER

multiprotocol datalogger

## CHAPTER INDEX




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## 3.3 Analog inputs

| | |
|---|---|
| Number of channels | 2 |
| Input type | mA / V⎓ , configurable |
| Voltage input | 0 - 30 V accuracy 0,1% of full scale |
| Current Input | 0 - 20 mA accuracy 0,1% of full scale |
| Input protection | YES, 40V / 25mA |
| Resolution | 16 bit |

## 3.4 Communication ports

| | |
|---|---|
| RS485 | port#1, rear |
| RS485 | port#2, M10..12 |
| Ethernet | 10/100 baseT, RJ45 on front with autoswitch |
| USB mini B | Mini B, side |

## 3.5 Storage memory unit

| | |
|---|---|
| Micro SD | microSD and microSDHC, MAX 32 GB |

## 3.6 Power supply

| | |
|---|---|
| Voltage | 11 - 40 V⎓ ; 19..28 V~ 50-60Hz |
| Consumption | 6,5 W |

## 3.7 Environmental conditions without // (with batteries)

| | |
|---|---|
| Temperature | From -10 to + 50°C // (From -10 to + 40°C) |
| Humidity | 30 - 90% to 40°C not condensing |
| Storage Temperature | From-20 to + 85°C // (From -20 to + 45°C < 6month) |
| Protection degree | IP20 |

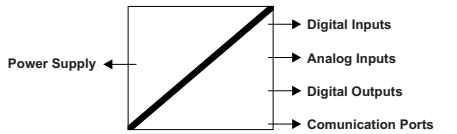
## 3.8 Standards

| | |
|---|---|
| EN61000-6-4/2002-10 | Electromagnetic emission, industrial environment. |
| EN61000-6-2/2006-10 | Electromagnetic immunity, industrial environment. |
| EN60950 | Safety of information Technology Equipment. |

## 3.9 Box specifications

| | |
|---|---|
| Dimension and weight | 100 x 111 x 35 mm, 280g |
| Material | PBT, black |

## 3.10 1500 Vac insulation





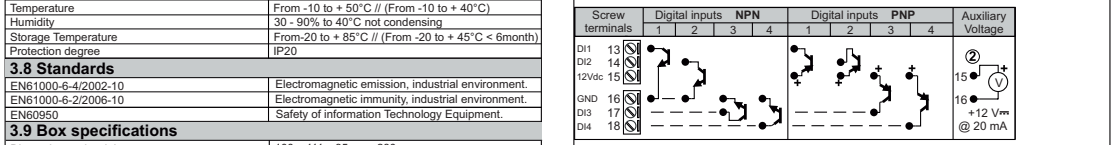

## 5 ELECTRICAL CONNECTIONS

**Power off the module before connecting: input and outputs.**

To satisfy the electromagnetic compliance requirements:
- use shielded cables for signal transmittion;
- connect the shield to a earth wire used specifically for instrumentation;
- insert space between these shielded cables and other cables used for power appliances (transformers, inverters, motors, induction ovens, etc...).

### 5.1 Connections

| Description | Analog inputs V/I [2] | Analog inputs V/I [1] | Auxiliary Voltage | Power supply | Screw terminals |
|---|---|---|---|---|---|
| **Analog inputs** (V/mA) are configurable with **configuration software**. * See user manual or Easy SETUP software | Configurable* | | ① 1 (V) 4 +12 V⎓ @ 40 mA | 2 3 11 - 40 V⎓ 19 - 28 V~ 6,5W | 1 [+12 V⎓] 2 3 4 [GND] 5 [AI 1] 6 [AI 2] |




| Screw terminals | RS485 Comunication port #2 |
|---|---|
| 10 11 12 | GND, RS485 Port#2<br>A, RS485 Port#2<br>B, RS485 Port#2 |

| Digital Outputs DO [2] | Digital Outputs DO [1] | Screw terminals |
|---|---|---|
| | N.Open<br>Common<br>N.Close | 19 20 21 |
| N.Open<br>Common<br>N.Close | | 22 23 24 |



