EN INSTALLATION MANUAL

Manual language	English
Series	Z-PC
Product	**Z-MODEM-3G**
Description	2G and 3G modem, GSM850, EGSM900, DCS1800, PCS1900, WCDMA900 and 2100 Frequency

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Programming tools, manuals, templates, examples, etc. for the product can be downloaded free of charge from www.seneca.it/products/z-modem-3g.

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1. PRELIMINARY WARNINGS



The full content of this manual must be read before performing any operation. The module must only be used by qualified electricians. Specific documentation is available from www.seneca.it/products/z-modem-3g



The module must be repaired and damaged parts replaced by the Manufacturer. The product is sensitive to electrostatic discharges. Take appropriate measures during any operation.



The warranty is null and void in the event the module or devices supplied by the Manufacturer, necessary for its correct operation, are improperly used or tampered with and, in any case, if the instructions contained in this manual were not followed.

2. PRELIMINARY USE INSTRUCTIONS



Don’t obstruct ventilation slots with any objects.
Don’t place the module next to devices that generate heat.

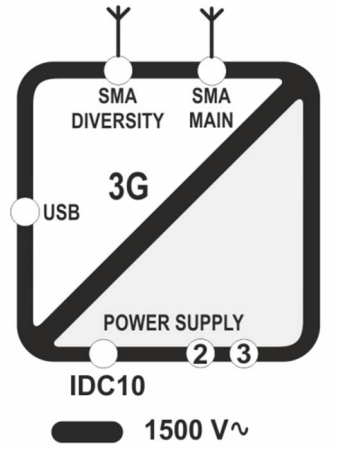
3. GENERAL SPECIFICATIONS

- Modem with **HSDPA/UMTS/EDGE/GPRS** protocol.
  It can be connected to a wireless network with a SIM, that is without subscribing with a physical provider using a cable connection such as a telephone network, ADSL, etc.
- 2 SMA connectors for the two antennas: MAIN and DIVERSITY.
  For better performance we recommend to positioning the antennas at a 90° angle between each other.
- The antenna supplied can be replaced with one with a higher gain.
- Removable terminals with section of 2.5 $mm^{2.}$
- 5 frequency bands.
- Slot for push-push mini SIM.
- Micro USB 2.0 interface connector to exchange data with Z-TWS4 and Z-PASS1.
- The product can be installed on an IEC EN 60715 omega guide.
- LED front indications: Supply (PWR) and status (STAT).

4.TECHNICAL SPECIFICTIONS

Power Supply	
Power supply	11 − 40 V⎓ or 19 − 28 V∿ 50/60Hz
Absorption	4.5 W max
Connections	0.2 – 2.5 mm^2 screw removable terminals (AWG 24-12)
Modem	
Frequencies	GSM / GPRS / EDGE Quad-band: GSM850 GSM 900, DCS 1800, PCS 1900 UMTS / HSPA+ Dual-Band: WCDMA2100/900 2100/850, 1900/850
Transmitted power	GSM/GPRS: Class 4 (2W): GSM850, EGSM900 Class 1 (1W): DCS1800, PCS1900
	EDGE: Class E2 (0.5W): GSM850, EGSM900 Class E1 (0.4W): DCS1800, PCS1900
	UMTS: Class 3 (0.25W): WCDMA2100/900, 2100/850,1900/850
Connection speed	GPRS Class B, multi-slot class 12, Decoding: CS1-4, Max download speed: 85.6kbps, Max upload speed: 85.6kbps,
	EDGE multi-slot class 12, Decoding: MSC1-9, Max download speed: 236.8kbps; Max upload speed: 236.8kbps
	UMTS R99 speed: 384 kbps Download/Upload
	SIM5350L series: HSDPA category 10 - 14.4 Mbps+ HSUPA category 6 - 5.76 Mbps
DRX	Diversity receiver
SIM	
SIM type	Mini SIM @ 3V
Introduction and removal	Facilitated by the Push-push system
USB	
Type	Micro USB
Use	Data transfer for Z-TWS4 and Z-PASS1
Antennas	
"Main" antenna (mandatory)	SMA female, 50 Ω impedance
"Diversity" antenna (recommended)	SMA female, 50 Ω impedance

