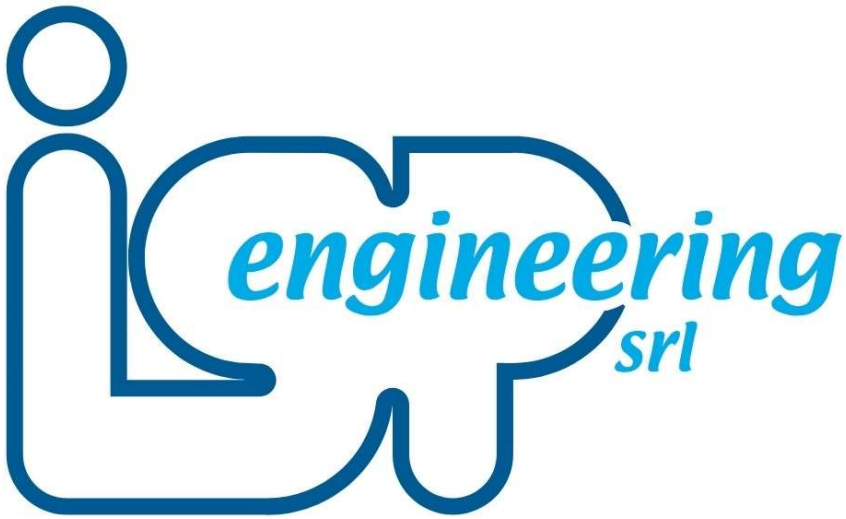

IGP-Core Quick Reference

v. 3.0

Contents

1 Introduction

This brief document provides an easy-to-read quick reference in order to install the IGP-Core device.

Figure 1: IGP-Core device

Take into consideration

Front label color may change (Grey label with blue text or blue label with light-gray text). In this document both labels are used.
Also, the LTE antenna may change based on market availability.

2 IGP-Core device description

2.1 Front panel

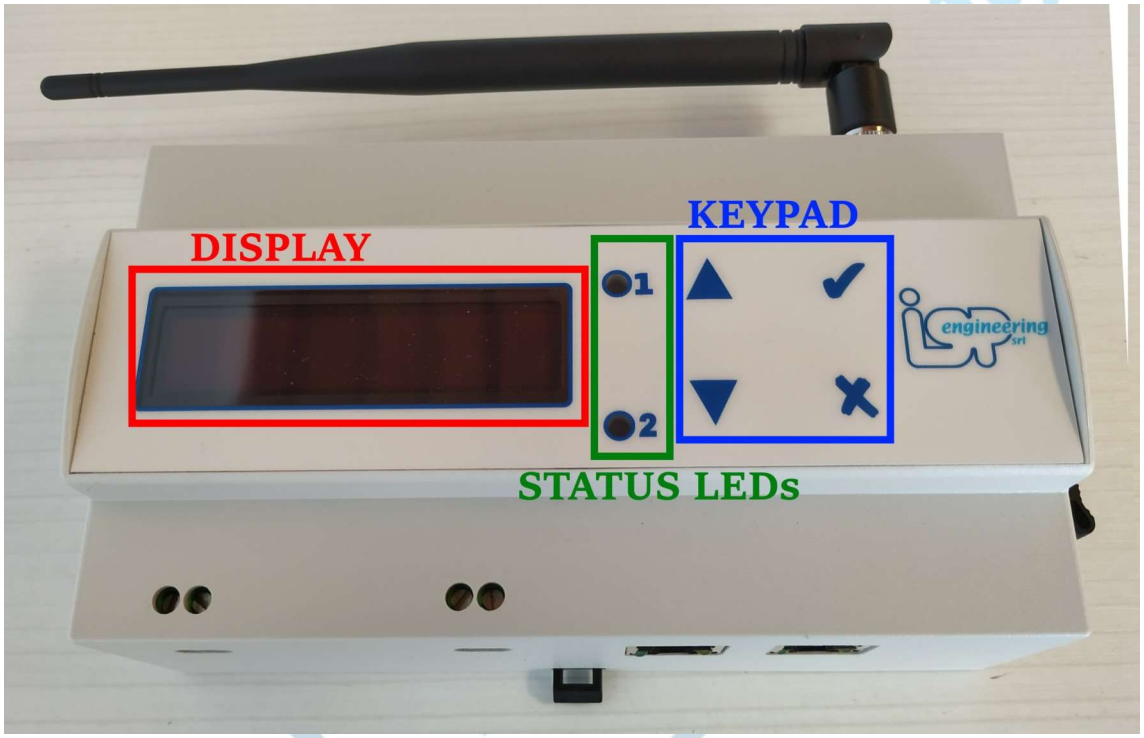

Figure 2: IGP-Core: Front panel

DISPLAY OLED display for menu navigation;

