

Installation example

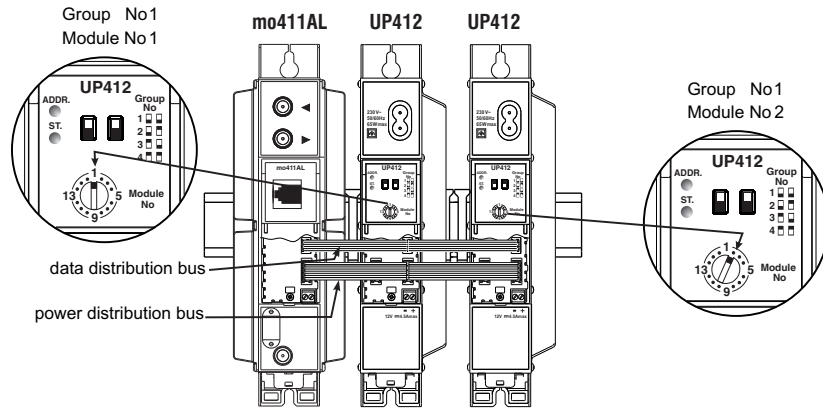










Figure 6. System with 2 PS units UP412 in parallel connection

-  **Caution.**
-  This product complies with the relevant clauses of the European Directive 2002/96/EC. The unit must be recycled or discarded according to applicable local and national regulations.
-  Equipment intended for indoor usage only.
-  Equipment is double insulated from the mains, with functional earthing.
-  Functional earthing clamp. Crimp Cu wire cross section (1.5-2.5) mm² and connect to main potential equalization.
-  TERRA confirms, that this product is in accordance with following norms of EU: EMC norm EN50083-2, safety norm EN60065 and RoHS norm EN50581.
-  TERRA confirms, that this product is in accordance with Custom Union Technical Regulations: "Electromagnetic compatibility of technical equipment" CU TR 020/2011, "On safety of low-voltage equipment" CU TR 004/2011.
-  TERRA confirms, that this product is in accordance with safety standard AS/NZS 60065 and EMC standards of Australia.

Power supplies UP412, UP413

Product description

Switch mode power supply units (PSU) UP412 and UP413 are intended to supply devices, required increased reliability of supply voltage for back-up function implementation. Enable work of 2 or more PSU UP412 and UP413 in parallel connection in any combinations.

UP413 does not have possibility of monitoring.

UP412 is TERRA BUS+ protocol supported device. It is possible to get information about output voltage, temperature and output current via TERRA BUS+ protocol.

The units are intended for indoor use only.

Safety instructions

The PSU is powered from the mains 230 V~. This voltage is dangerous to life.

Any repairs must be done by a qualified personnel.

PSU is double isolated from the mains 230 V~.

Do not remove the cover without disconnecting PSU from the mains.

Do not plug the PSU into the mains supply if the power cord or plug is damaged.

To disconnect the PSU from the mains completely, disconnect plug from the mains socket.

The mains socket must be easily accessible.

PSU shall not be exposed to dripping or splashing water and no objects filled with liquids, such as vases, shall be placed on it.

Avoid placing PSU next to central heating components and in areas of high humidity.

No naked flame sources, such as lighted candles, should be placed on PSU.

If the PSU has been kept in cold conditions for a long time, keep it in a warm room no less than 2 hours before plugging into the mains.

The ventilation should not be impeded by covering the ventilation openings with items, such as newspapers, table-cloths, curtains.

Mount the PSU in vertical position.

From top, front and bottom of installed PSU must be at least 10 cm free space.

