PVA-2P500 Power amplifier, 2x500W

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Invented for life

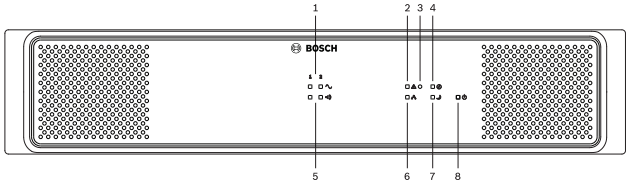
- 2 × 500 W class-D power amplifier (70/100 V output)
- Low power consumption in standby mode
- Excellent sound quality, high signal-to-noise ratio
- EN 54-16 and ISO 7240-16 system certification

The PVA-2P500 class-D amplifier is a 2 × 500 W audio amplifier for evacuation purposes. It can be operated from both the mains and a DC supply.
The output voltage is galvanically insulated and is constantly monitored for ground fault. An energy-saving mode and temperature-controlled fans reduce energy consumption and noise levels. The control and monitoring functions are performed via CAN bus. This amplifier is designed for operation in an emergency evacuation system. The amplifiers are usually controlled via a controller and configured using IRIS-Net.
The power amplifier has the following features:

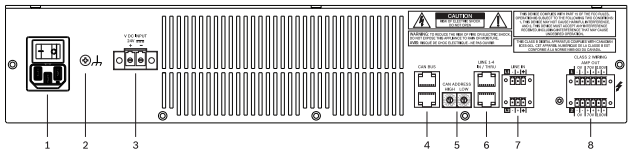
- Floating 100 V or 70 V power outputs
- High efficient amplifier blocks in class-D technology
- Outputs idling and short circuit-protected
- Mains operation 120-240 V (50/60 Hz) and/or 24 V DC emergency backup
- Electronically balanced inputs
- Temperature monitoring function
- Processor control of all functions
- Monitoring of the processor system via watchdog circuit
- Non-volatile FLASH memory for configuration data
- Internal monitoring function
- Integrated audio relays
- Line monitoring function
- Pilot tone and ground fault monitoring function via PVA-4CR12 controller or PVA-4R24 router

The power amplifier is processor-controlled and equipped with extensive monitoring functions. Line monitoring for the CAN bus and for audio transmission allows line interruptions and short-circuits to be detected and indicated to the user.

System overview



1	Signal clip indicator light
2	Combined fault warning indicator light
3	Recessed button
4	Ground fault indicator light
5	Audio signal indicator light
6	Network indicator light
7	Standby indicator light
8	Power indicator light



1 AC power input and power switch

2 Grounding screw

3 DC power input

4 CAN BUS port

5 CAN ADDRESS selector switch

6 LINE IN 1-4 audio input sockets (RJ-45)

7 LINE IN 1 or 2 audio input sockets (Euroblock, balanced signal)

8 Amplifier power output sockets (70 V or 100 V)

Certifications and approvals

Emergency standard certifications	
Europe	EN 54-16
International	ISO 7240-16

Environmental directive compliance	
Safety	EN 60065
Immunity	EN 50130-4 EN 55103-2 (E1,E2,E3)
Emissions	EN 61000-6-3 ICES-003 FCC-47 part 15B class A
Environment	EN 50581
Maritime	EN 60945

Conformity	
Europe	CE/CPR
USA	FCC
Canada	ICES
Australia	RCM
Korea	KCC
Russian Federation	EAC
Environment	RoHS

Parts included

Quantity	Component
1	PVA-2P500 Power Amplifier
1	Power cord 230 V AC
1	Power cord 120 V AC
1	Set of connectors
1	Set of feet
1	Operation manual
1	Important safety instructions

Technical specifications

Electrical

Rated load impedance (output power)	
100 V	20 Ω (500 W)
70 V	10 Ω (500 W)
Rated output power, 1 kHz, THD ≤ 1%	2 × 500 W[1]
Rated input voltage	+6 dBu
Max. RMS voltage swing, 1 kHz, THD ≤ 1%, without load	
100 V	110 V
70 V	78 V
Voltage gain, ref. 1 kHz, fixed	
70 V	33.2 dB
100 V	36.2 dB
Maximum load capacitance	2 µF
Input level, max.	+18 dBu (9.75 V_{rms})
Frequency response, ref. 1 kHz, rated load, -3 dB	50 Hz to 25 kHz
Input impedance, active balanced	20 kΩ
Signal-to-noise ratio (A-weighted)	> 104 dB
Output noise (A-weighted)	< -62 dBu
Crosstalk , ref. 1 kHz	< -85 dB
Output stage topology	Class-D, transformer, floating
Power requirements	
Power supply	Mains: 115-240 VAC ±10%, 50/60 Hz (2) Battery: 21-32 VDC

Power consumption	Pmax - 3dB * / idle **/ Standby 230VAC, 50Hz: 700W / 21W / 1.9W 120VAC, 60Hz: 745W / 18W / 1.5W 24VDC, 60Hz: 735W / 16W / 1.5W * Alarm, ** No audio (pilot tone)
Inrush current	2 A
Inrush current, after five-second power cycle	1.3 A
Mains fuse	T6.3A (internally)
DC fuse	30A (internally)
Ground fault	R < 50 kΩ
CAN BUS port	2 × RJ-45, 10 to 500 kbit/s
Protection	Audio input level limiter, RMS output power limiter, high temperature, DC, short circuit, mains undervoltage protection, DC supply undervoltage protection, inrush current limiter, ground fault
Cooling	Front-to-rear, temperature-controlled fans