STATUS LEDs Used for Alarms (red);

1 IGP-CORE main status;

2 IGP-CORE HW/SW Module's status;

KEYPAD Keypad for menu navigation (See Menu Navigation)

2.2 Rear panel

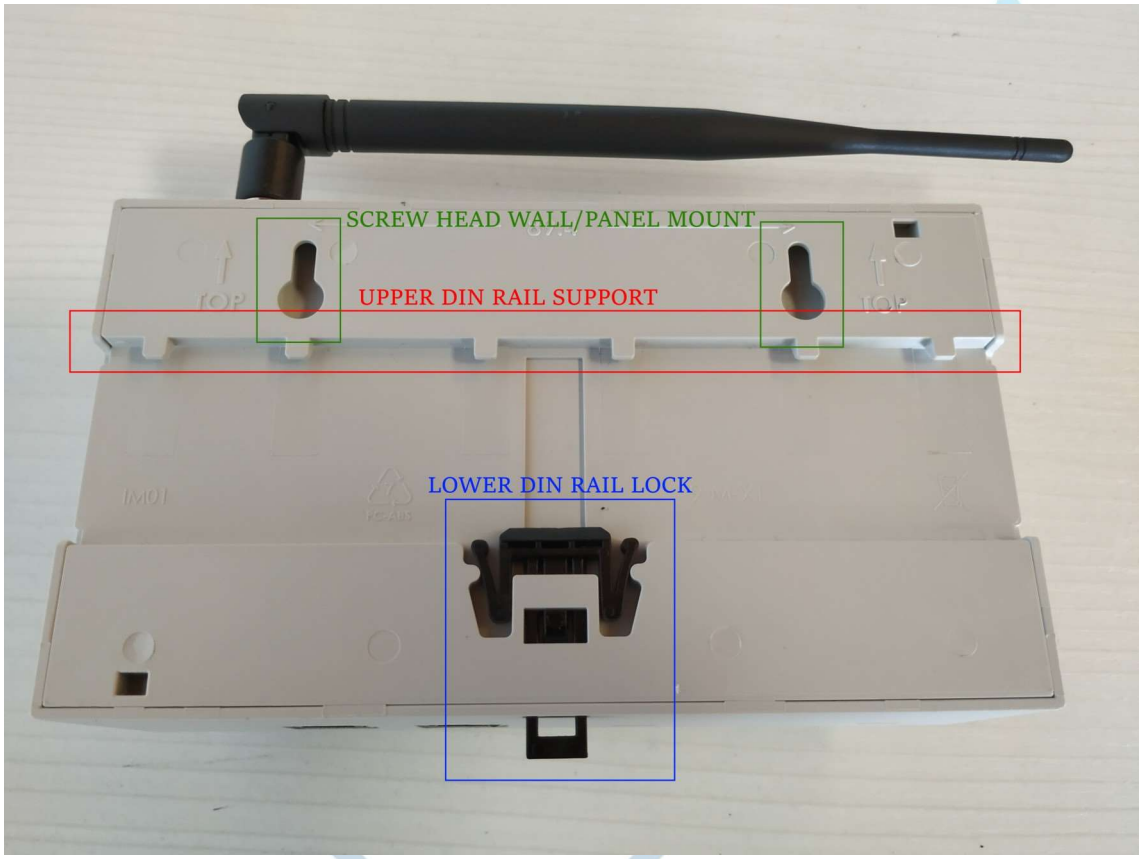

Figure 3: IGP-Core: Rear panel

PANEL MOUNT Wall mount holes;

UPPER DIN SUPPORT IGP-Core could be placed on a DIN rail;

LOWER DIN LOCK DIN lock, could be used to lock/unlock IGP-Core from a DIN rail. (See DIN Installation & Removal)

2.3 Power & LAN side

Figure 4: IGP-Core: Power connectors side

POWER PORT It's the IGP-Core's power supply port. Connect a 12 – 24 V DC power supply to this port. See Power Connection;

UPS Port. Optional power sensing port. This is not a power supply port! See UPS Connection.

IGP-Core Power Ports Voltages [V]			
Port	**Minimum**	**Maximum**	**A.M.R.** [1]
POWER PORT	12 DC	24 DC	28 DC
UPS PORT	0	24 DC	28 DC

[1] **Absolute Maximum Rating**: Going above this level may damage the device.

