Manuals+ — User Manuals Simplified.

SENECA Z-PASS1-IO Serial Device Server Installation Guide

Contents

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MODULE LAYOUT

Dimensions (W×H×D):35 x 100 x 111 mm (included terminals).

Weight:220 g.

Case: Material PA6, black color.

LED SIGNALLING ON FRONT PANEL

LED	Status	LED's meaning
PWR (Green)	ON	The device is powered
	OFF	Device is powered off
RUN (Green)	Blinking	Device is ready for use
	OFF	Device is booting
DIDO (Green)	ON	Configurable input1 or output1 state is HIGH
	OFF	Configurable input1 or output1 state is LOW
DO (Green)	ON	DO digital output state is HIGH
	OFF	DO digital output state is LOW
RCD (Green)	ON	Remote connection is disabled
	OFF	Remote connection is enabled
VPN (Green)	ON / OFF	VPN connection is working properly / VPN connection is disabled
	Blinking	VPN connection is not working properly
LAN/WAN (Green)	ON	Ethernet ports are working in LAN/WAN mode
	OFF	Ethernet ports are working in SWITCH mode
SERV (Green)	ON	VPN Box "SERVICE" connection is working properly
	Blinking	VPN Box "SERVICE" connection is not working properly
	OFF	VPN Box "SERVICE" connection is disabled
RX2-4 (Green)	Blinking	RX2 data reception on COM2 port, RX4 on COM4 port
	ON	RX2 check the COM2 port connection, RX4 check the COM4 port
	OFF	RX2 no data reception on COM2 port, RX4 on COM4 port
TX2-4 (Green)	Blinking	TX2 data transmission on COM2 port, TX4 on COM4 port
	ON	TX2 check the COM2 port connection, TX4 check the COM4 port
	OFF	TX2 no data transmission on COM 2 port, TX4 on COM4 port

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LED SIGNALLING ON FRONT PANEL		
LED	**Status**	**LED's meaning**
ETH1/ETH2 (Verde)	ON	Ethernet 1-2 connection detected.
	OFF	Ethernet 1-2 connection absent.
ETH1/ETH2 (Giallo)	Blinking	Ethernet 1-2 data activity.
	OFF	Ethernet 1-2 no data activity.

TECHNICAL SPECIFICATIONS: 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.
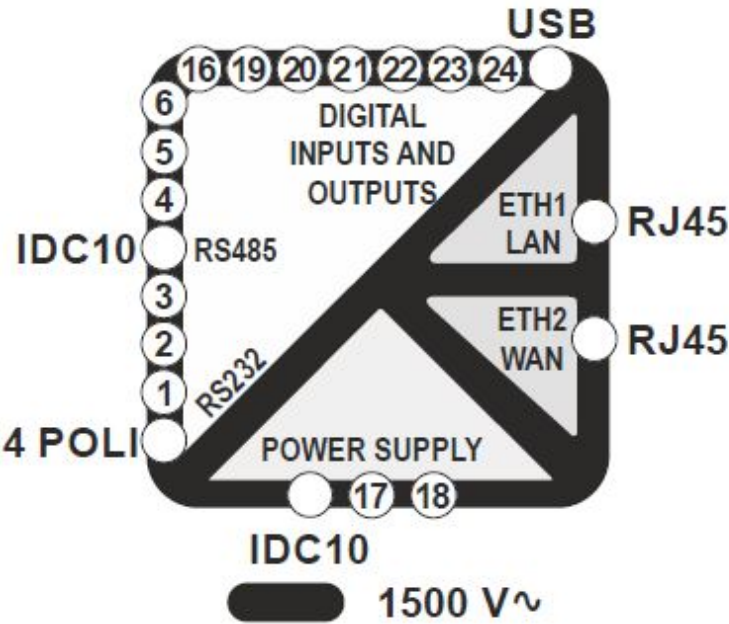
STANDARDS	**EN61000-6-4** Electromagnetic emission, industrial environment **EN61000-6-2** Electromagnetic immunity, industrial environment **EN61010-1** Safety

