Safety Instructions

⚠ WARNING

Follow carefully this safety and installation instructions. Improper work may lead to serious harmful for your health and also may damage seriously the IntesisBox and/or any other equipment connected to it.

- IntesisBox must be installed by accredited electrician or similar technical personnel, following all the safety instructions given here, and in accordance always with the country legislation for installation of electric equipment.
- IntesisBox can not be installed outdoors or exposed to direct solar radiation, water, high relative humidity or dust.
- IntesisBox must only be installed in a restricted access location
- In case of wall mount, fix firmly IntesisBox on a not vibrating surface following the instructions below.
- In case of DIN rail mount fix IntesisBox properly to the DIN rail following the instructions below.
- Mounting on DIN rail inside a metallic cabinet properly connected to earth is recommended.
- Disconnect always power of any wires before manipulating and connecting them to IntesisBox.
- A power supply with a NEC Class 2 or Limited Power Source (LPS) and SELV rated is to be used.
- Respect always the expected polarity of power and communication cables when connecting them to IntesisBox.
- Supply always a correct voltage to power IntesisBox, see details of voltage range admitted by the device in the technical characteristics below.
- This device was designed for installation in an enclosure. To avoid electrostatic discharge to the unit in environments with static levels above 4 kV precautions should be taken when the device is mounted outside an enclosure. When working in an enclosure (ex. making adjustments, setting switches etc.) typical anti-static precautions should be observed before touching the unit

Installation instructions

- Disconnect from mains the power supply before connecting it to IntesisBox.
- Disconnect power of any bus or communication cable before connecting it to IntesisBox.
- Mount IntesisBox on the wall or DIN rail following the instruction given below, respecting the safety instructions given above.
- Connect a NEC Class 2 or Limited Power Source (LPS) and SELV rated power supply to IntesisBox, respect the polarity if DC power or Line and Neutral if AC power. Apply always a voltage within the range admitted by IntesisBox and of enough power (see technical characteristics).
- Circuit-breaker must be used before the power supply. Rating 250V-6A
- Connect the communication cables to IntesisBox, see details on the user's manual.
- Power IntesisBox and the rest of devices connected to it.
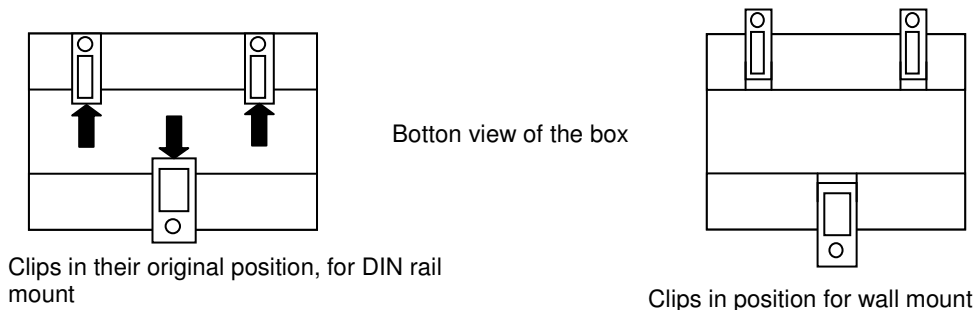
Configuration and setup

Use the software LinkBoxMB to configure IntesisBox, follow the instructions of the user's manual for more details.

See instructions to download and install the latest version of LinkBoxMB and the user's manual at

http://www.intesis.com/down/mb/linkboxmb.html

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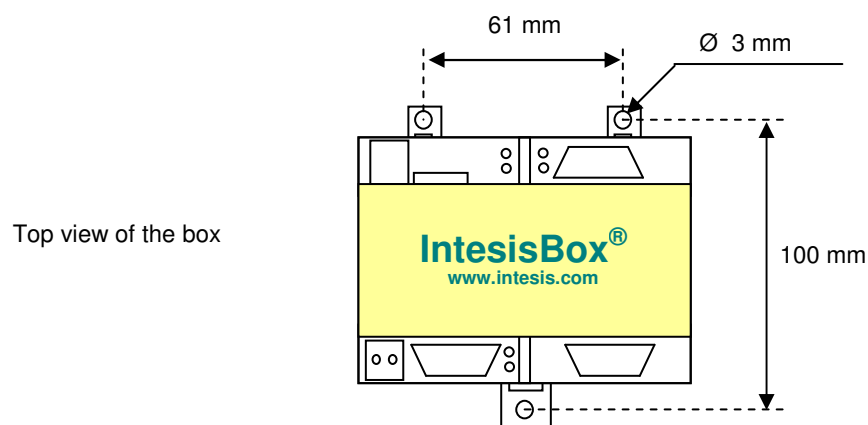
1 / 5

