

## POWER SUPPLY PS15V24 v3.0

### PRODUCT DESCRIPTION

The PS15v24 is dedicated for electronic equipment which require 24VDC buffered supply source. Device consist of metal case with compartment for two sealed lead-acid battery 12V/7Ah, mains transformer and electronic circuit. PS15v24 may deliver up to 1.5A current without any time limit, it utilize DC/DC "switched mode" electronic circuit which offer high efficiency (reduced heating of electronic components). PS15v24 employs internal current limiting and short circuit protection which make it essentially indestructible. The reserve batteries are connected to output terminals trough an ultra low-resistance MOS transistor, such a circuit architecture enables optimum performance during AC failure and during dynamic changes of load when excessive current consumption is required. PS15v24 charge battery with *constant current-constant voltage* method, this method of charging guaranties relatively quick and safe charging process. The initial charging current is factory set to ~300mA, installer should be aware that with battery connected to PS the output current will be reduced to 1.2A. Depending on battery charging phase the output voltage of PS15v24 may vary from approx. 23.0 up to 27.6V level. When battery voltage drops below ~20.0V level internal circuit disconnect it from load, batteries are automatically reconnected when AC supply returns. Battery cut off circuit protect batteries from deep discharge but the equipment connected to power supply from operation below low voltage level which in many cases can lead to undefined system behavior. Batteries are protected with 5A fuse which reduce maximum output current sourced from battery and electronic circuit against battery reverse connection. PS15v24 offer two output ports (Z1 and Z2 terminals). The nominal output voltage is factory set to 27.6V and should not be changed by user. PS15v24 is equipped with two LEDs, the red one (marked as 230VAC) signalize that AC power exists where the second one (marked as 24VDC) signalize that output voltage is available.

### OPTIONAL ALARM MODULE PSAM-1

For more sophisticated installation electronic circuit of PS15v24 can be equipped with optional alarm module (PSAM-1). This module can be connected to PS15v24 circuit through dedicated connector (CON4) which is located on PS15v24 board. The main purpose of PSAM-1 module is to signalize an alarm situation of power supply to external device or system. The PSAM-1 may operate in autonomic or networked mode. When set to autonomic mode it offer three transistors outputs which are dedicated to signalize following situations:

- low battery
- battery failure
- AC lost

Those outputs can be connected to external control panel, access controller or another control or signaling device which will warn authorized personnel. When PSAM-1 operates in networked mode it must be connected to PR series access controller (PR302/PR402 or PR302LCD) through Clock & Data interface. In this mode PSAM-1 module sends all messages about power supply condition direct to access controller. During *networked* mode PSAM-1 signalize the same alarm conditions as during standalone mode and additionally delivers data about actual voltage level available on PS's output terminals.

### INSTALLATION

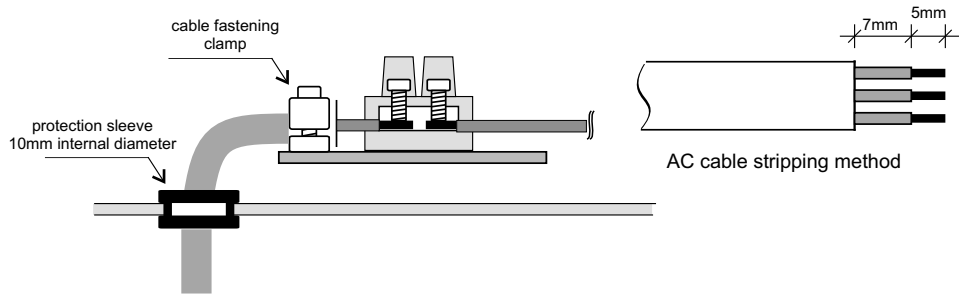
PS15v24 should be mounted on wall or another surface using four screws, it may be installed in vertical or horizontal position. Power supply should be installed far enough from heat and moisture sources. All electrical connection should be carried out with AC supply off. PS15v24 will not start operation on reserve battery, the AC supply must exists in order to begin PS activity. The AC supply cable should be guided into PS's case using dedicated hole protected with dielectric sleeve and then firmly fixed to 230VAC input terminals (see installation diagram). Do not adjust potentiometers located on electronic board, those components are factory set and should not be changed.

#### Warning

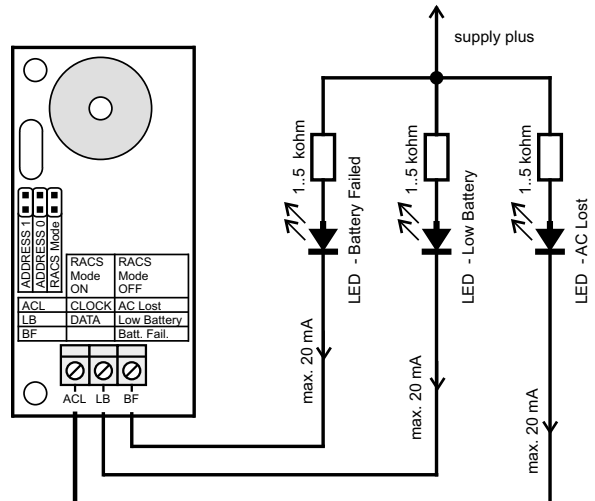
The high voltage exists on some device elements, prior to servicing the AC supply must be switched off.