INSULATION	USB **16 19 20 21 22 23 24** **6** **DIGITAL** **5** **INPUTS AND** **4** **OUTPUTS** **ETH1 RJ45 IDC10** **RS485** **LAN** **3** **ETH2 RJ45** **2** **WAN** **1** **4 POLI** **POWER SUPPLY** **17 18** **IDC10** **1500 V**
ENVIRONMENTAL COND.	
Temperature	-20 – + 65°C.
Humidity	30% – 90% not condensing.
Storage temperature	-30 – + 85°C.
Protection degree	IP20 (Not evaluated by UL)
MOUNTING	IEC EN60715 DIN rail.
CONNECTIONS	5 removable 3-way screw terminals, 5,08 mm pitch for up to 2.5 mm2 cable, 1 rear IDC10, 1 serial 4 way removable connector, 1 micro SD slot, 2 RJ45 Ethernet connector and 1 USB connector.

TECHNICAL SPECIFICATIONS	
COMMUNICATION PORTS	COM1 RS232/RS485: removable 4 pin connector Max. cable L= 3 m. COM2 RS485: M1-M2-M3 terminals or IDC10 rear connector. COM4 RS485: screw terminals M4-M5-M6. Max. baud rate: 115 kbps Min. baud rate: 200 bps. USB HOST type A. ETH1 and ETH2 Fast Ethernet 10/100 Mbps RJ45 connectors; Max. connection length 100 m.
POWERSUPPLY *Voltage* *Power absorbed*	11 – 40 V or 19 – 28 V 50 – 60 Hz. Max 4W.
DIGITAL INPUTS	Max. number of channels: 2. Voltage: OFF<4V ON>8V. Max. Current (Vout+): 20mA. Current absorbed: 3mA at 12V ; 6mA at 24V .
DIGITAL OUTPUTS	Max. number of channels: 3. Voltage (+Vext): 10 – 24V Current: Max. 200mA. Outputs protected against short-circuit and over-temperature.
PROCESSOR	ARM 9 32bits
MEMORIES	64 MB RAM and 1 GB FLASH External memory slot for micro SD card (max. 32 GB Card supported)
PROTOCOLS	FTP server, SFTP server, HTTP server, ModBUS TCP server, ModBUS RTU master, ModBUS RTU slave.
CHARACTERISTICS	Embedded Web-server. Firmware upgradable via web-server.

PRELIMINARY WARNINGS

- Before performing any operation is mandatory to read the full contents of this manual. The module may only be used by qualified and skilled technicians in the field of electric installation. Specific documentation is available for download at website: **www.Seneca.it/products/**z-pass1.Only the Manufacturer is authorized to repair the module or to replace damaged parts. 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 device, or if the content of this user manual is not followed.Disposal of electrical & electronic equipment (applicable throughout the EU and other countries with separate collection programs). The symbol found on this product or on its packaging indicates that this product it must be handed over to an applicable collection point for the recycling of electrical and electronic equipment.

