INSTALLATION MANUAL

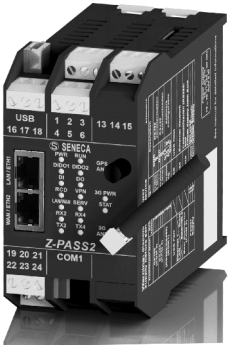
Z-PASS2 - IO

VPN Industrial Gateway,
Serial Device Server, Router 3G+ /4G,
GPS and built-in I/O's

Z-PASS2-S - IO

VPN RTU IEC61131,
IDE Straton, Router 3G+ / 4G,
GPS and built-in I/O's

EN



PASS2

PASS2-S

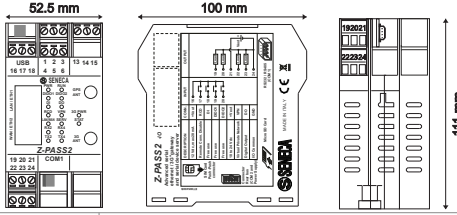
SENECA s.r.l.
Via Austria, 26 – 35127 – PADOVA – ITALY
Tel. +39.049.8705355 - 8705359 - Fax +39.049.8706287

Manuals and configuration software are available at website:
www.seneca.it/products/z-pass2 or www.seneca.it/products/z-pass2-s

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MODULE LAYOUT



Dimensions (W×H×D)	52.5 x 100 x 111 mm
Case / Weight	Material PA6, black color. / 280 g.

LED SIGNALLING ON FRONT PANEL

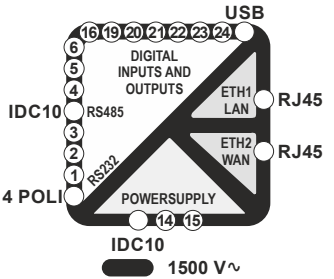
LED	Status	LED's meaning
PWR (Green)	ON / OFF	Power supply presence / Device is powered off
RUN (Green)	Blinking / OFF	Device is ready for use / Device is booting
DIDO1/2 (Green)	ON	Configurable input1 / 2 or output1 / 2 state is HIGH
	OFF	Configurable input1 / 2 or output1 / 2 state is LOW
DI / DO (Green)	ON	DI digital input state is HIGH / DO digital output state is HIGH
	OFF	DI digital input state is LOW / DO digital output state is LOW
RCD (Green)	ON / OFF	Remote connection is disabled / 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 / OFF	VPN Box "SERVICE" connection is working properly / is disabled
	Blinking	VPN Box "SERVICE" connection is not working properly
RX2-4 (Green)	Blinking	RX2 data reception on COM 2 port, RX4 on COM4 port
	ON	RX2 check the COM 2 port connection, RX4 check the COM4 port
	OFF	RX2 no data reception on COM 2 port, RX4 on COM4 port
TX2-4 (Green)	Blinking	TX2 data transmission on COM 2 port, TX4 on COM4 port
	ON	TX2 check the COM 2 port connection, TX4 check the COM4 port
	OFF	TX2 no data transmission on COM 2 port, TX4 on COM4 port
3G PWR (Green)	ON	Modem is powerd ON
STAT (Yellow)	Slow blinking	□■■■■■■■■■ 0.2s OFF 1.8s ON searching for GSM network
	Slow blinking	□□□□□□□□□■ 1.8s OFF 0.2s ON registered on GSM network
	Fast blinking	Data transfer in progress

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LED SIGNALLING ON FRONT PANEL

LED	Status	Description
ETH1 / 2 (Green)	ON	Ethernet 1-2 connection detected
	OFF	Ethernet 1-2 connection absent
ETH1 / 2 (Yellow)	Blinking	Ethernet 1-2 data activity
	OFF	Ethernet 1-2 no data activity

TECHNICAL SPECIFICATIONS

STANDARDS	**EN61000-6-4** Electromagnetic emission, industrial environment. **EN61000-6-2** Electromagnetic immunity, industrial environment. **EN 301 511** Harmonized standard for mobile stations. **EN 301 489-1** Electromagnetic compatibility for radio equipment. **EN 301 489-7** Specific (EMC) conditions for mobile radioequipment. **EN 60950** Safety of information Technology Equipment.
ISOLATION	
ENVIRONMENTAL COND.	
Operating Temperature	-20 – + 65°C.
Humidity	30% – 90% not condensing.
Storage temperature	-20 – + 85°C.
Protection degree	IP20
MOUNTING	IEC EN60715 DIN Rail.
CONNECTIONS	6 removable 3-way terminals, 5,08 mm pitch for up to 2.5 mm^2 cable, 1 rear IDC10, 1 serial 4 way connector, 1 micro-SD slot, 1 mini-SIM slot, 1 USB connector, **1 SMA connector for GPS antenna,** **1 SMA connector for 3G+ or 4G antenna** and 2 Ethernet RJ45 connectors. Easy wiring of power supply and serial communication port through Seneca Z-PC-DINAL2-52.5 bus support for IEC EN 60715 rail bus.

