

**Installation Manual**

Contents:	Pag
General description	2
General features	2
Technical specifications	2
Installation standards	4
Electrical connections	4
RS485 connection standard	5
Main components position	6
RS485 and RS232 application example	6
Connection example	7
Led status message	7
DIP-switch setting	8
Accessories	8



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Type	RS485
Plug-in	Removable 3-way screw terminals, 5,08 mm pitch (4,5/6) / bus connector IDC10
<b>PARAMETERS OPTICAL FIBER</b>	
Type	Multimodal optical-fiber (62.5/125 o 50/125 micron)
Plug-in	Frontal connector ST-ST.
<b>ENVIRONMENTAL CONDITION</b>	
Operating temperature	-30.. +60 °C
Storage temperature	-30.. +85 °C
Humidity	30.. 90 % non-condensing
Altitude	Up to 2000m asl
<b>CONNECTIONS</b>	
Terminal block	Removable 3-way screw terminals, 5.08 mm pitch
Rear connector	IDC10 for Din Rail for RS485 & power supply
DB9-F	Plug-in for RS232 connections
<b>DIMENSION/BOX</b>	
Size and weight	100 x 112 x 17,5 mm; 140 g
Case	PBT, black
<b>ISOLATIONS/STANDARDS</b>	
Standards	EN61000-6-4/2007 (electromagnetic emission, industrial environment) EN61000-6-2/2005 (electromagnetic immunity, industrial environment) EN61010-1/2001 (safety). <i>All circuits must be insulated from the other circuits under dangerous voltage with double insulation. The power supply transformer must comply with EN60742: "insulated transformers and safety transformers"</i>

**RS485 connections standard**

Connection between a remote module must be made with cables of proper length, the figure below illustrates the meaning of bus length and stub.

- Bus length: maximum length of the network. In particular is the length of wire that connect the modules at the ends of cable.
- Stub length: maximum length of the stub.

For the best performances, the use of special shielded cables is recommended (**BELDEN 9841** cable for example).

**RS232 COM PORT**

The RS232 connection can be made only through DB9 connector on the side of module. The connection cable, for the standard RS232, can be made as shown in figure or can be bought as an accessory (see Accessories). For the best performances, the use of shielded cables is recommended.

**RS485 COM PORT**

The terminal block (4,5,6) may be the alternative to the rear connector (IDC10) for RS485 port wiring.

**RS485 connections example**

**RS485 user example**

**Led status message**

**LED SP-Rx end FO-Rx : status communication**

In the tabel below there is a description of **SP-Rx** and **FO-Rx**.

**Meaning of Led SP-Rx (Red)**

N°	Led SP-Rx	STATUS	DESCRIPTION
1	OFF	No communication	a) The parameters of communication are wrong (see the DIP SWITCH settings). b) The connections of communication are wrong (see connection standards)
2	Blinking	Communication	The communication work properly.

**Meaning of Led FO-Rx (Red)**

N°	Led FO-Rx	STATUS	DESCRIPTION
1	OFF	No communication	The device can't be connected properly..
2	blinking	Communication	The communication package was received correctly from optical-fiber.

The Z107FO internally has a green led that blink when the power supply and communication functioning properly.

**General description**

The Z107FO is a RS232 and RS485 signal repeater through optical fiber. The device can be used to increase a number of nodes connection into the same logical bus, and its length can be extended up to 2 Km.

**General features**

HW	SW
<ul style="list-style-type: none"> <li>Optical fiber communication up to 2 Km.</li> <li>500 VAC isolation between input and power supply.</li> <li>Simplified assembly through DIN rail socket.</li> <li>Power supply 12-40 Vdc or 12-28 Vac.</li> <li>Operating temperature -30°C/60°C.</li> <li>Operating status shows by frontal LED.</li> <li>Possibility of conversion between RS232 and RS485</li> <li>Possibility of communication between different Baud Rate .</li> </ul>	<ul style="list-style-type: none"> <li>Communication configuration settings from DIP SWITCH.</li> <li>Maximum Baud rate: 115200 bps.</li> <li>RS232, RS485 communications.</li> <li>Possibility of conversion between RS232 end RS485.</li> <li>Possibility of communication between different Baud Rate.</li> </ul>

**Technical Specification**

**POWER SUPPLY**

Voltage	12-40 Vdc or 12-28 Vac (50-60 Hz)
Consumption	1,2 Watt max.

