

Description <b>PP 12/8 and PP 24/6 model-96 (eng.)</b>		Doc.no. MA0226	Rev.no. 2
Designed by Håkan Lundh	Approved by Hans Sterner	Page 1 of 6	Date 2000-09-14

### Power supply unit PP 12/8 and PP 24/6

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4M 8988/1

Schematic

4E 8989/1

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### Presentation

Power supply unit type PP is designed for 12V or 24V DC-systems, electronic equipments, alarm units and other loads which require highly reliable DC current supply.

PP is a constant voltage regulated 1-phase power supply unit with a built-in lead-acid battery. The unit is short-circuit proof with current limitation. Voltage levels, current levels and alarm levels are all set at delivery. The unit is easily connected to the mains voltage with a plug.

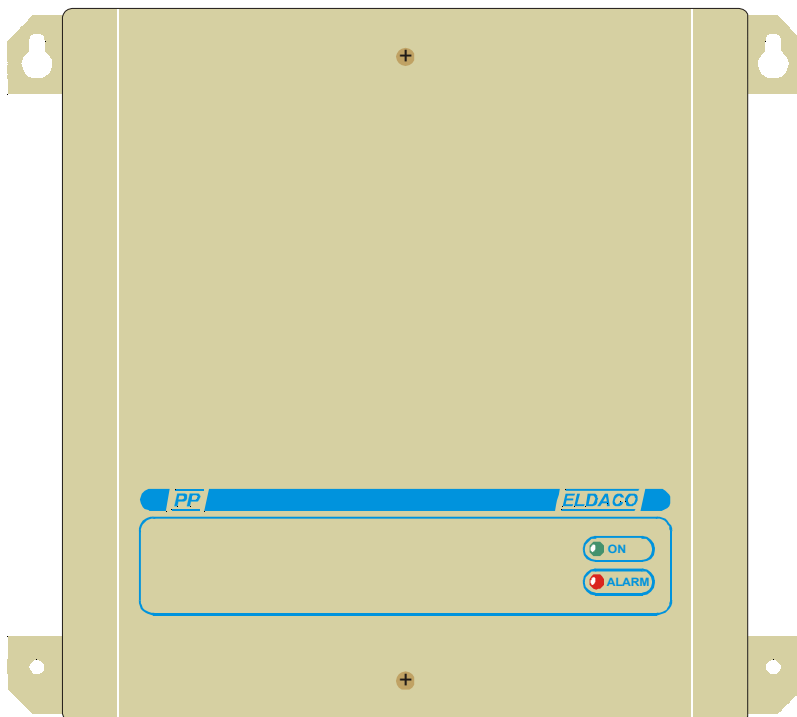


Figure 1. Power supply unit type PP

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## Connection

Power supply unit type PP should be installed by experienced and competent personnel only, while dangerous voltage may occur at the AC and the DC terminals. The rectifier is designed for indoor stationary wall mounting. Make sure that no heat radiant unit is mounted below the rectifier and that free circulation of cooling air is allowed. The connection terminal for load and alarm cable is placed underneath of the unit. There is a clamp between terminal 5 and 6 for external disconnection of battery at storage. Normally the clamp is to be connected. The battery fuse F1 is taped up on one of the two cover mechanical supports. The unit is easily connected to the mains with a plug.

Compare the power supply unit with schematic 4E 8989/1.

1. Unscrew the cover and connect the battery fuse F1 to the fuse holder placed between the battery and the circuit board. Replace the cover.
2. Connect LOAD 1 to terminals P5:1(LOAD +) and 3(LOAD -).
3. Connect LOAD 2 to terminals P5:2(LOAD +) and 4(LOAD -).
4. Connect the alarm cable for sum alarm to terminals P5:7-9. At alarm connection is obtained between P5:7 and 9. Normally there is connection between P5:7 and 8.
5. Connect the unit to the mains with the plug.