## 6.2 Meaning of the LEDs

| LED | Color | State | Meaning |
|---|---|---|---|
| DO1 | Red | ON | Digital output, relay excited |
| | | OFF | Digital output, relay not excited |
| DO2 | Red | ON | Digital output, relay excited |
| | | OFF | Digital output, relay not excited |
| 485 ACT | Green | ON | RS485 Activity |
| DI1 (NPN) | Red | ON | Digital input: CLOSED TO GND |
| | | OFF | Digital input: OPEN |
| DI2 (NPN) | Red | ON | Digital input: CLOSED TO GND |
| | | OFF | Digital input: OPEN |
| DI3 (NPN) | Red | ON | Digital input: CLOSED TO GND |
| | | OFF | Digital input: OPEN |
| DI4 (NPN) | Red | ON | Digital input: CLOSED TO GND |
| | | OFF | Digital input: OPEN |
| DI1 (PNP) | Red | ON | Digital input: CLOSED TO +12V |
| | | OFF | Digital input: OPEN |
| DI2 (PNP) | Red | ON | Digital input: CLOSED TO +12V |
| | | OFF | Digital input: OPEN |
| DI3 (PNP) | Red | ON | Digital input: CLOSED TO +12V |
| | | OFF | Digital input: OPEN |
| DI4 (PNP) | Red | ON | Digital input: CLOSED TO +12V |
| | | OFF | Digital input: OPEN |
| PWR/STS | Green | ON | Z-LOGGER active<br>log is OFF waiting Boot |
| | | OFF | Z-LOGGER OFF |
| | | Slow BLINK<br>3/0.5sec ON/OFF | Log activated,<br>normal functioning |
| | | Normal BLINK<br>1/1sec ON/OFF | Back-up battery functioning<br>log is OFF |
| | | Quick BLINK<br>0.2/0.2sec<br>ON/OFF | Battery low<br>poweroff in progress. |
| SD/STS | Red | Blink | MicroSD card access |
| ETH LNK | Green | Blink | RJ45 connection is activated |
| ETH TRF | Yellow | Blink | Traffic on Ethernet port |



## 1 PRELIMINARY WARNINGS

Before carrying out any operation it's mandatory to read all the content of this user Manual. Only electrical-skilled tecnicians can use the module described in this user Manual. Specific documentation is available on www.seneca.it.

Only the Manufacturer is authorized to repair the module or to replace damaged components. The product is susceptible to electrostatic discharge, take appropriate countermeasures during any operation.

No warranty is guaranteed in connection with faults resulting from improper use, from modifications or repairs carried out by Manufacturer-unauthorized personnel on the module, or if the content of this user Manual is not followed.

## 2 DESCRIPTION AND CHARACTERISTICS

### 2.1 Module description

•The Z-LOGGER is an multiprotocol device with high performance integrated I/O for acquire and store data from wireless network. Z-LOGGER can send and receive measure, command and alarm.

### 2.2 General characteristics

- Power supply 11-40 V⎓; 19-28 V~ 50-60Hz max 6 .5 W
- 2 backup Batteries AAA 1.2 V rechargeable, NiMh
- 1500 V~ insulation between power supply and other circuits.
- Quick mounting on DIN 46277 rail
- LEDs signalling Digital Inputs, Digital Outputs and Ethernet.
- 4 Digital Inputs.
- 2 Analog Inputs (configurable in voltage/current, at 16 bit)
- 2 Digital Output (free contacts relays)
- Ethernet RJ45 front 10/100 Mbps
- 2 Ports RS485
- 1 MiniUSB type B port
- 4 Totalizers at 32 bit
- 4 Resettable counters at 32 bit
- 128 kB RAM memory
- Micro SD additional storage memory up to 32 GB
- 512 kB + 2 MB (log) FLASH memory
- ARM processor, 100 MHz, 32 bit
- Real Time multitasking O.S.

## 3 TECHNICAL SPECIFICATIONS

### 3.1 Digital inputs

| | |
|---|---|
| Number of channels | 4 |
| Input type | PNP / NPN Configurable |
| Auxiliary voltage supply | 12 V⎓ |
| Supply current | 20 mA |
| Maximum frequency | 30 Hz |
| Absorbed current | 3mA |

### 3.2 Digital outputs

| | |
|---|---|
| Number of channels | 2 |
| Output type | SPDT Relays (free contacts) |
| Maximum voltage | 250 V~ |
| Maximum current | 2 A |



## 4 PRELIMINARY INSTRUCTIONS FOR USE

The module is designed to be installed on DIN 46277 rail in vertical position.

