SENECA

Z-PC Line

EN

Z-PASS2-0
Gateway Modbus Ethernet / Serial, Serial Device Server with VPN and Router 3G+

Z-PASS2-S
Multifunction Straton Controller with Router 3G+

Installation Manual



Contents:

- General specifications
- Technical features
- Modbus connections
- Installation rules
- Electrical connections
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- Accessories
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For manuals and configuration software, please see www.seneca.it

ISO 9001:2008

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Power supply

Supply voltage	11 – 40 V⎓; 19 – 28 V∿ 50 – 60 Hz
Power consumption	Typical: 4 W @ 24V⎓, Max: 6 W

Environmental conditions

Temperature	-20 – +55°C
Humidity	30 – 90% a 40°C not condensing
Altitude	Fino a 2000 m a.s.l.
Storage Temperature	-20 – +85°C
Protection degree	IP20

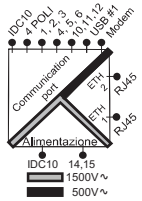
Connections

Removable 3-way screw terminals, 5 mm pitch
Rear IDC10 connector for DIN 46277 rail IEC EN 60715
Removable 4 pin connector, two RJ45 connectors and one USB connectors
Slot for micro SD card, Slot for mini SIM card.
SMA connectors for antenna connection

Box / Dimensions

Dimensions	L: 100 mm; H: 112 mm; W: 53 mm
Box	PBT, Black

Isolation 1500 V∿



Standards

The module complies with the following standards:

CE

EN61000-6-4 (electromagnetic emission, industrial environment).
EN61000-6-2 (electromagnetic immunity, industrial environment).
EN60950 (safety).
ETSI EN 301 489-7 (electromagnetic compatibility and radio spectrum matters ERM; electromagnetic compatibility EMC standard for radioequipment and services)
EN 301 511
EN 301 489-1
IEC/EN 60950

ADDITIONAL NOTES :
You must install a fuse from at least 1 A, delayed, on the power supply line, near the module.

General Specifications

- CPU ARM 9
- RAM memory: 64 MB
- Flash memory: 1 GB
- 3G Gateway embedded
- Diversity antennas modem reception
- Two Ethernet ports on front panel (internal Hub switch)
- Two RS485 ports
- One RS232 port (as an alternative to an RS485 port)
- One USB HOST port
- One slot for Micro SD card, max 32 GB
- One slot for mini SIM
- 1500 V∿ isolation between power supply and other low voltage circuits
- Easy wiring of power supply and serial communication port through Seneca IEC EN 60715 rail bus
- Removable screw terminals with section of 2.5 mm²

Technical Features

Communication ports

RS232 e RS485 Factory presetted	Maximum Baud rate 115 kbps COM 1 (removable 4 pin connector) Maximum RS232 connection length 3 m.
RS485	Maximum Baud rate 115 kbps COM 2 (screw terminals 1-2-3 or IDC10 connector) COM 4 (screw terminals 4-5-6)
Ethernet 1 e Ethernet 2	Fast Ethernet 10/100 Mbps, Communication port: On frontal from RJ45 Maximum connection length 100 m.
USB #1 HOST	Plug-in: USB type A

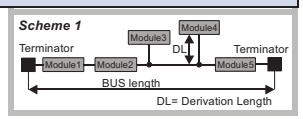
CPU & memory

CPU	ARM 32 Bit
Memory Slot for external memory Only for Z-PASS2-S	64 MByte RAM 1 Gbyte FLASH Micro SD card: max 32 Gbyte 4 kByte (with redundancy) FeRAM

MODBUS connection standards

1) Install the module into the DIN rail.
2) Please use a cable with a suitable length to connect the remote modules.
The following table show the cables length.
- Bus Length: Modbus network maximum length as a function of the Baud rate. This is the length of the cables which connect the two bus terminators modules.
- Derivation Length: Derivation line Maximum length as a function of the Baud Rate (see Scheme 1).

MODBUS		
BUS Length	Derivation Length	Baud rate
1200 m	2 m	115 kbps



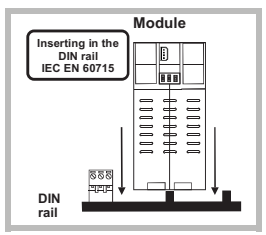
In order to obtain maximum performances it's recommended to use a specific shielded cable, as an example BELDEN 9841.

Installation Rules

The module is designed to be installed, in vertical position, on DIN rail IEC EN 60715. In order to ensure optimum performance and a longest working life, the module(s) must be provided with adequate ventilation and no raceways or other objects that obstruct the ventilation slots. **Never install the modules near heat sources**.
We recommend installation in the lower part of the control panel.

Inserting on the DIN rail

As the next picture shows:
1) Insert the module rear IDC10 connector on a DIN rail free slot (there's only one way to insert the module because of polarized connector).
2) Push the two locks placed at the sides of the rear IDC10 connector to fix the module.



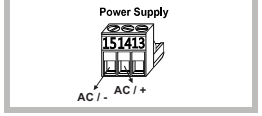
Electrical Connections

Power supply, MODBUS interface

Power Supply and Modbus interface are available by using the bus for the Seneca DIN rail, by the rear IDC10 connector or by Z-PC-DINAL2-52.5-17 accessory.

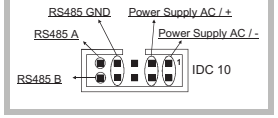
Power Supply

Power Supply is available also from screw terminals 14 and 15.



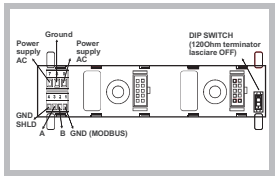
Rear IDC10 Connector

The picture shows the meaning of the IDC10 connector pins.