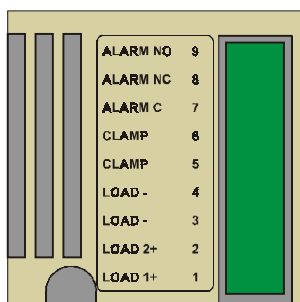


Figure 2. Connection terminal (NO=Normally open, NC=Normally closed, C= Common)

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## Alarms

The power supply unit gives alarm at mains failure, rectifier failure, load fuse failure, high voltage and low voltage. At alarm the red LED on the frontpanel is lit and the sum alarm relay is deenergized. The alarm is automatically reset when the cause of the alarm has been remedied.

Mains failure is given at no mains voltage.

Rectifier failure is given at no rectifier output voltage and the battery supplies the load.

Load fuse failure is given when an output fuse breaks.

High voltage alarm is given when the output voltage exceeds set alarm level. To protect the battery and the load, the rectifier is controlled down with approx. 10%.

Low voltage alarm is given when the output voltage falls below set alarm level.

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## Technical data

Primary voltage	230V AC $\pm 15\%$ , 47-63Hz
Primary current	12V: maximum 0.85A 24V: maximum 1.1A
Power factor	>0.97 at maximum output power
Recommended mains fuse	4A
Output power	12V: maximum 120W 24V: maximum 170W
Efficiency	12V: >0.75 at maximum output power 24V: >0.80 at maximum output power
Stat. reg. accuracy	$\pm 0.5\%$ of set battery voltage at 20°C (measured at the battery)
Secondary voltage	Nominal: 12V DC, 24V DC
Secondary current	12V: maximum 8A continuously 24V: maximum 6A continuously
Set charging voltage	12V: 13.6V (2.27V/cell) 24V: 27.2V (2.27V/cell)
Temp.compensation of battery voltage	20 $\rightarrow$ 40°C approx. -2.5mV/cell and °C 20 $\rightarrow$ 0°C approx. +4mV/cell and °C
Disturbing voltage	0.1% RMS of nominal output voltage maximum 1mV psfometric voltage
Fuses	Mains: 1.6A S 5*20mm glass tube fuse Batt.: 2 $\times$ 15A type autofuse Load: 12V: 2 $\times$ 10A type autofuse 24V: 2 $\times$ 7.5A type autofuse

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### cont. **Technical data**

#### Protection

#### High voltage protection:

Nominal voltage	High voltage level
12V	15.1V
24V	30.2V

#### Deep discharge protection:

Nominal voltage	Disconnection	Reconnection
12V	9.8V $\pm$ 0.2V	10.4V $\pm$ 0.5V
24V	19.6V $\pm$ 0.2V	20.8V $\pm$ 0.5V

#### Alarm contact

Potentialfree switching contact, maximum load 50W, 60V, 8A (DC and AC, resistive load)

#### Indications

Green LED:

Mains "ON" and unit operating

Red LED:

Sum alarm for:

- mains failure
- rectifier failure
- load fuse failure
- high voltage alarm
- low voltage alarm