**TECHNICAL SPECIFICATION**

<b>Parameter</b>	<b>Value</b>	<b>Comments</b>
AC supply	230 VAC	RMS value
AC frequency	50..60 Hz	
Nominal Output voltage	27.6DC	Output voltage may vary from app. 23.0V to 27.6 depending on actual battery charging phase.
Max. output current (without battery)	1.5A	Maximum output current is guaranteed for unlimited time and for entire temp. range. During battery charging process output current will be reduced to 1.2A
Ambient Temperature	0..55 °C	
Max. momentary output current with battery	5.5A	1.5A delivered by electronic circuit and 4.0A delivered by battery
Initial battery charging current	0.3A	
Battery cut off voltage	20.0V	
Battery compartment	2 x 7Ah/12V	Two pcs
Dimensions	269x168x120	
Weight	2,65 kg	Without battery

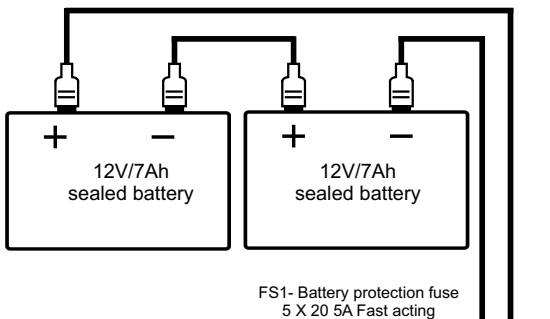


AC cable connection diagram

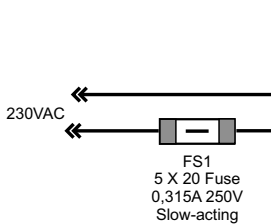
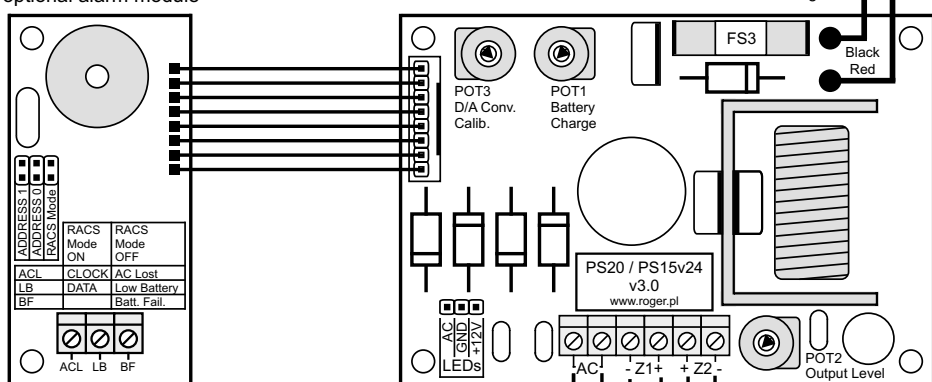


