

# Z-PC LINE COMMUNICATION DEVICES

## Z107FO

Fiber Optic ↔ RS232 / RS485 serial converter



CE

**Power Supply**

**Serial ports :**

**Max Baud rate:**

**Max Distance:**

**Fiber Optic :**

**Operating Temperature:**

**Dimensions:**

12..40 Vdc or 12..28 Vac (50-60 Hz)

RS232 (DB9-F connector), RS485 IDC 10 connector or terminal blocks

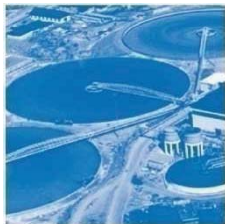
115.200 bps

2 km

Multimodal (62,5/125 o 50/125 μm), ST – ST connectors

-30..+60°C

17,5 x 100 x 112 mm (w x h x d)



# Z107FO

Fiber Optic ↔ RS232 | RS485 serial converter



## ORDER CODE

<b>Model</b>	<b>Z107FO</b>	Fiber Optic ↔ RS232 / RS485 serial converter
<b>Accessories</b>	<b>Z-PC FO</b>	Fiber Optic cable with ST/ST connectors, L=2 m
	<b>Z-PC DIN</b>	Backplane connectors

## TECHNICAL SPECIFICATIONS

### GENERAL FEATURES

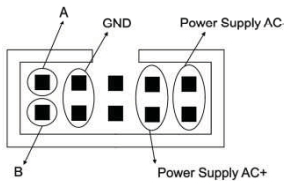
<b>Power Supply</b>	12..40 Vdc, 12..28 Vac (50-60 Hz)
<b>Consumption</b>	1,2 W
<b>Status indicators</b>	Serial communication state, fiber optic state
<b>Operating temperature</b>	-30..+60 °C
<b>Storage temperature</b>	-30..+85 °C
<b>Humidity</b>	30..90% not condensing
<b>Dimensions</b>	17,5 x 100 x 112 mm (w x h x d)
<b>Weight</b>	140 g
<b>Enclosure</b>	PBT, black
<b>Configuration</b>	DIP-switch (baud rate, parity, serial port, bit stop, termination)
<b>Conformity</b>	CE, EN 61000-6-4, EN 64000-6-2, EN 61010-1, EN 60742

### COMMUNICATION

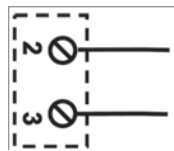
<b>RS232</b>	DB9-F (COM) connector
<b>RS485</b>	Screw terminal block, Back connectors IDC10 for DIN DB9-F (COM)
<b>Speed</b>	From 1.200 to 115.200 bps
<b>Delay</b>	160 – 240 ms (@ 9.600 bps) 145 – 155 ms (@ 115.200 bps)
<b>Fiber optic</b>	Multimodal(62,5/125 o 50/125 µm) ST/ST connectors

## CONNECTIONS

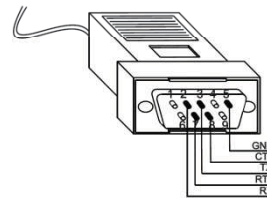
### Power supply (IDC10)



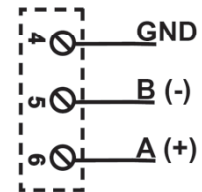
### Power Supply (Terminal block)



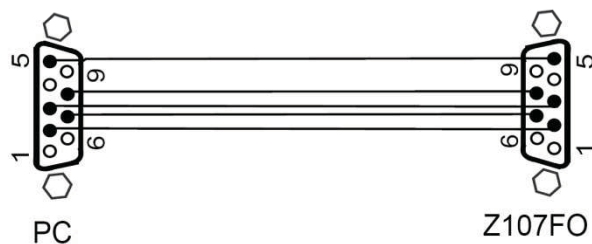
### RS232 port –DB9-F connector



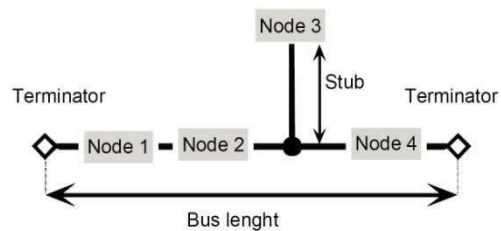
### RS485 port – Terminal block



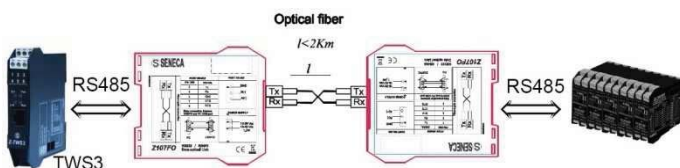
### DB9 PC connector → Z107FO



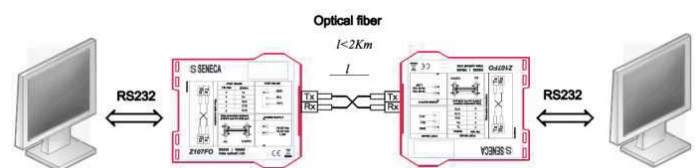
### Connection RS485 remote nodes depending on the baud rate