At alarm the sum alarm relay is deenergized and red LED lights

#### EMC

Emission EN50081-1, EN50081-2  
Immunity EN50082-1, EN50082-2

#### LVD

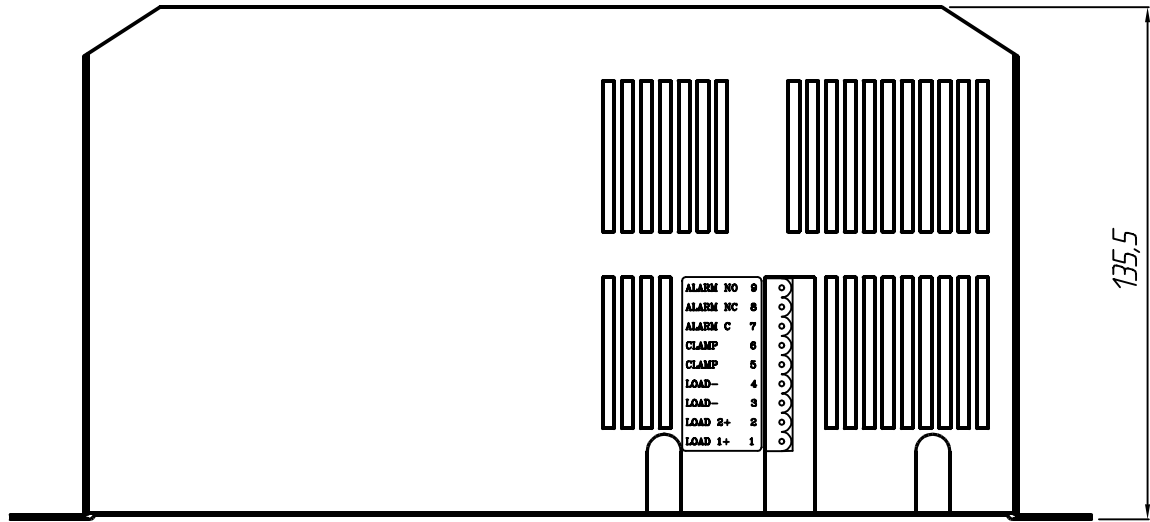
EN60950

#### Dimensions (mm)

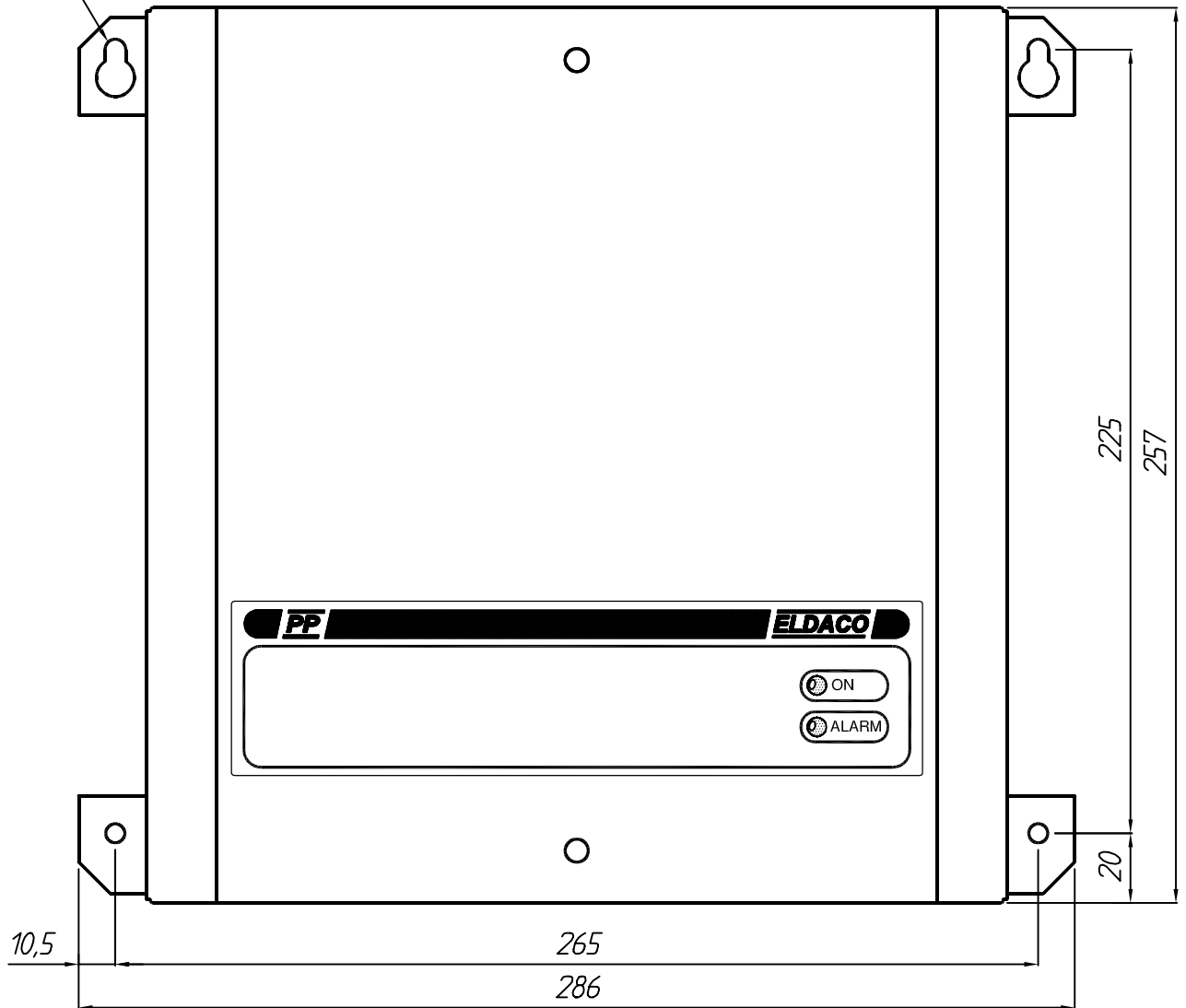
257×286×135.5 (H×W×D)