PSAM-1 autonomic mode - wiring diagram

**Warning !**  
Do not adjust  
potentiometers located  
on electronic board

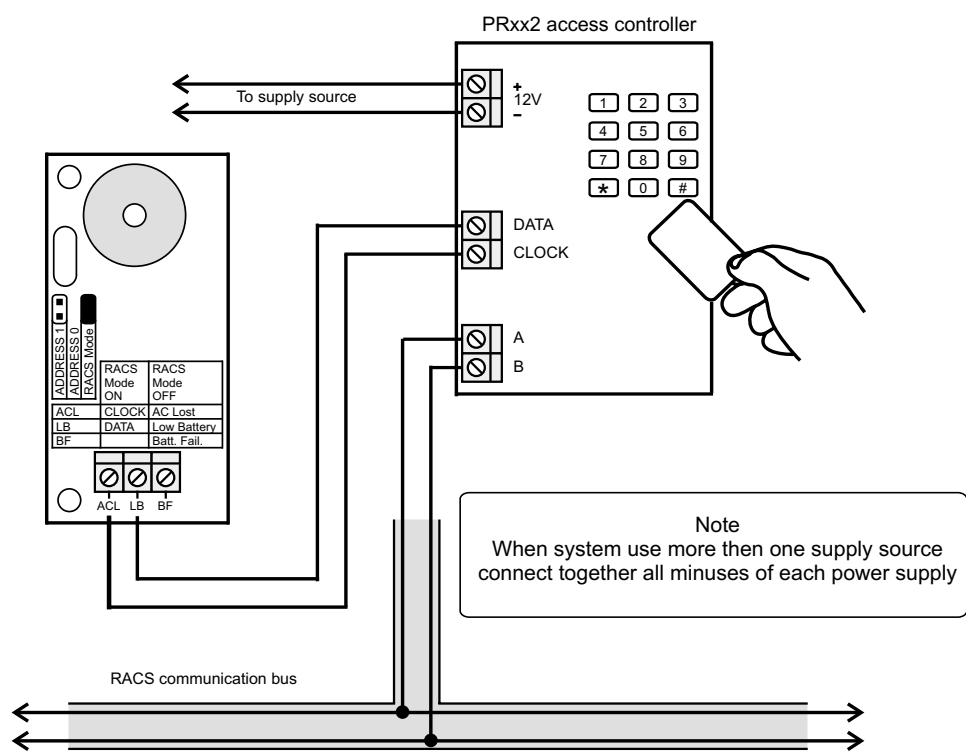


PSAM-1 optional alarm module



Supply output  
(Terminals Z1 and Z2)

PS15v24 wiring diagrams



**Note**  
When system use more then one supply source  
connect together all minuses of each power supply

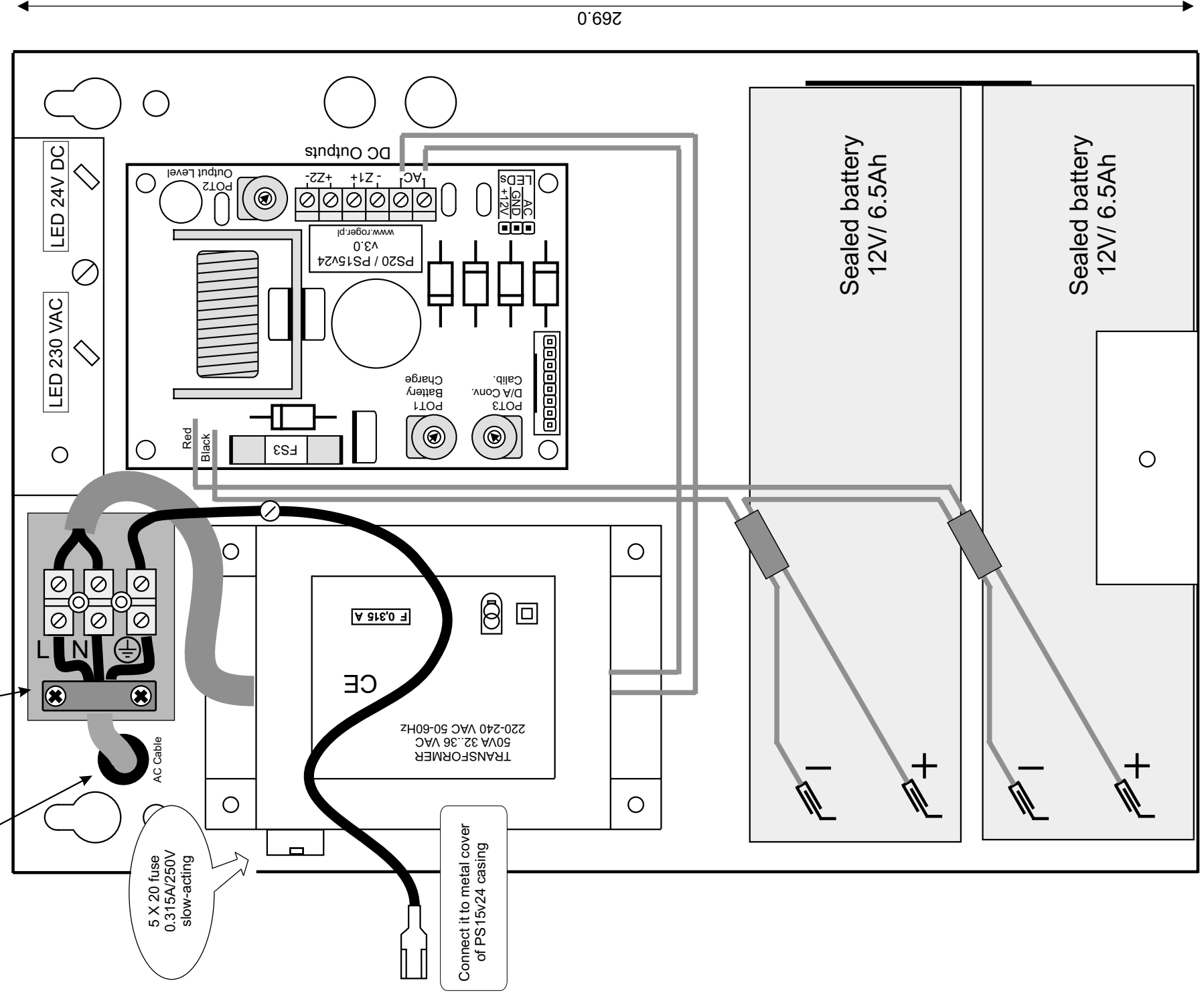
PSAM-1 networked mode - wiring diagram

**WARNING**  
High Voltage.  
Disconnect AC power prior to servicing.

protection sleeve  
10mm internal diameter

cable fastening  
clamp

168.0



PS15v24 internal view and installation/wiring diagram