Environmental Conditions	
Protection rating	IP20
Operating temperature	-20 − +60 °C
Storage temperature	-40 − +85 °C
Humidity	10 – 90% non condensing
Altitude	up to 2000 m above sea level
Case	
Weight	47g
Dimensions	41 x 44 x 26 mm (terminal excluded)
Case	PA6, black
Standards	
EN 301 511	Global System for Mobile communications (GSM); Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands, article 3.2 of the R&TTE Directive (1995/5/EC).
EN 301 489-1	Common technical requirements
EN 301 489-1	Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS)
EN61000-6-4	Emission, industrial environment
EN64000-6-2	Immunity, industrial environment
EN60950	Safety
Insulations	

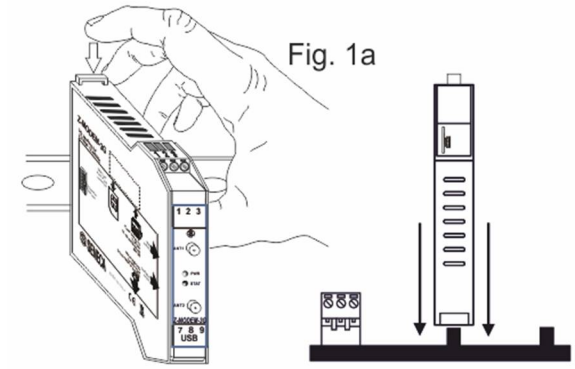


1500 V~ insulation between modem and power supply

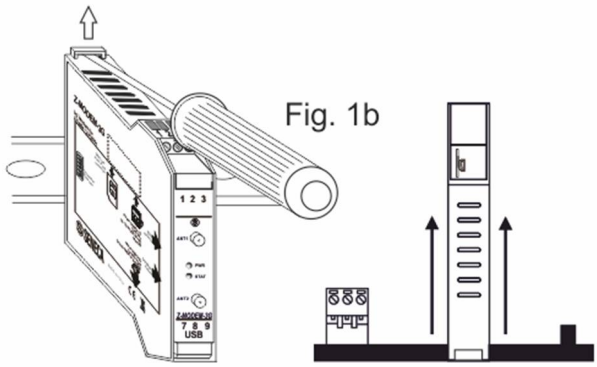
5. INSTALLATION RULES

The module has been designed for vertical installation on an IEC EN 60715 omega guide. For optimal operation and long working life, adequate ventilation must be provided. Avoid positioning cable ducts or other objects so that they obstruct the ventilation slots. Avoid mounting modules over equipment generating heat. Installation in the bottom part of the distribution board is recommended

OMEGA IEC EN 60715 guide installation on and removal from.



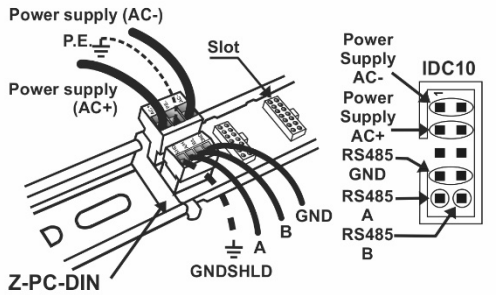
Insertion on the IEC EN 60715 guide:
1) Move the four hooks on the back of the module outwards as illustrated in fig. 1b.
2) Insert the module aligning the IDC10 rear connector to the female of the Seneca support for the IEC EN 60715 guide.
3) To secure the module to the guide, tighten the four hooks on the side of the IDC10 rear connector as shown in fig. 1a.



Removal from the IEC EN 60715 guide:
As illustrated in figure 1b:
1) Move outwards the four hooks on the side of the module, using a screwdriver.
2) Extract the module from the guide.