INSTALLATION RULES: These are open-type devices and intended for installation in an end enclosure/panel
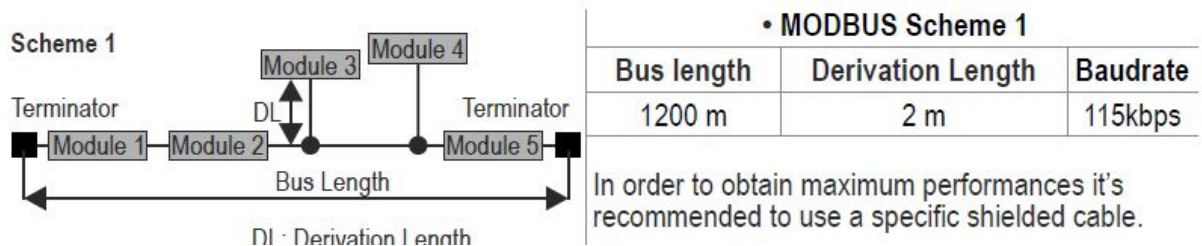
offering mechanical protection and protection against spread of fire.
In order to ensure optimum performance and the best device's operating life, the module(s) must be provided with adequate ventilation without raceways or other objects that can obstruct the ventilation slots. Never install the modules near heat sources.
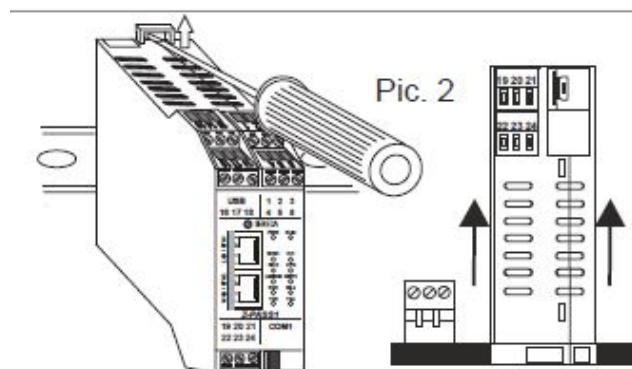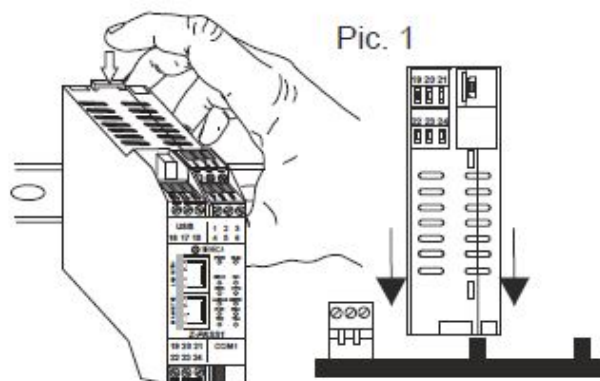We recommend installation in the lower part of the control panel.

MODBUS CONNECTION STANDARD: Install the modules on the DIN rail.Connect the remote modules using cables of proper length (see Scheme.On the table the following data about the length of the cable are provided:

- Bus Length: Modbus network maximum length as a function of the Baud rate. It is the length of the cables which connect the two bus terminators modules (see Scheme. Drop Length (DL): maximum length of a drop line (see Scheme .

• MODBUS Scheme 1

Bus length	Derivation Length	Baudrate
1200 m	2 m	115kbps

In order to obtain maximum performances it's recommended to use a specific shielded cable.

INSTALLATION ON AND REMOVAL FROM IEC EN 60715 DIN RAIL

Pic. 1

Pic. 2

**Insertion on the IEC EN 60715 DIN rail:**

1. Move the two hooks on the back of the module outwards as illustrated
2. Insert the module rear IDC10 connector into a free slot of the DIN rail accessory as you can see in the insertion is one way only because the connectors are polarized).

3. To secure the module to the IEC EN 60715 DIN rail, tighten the two hooks on the side of the IDC10 rear connector as shown in

Removal from IEC EN 60715 DIN rail:
As shown in

- Move outwards the two hooks on the side of the module, with the help of a screwdriver.
- Extract the module from the IEC EN 60715 DIN rail.

