

1.OVERVIEW



Front

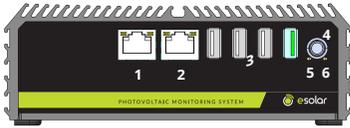


Back

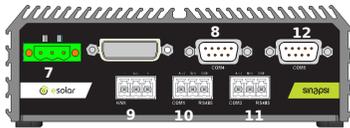
- Datalogger with integrated web server
- Acquires up to 120 devices
- Keeps up to 2 years of 15-minute data in memory
- Powerful, compact and very low power consumption
- Acquires data from
 - (a) inverter
 - (b) string controllers
 - (c) energy meters
 - (d) interface protections
 - (e) general protections
 - (f) sensors of any kind
 - (g) digital inputs
- 2 isolated RS485 ports
- 1 non-isolated RS485 port
- 1 RS232 port



2.Connections/buttons/leds



- 1 - Ethernet port for internet and devices
- 2 - Service Ethernet port and devices
- 3 - USB ports for backup memory devices
- 4 - On/Off button
- 5 - Activity LEDs
- 6 - Power LED



- 7 - 24vdc power supply connector
- 8 - RS232 serial port
- 9 - KNX Port (only active on KNX model)
- 10 - RS485 COM3 INSULATED port
- 11 - RS485 COM1 INSULATED port
- 12 - RS485 port NOT INSULATED

i NOTE: For details on the configuration of esolar 3 b.e., please refer to the manual.



3.CONTENTS OF THE PACKAGE



1 x SIN.ES3BE

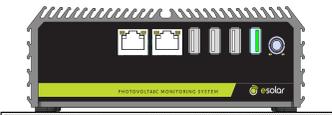


- 2 x wall mounting brackets
- 1 x Power connector +
- 3 x 3-pin connector for isolated RS485 ports

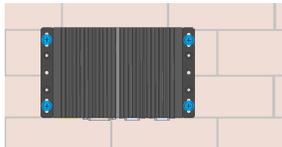
! Before making any connection, remove the power supply and complete the wiring, then feed the datalogger



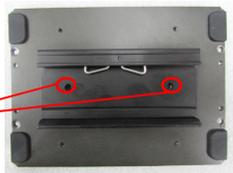
4.POSSIBLE INSTALLATION MODES



horizontal mounting



vertical mounting



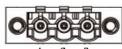
DIN rail mounting

2x M4x6mm screws

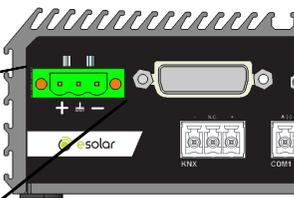
(Install at the rear the DIN RAIL Kit - optional)



5.POWER SUPPLY CONNECTION



Pin	Definition
1	+9~48V IN
2	N.C.
3	GND

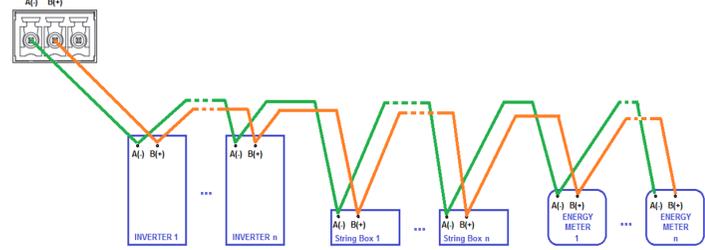


To power the device use the appropriate power supply supplied with esolar 3 b.e. or one of the following equivalent.

6.FIELDBUS CONNECTION

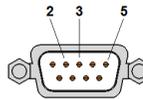
esolar 3 b.e. has 3 RS485 ports, 1 RS232 port and one KNX port (active in KNX models). Two RS485 ports are optoisolated to offer excellent communication performance with the devices in the field and robustness, while the COM5 is not optoisolated, so it is recommended to connect the latter to devices that do not present particular problems of electrical disturbances or low probability of the presence of surges. It is also recommended to always use appropriate cables for RS485 connections and connect always ground the shield conductor on one side only (preferably on the field side).

RS485 - COM1 & COM3



i Connect the cables in accordance with the RS485 standard, paying attention to the impedance of the section and in the presence of the line termination resistor. It is recommended not to exceed 300mt in length of the RS485 network in a photovoltaic field, alternatively it is recommended to use RS485 repeaters. Respect polarities

RS232 - COM 4

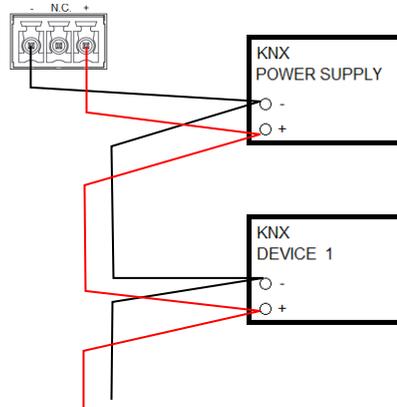


COM4 - PINOUT

Pin	RS232 Definition
2	RxD
3	TxD
5	GND

i Do not exceed 2-3 mt of length for the RS232 section and use shielded cables.