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TECHNICAL SPECIFICATIONS

COMMUNICATION PORTS	COM1 RS232/RS485: removable 4 pin connector Max. cable length 3m. COM2 RS485: M1-M2-M3 terminals or IDC10 rear connector. COM4 RS485: M4-M5-M6 screw terminals. Max. baud rate: 115 kbps Min. baud rate: 200 bps. ETH1 and ETH2 Fast Ethernet 10/100 Mbps RJ45 connectors; Max. connection cable length 100 m. USB HOST A type.
POWERSUPPLY *Tension* *Power absorbed*	 19 – 40 V⎓ or 19 – 28 V∿ 50 – 60 Hz. Typical 4W at 24V⎓; Max. 6W.
DIGITAL INPUTS	Max. number of channels: 4. Voltage: OFF<4V ON>8V. Max. Current (Vout+): 20mA. Current absorbed: 3mA at 12V⎓; 6mA at 24V⎓.
DIGITAL OUTPUTS	Max. number of channels: 4. Voltage (+Vext): 10 – 24V⎓.Current: Max. 200mA. Outputs protected against short-circuit and over-temperature.
PROCESSOR	ARM 9 32bit.
MEMORIES	64 MB RAM and 1 GB FLASH Slot for micro SD card (max. 32 GB Card supported) Slot for mini SIM card.
MODEM 3G+	3G+ Model Global GSM /GPRS/EDGE Quad-band: GSM 850 MHz, GSM 900 MHZ, DCS 1800 MHz, PCS 1900 MHz 850-900-1800-1900 MHZ. UMTS/HSPA+ Penta-BAND : WCDMA 2100/900, 2100/850, 1900/850 MHZ CERTIFICATIONS: Vodafone (Europe), DoC (Russia), FCC/PTCRB/AT&T (North America), RCM (Australia), ICASA (South Africa), SRRC/NAL/OFCA (China), JATE & TELEC (Japan), NCC (Taiwan), KC/SKT (Korea), IC/Rogers (Canada) Anatel (Brazil), NBTC (Thailand) GNSS: 30 Channels: 16 GPS channels and 14 GLONASS channels Accuracy: <1.5m CEP-50 @Open Sky
MODEM 4G	4G/LTE Model (Europe, Africa, Middle East, Korea, Thailand, India) Contact Seneca for others Countries GSM/GPRS/EDGE Dual-band: 1800/900 MHz UMTS/HSPA+ Tri-Band: WCDMA 2100/850/900 MHz 4G LTE BAND 6-Band: 2100/1800/ 850/ 2600/ 900/ 800 MHz CERTIFICATIONS: CE/GCF/Vodafone (Europe), KC/SKT/KT /LGU+ (Korea) GNSS: GPS/GLONASS/BeiDou/Galileo/QZSS Up to 55 Channels
PROTOCOLS	FTP server, SFTP server, HTTP server, ModBUS TCP server, ModBUS RTU master, ModBUS RTU slave.
CHARACTERISTICS	Embedded Webserver. Firmware upgradable via webserver.

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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-pass2 or www.seneca.it/products/z-pass2-s

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.

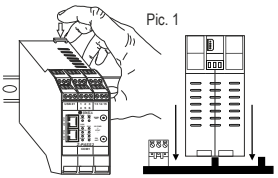
No warranty is guaranteed in connection with faults resulting from improper use, from modifications or repairs carried out by Manufacturer-unauthorized personnel on the device, or if the content of this user Manual is not followed.

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 equipments.**

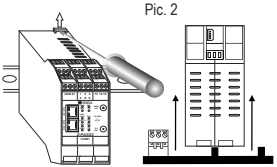
INSTALLATION RULES

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.

INSTALLATION AND REMOVAL FROM IEC EN 60715 DIN RAIL


Pic. 1

Insertion on the IEC EN 60715 DIN rail:
1) Move the two hooks on the back of the module outwards as illustrated in **Pic.2**.
2) Insert the module rear IDC10 connector into a free slot of DIN rail BUS accessory as you can see in **Pic.1**. ATTENTION: 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 **Pic.1**.


Pic. 2

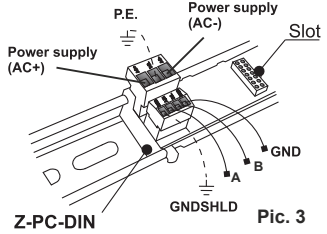
Removal from IEC EN 60715 DIN rail:
As shown in **Pic.2**:
1) Move outwards the two hooks on the side of the module, with the help of a screwdriver.
2) Extract the module from the IEC EN 60715 DIN rail.

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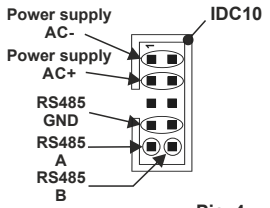
USE OF Z-PC-DINAL ACCESSORY

Please pay atention to the right installation side of the rear IDC10 connector into the Z-PC-DINAL2-52.5 bus.