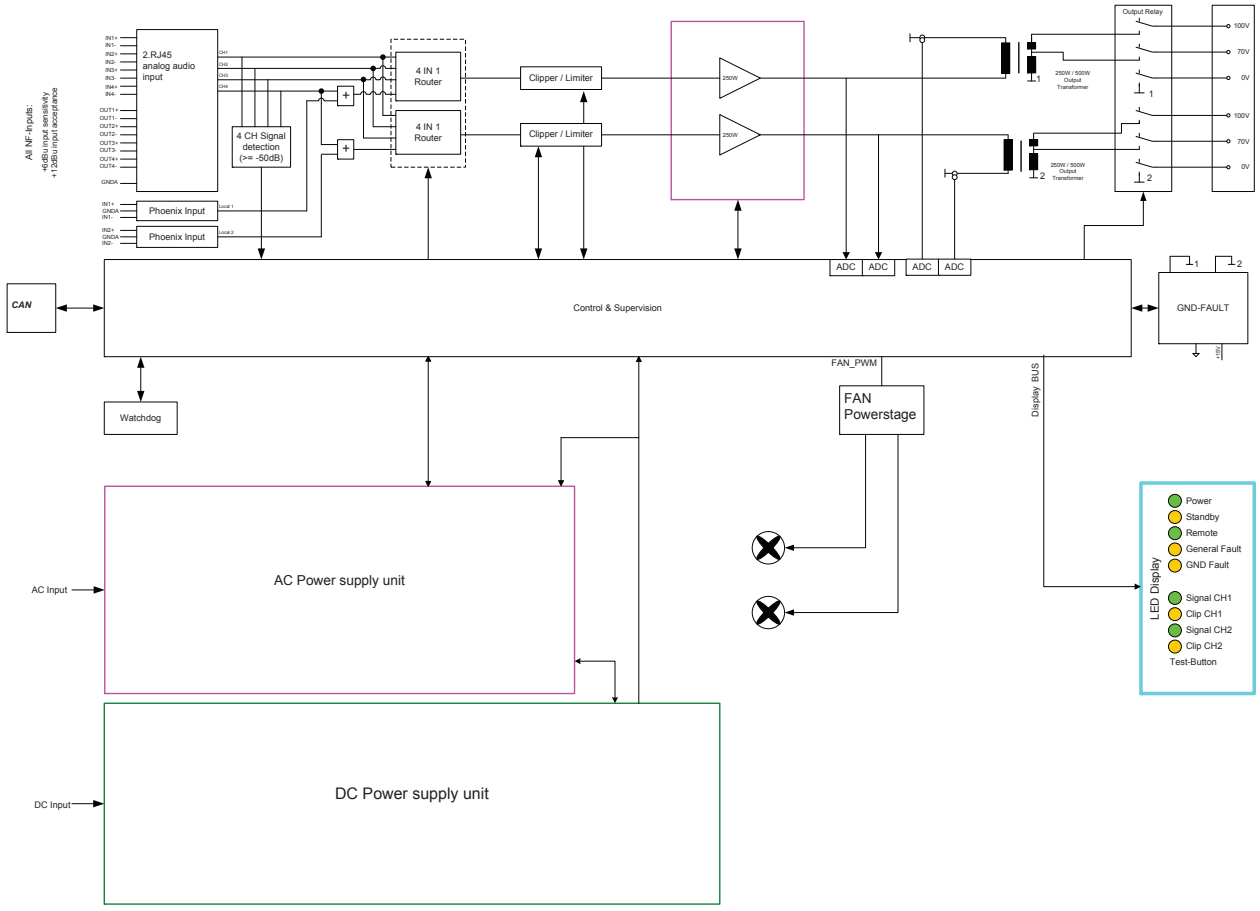
Environmental

Operating temperature	-5 °C to +45 °C (+23 °F to +113 °F)
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity (non-condensing)	5% to 90%
Altitude	Up to 2000 m

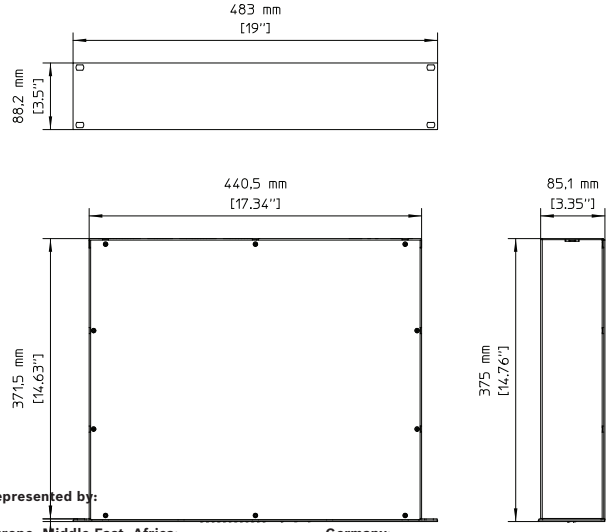
Mechanical

Dimensions (HxWxD)	88 mm x 483 mm x 375 mm (2RU)
Weight (net)	16.5 kg
Mounting	Standalone; 19 in. rack
Color	Black with silver

[1] In DC mode and in continuous alarm-signal operation, output signal limited by 3 dB max.
[2] Reduced output power at mains voltages below 115 V



Circuit diagram



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Ordering information

17564410635 | en, V5, 17. Apr 2020

PVA-2P500 Power amplifier, 2x500W
2-channel power amplifier for PAVIRO system, 2x500W, rack unit 2RU.
Order number **PVA-2P500**