#### Weight


Approx. 8.6kg

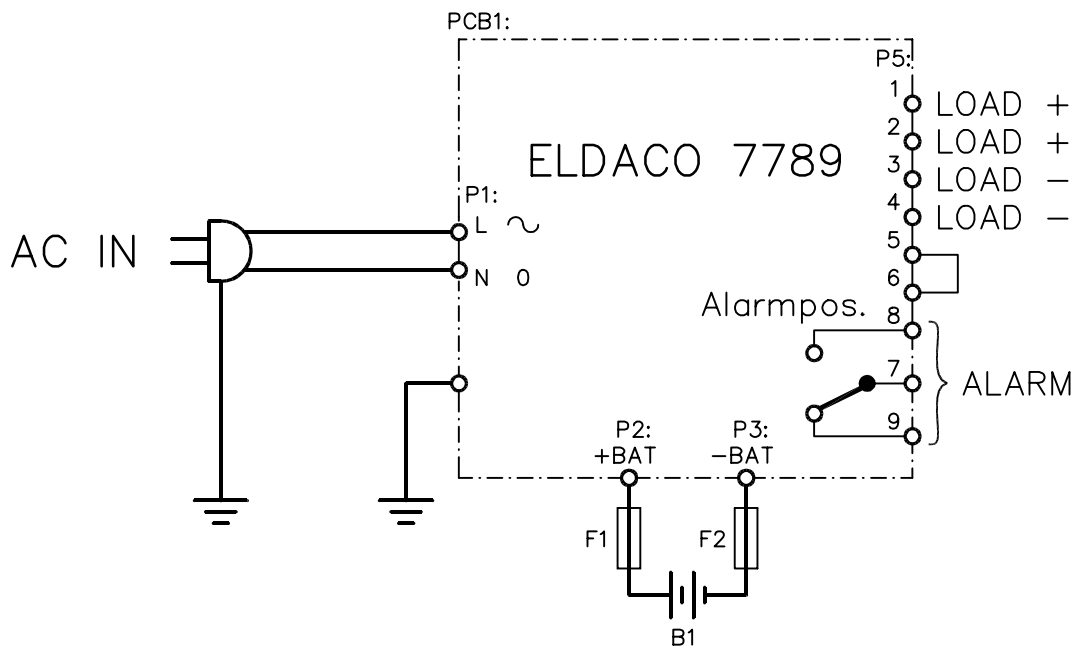


Ø6 (4x)

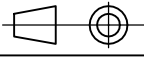



ELDACO AB, 08-6239500

					Art.No:	
Dwg.-No	Pcs.	Denomination	Material	Dimension	Tolerances:	
Constr.by: Date: 960227		Drawn by: Date: 960227		Approved by: T.S	Scale:	Replaces Rev.0
			Dim. & assembly dwg. (PP)			Replaced by
						Rev.No: 1
Drawing No:						4M 8988/1



ELDACO AB, 08-6239500

					Art.No: <b>10908</b>
Dwg.-No	Pcs.	Denomination	Material	Dimension	Tolerances:
Constr.by: Date: 960228	Drawn by: Date: 960228		Approved by: H.S	Scale:	Replaces Rev.0
		PP 24/6 & 12/8			Replaced by
					Rev.No: 1
					Rev.by: Date: H.L 000914
					Drawing No: <b>4E 8989/1</b>