

Unicont SPb Ltd

**Power supply unit
PS-103**

Technical Documentation

(103-3-30032011)

St. Petersburg
2015

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1. General information

Power supply unit PS-103-7A (hereinafter referred to as PSU) is intended for supply various ship and industrial equipment, as well as devices requiring continuous power supply with the unstabilized voltage 24 V DC.

2. Delivery Set

1. Power supply unit PS-103-7A	1 pc.
2. Operating Manual	1 pc.
3. SPTA fuse 10A	2 pcs.

3. Performance specification

Electrical Specifications:

Supply Voltage:	~110/220 V, 50/60 Hz
Output Voltage:	24V DC
Nominal Load Current:	8 A
Nominal Power:	192 W

General Specifications:

Overall Dimensions:	280 x 168 x 100 mm
Operating Temperature:	-20.. +55 C°
Storage Temperature:	-60.. +70 C°
Weight:	5 kg
Protection Class:	IP 22

Number of terminals for switched loads: 3

Built-in alarm in the form of relay contacts with connectable external alarm module.

Galvanic isolation of the output power supply from the supply mains.

Built-in automatic load switching to backup power supply.

4. General functions and technical specification

PSU has metal case with fastening to be installed on the vertical bulkhead. On the case side there is a switch with supply voltage indication when switched on.

PSU is powered from AC mains ~110/220V, 50Hz and produces DC voltage 24V. In the device design the provision is made for three output terminals for load connection.

Electric circuit for PSU includes stepdown transformer, electronic rectifier, and circuits of automatic switching to emergency power supply.

Power supply is provided for terminal group “BATT 24 VDC” from the backup power supplies (accumulator batteries) to ensure fault-free operation of equipment connected to PSU.

Important! Accumulator charging from this PSU is impossible, it is impossible to use separate charging device.

PSU is switched to backup power supply automatically in case of failure or main power off. In case of principal input voltage failure alarm is activated in the form of “dry” relay contacts breaking. If external alarm device is connected with PSU terminals “Alarm”, which operating principle is based on “dry” relay contacts closing-breaking, then PSU operation from the backup power supply will be accompanied by alarm of external alarm devices.