**TYPE OF COMMUNICATIONS**

Type	RS232
Plug-in	DB9 on the side of module

**Installation Rules**

The module is designed to be installed in vertical position on a DIN 46277 rail. In order to ensure optimum performance and the longest working life, the module(s) must be supplied adequate ventilation and no raceways or other objects that obstruct the ventilation slots. Never install modules above sources of heat; we recommend installation in the lower part of the control panel.

**Inserting on the DIN rail as it is illustrated in the figure:**

- 1) Insert the rear IDC10 connector on a free DIN rail socket slot (the inserting is univocal since the connectors are polarized).
- 2) Tighten the two locks placed at the sides of the rear connector to fix the module.

**Electrical connections**

**POWER SUPPLY**

Power Supply is available also by using the Seneca DIN rail, by the rear IDC10 connector or by Z-PC-DINAL-A/B accessory.

**REAR CONNECTOR (IDC10)**

In the figure the meaning of the IDC10 connector pins is showed, in the case the user decides to provide the signals directly through it.

**CONNECTOR DB9 PC to Z107FO**

**POWER SUPPLY PORT**

The terminal block (2,3) may be the alternative to the rear connector (IDC10) for power supply wiring.

**Main components position**

**TERMINAL BLOCKS/ LEDS / DIP-SWITCH**

The terminals numbering, the leds position on the frontal panel, the DIP-switch on the side are illustrated below.

**RS485 and RS232 application example**

**Dip-Switch setting**

The position of dip switch defines the parameters of communication. In the table below are presents the position of dip switch and the function that represented:

3 4 5	Baud Rate	6 7	Parity
<input type="checkbox"/>	1200	<input type="checkbox"/>	No parity
<input type="checkbox"/>	2400	<input type="checkbox"/>	Even parity
<input type="checkbox"/>	4800	<input type="checkbox"/>	Odd parity
<input type="checkbox"/>	9600	<input type="checkbox"/>	
<input type="checkbox"/>	19200	<input type="checkbox"/>	Serial Port
<input type="checkbox"/>	38400	<input type="checkbox"/>	RS232
<input type="checkbox"/>	57600	<input type="checkbox"/>	RS485
<input type="checkbox"/>	115200	<input type="checkbox"/>	
<input type="checkbox"/>		<input type="checkbox"/>	Terminator 220 Ohm
<input type="checkbox"/>		<input type="checkbox"/>	Not Enable
<input type="checkbox"/>		<input type="checkbox"/>	Enable

N.B. I DIP-SWITCH 2 and 8 are not used

**Accessories**

**SUPPORTS FOR MOUNTING ON DIN RAIL GUIDE/ SERIAL CABLE**

Code	Description
Z-PC-DINAL-A	Bus Support: Terminal blocks + 2 slots to connect Z-PC line modules.
Z-PC-DINAL-B	Bus Support: Terminal blocks + 1 slot to connect Z-PC line modules.
Z-PC-DIN2-A	Bus Support: 2 slots to connect Z-PC line modules.
Z-PC-DIN2-B	Bus Support: 1 slots to connect Z-PC line modules.
Z-PC-DIN8-A	Bus Support: 8 slots to connect Z-PC line modules.
Z-PC-DIN8-B	Bus Support: 4 slots to connect Z-PC line modules.
Z-PC-FO	F.O. cable with ST/ST connection, L=2m

Disposal of Electrical & Electronic Equipment (Applicable throughout the European Union and other European countries with separate collection programs). The 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 and electronic equipment. By ensuring the 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 this product, please contact your local city office, waste disposal service or the retail store where you purchased this product.