### Functional diagram



### Application example



**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



**SENECA s.r.l.**  
Via Germania, 34 - 35127 - Z.I. CAMIN - PADOVA - ITALY  
Tel. +39.049.8705355 - 8705359 - Fax +39.049.8706287  
e-mail: info@seneca.it - www.seneca.it

This document is property of SENECA s.r.l. Duplication and reproduction are forbidden, if not authorized. Contents of the present documentation refers to the products and technologies described in it. All technical data contained in the document may be modified without prior notice. Content of this documentation is subject to periodical revision.

**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 and 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

Type	RS485
Plug-in	Removable 3-way screw terminals, 5,08 mm pitch (4,5/6) / bus connector IDC10
PARAMETERS OPTICAL FIBER	
Type	Multimodal optical-fiber (62,5/125 o 50/125 micron)
Plug-in	Frontal connector ST-ST.
ENVIRONMENTAL CONDITION	
Operating temperature	-30.. +60 °C
Storage temperature	-30.. +85 °C
Humidity	30.. 90 % non-condensing
Altitude	Up to 2000m asl
CONNECTIONS	
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
DIMENSION/BOX	
Size and weight	100 x 112 x 17,5 mm; 140 g
Case	PBT, black
ISOLATIONS/STANDARDS	
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>

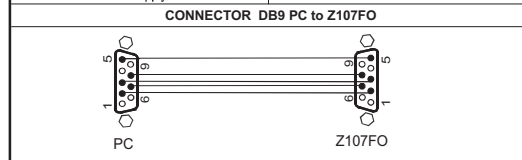
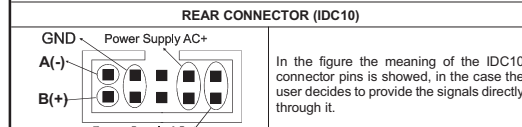
**Installation Rules**

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

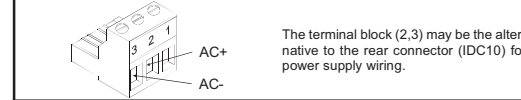
**Electrical connections**

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



RS485 connections standard	
Connection between a remote modules must be made with cables of proper length, the figure below illustrates the meanig of bus length and stub.	
<ul style="list-style-type: none"> <li>Bus length: maximum length of the network. In particular is the length of wire that connect the modules at the ends of cable.</li> <li>Stub length: maximum length of the stub.</li> </ul>	
For the best performances, the use of special shielded cables is recommended ( <b>BELDEN 9841</b> cable for example).	
RS232 COM PORT	
	The RS232 connection can be made only trough 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.

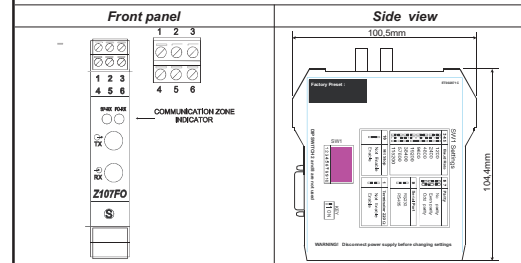
**POWER SUPPLY PORT**



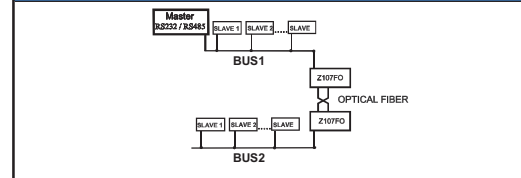
**Main components position**

**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**



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 <b>SP-Rx</b> and <b>FO-Rx</b> .			
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.			

**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"/>	9 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"/>	10 Bit Stop
<input type="checkbox"/>		<input type="checkbox"/>	Not Enable
<input type="checkbox"/>		<input type="checkbox"/>	Enable
<input type="checkbox"/>		<input type="checkbox"/>	1 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-DIN-2-A	Bus Support: 2 slots to connect Z-PC line modules.
Z-PC-DIN-2-B	Bus Support: 1 slots to connect Z-PC line modules.
Z-PC-DIN-8-A	Bus Support: 8 slots to connect Z-PC line modules.
Z-PC-DIN-8-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). 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 and 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 this product, please contact your local city office, waste disposal service or the retail store where you purchased this product.