WARNING DO NOT CONNECT ANY POWER SOURCE ABOVE THE 28 V DC TO THE MAINPOWER PORT OR TO THE UPS PORT.

LAN PORTS Standard Ethernet RJ45 ports for data connection.
Lan1: Internet port
Lan2: PLC/PC port

2.4 Antenna side

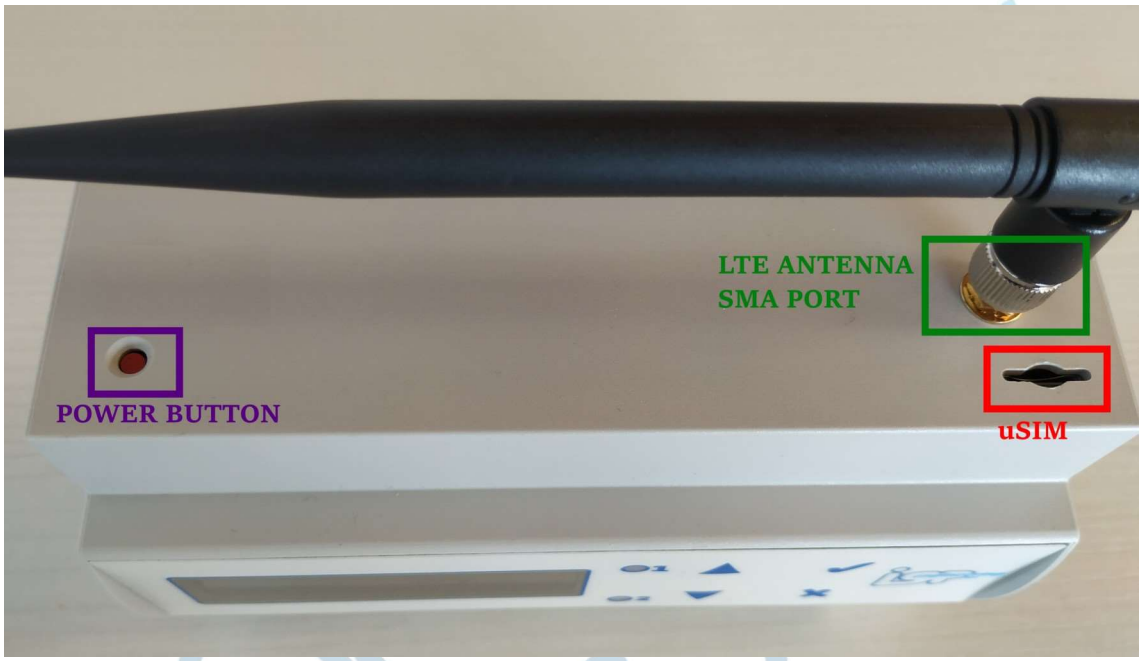

Figure 5: IGP-Core: Power connectors side

POWER BUTTON Power On/off button;

uSIM uSIM card slot, it is a push-push slot with a spring/lock system, for more details see SIM card;

ANTENNA PORT SMA Antenna port for GSM/LTE(2G/3G/4G) communication.

3 DIN Installation & Removal

Follow these procedures in order to install the IGP-Core on a DIN Rail.

3.1 Installation

1. Place the IGP-Core on the upper edge of the DIN rail;
2. Push the lower part to the DIN rail until you heard the lock click;