External view

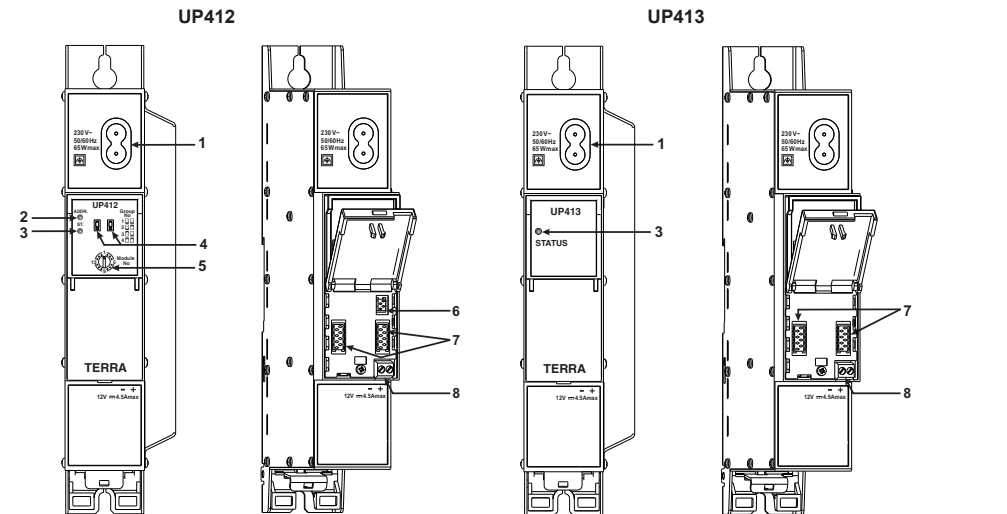
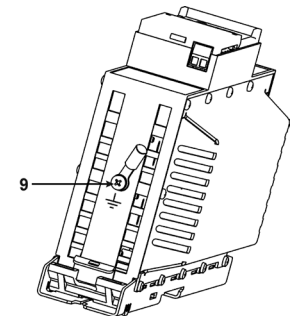


Figure 1. External view of PSU UP412 and UP413

- 1 - mains connector
- 2 - **ADDR.** - indicator of addressing (glows when PSU is addressed)
- 3 - **ST.** - indicator of the module's status (at normal conditions glows green, at overload or overtemperature glows red)
- 4 - group number setting
- 5 - module number in group setting
- 6 - data bus connector
- 7 - power distribution bus connectors
- 8 - 12 V output (screw terminal)
- 9 - functional grounding clamp



Installation

When outputs of UP412 and/or UP413 are working in parallel it is recommended to connect PS units to different lines of the mains or one to the line directly, another via uninterruptable power source (UPS). Disconnected from the mains one PSU does not disturb parallel working PSU.

Warning!

- Maximal output current of parallel connected PS units can not exceed output current of one PSU.
- Connecting or disconnecting powering of modules must be done when PSU is disconnected from the mains.
- Each device in system connected to the same control bus must have different address.
- Connect in parallel PS units, intended to work in parallel only: UP412+UP412, UP412+UP413, UP413+UP413 (see figure 6).
- Connection of other model of PSU in parallel with UP412 and/or UP413 is not allowed.

Setting of address

PSU UP412 has possibility to set 64 different addresses – 4 groups, 16 units in each group. To change number of module number of group not need to disconnect device from the mains.

Example. Need to set module No2 in group No1. To set group No1, group switches turn up. To set module No2, turn rotary switch to position 2. Now software via TERRA BUS+ protocol will appear UP412 at address 2.

MOUNTING

The module or mounting bracket must be fixed with steel screws \varnothing 3.5-4 mm. The screws are not included in a package.

Mounting on a wall by screws

Mounting on a bracket (supplied)