Wall mount

1. Separate the fixing clips in the bottom of the box, pushing them to the outside until hear the "click" which indicates that now the clips are in position for wall mount, see in the figure below.
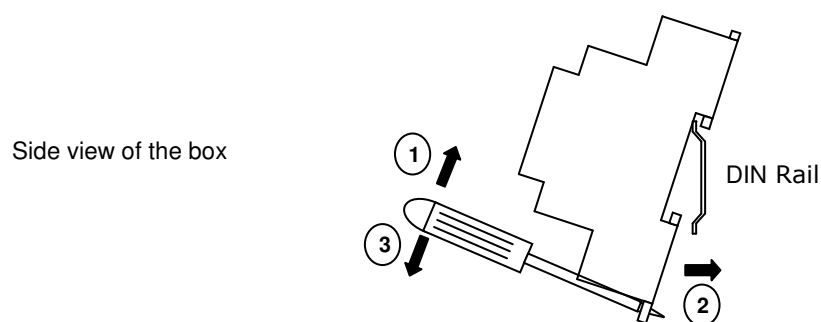
Botton view of the box

Clips in their original position, for DIN rail mount

Clips in position for wall mount

2. Use the holes of the clips to fix the box in the wall with screws. Use the template below for the wall holes.

61 mm

Ø 3 mm

Top view of the box
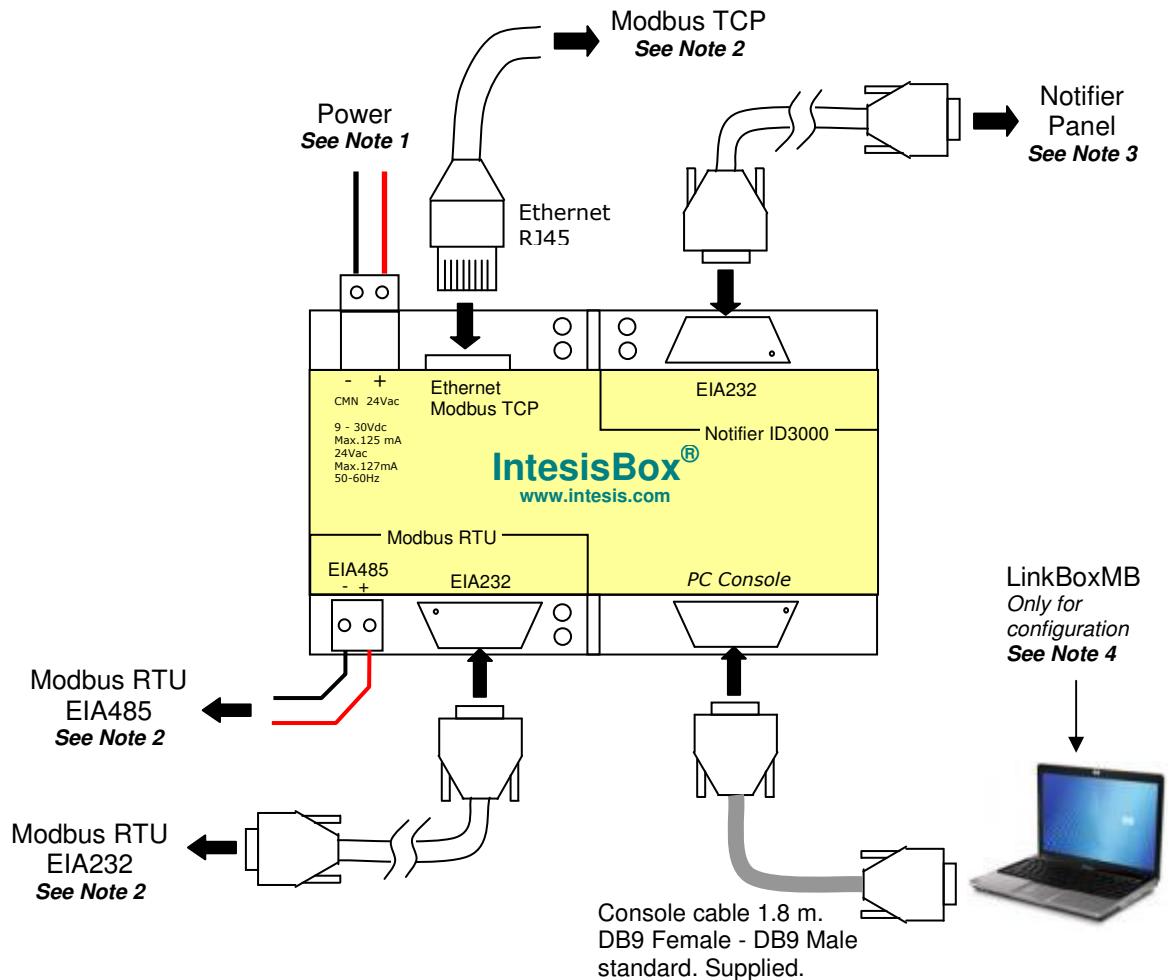
IntesisBox®
www.intesis.com