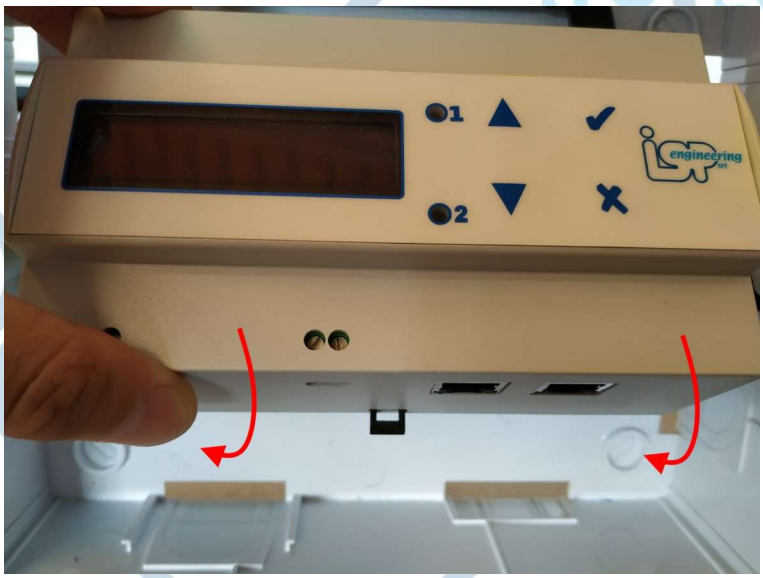

Figure 6: IGP-Core: Placing on a DIN rail

Figure 7: IGP-Core placed on a DIN rail

3.2 Removal

1. Pull down the DIN lock
2. Rotate the IGP-Core device;
3. Remove the IGP-Core from the DIN rail pulling the device up.

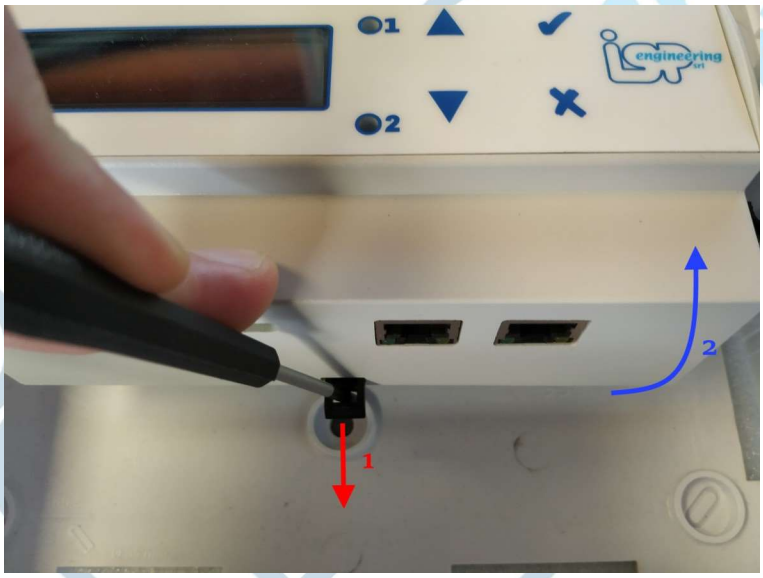

Figure 8: Unlocking IGP-Core from a DIN rail

4 Power Connection

This section will show how to connect the power ports of the IGP-Core device, and optionally the UPS power sensing port.

4.1 Without UPS

Without an uninterruptible power supply, only one power port is used: the main power port. The external contact (red cable in the picture) has to be connected with the positive power supply, while the other (black cable in the picture) has to be connected with the GND level voltage (0V). The positive supply has to be within the 12-24 V DC range. A 1.5A fuse on the positive voltage wire is highly suggested.

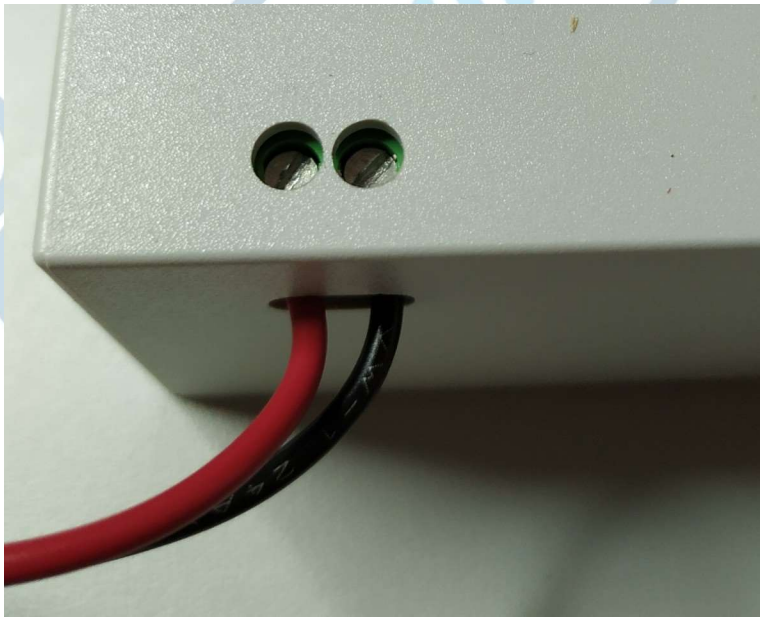

Figure 9: Power Port connection, the **red** cable is the positive voltage supply, while the **black** one is the ground

WARNING THE IGP-CORE MAIN POWER PORT HAS A REVERSE POLARITY PROTECTION CIRCUIT. REVERSING CABLES WILL NOT DAMAGE THE DEVICE BUT THE DEVICE WON'T START.