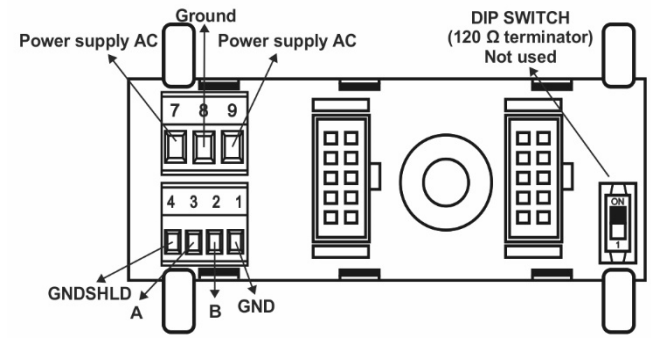
6. ELECTRICAL CONNECTIONS

IDC10 rear connector (POWER AND PORT 1)



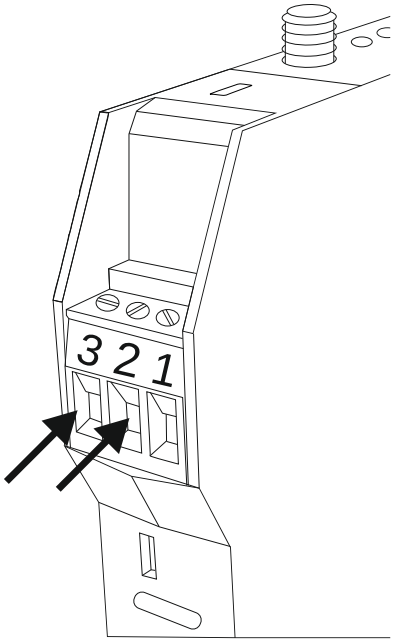
In the figure you can see the meaning of the IDC10 connector pins if you want to provide signals through them.
Module power is available from the rear connector or via terminals 2 and 3.

Potential Z-PC-DINAL2-17.5 use



If the Z-PC-DINAL1-17.5 accessory is used the power supply
and communication signals may be provided by the terminals block.
The illustration shows the meaning of the various terminals and DIP-switch position, found in all Seneca supports for the IEC EN 60715 guide (not used for the Modbus network).
GNDSHLD: Connection cable signal protection shield (recommended).