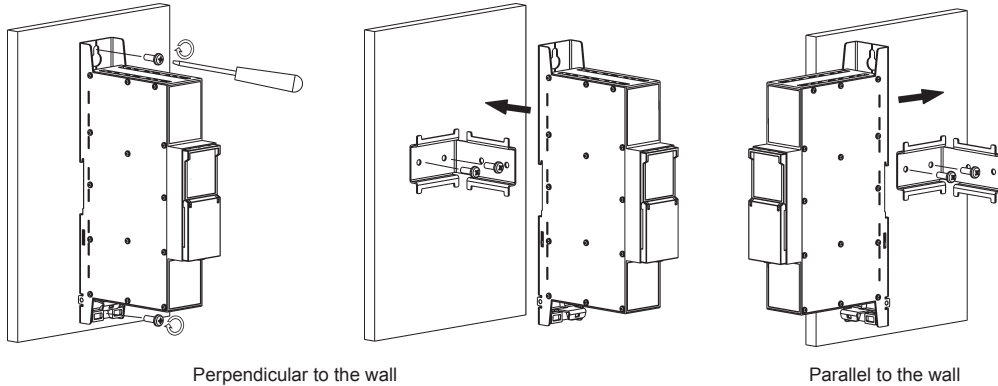


Figure 2. Mounting of PSU

Technical characteristics

Supply voltage limit values	187-250 V~ 50/60 Hz
Output voltage	12 V \pm 0.5 V
Power consumption	65 W max.
Output current	---0-4.5 A short circuit and overload protected
Ripple, 100 Hz	< 10 mVpp
Noise	< 50 mVpp
Temperature range	0...50°C
Dimensions/Weight (packed)	198x107.5x36 mm/0.97 kg

Mounting on DIN rail

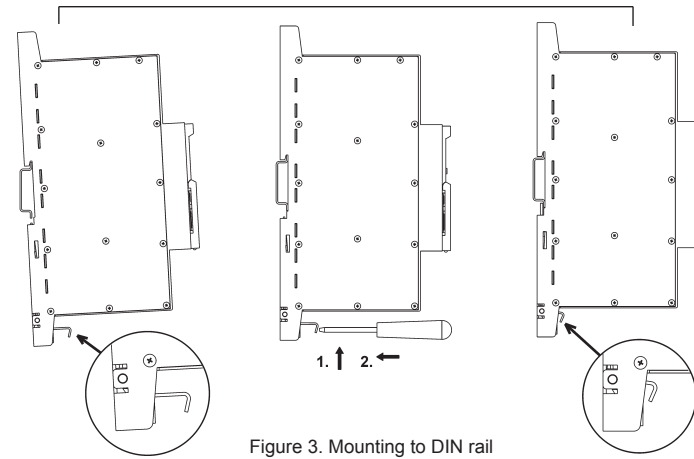


Figure 3. Mounting to DIN rail

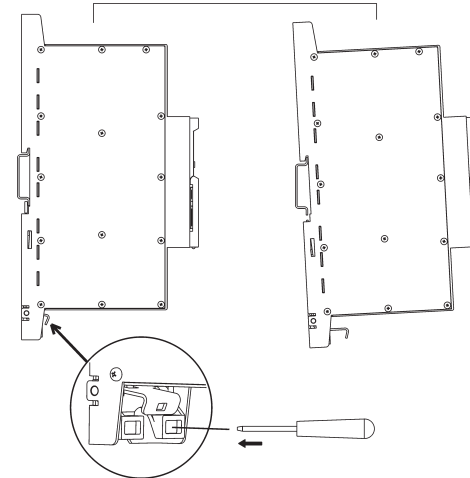


Figure 4. Mounting from DIN rail

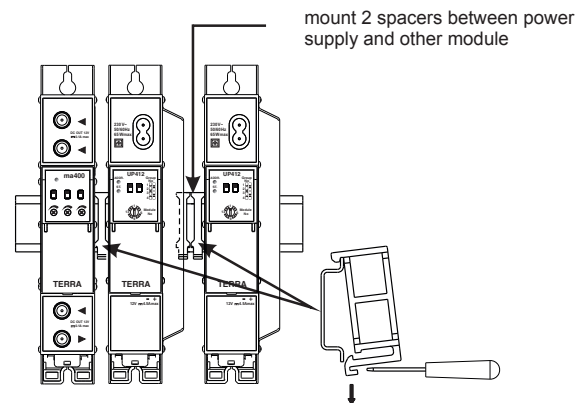


Figure 5. Mounting or removing to/from DIN rail of plastic spacers (supplied).