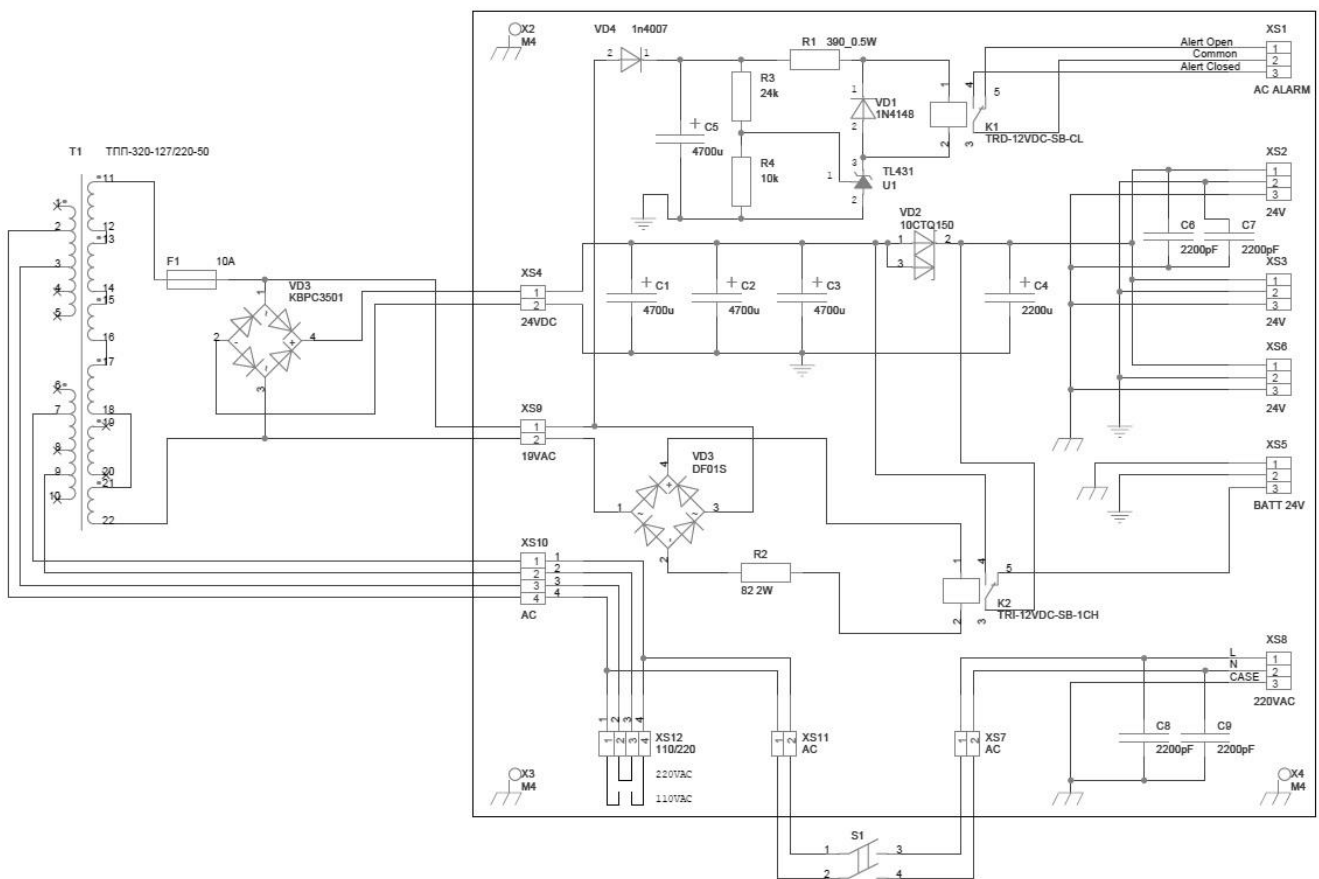


Figure 1. Eclectic Circuit Diagram of PSU PS-103.

5. Device Installation and Connection

The following installation procedure is recommended:

1. Select device installation location in order to provide easy access, cable laying and cable end termination. Location convenient for installation is vertical bulkhead inside the ship.
2. PSU case shall be firmly fastened at the vertical wall, and its fastening reliability shall be checked by hand. Mounting dimensions are specified on the outline drawing (refer to Figure 3).
3. Remove front panel of the device;
4. Lead and pass connection wires from the power supplies and attached devices through cable entries located in the bottom part of the device case (internal diameter of glands from 6 to 30 mm).
5. Connect led cables with appropriate terminals on the board (refer to Figure 4).
6. **Check correspondence of on-board power supply with requirements of this Operating Manual (110 or 220V AC). From the plant PSU are delivered adjusted for the mains supply voltage 220V 50/60 Hz. If PSU is powered from the mains 110V 50/60 Hz, then another method of transformer connection with PSU terminal “T1 (110)” shall be chosen (refer to Figure 2).**
7. Power on the device by the switch located from the left side and make sure in the PSU connection correctness: by the indicator activation, serviceability of connected equipment, absence of alarm (and/or position of relay contacts on terminal “Alarm”).