USE OF Z-PC-DINAL ACCESSORY: Please pay attention about the right module insertion the IDC10 connector (Z-PC-DINAL1-35). The IDC10 connector located on the rear of the module will be inserted on a free slot of Z-PC-DIN/DINAL accessory. In the figure you can see the meaning of the various pins of the rear IDC10 connector if you want to provide the signals directly through this connector. The pictures Pic.3 and Pic.4 show how to connect power supply and RS485 COM2 port to the rear IDC10 connector.
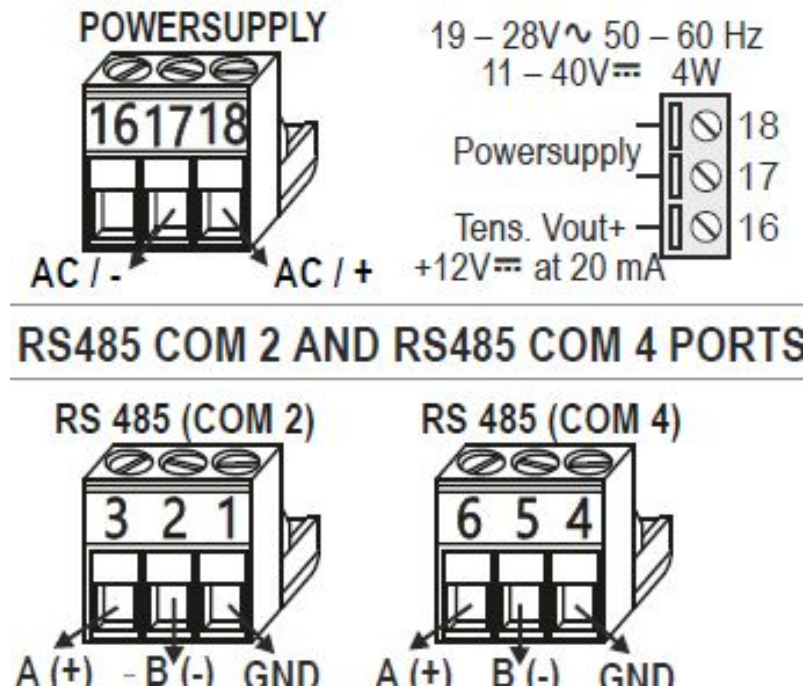

Pic. 3

Pic. 4
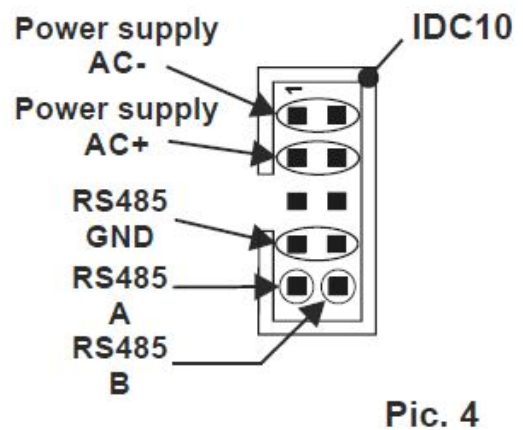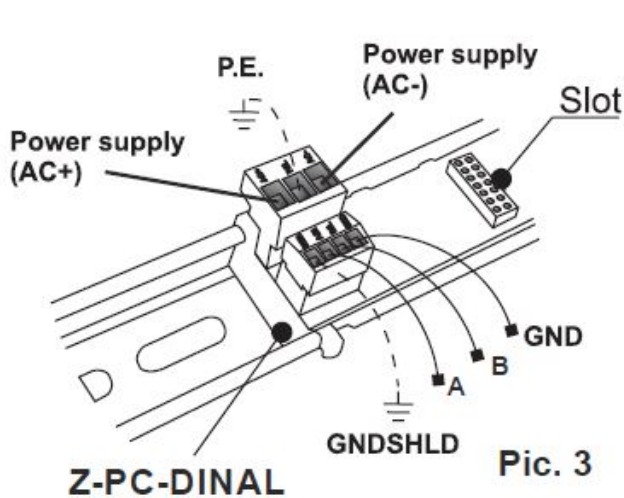
ELECTRICAL CONNECTIONS

In order to satisfy the electromagnetic compliance requirements:

- Use shielded cables for signals transmission.
- Connect the shield to a preferential ground for devices.
- Space the shielded cables from power cables installations.(transformers, inverters, motors, induction ovens, etc…).

POWER SUPPLY

In addition to the IDC10 connector, power supply can also be supplied by terminals 17 and 18.
NOTA: A minimum 1A safety fuse, delayed, must be installed in the power supply line near the device. Z-PASS1 module has two serial communication RS485 ports: COM2 and COM4.
the RS485 COM2 port can be connected through 1-2-3 screw terminals or by rear IDC10 connector.