KNX port



i Observe the installation rules of KNX networks, do not exceed 350mt of length and use only KNX certified cable. Respect the polarities.



7.ETHERNET PORTS

esolar 3 b.e. has 2 ethernet ports:

port 1 = normal use port, which can be used to connect the device to the internet, connect to the device, connect esolar 3 b.e. to the devices in the field, the default address of this port is static and is 192.168.1.110, it is user-modifiable.

port 2 = service port, which can be used to connect to esolar 3 b.e. and to connect the datalogger to the devices in the field, the IP address of this port is fixed and cannot be changed: 192.168.1.100



8.ON/OFF BUTTON

- To switch on briefly press button (4), esolar 3 b.e. will be ready for operation after about 2 minutes.
- To switch off esolar 3 b.e. briefly press the button (4), after about 10...20 seconds the LED 5 and 6 will go off, you can then disconnect the power supply, the device will automatically switch on again when the power is restored.



9.USB PORTS

esolar 3 b.e. has 4 USB ports to which it is possible to connect an external memory to make a local backup of the scheduled data. Choosing the USB port to insert the flash memory into outside is indifferent. It is necessary to insert a flash memory formatted with FAT32 filesystem and of capacity of at least 8 GB.

10. FIRST ACCESS

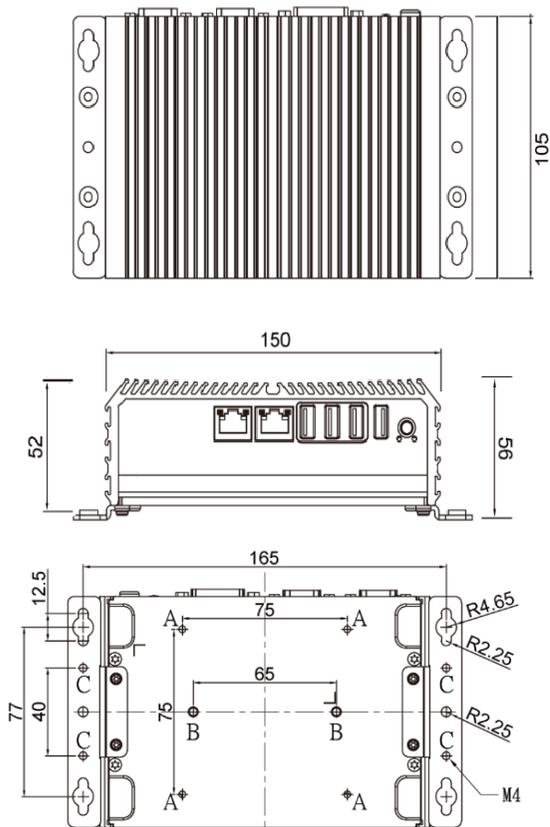
Make sure you have your PC's network card with IP address 192.168.1.xxx where xxx should be a different number from 100 and 110.
Connect the PC to one of the two network ports of esolar 3 b.e. and type the IP address 192.168.1.110 on your browser if esolar 3 b.e. is connected through port 1 otherwise 192.168.1.100 if connected through port 2.
The login page will be shown:



Enter the default login credentials: username = admin, password = admin.
At this point, we recommend that you consult the product manual to properly commission the datalogger.



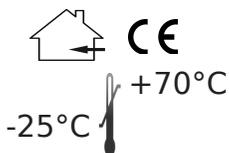
11. PHYSICAL DIMENSIONS



12. TECHNICAL DATA

Temperature range: Operating: -20°C ... +70°C
Warehouse -25°C ... +85°C
Degree of protection: IP 40 (EN60529)

Dimensions: WxHxD 105x150x56mm
Power supply: 9..48Vdc max 4A



13. ACTIVATION OF THE REACHABILITY SERVICE

esolar 3 b.e. has the SGHNET reachability service that allows you to access the interface WEB of the device remotely, without the need to make portforwarding rules on the router or firewall of the internet connection to which it is connected and also allows you to obtain a DNS address like this even in case of dynamic IPs.
To activate the service, scan the QRCode present on the machine and log in or register on MY SINAPSI portal that is opened. Once the procedure has been completed, you can log on to the device with an address like: <https://sn12345678.net.sghiot.com>



TROUBLESHOOTING

1) The device does not turn on:

- Verify the presence of a voltage between 9 and 48 Vdc connector ends (7)
- Verify that the power supply is capable of delivering a current of at least 4A

2) WEB interface is not reached from local

- Check that the IP address you entered is actually the machine's IP address (Ethernet Port 1), in the case of If you are in doubt, it is advisable to connect to the ethernet service port (192.168.1.100) and check the configuration
- Make sure your PC's network card is configured with a similar (and different) IP address to the datalogger
- Make sure that the network cable and all equipment in between are working properly
- Make sure esolar 3 b.e. is turned on

3) Connected devices do not communicate with esolar 3 b.e.

- In case of RS485 connection make sure that the polarities of the line are not inverted, that the cable length is less than 300mt and that the terminating resistors are inserted.
- Check the slave addresses of the devices to be monitored and the communication parameters (e.g. baud rate, parity bit, stop bit).
- Check that the IP addresses of the devices you want to monitor are compatible with the network settings of esolar 3 b.e.