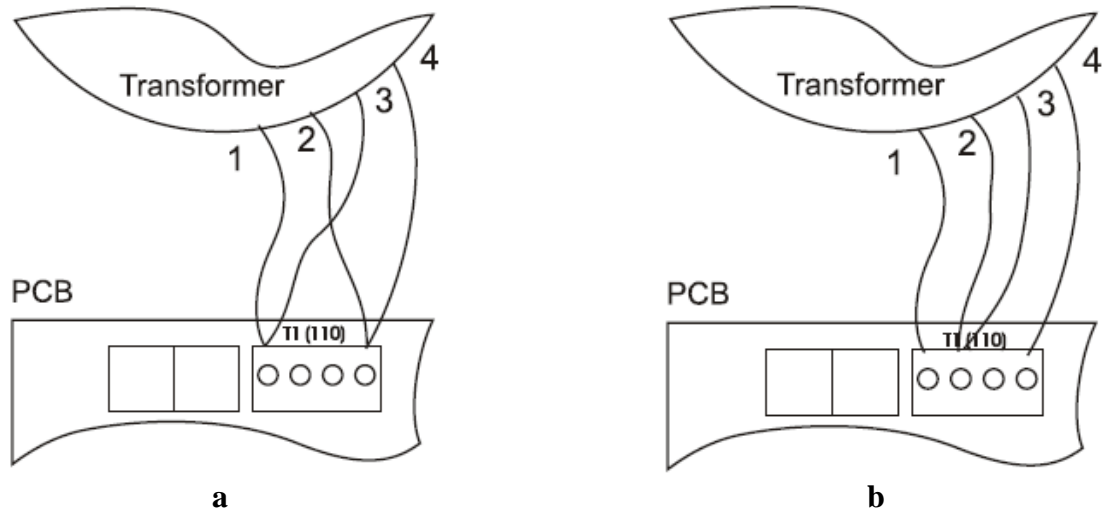


Figure 2. Adjustment of Power Supply Voltage 110V (Figure a), 220V (Figure b).