OTHER ELECTRICAL CONNECTIONS: ELECTRICAL CONNECTIONS FOR DIGITAL INPUTS (RCD and DIDO)
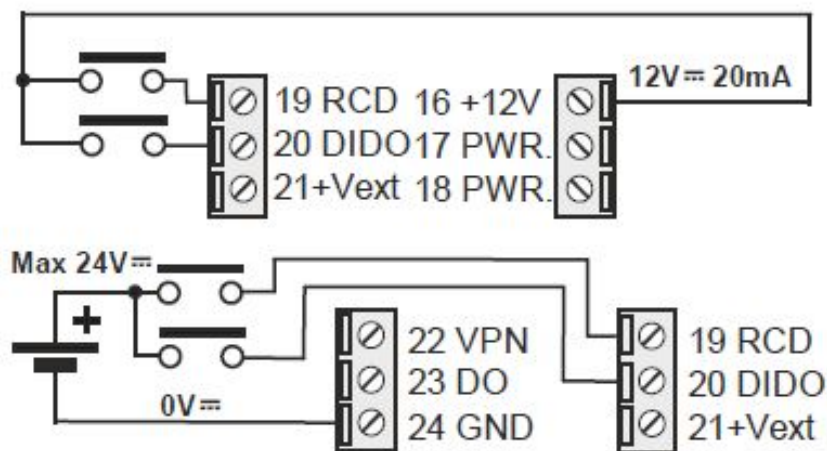

The device has :

Digital input (RCD) reserved for disable the remote connection. channel software configurable so as digital input or digital output (DIDO). The inputs, as shown in the picture, can be powered internally or externally. For configuration and more information please refer to the USER MANUAL.

**ELECTRICAL CONNECTIONS FOR DIGITAL OUTPUTS (VPN, DO and DIDO)**
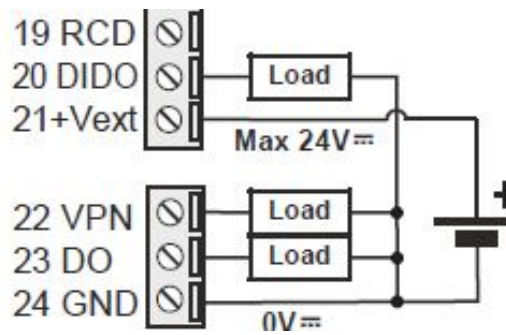
1. 1 Digital output reserved to indicate that VPN is active (VPN).

2. 1 Digital output (DO).

3. 1 channel software configurable so as digital output or digital input (DIDO).

4. For configuration and more information please refer to the USER MANUAL.

Z-PASS1-R02 PORTS
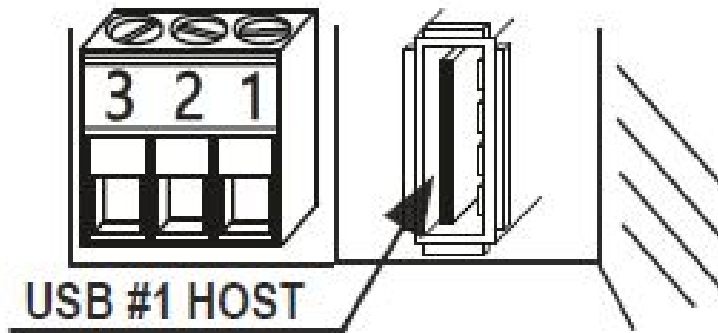
USB #1 HOST PORT: The Z-PASS1 has a USB HOST type A connector, here you can connect a USB memory stick for firmware upgrading.Available current: 100 mA MAX.

## THERNET RJ45 PORTS (ON FRONTAL PANEL)
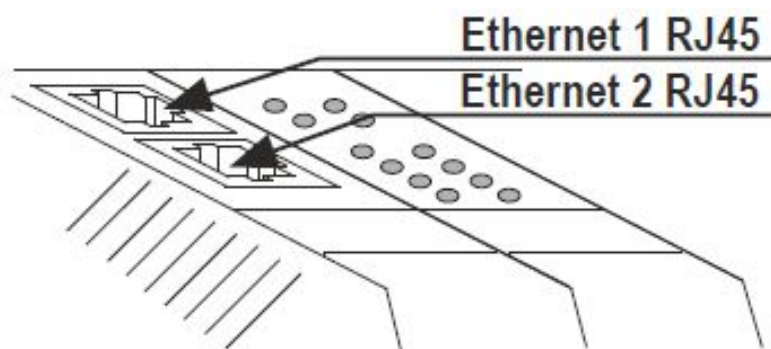
- The Z-PASS1 has two Ethernet ports with RJ45 connectors on the front panel.
- The two ports offer two operating mode: SWITCH mode or LAN / WAN mode.
- The two ports have the same MAC Address.
- RS232 OR RS485 COM1 PORT(4 PINS)