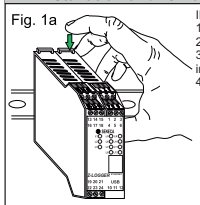
It is forbidden to place anything that could obstruct the ventilation slits.
It is forbidden to install the module near heat sources.

«Severe operating conditions» are defined as follows:
-high power supply voltage: exceed 30V⎓ or exceed 26V~;
-the module power the input sensor.

If the modules are installed side by side, **Separate them by at least 5 mm** in the following cases:
- The operating temperature exceed 45°C and at least one of the severe operating conditions exist;
- The operating temperature exceed 35°C and at least two of the severe operating conditions exist.

### 4.1 Installation and removal on DIN 46277 rail

Fig. 1a



INSTALLATION:
1) Pull the four latches (placed in the back side panel) outwards;
2) Insert the module in a DIN rail free slot;
3) Make sure that the IDC10 connector's pins are properly inserted on the slot;
4) Press the four latches inwards.

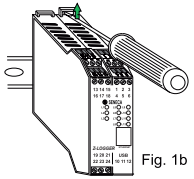


Fig. 1b

REMOVAL:
1) Pull the four latches ( placed in the backside panel) outwards, by using a screwdriver.
2) Pull out the module from rail gently.

### 4.2 Use Z-PC-DINAL accessory

- It's important to insert the pins on the slot properly because IDC10-connector is polarized; This connection is facilitied by use of a female/male insertion between IDC10 connector and DIN rail slot (Fig. 1 c e Fig.1 d).

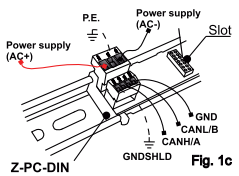



Fig. 1c

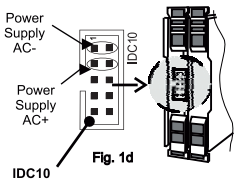
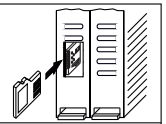
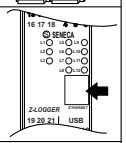
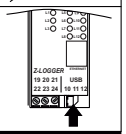



Fig. 1d



| | |
|---|---|
| microSD and microSDHC, max 32 GB<br>Push push connector |  |
| Ethernet, RJ45 10/100 BaseT<br>Note: before to insert the cable into RJ45 connector, remove the protection rubber. |  |
| USB mini B |  |

## 6 PARAMETER FOR USE

### 6.1 DIP SWITCH tables

**SW1** SEE USER MANUAL.

**SW2**

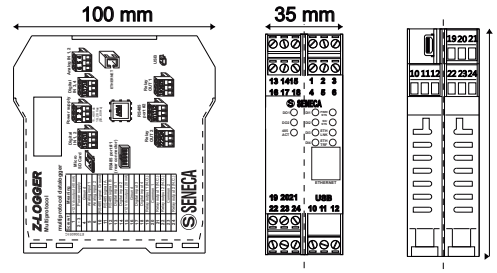
| SW2 COMMUNICATION ● =ON | |
|---|---|
| 1 | |
| | NOT USED. |
| ● | IDC10 rear connector, RS485 |



## 7 PURCHASE ORDER CODE

| | | |
|---|---|---|
| Z-LOGGER | | Multiprotocol datalogger unit |
| Z-PC-DIN | AL1-35 | DIN rail support with screw terminals P= 35 mm |
| | 1-35 | DIN 1 slot support for rear connector P= 35 mm |
| FD01 | | Photodetector for pulse counter, MAX frequency 10 Hz |

## 8 MODULE LAYOUT




## 9 DECOMMISSIONIG AND DISPOSAL

Disposal of Electrical & Electronic Equipment (Applicable throughout the European Union and other European countries with separate collections programs). This symbol, found on your product or on its packaging, indicates that this product should not be treated as household waste when you wish to dispose of it. Instead, it should be handed over to an applicable collection point for the recycling of electrical & electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate disposal of this product. The recycling of materials will help to conserve natural resources. For more detailed information about the recycling of the product, please contact your local city office, the waste disposal service or the retail store where you purchased this product.