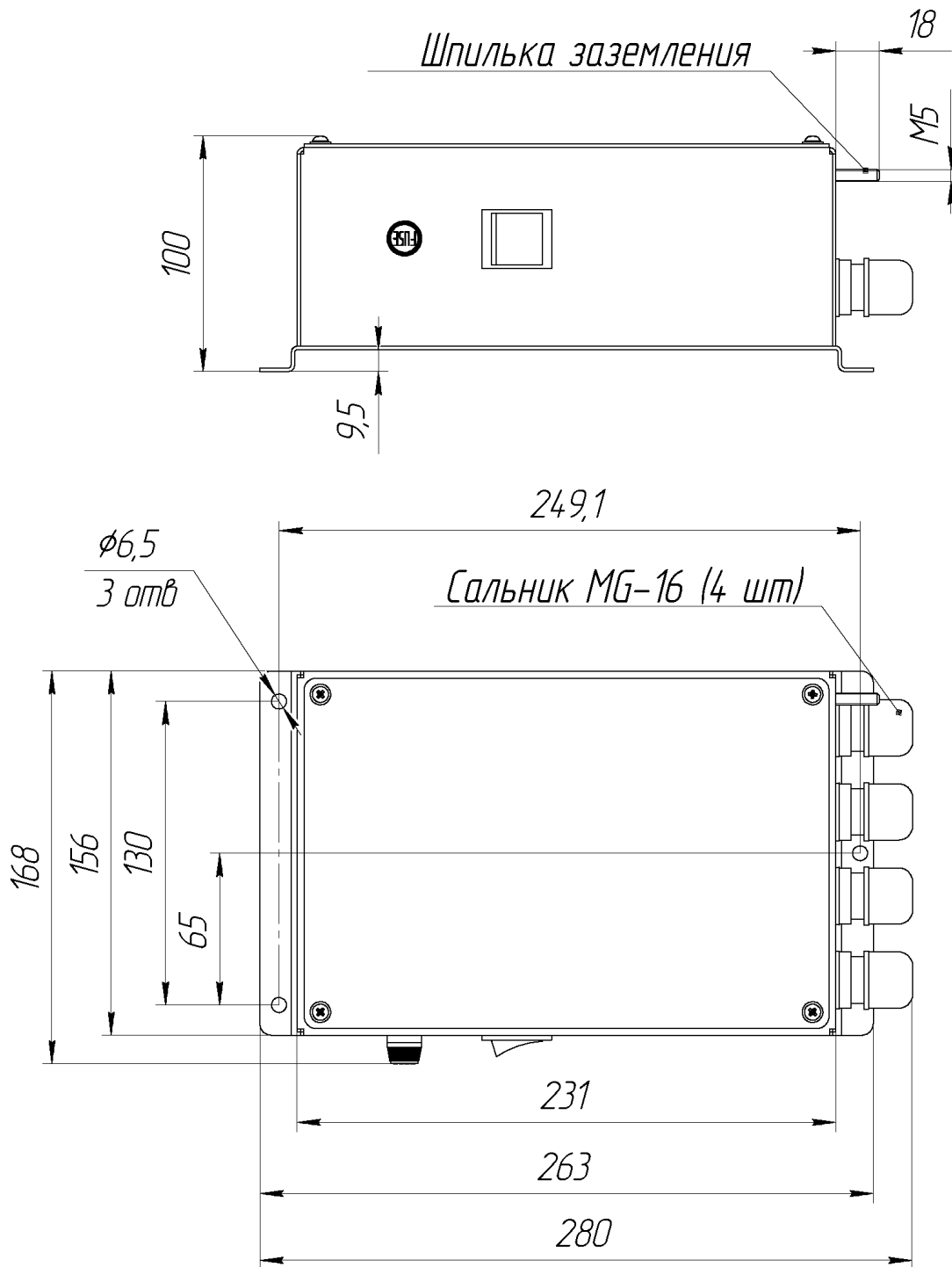


Figure 3. Overall and Mounting Dimensions for PSU.

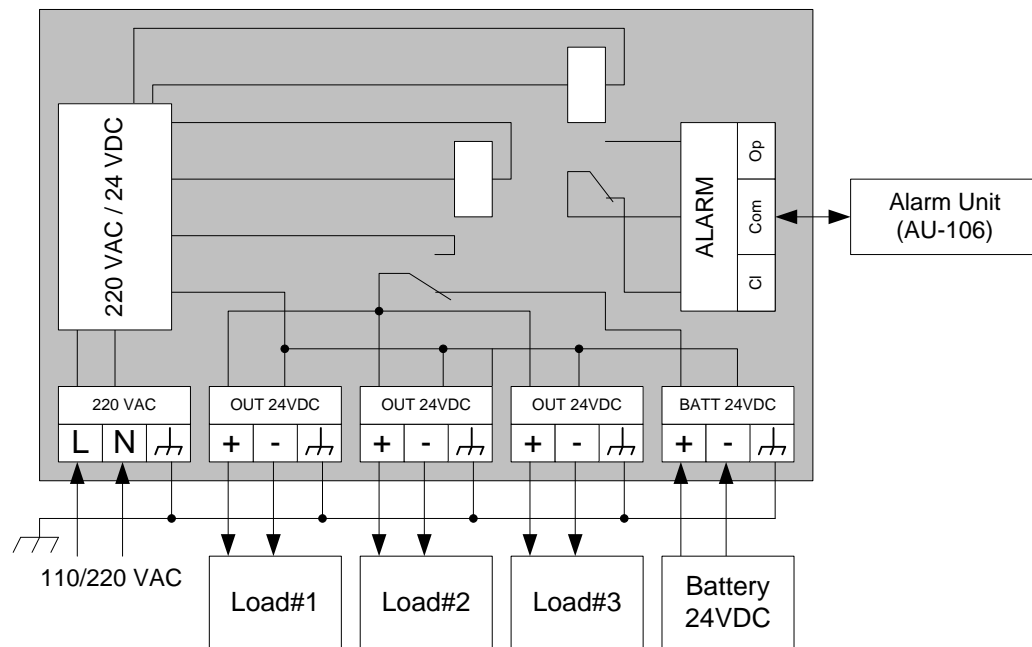


Figure 4. Diagram of Devices Connection with PSU.

Safety Precautions:

- Prevent device getting into the water and water intrusion into the device.
- Not use organic solvents while device surface cleaning to avoid damage of specified marks.