4.2 With UPS

This is the suggested configuration, because when the plant power system fails (fully or partially) the IGP-Core can remain in function and send alarms through the GSM network.

WARNING IN ANY CASE THE IGP-CORE UPS PORT INPUT VOLTAGE HAVE TO BE LOWER THAN 28V

NOTE UPS PORT HAS A REVERSE POLARITY CORRECTION, CABLE INVERSION ON THIS PORT IS TOLERATED.

4.2.1 DC/DC dedicated UPS

In this case a DC/DC UPS is providing energy to the IGP-Core.

A couple of wires that sense the Input ports of the UPS must connect in parallel also the IGP-Core' s UPS port.

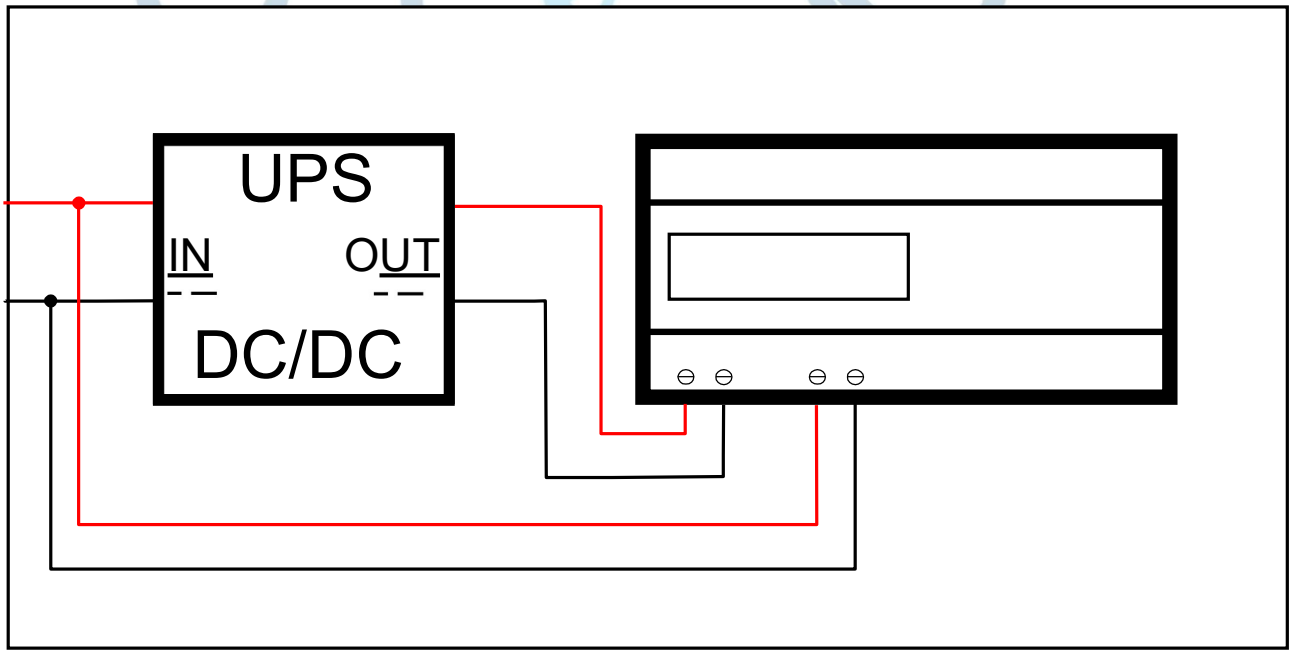

Figure 10: DC/DC UPS providing energy to IGP-Core

4.2.2 AC/DC cabinet UPS

In this case the UPS input peak voltage is usually greater than 28 V DC (110 – 230 V AC), and an additional relay is required.