100 mm

DIN rail mount

With the clips of the box in their original position, insert first the box in the upper edge of the DIN rail and later insert the box in the down part of the rail using a small screwdriver and following the steps in the figure below.

Side view of the box

DIN Rail

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Intesis
software

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Doc. Rev.2

2 / 5

Connections

Notes:

1. Must use NEC Class 2 or Limited Power Source (LPS) and SELV rated power supply.
    If using DC power supply:
    - Respect polarity applied of terminals (+) and (-). Be sure the voltage applied is within the range admitted (9 to 30 Vdc). The power supply can be connected to earth but only through the negative terminal, never through the positive terminal.

    If using AC power supply:
    - Make sure the voltage applied is of the value admitted (24 Vac). Do not connect any of the terminals of the AC power supply to earth, and make sure the same power supply is not supplying any other device.

2. Modbus connection. Only one type of modbus connection can be used simultaneously, Modbus TCP, Modbus RTU EIA485, or Modbus RTU EIA232, the type of Modbus connection to use must be selected within the configuration software LinkBoxMB.

    - Modbus TCP connection: This connection with the Modbus TCP master device can be done directly using a ethernet CAT5 crossover cable, or through the LAN of the building, in this case use a ethernet CAT5 straigh cable to connect to a switch or hub of the LAN, check with the network administrator that the TCP traffic and the port used (502 by default) are allowed through all the LAN path used.
    - Modbus RTU EIA485 connection: Connect the EIA485 bus to the connector Modbus RTU EIA485 of IntesisBox. Respect the polarity. Remember the characteristics of the standard EIA485 bus: maximum distance of 1200 meters, maximum 32 devices connected to the bus, and in each end of the bus it must be a termination resistor of 120 ohms. IntesisBox has an internal bus biasing circuit that incorporates the termination resistor, if you install IntesisBox in one of the ends of the bus then do not install an additional termination resistor in that end.
    - Modbus RTU EIA232 connection: Connect the serial cable EIA232 coming from the Modbus RTU master to the connector Modbus RTU EIA232 of IntesisBox, this is a DB9 male (DTE) connector in which only the lines TX, RX and GND are used, see details of the pinout in the user's manual. Respect the maximum distance of 15 meters in this serial line EIA232.

3. Connection with the Notifier panel: Connect the serial cable EIA232 coming from the Notifier panel to the connector Notifier ID3000 EIA232 of IntesisBox, this is a DB9 male (DTE) connector in which only the lines TX, RX and GND are used. In the Notifier panel, it can be connected either to the EIA232 connector of the main board or to the additional ISO-EIA232 board, see details of this connection in the user's manual. Respect the maximum distance of 15 meters in this serial line EIA232.