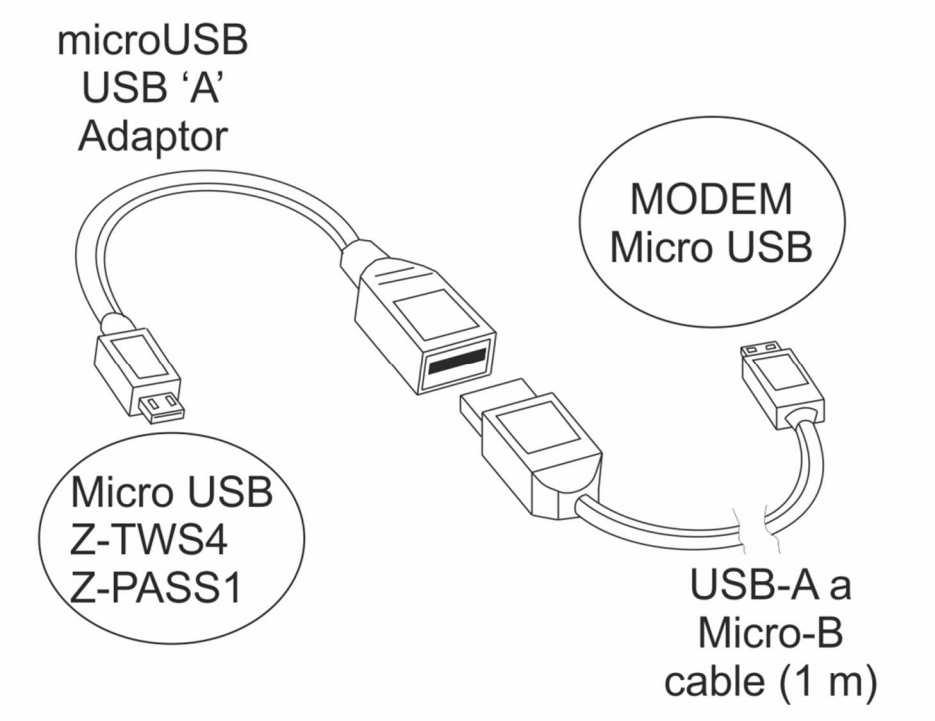
Power Supply

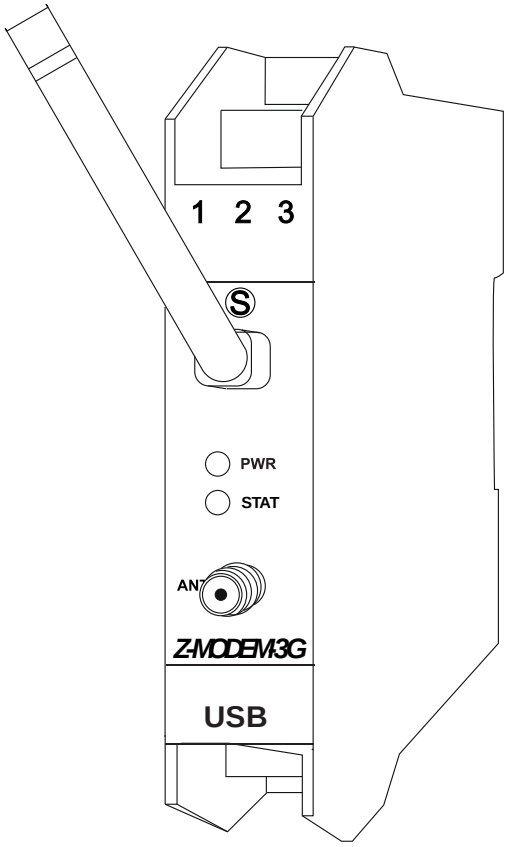


The power supply must be connected to the IDC10 bus or to terminals 2 and 3.
The supply voltage must be between 10 and 40V⎓ (any polarity), or between 19 and 28 V∿.
The upper limits must not be exceeded in order to avoid serious damage to the module.
The power supply source must be protected from any malfunctions using appropriately-sized safety fuses.

Micro USB

The module has a microUSB connector, you can connect the Z-MODEM-3G to Z-TWS4 or to Z-PASS1 through it. The adaptor cables, supplied with the module, must be connected as shown in the figure.
For further information, refer to the Z-TWS4 or Z-PASS1 user manuals.



Antennas	
	One antenna (ANTENNA-STILO-EA247) is supplied with Z-MODEM-3G. This antenna must be screwed into the SMA MAIN connector. An second "diversity" antenna can be connected to the module in order to improve the performance of the modem. For more performance you can use an antenna with a better gain (see accessories). **Warning:** The modem **don't work properly** if only the "div" (diversity) antenna is connected**.**