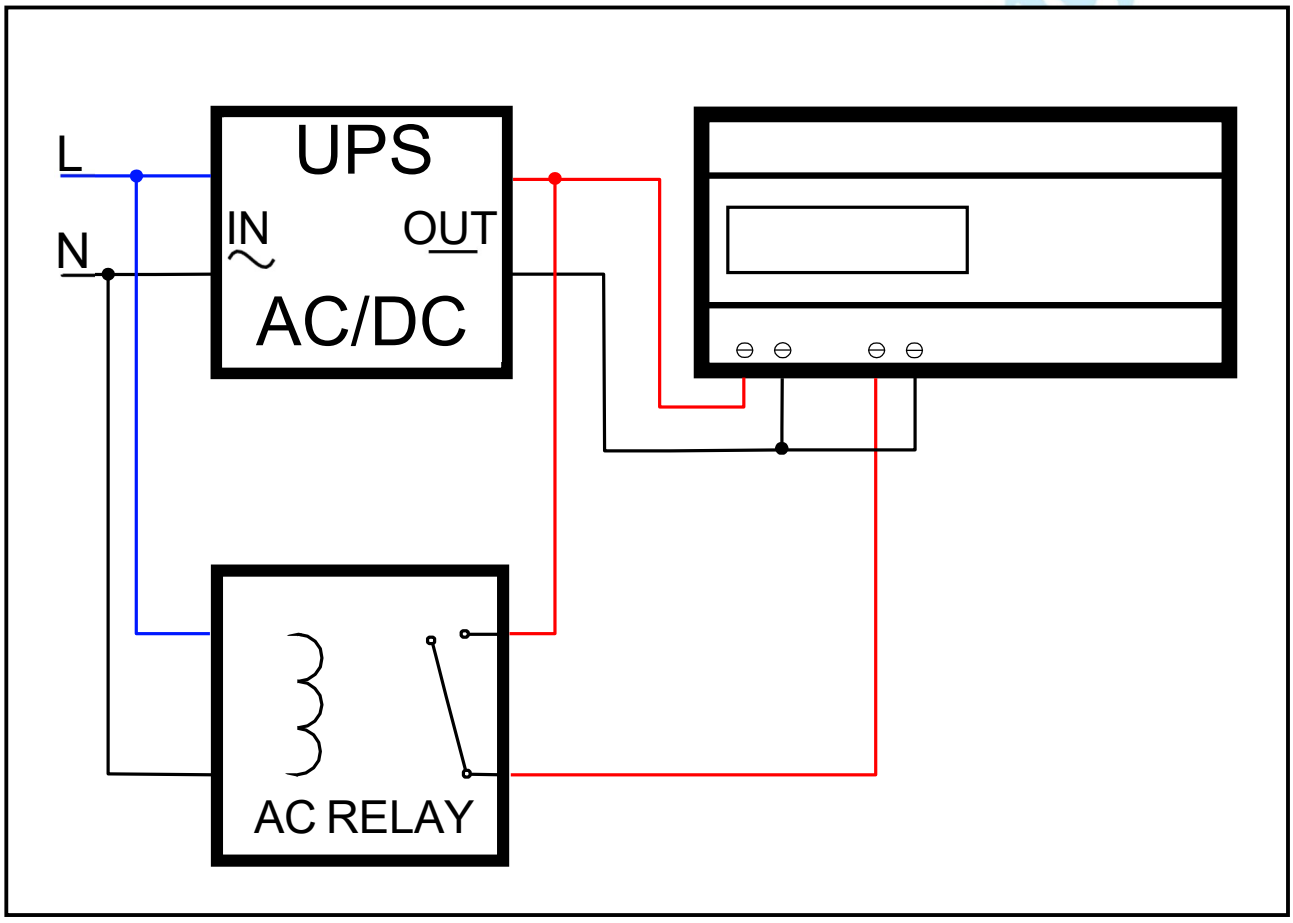

Figure 11: AC/DC UPS powering the IGP-Core and driving an AC relay.

WARNING : BE SURE THAT THE RELAY IS A NORMALLY OPEN (N.O.) RELAY, SO WHEN THE MAIN (AC) POWER FAILS, THE RELAY'S CIRCUIT WILL OPEN AND THE IGP-CORE SENSE A 0V ON ITS UPS PORT.

4.3 Shutdown

The IGP-Core device automatically turns on the power on transient, however it could be necessary to shut it down and turn it on manually sometimes; this is the reason why it has a power button.

A pressure longer than 3 seconds will force the HW shutdown, while a shorter pressure (like half second) will start the SW shutdown which is the preferred way to shut down the device; The table below will describe the use of the power button.

Power Button		
IGP-Core Status	**Pressure time**	**Effect**
ON	0.5<t<3 s	SW shutdown. After 5~10 seconds LED1 will turn yellow, the power off sequence is started
ON	3s or more	HW shutdown, the device will be forced to turn off
OFF	>0s	The device will be turned on

Figure 12: Shutdown light

5 SIM card

IGP-Core uses the microSIM (uSIM) card format.

Figure 13: A uSIM Placed into a uSIM adapter

5.1 uSIM card insertion

In order to insert the uSIM card, the user must complete these simple actions.