4. Use the software LinkBoxMB to configure IntesisBox. See the user's manual for details.
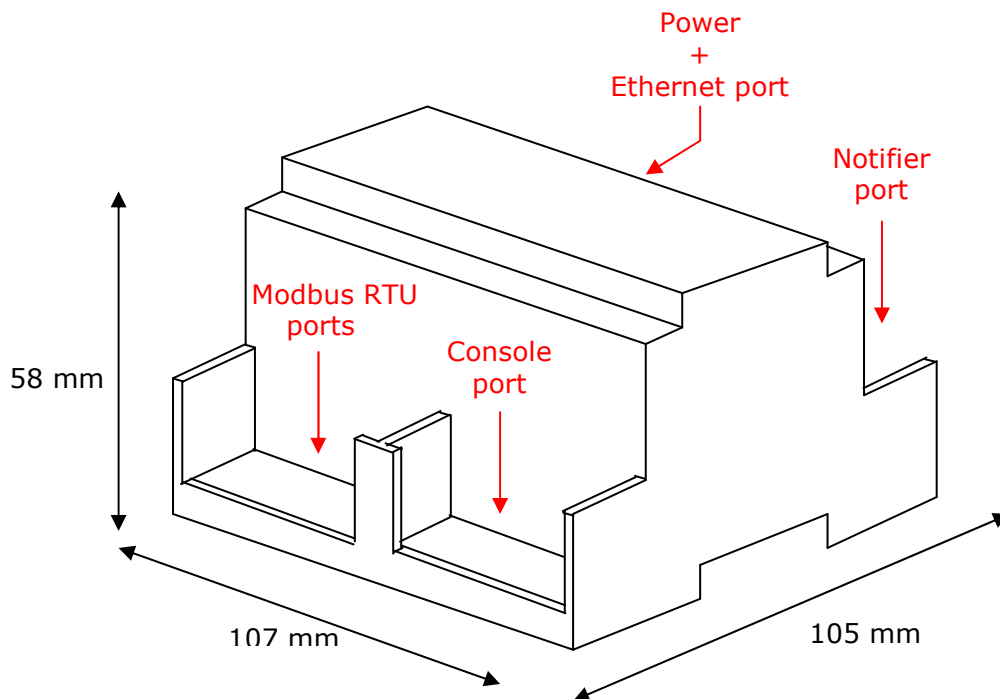
Technical characteristics

Enclosure	Plastic, type PC (UL 94 V-0). Dimensions: 107mm x 105mm x 58mm.
Colour	Light Grey. RAL 7035.
Power	9 to 30Vdc +/-10%, Max.: 125mA. 24Vac +/-10% 50-60Hz, Max.: 127mA Must use a NEC Class 2 or Limited Power Source (LPS) and SELV rated power supply. Plug-in terminal block for power connection (2 poles).
Terminal wiring (for power supply and low-voltage signals)	Per terminal: solid wires or stranded wires (twisted or with ferrule) 1 core: $0.5mm^2$… $2.5mm^2$ 2 cores: $0.5mm^2$… $1.5mm^2$ 3 cores: not permitted
Mounting	Wall. DIN rail EN60715 TH35.
Modbus TCP port	1 x Ethernet 10Base-T RJ45.
Modbus RTU ports	1 x EIA232. DB9 male connector (DTE). SELV 1 x EIA485. Plug-in terminal bloc (2 poles). SELV
Notifier port	1 x EIA232. DB9 male connector (DTE). SELV
LED indicators	1 x Power. 2 x Notifier port activity (Tx, Rx). 2 x Modbus RTU port activity (Tx, Rx). 2 x Ethernet port link and activity (LNK, ACT).
Console port	EIA232. DB9 female connector (DCE). SELV
Configuration	Via console port.[1]
Firmware	Allows upgrades via console port.
Operational temperature	0°C to +70°C
Operational humidity	5% to 95%, non condensing
Protection	IP20 (IEC60529).
RoHS compliance	Compliant with RoHS directive (2002/95/CE).
Norms and standards	CE conformity to EMC directive (2004/108/EC) and Low-voltage directive (2006/95/EC) EN 61000-6-2 EN 61000-6-3 EN 60950-1 EN 50491-3

[1] Standard cable DB9male-DB9female 1,8 meters long is supplied with the device for connection to a PC COM port for configuring and monitoring the device. The configuration software, compatible with Windows® operating systems, is also supplied.

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Intesis software

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4 / 5

Dimensions

External dimensions.

Power
+
Ethernet port

Notifier
port

Modbus RTU
ports

Console
port

58 mm

107 mm

105 mm

Free space recommended to install the device, with spacing enough for external connections.

100 mm

115 mm

130 mm