Prohibited:

- Subject the device to shocks and connected cable tension;
- Connect PSU to networks with specifications not stated in this documentation;
- Use failed device.
- Install PSU at the distance less than 1 m from the magnetic compass.

6. Service

1. While visual examination, check completeness, marking, of mechanical damages availability, terminal condition.
2. Check insulation and output characteristics by instruments.
3. The rest maintenance procedures consists of meeting operation, storage and transportation rules. Maintenance shall be performed at least annually.

7. Transport and storage

The device shall be stored in heated space at air temperature of +5 °C to +35 °C (maximum values of -60 °C to +70 °C), at relative humidity of air not exceeding 95 % at temperature of +25 °C and content of dust, oil, moisture and aggressive admixtures in the air not exceeding the norms envisaged by GOST 12.1.005-88 for the working zone of production areas.

The device shall be transported in transport container of the manufacturer in closed transport.

Means of transport:

- automobile and railway closed transport (covered wagons, universal containers)
- by air (in pressurized and heated bays of airplane)
- by sea (in dry service spaces).

The device shall be transported in accordance with the transport regulations in force for the particular transport.

During handling operations and transportations strictly observe the requirements of handling marks on boxes and do not allow bumps and impacts which can affect preservation and serviceability of the device.

Packed devices shall be reliably secured in vehicles.

After storage in stores or transportation at temperature below +10 °C the devices shall be unpacked only in heated spaces after keeping them unpacked in under normal climatic conditions for 12 hours.

8. Warranty

The manufacturer guarantees the unit PS-103 complies with this manual provided that the operation, transportation and storage conditions are adhered to during the warranty period.

The unit's warranty period expires 24 months from the date of its shipping from the manufacturer's storehouse.

Within the warranty period, the owner is entitled for a free repair, or a replacement of a separate part, provided that the malfunction occurred through the manufacturer's fault.

Warranty repair is provided if the unit is submitted with the manufacturer's label and a legible serial number available on it, as well as this operating manual.

The manufacturer is not responsible and cannot guarantee the unit's operation:

1. After the warranty period is over;
2. In case of the failure to observe the unit's operation, transportation, storage and installation rules and conditions;
3. If the unit is in an unmarketable condition, or has a damaged body, and other causes beyond the manufacturer's control;
4. If self-made electrical devices were used.
5. If there was an attempt to repair the unit by a person who is not an authorized representative of the manufacturer.

If the owner loses this operating manual or the manufacturer's label with a serial number, the manufacturer shall not provide their copies, and the owner shall be divested of the right for a free repair during the warranty period.

Upon the warranty expiry, the manufacturer shall facilitate the repair of the unit at the owner's expense.

Note: in case of warranty repair, the unit's disassembling from the installation site and its delivery to the manufacturer's service center are done at the owner's expense.

Visit the manufacturer's website www.unicont.com (section "support/warranty") to find:

- forms to fill in claims,
- full warranty description;
- full description of the warranty service rendering procedure.

The manufacturer service center's address and contact details:

Unicont SPb, Ltd.

Bld. 26E Kibalchich Str., Saint Petersburg, 192174, Russia

tel.: + 7 (812) 622 23 10

fax: +7 (812) 362 76 36

e-mail: service@unicont.com

9. DATE OF PACKING

Power supply unit
name of article

PS-103
designation

№
serial number

Packed Unicont SPb Ltd., Russia.
Manufacturer

according to the requirements of the current technical documentation.

post

signature

clarification of signature

year, month, day

10. ACCEPTANCE DETAILS

Power supply unit
name of article

PS-103
designation

№
serial number

was manufactured and accepted in accordance with the regulatory requirements of the state standards and applicable technical documentation, and is suitable for operation.

Quality control representative

Stamp
here _____
signature

clarification of signature

year, month, day

11. DATE OF COMMISSIONING

Power supply unit
name of article

PS-103
designation

№
serial number

The unit has been put into operation.

Date of installation: _____

Place of installation: _____

Person in charge of installation: _____