RS232 COM1
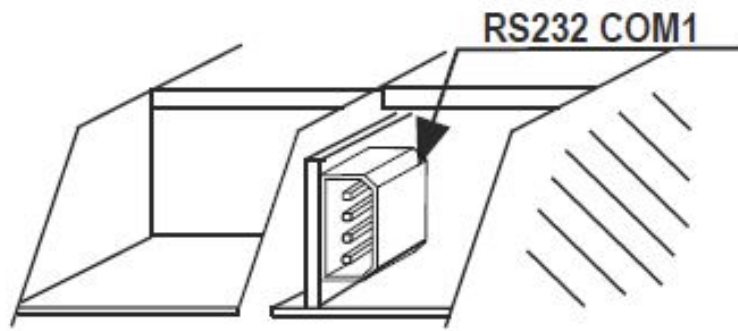
The Z-PASS1 has serial RS232 or RS485 COM1 port on the removable 4 pin contacts connector. The cable length for the RS232 interface must be less than 3 meters.
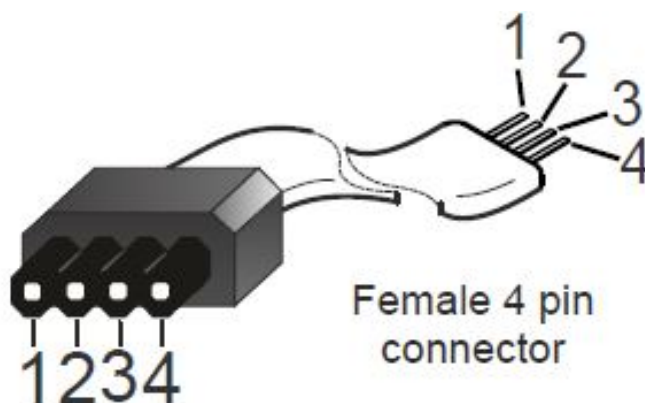
OTHER Z-PASS1 PORTS
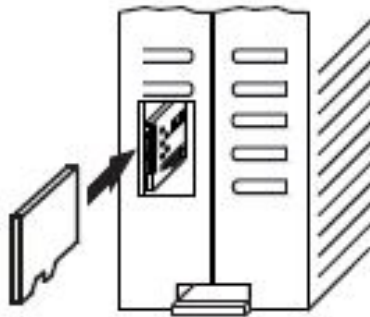
LOT FOR MICRO SD CARD: The Z-PASS1 has a slot for micro SD card placed on the side of the case. Before pushing the micro SD or micro SHDC in this slot, please be sure that the SIM card golden contacts are facing towards left (as in the picture on side).
SD card any class Max. 32 GB. The slot is push-push type.

RS232/485 CABLE

The 4 way for RS232 or RS485 serial connection cable can be bought by ordering Seneca code: CS-DB9M-MEF-PH.

CABLE RS232/ RS485

Female 4 pin connector

ORDER CODES

	PIN	RS232	RS485	
1 2				
3	**1**	CTS		
4	**2**	TX	B	The cable length
	3	RX	A	must be less than
Female 4 pin				3 meters.
1234 connector	**4**	GND	GND	

CONTACTS

Technical support	**support@seneca.it**
Product Information	**sales@seneca.it**

Documents / Resources

SENECA Z-PASS1-IO Serial Device Server [pdf] Installation Guide
Z-PASS1-IO Serial Device Server, Z-PASS1-IO, Serial Device Server

References

- Ⓢ **Z-PASS1 | IIoT Advanced Gateways | SENECA**