In the figure below 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 powersupply and RS485 COM2 port to the rear IDC10 connector



Pic. 3



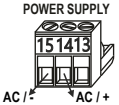
Pic. 4

ELECTRICAL CONNECTIONS

• POWER SUPPLY

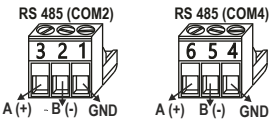
In order to satisfy the electromagnetic compliance requirements:
- Use shielded cables for signals transmission.
- Connect the shield to a preferential ground for devices.
- Space the shielded cables from power cables installations.

(transformers, inverters, motors, induction ovens, etc...).



In addition to the IDC10 connector, power supply can also be supplied by terminals 14 and 15.
NOTA: A minimum 1A safety fuse, delayed, must be installed in the power supply line near the device.

• RS485 COM 2 AND RS485 COM 4 PORTS

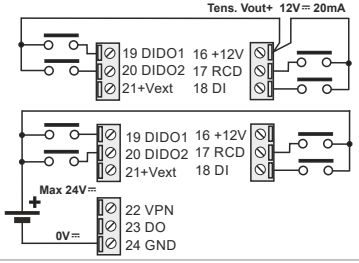


Z-PASS2 module has two serial communication RS485 ports: COM2 and COM4.
COM2 port can be connected through 1-2-3 screw terminals or by rear IDC10 connector.

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ELECTRICAL CONNECTIONS AND Z-PASS2 PORTS

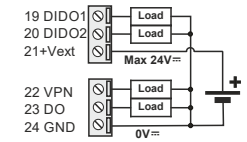
• ELECTRICAL CONNECTIONS FOR DIGITAL INPUTS (RCD, DI, DIDO1 and DIDO2)



The device has:
- 1 Digital input RCD reserved for disable the remote connection (RCD).
- 1 Digital input (DI).
- 2 software configurable channels as digital input or digital output (DIDO1 and DIDO2).

The inputs may be powered internally or externally, as shown on the pictures by side.
For configuration and more information please refer to the USER MANUAL.

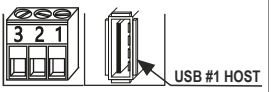
•ELECTRICAL CONNECTIONS FOR DIGITAL OUTPUTS (VPN, DO, DIDO1 and DIDO2)



- 1 Digital output reserved to indicate that VPN is active (VPN).
- 2 software configurable channels as digital output or digital input (DIDO1 and DIDO2).
- 1 Digital output (DO).

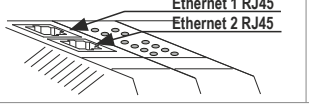
For configuration and more information please refer to the USER MANUAL.

• USB #1 HOST PORT



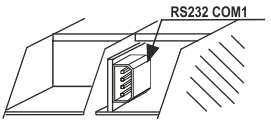
Z-PASS2 has an USB HOST type A connector, here you can connect a USB memory stick for firmware upgrading. 100mA Max. available current.

• ETHERNET RJ45 PORTS (ON FRONTAL PANEL)



Z-PASS2 has two Ethernet ports with RJ45 connectors on the front panel.
The two ports are internally connected in SWITCH mode or separated in LAN / WAN mode.
The two ports have the same MAC Address.

• RS232 OR RS485 COM1 PORT(4 PINS)



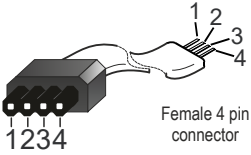
Z-PASS2 has serial RS232 or RS485 COM1 port on the removable 4 pin contacts connector.
The cable length for the RS232 interface must be less than 3 meters.

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RS232/RS485 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



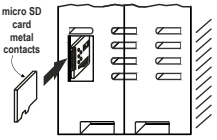
Female 4 pin connector

PIN	RS232	RS485
1	-	-
2	TX	B
3	RX	A
4	GND	GND

The cable length must be less than 3 meters.

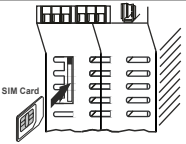
OTHER Z-PASS2 PORTS

• SLOT FOR MICRO SD CARD



Z-PASS2 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 SD 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.

• SLOT FOR MINI SIM CARD



Z-PASS2 has a slot for micro SIM card placed on the side of the case.
Before pushing the mini SIM in this slot, please be sure that the SIM card golden contacts are facing towards right (as in the picture on side).

ORDER CODES

Code	Description
Z-PC-DINAL2-52.5	CEI EN 60715 rail connections system with screw terminals. Pitch=52.5 mm
CS-DB9M-MEF-PH	Communication Cable RS232/485 1.5 mt.
CE-RJ45-RJ45-R	Ethernet cable 1.5 mt. (straight)
MSD	Micro SD Card
A-GPS-SMA	GPS antenna with magnetic and adhesive base. Cable L=3 mt.

CONTACTS

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

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