

PRA-PSM48 Power supply module 48V

PRAESENSA



The PRA-PSM48 power supply module is a compact DIN-rail mounted power supply, delivering 48 V at up to 5 A continuously. This power supply is an OEM power supply, made for Bosch by Delta Power Supply, as a cost effective alternative to the PRAESENSA multifunction power supply PRA-MPS3 to power a PRAESENSA power amplifier in case the additional functions and characteristics of the multifunction power supply are not needed. It is not certified for EN 54-4 and similar standards. Because of its ability to deliver high peak currents, this power supply module can supply sufficient power to a single fully loaded PRAESENSA 600 W power amplifier.

Functions

Mains power supply

- Compact DIN-rail mounted power supply, delivering 48 V at up to 5 A continuously, for powering one fully loaded PRAESENSA 600 W amplifier. Because the long term effective power consumption of the amplifier is much lower than the short term burst power consumption, related to the crest factor of speech and music, this power supply is sufficiently powerful.
- Universal mains input with power factor correction to maximize the amount of power that can be taken from a single phase power distribution network.
- The mains is supplied via a 3-pole screw plug that requires the module to be installed by professional installers and mounted in a safe place, without user access.

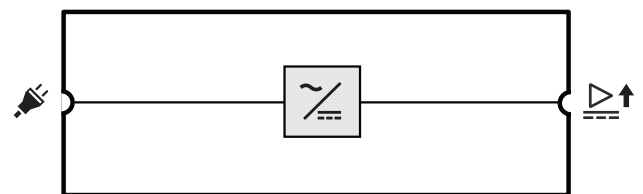
- ▶ Universal mains input voltage
- ▶ Power factor correction
- ▶ Protection with automatic recovery
- ▶ Approved to power a PRAESENSA 600 W amplifier
- ▶ Compact and DIN-rail mountable


- Adjustable output voltage, 48 to 56 V, of which the range 48 to 50 V can be used because the PRAESENSA power amplifiers are tolerant up to 50 V.
- For fail safe redundancy it is possible to use two 48 V power supplies for one amplifier, one connected to its 48 V input A and the other to input B. In that case the amplifier load will be shared by both power supplies, even if the supply voltages are adjusted to be slightly different.

Protections

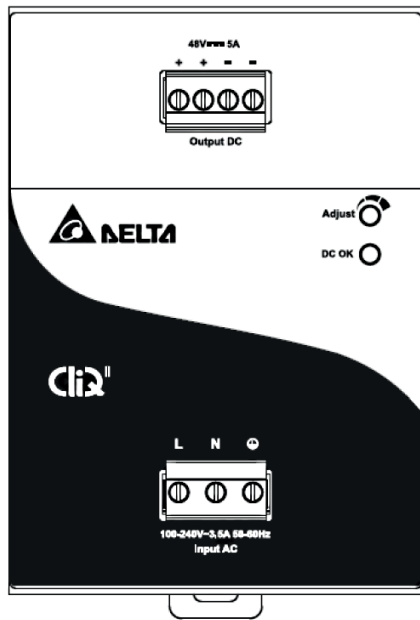
- Overvoltage protection with automatic recovery.
- Overload protection with automatic recovery.
- Over-temperature protection with automatic recovery.

Connection and functional diagram

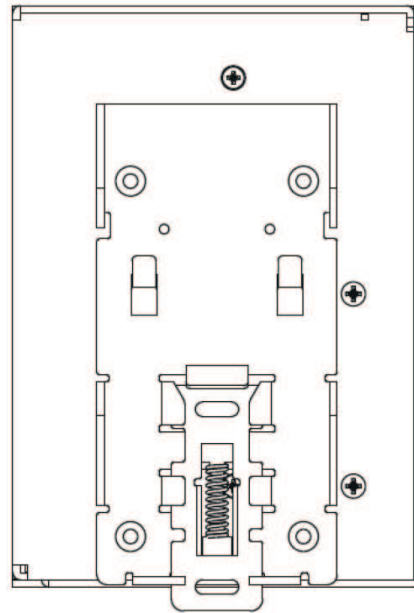


 Mains to DC converter

Front view



Rear view



Front panel control and indicator

Adjust	Output voltage adjustment	Rotary control
DC OK	Output voltage present	Green

Front panel connections

	48 VDC output to amplifier	
	Mains input	

Architects' and engineers' specifications

The 48 V power supply module shall contain a mains input with power factor correction and a 48 V output. Output current capability shall be 5 A continuous and 7.5 A peak. It shall be approved to power one 600 W Bosch PRAESENSA amplifier. The power supply shall be DIN-rail mountable with convection cooling. The power supply shall be marked for UL and CE and be compliant with the RoHS directive. Warranty shall be three years minimum. The power supply module shall be a Bosch PRA-PSM48.

Regulatory information

Emergency standard certifications

Maritime applications DNV-GL Type Approval (PRA-PSM48 only)

Emergency standard compliance (PRA-PSM48 only)

Europe	EN 50849
UK	BS 5839-8

Regulatory areas

Safety	EN 62368-1 EN 60204-1 EN 62477-1
Immunity	EN 61000-6-1 EN 61000-6-2
Emissions	EN 55032 EN 55011 CISPR 32 CISPR 11

Regulatory areas	
	FCC-47 part 15B class B EN/IEC 61000-3-2, Class A EN 61204-3
Environment	EN/IEC 63000
Railway applications	EN 50121-4 (PRA-PSM48 only)

Parts included

Quantity	Component
1	Power supply module 48 V
1	Set of screw connectors
1	Manufacturer's datasheet

Technical specifications

Electrical

Power transfer	
Mains power supply input	
Input voltage range	100–240 VAC
Input voltage tolerance	85–264 VAC
Frequency range	50–60 Hz
Inrush current	< 35 A (115 V, 230 V)
Power factor (PF)	0.9–1.0
Leakage current to safety ground	< 1 mA (240 V)
48 VDC output	
Nominal DC output voltage	48 V
Output voltage range	48–56 V
Maximum continuous current	5 A
Derating	-0.125 A/°C above 50°C
Maximum peak current	7.5 A
Power consumption	265 W
Active mode, rated power	
Heat loss	
Active mode, rated power	90 kJ/h (85 BTU/h)

Protection	
Overvoltage	Automatic recovery
Overload	Automatic recovery
Over-temperature	Automatic recovery

Reliability	
MTBF	500,000 h

Environmental

Climatic conditions	
Temperature	
Operating	-25–80 °C (-13–176 °F)
Storage and transport	-40–85 °C (-40–185 °F)
Humidity (non-condensing)	5–95%
Air pressure	750–1070 hPa
Altitude (operating)	0–2500 m (0–8200 ft)
Vibration (operating)	
Amplitude	< 0.35 mm
Acceleration	< 3 G
Bump (transport)	< 10 G (IEC 60068-2-27)

Airflow	
Cooling	Convection

Mechanical

Enclosure	
Dimensions (HxWxD)	121 x 85 x 124 mm (4.76 x 3.35 x 4.86 in)
Ingress protection	IP20
Mounting rail	TS35 DIN Rail (EN 60715)
Case	Aluminum
Weight	0.96 kg (2.12 lb)

Ordering information

PRA-PSM48 Power supply module 48V
48 V DIN-rail mountable power supply, full aluminum body
Order number **PRA-PSM48 | F.01U.358.130**
F.01U.410.357

Services
EWE-PRAPSM-IW 12 mths wrty ext Praes. PS Module
12 months warranty extension
Order number **EWE-PRAPSM-IW | F.01U.387.311**

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