KOD: **PS24DSOxxxx** v.1.0/II
TYP: **Power supply unit of the VAS.**

EN

Features:

- Compliant with the requirements of the PN-EN 54-4 and PN-EN12101-10 standards and pt. 12.2 of the Regulation of the Minister of Interior and Administration of the Republic of Poland of 20.06.2007
- Calibration of batteries using the installer interface
- Internal memory of the last 30 events is available via the LED display
- LED optical indication
  - Output voltage readings
  - Readings of the output current during battery operation
  - Resistance of the battery circuit readings
  - Failure codes with history
- Ethernet communication:
  - Built-in powerful web server
  - Online remote monitoring of operating parameters for a period of around 100 days: voltage, current, and the resistance in the battery circuit
  - Event log of up to 32768 power system failures
  - Automatic email notifications about power failures
  - SSL email encryption
  - Remote battery test
  - The battery operating temperature readings from the period up to 5 years
  - Communication using the MODBUS protocol - a list of registers is available
  - A real-time clock (RTC) with battery backup
  - RTC synchronization with external NTP server
- Support for up to 2 strings of batteries
- 27.6V DC Uninterruptible Power Supply
- 320W-1000W power supply units of the PS24DSOxxxx series.
- Independently protected outputs for OUT1…9 amplifiers
- Three independently protected power supply outputs for ROUTER1…6 router outputs
- Fuse status control
- LED indication of fuse failure for all outputs
- High efficiency (up to 90%)
- Microprocessor-based automation system
- The measurement of the resistance of the battery circuit
- Automatic temperature compensation of the battery charging
- Battery test
- Two-phase battery charging
- The accelerated battery charging function
- Battery electrical continuity control
- Battery voltage control
- Battery fuse status control
- Battery charge and maintenance control
- Under-voltage protection (UVP).
- Battery overload protection.
- Battery output protection against short-circuit
- Battery discharge current control
- Output voltage control
- Acoustic indication of failure
- Adjustable indication time of the 230V AC power failure indication
- ALARM – technical output of collective failure
- Technical input of collective failure EXTi
- Technical outputs - relay type.
- EPS – technical output of 230V AC power failure indication
- PSU – technical output of power supply failure indication
- APS technical output of battery failure indication
- Protection types:
  - SCP short-circuit protection
  - OLP overload protection
  - OHP overheat protection
  - Surge protectione

PS24DSOxxx-5W1B-E

PS24DSOxxx-5W2B-E

PS24DSOxxx-9W1B-E

PS24DSOxxx-9W2B-E

Description

The PS24DSOxxxx power supply is the main component of the DSO power supply system supplying power to the controller and routers of the DSO system during normal operation (mains supply operation) and performs advanced battery charger functions.

Due to its modularity, the power supply can be configured in one of several possible variants, differing in power, the number of outputs for audio amplifiers, and the number of battery strings. Depending on the design requirements the power supply can have a power of 320 - 1000W and work with batteries with a capacity of up to 460Ah.

In addition, each power supply unit is equipped with an additional Ethernet module with a 10Base-T/100Base-TX interface to connect to the Internet. Such a configuration enables the remote monitoring of the Voice Alarm System over the Internet from anywhere.

Choosing the right power supply configuration taking into account all the requirements is done automatically using the "CONFI-DSO" support program.

Electrical parameters of the VAS.

Supply voltage:	176 ÷ 264V AC
Current consumption	6A max. @230V AC [1]
Power supply frequency	50Hz
Power factor correction (PFC)	0.95
PSU power	1000W max. [1]
Efficiency	90% max
Output voltage	22.0V÷ 28.8V DC – buffer operation 20.0V÷ 28.8V DC – battery operation [2]
Maximum output current (outputs): **- routers** **- controller**	 6x2.5A 10.5A
Output current Imax $_A$ = Imax $_B$ **(routers + controller outputs)**	10.6A
The maximum output current of amplifiers OUT1…9	9x32.5A [1] [3]
The maximum resistance of the battery circuit during the calibration process	60m Ohm
The maximum increase of the resistance of the battery circuit	60m Ohm
Ripple voltage	150mV p-p max.
Current consumption by PSU systems during battery operation	500mA max. [1]
Battery charging current	24A max. [1]
The number of battery strings	1 or 2 [1]
The coefficient of temperature compensation of the battery voltage	-40mV/ ºC (-5ºC ÷ 40ºC)
Low battery voltage indication	Ubat < 23V, during battery operation
Short-circuit protection SCP	9xF30A – OUT1..OUT9 outputs, fast acting melting fuses, failure requires fuse replacement 3xF6.3A – „Router" outputs, fast acting melting fuses, failure requires fuse replacement F10A – „Controller" output, fast acting melting fuse, failure requires fuse replacement
Overload protection OLP	105÷130% of the PSU power, automatic return
Short-circuit protection in the battery circuit SCP	2x100A max. [1] – time-delay melting fuses, failure requires fuse replacement
Under-voltage protection (UVP).	U<20V (± 2%) – disconnection (+BAT) of the batteries
Technical outputs: **- EPS; output indicating AC power failure** **- APS; output indicating battery failure** **- PSU; output indicating PSU failure** **- ALARM; output indicating collective failure**	Type – relay
EXTi technical input	Normal operation (no failure): opened Failure- electrical contacts are closed
Ethernet communication	10Base-T/100Base-TX
Optical indication.	- Output voltage readings - Output current readings - Resistance of the battery circuit readings - Failure codes with history
Acoustic indication:	- Piezoelectric indicator ~75dB /0.3m
Fuses: **- OUT1...OUT9** **- ROUTER** **- CONTROLLER** **- BATTERY**	 F 30A / 250V/ 6.3x32mm F 6.3A / 250V/ 5x20mm F 10A / 250V/ 6.3x32mm T 100A [1] / 250V, 22x58mm
Mounting dimensions:	W=19", H=2U

[1] Depending on the DSO configuration.
[2] Full range of operating temperatures, taking into account accelerated charging and discharged batteries during battery operation
[3] Permissible only during battery operation.