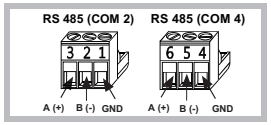
Z-PC-DINAL2-52.5-17 Possible Use

If Z-PC-DINAL2-52.5-17 accessory is used, the power supply signals and communication signals may be provided by the terminals block into the DIN rail support. The figure shows the meaning and the position of the terminal blocks. You must let the DIP-switch open.
GNDSHLD: Shield to protect the connection cables against interference (recommended).



Rs485 COM 2 and RS485 COM 4 Ports

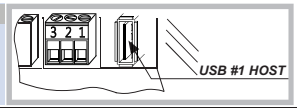
The Z-PASS2 has two serial ports RS 485: COM 2 e COM 4.
The RS485 COM2 port can be connected through 1-2-3 screw terminals or by IDC10 connector.



Other Z-PASS2 Ports

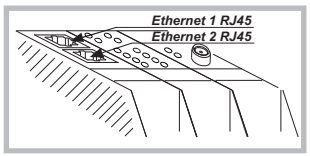
USB #1 HOST Port

The Z-PASS2 has a USB HOST type A connector, here you can connect a USB memory stick for firmware upgrading.



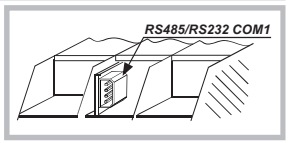
Ethernet RJ45 ports (frontal panel)

The Z-PASS2 has two ethernet ports, with RJ45 connector, on front panel, for easy PC connection.
The two ports are internally connected in HUB/SWITCH modality.
The two ports have the same MAC Address.



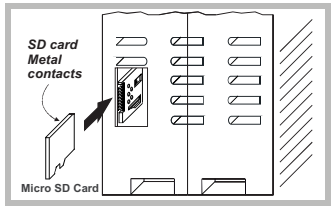
RS232 o RS485 COM1 Ports(4 Pin)

The Z-PASS2-0, through a removable 4 pin connector, has a serial RS232 COM1 port or, as an option, you can order a third RS485 com1 port.
The cable length for the RS232 interface must be less than 3 meters.



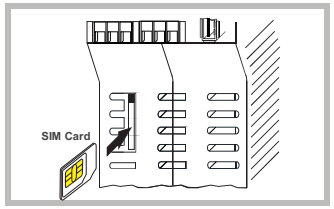
Slot for Micro SD card

The Z-PASS2 has a slot for micro SD card placed on the side of the case.
Only the **Z-PASS2-S** allows the **SD card** use.
Before pushing the SD card in this slot, please be sure that the SD card metal contacts are facing towards left (Please see the figure on side).



Slot for SIM card

The Z-PASS2 has a slot for SIM card placed on the side of the case.
Before pushing the SIM card in this slot, please be sure that the SIM card golden contacts are facing towards rigth (Please see the figure on side).



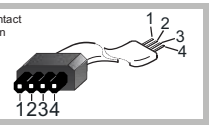
RS232 / RS485 Cable assembling

The 4 way for RS232 or RS485 serial connection cable can be bought by ordering Seneca code PM004371 otherwise can be made as shows in the following figure.
(connector code: Phoenix contact: 1778858)

RS232/ RS485 ASSEMBLING		
PIN	RS232	RS485
1	CTS	
2	TX	B
3	RX	A
4	GND	GND

The cable length must be less than 3 meters.

Phoenix contact female 4 pin connector 1778858



LED Signallings

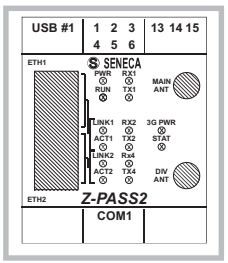
LED	STATE	*LED Meaning*
PWR Green	On	The module is power on
RUN Red	Blinking	The module is ready for use
3G PWR Green	On	The module is power on
STAT Orange	On	Network searching
STAT Orange	Fast blinking 2 Flash/sec	2G/3G connection
STAT Orange	Slow blinking 1 Flash/sec	GSM network connection
LNK1-2 Yellow	On	Ethernet 1-2 connection detected
LNK1-2 Yellow	Off	Ethernet 1-2 connection absent
ACT1-2 Green	Blinking	There is data activity (Ethernet 1-2)
ACT1-2 Green	On	There isn't data activity (Ethernet 1-2)
RX1-2-4 Red	Blinking	Signaling Data Receiving (COM 1-2-4)
RX1-2-4 Red	On	Verify the connection (COM 1-2-4)
TX1-2-4 Red	Blinking	Signaling Data Transmitting (COM 1-2-4)
TX1-2-4 Red	On	Verify the connection (COM 1-2-4)

Hardware Default Conditions

Module factory settings parameters:

RS232 (COM1)	On 4 PIN connector
RS485 (COM2)	On IDC10 rear connector
More default hardware configurations are available on request	

Frontal Panel



3G Modem Antennas

MAIN ANT.
The main antenna should always be connected.
DIV. ANT.
The diversity antenna (optional) should be connected for better reception and transmission and for improve the modem communication speed.

Accessories

CODE	DESCRIPTION
PM004371	Communication cable RS232/RS485, PSTM 4 vie a DB9 M
Z-PC-DINAL2-52.5-17	DIN rail support with screw terminals 2 slot pitch= 52.5 mm
Z-PC-DIN2-52.5-17.5	DIN rail support: 2 slot for rear conncetor pitch= 52.5 mm
Z-PC-DIN2-35	DIN rail support: 2 slot for rear conncetor pitch= 35 mm
A-GSM	External GSM antenna dual band swing, cable 3.2 m

Decommissioning 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, waste disposal service of the retail store where you purchased this product.

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