1. Take the uSIM card with the metallic contacts facing the screen side;
2. Insert the uSIM card into the uSIM card slot;

WARNING :BE CAREFUL NOT TO INSERT THE Usim CARD OUTSIDE THE SLOT!

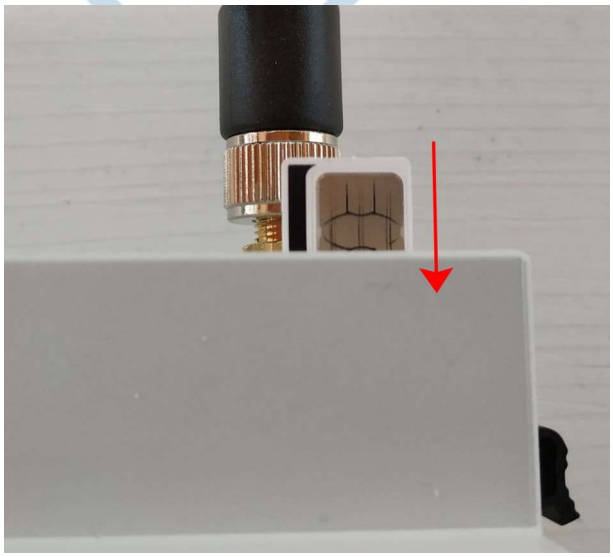

Figure 14: uSIM half inserted into its slot, ready to being pushed inside

3. Push the uSIM card until you hear a CLICK; it means the uSIM is locked into its slot.

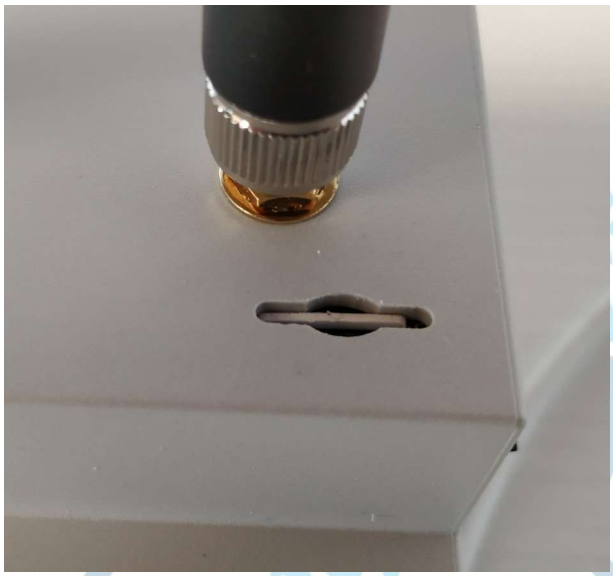

Figure 15: A uSIM correctly inserted

5.2 uSIM card removal

In order to remove the uSIM card

1. Push the uSIM until you hear a CLICK;

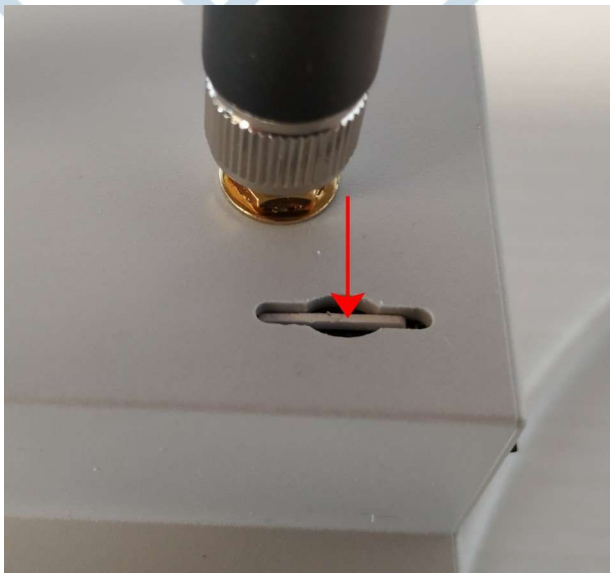

Figure 16: Push the uSIM down in order to unlock

2. Release the SIM card. The slot spring will push the uSIM card out;
3. Remove the uSIM card completely.

6 ASIA Module connection

An IGP-ASIA module can be added to the IGP-Core device on its expansion port. Before adding a module be sure that the IGP-Core is turned off. See page 11 for the use of the shutdown button.

WARNING THE IGP-CORE EXPANSION PORT IS KEYED, DO NOT FORCE THE CONNECTOR IN.