7. LED INDICATIONS ON THE FRONTAL PANEL

LED meaning

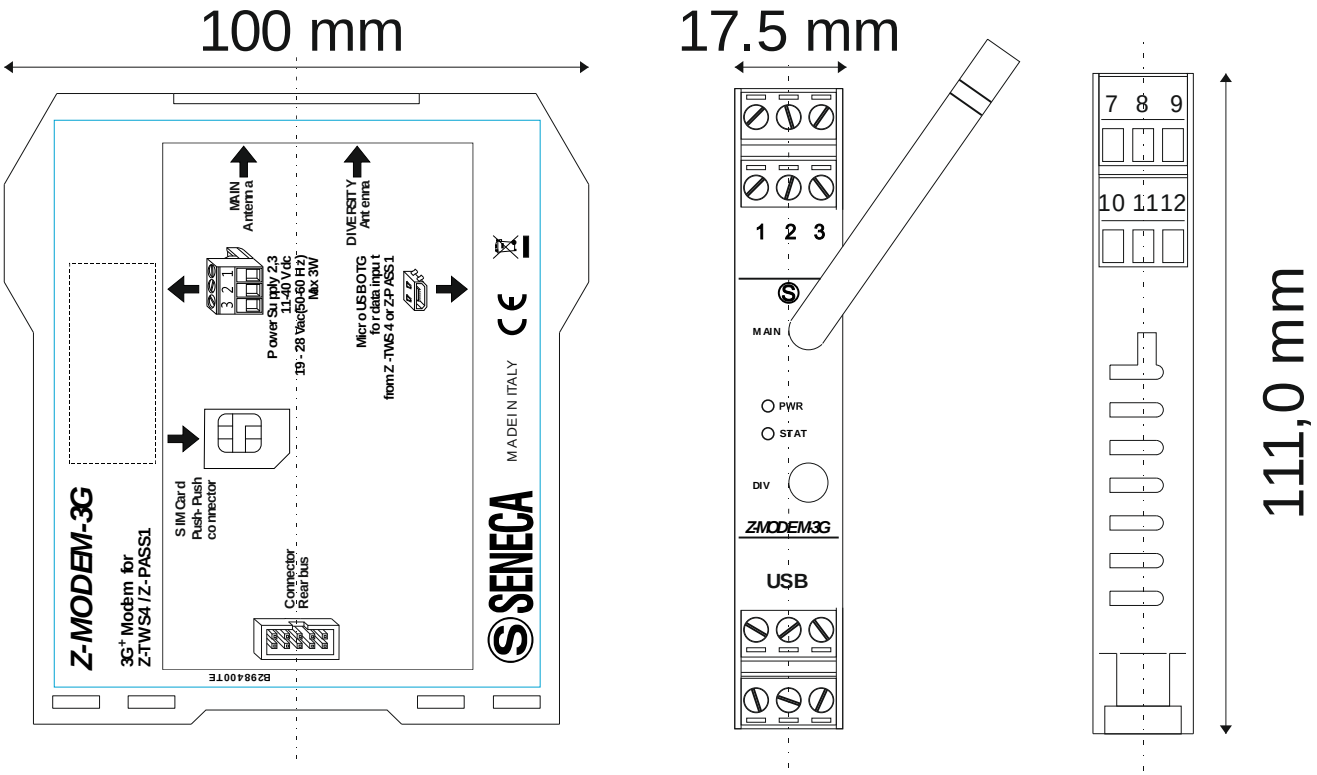
LED	STATUS	LED meaning
PWR Green	ON	The module is switched ON
PWR Green	OFF	The module is switched OFF
STAT yellow	Flashing	Connected to the network
STAT yellow	Fast flashing	PPP connection established
STAT yellow	ON	Network search

8. PURCHASE ORDER CODE

ANTENNA-STILO-EA247	SMA connector, 90° (like the one supplied)
A-GSM	3m cable, with sheathed adhesive antenna
ANT-LINK1-MG	3m cable, with magnetic-base antenna
CAVO-USBA-MICROB-MP	1m cable, from male A-type to male microB-type

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9. MODULE LAYOUT



10. DECOMMISSIONING AND DISPOSAL



Electrical and electronic waste disposal (applicable in the European Union and other countries with recycling). The symbol on the product or packaging indicates that the product cannot be discarded as domestic waste. It should be taken to an authorised recycling centre for electrical and electronic waste. Ensuring that the product is suitably discarded will avoid potential negative impacts on the environment and human health, that could be caused by non compliant product disposal. Material recycling will contribute to the preservation of natural resources. To receive further information, please contact your local waste disposal service centre or product dealer.

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