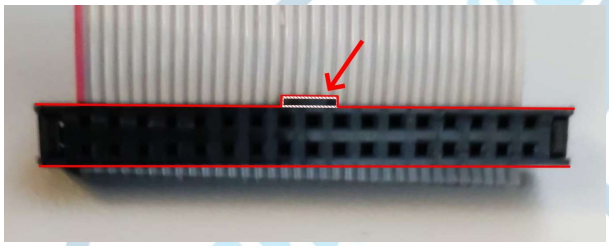

Figure 17: The expansion cable; keep the key oriented on IGP-Core's rear panel direction

Expansion port connection

1. Open the connector by pushing the plastic flaps aside;

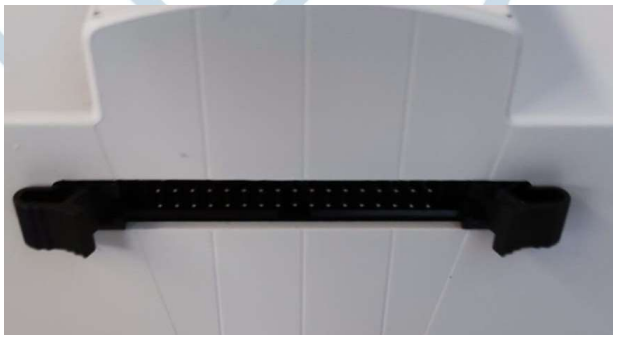

Figure 18: Expansion connector opened

2. Insert the cable correctly oriented;

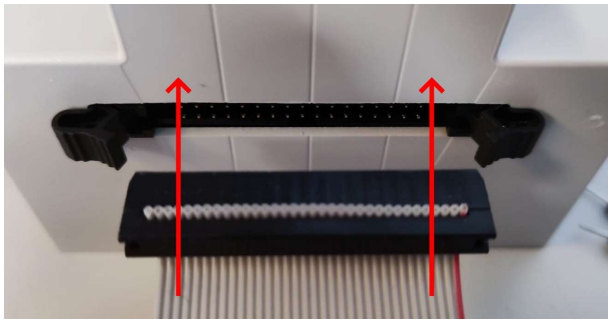

Figure 19: Cable oriented correctly can be now pushed inside the connector

3. Push until the connector will be automatically locked.

Figure 20: Expansion cable correctly inserted

7 LAN connection

The LAN1 and LAN2 ports are standard ethernet RJ45 ports. An ethernet cable RJ45 CAT5e or above can be used to connect the IGP-Core when the application requires it.

Figure 21: Ethernet cable

8 Menu Navigation

In order to check the system status, identify a problem and solve it, the user has to move into multiple screen pages, using the display and the keypad. See Troubleshooting Handbook.

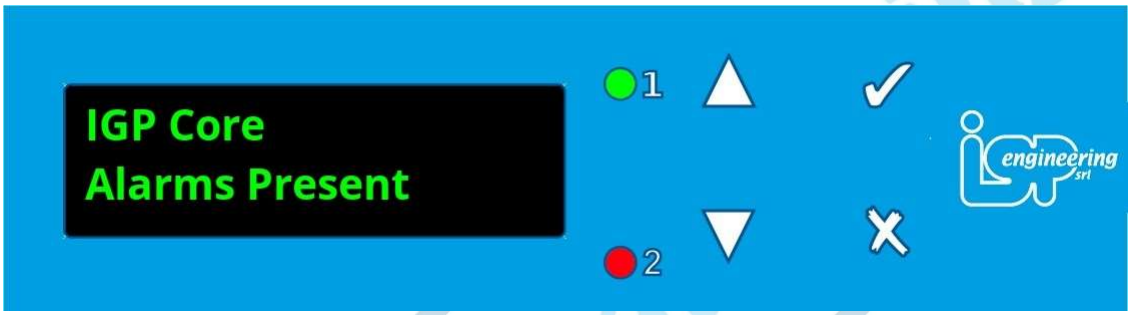

Figure 23: Pressing any button turns on the LCD, and the user will see IGP-Core HOME

- You can explore different menu items on the same level using these ⬍ buttons.
- You can enter a menu sublevel (going deep) by pressing the ✔ button;
- You can exit from a sublevel (going back) by pressing a ✖ button;

In the menu tree a symbol ✔ identify those levels where you can send a command to the system using the ✔ button.

Please note that the ✔ button will be used to send a command (e.a. *reset alarms*) only when you are on the deepest level of a tree, and only if the option is available for that menu item.