

# PLM-4Px2x PLENA matrix DSP Amplifiers

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- ▶ 4-channel, Class-D power amplifier
- ▶ 125 W or 220 W per channel models
- ▶ 100 V / 70 V / 8  $\Omega$  / 4  $\Omega$  outputs
- ▶ Complete loudspeaker processing DSP with input mixing
- ▶ Controlled using PC GUI and iOS app
- ▶ Amp Link to connect easily with PLM-8M8
- ▶ Environmentally friendly auto standby mode

The PLM-4Px2x PLENA matrix Power Amplifiers are built to perform. Reliable, cost effective and responsive, they are suitable for almost any application that demands flexible control and high-quality audio.

Using the CAT5 Amp Link, connecting the PLM-4x2x Amplifiers with the PLM-8M8 8-Channel Matrix Mixer could not be faster or easier.

The built-in DSP processor is packed with powerful features for a professional setup of acoustics. These features can be accessed via the PC GUI or the iOS app.

The power saving mode (standby or auto standby) on the amplifier allows the reduction of amplifier running costs by 50% or more, in a typical usage situation.

Sample applications include restaurants, pubs, bars, nightclubs, cafes, gyms, recreational facilities, churches, warehouses, office buildings, shopping centres, schools, regional airports, train stations, bus terminals, boardrooms, meeting rooms, conference facilities, small theme parks, museums, back of house performing arts centres and sports stadiums.

## Functions

### Controls and Indicators

There are no user-accessible controls on the front of the unit to prevent unauthorised 'passer-by' adjustments. The front panel includes visual indicators for Power, Line Input Signal/Clip, and Fault status.

The back panel features the mains power switch and controls for the attenuation of the output channels, bridging of the amplifier channels, and input sensitivity. All other controls and indicators are available via the PC GUI software.

### DSP Features

The full range of DSP controls is accessed via the PC GUI software. These include:

- ▶ **Input Mixer:** Each of the 4 amplifier channels has a separate input mixer. Using the the PC GUI it is possible to mix any combination of the 4 line inputs and have level control over the override input and noise generator, effectively creating a very powerful stand-alone mixer amplifier.

- ▶ Cross-over: Provides HPF and LPF up to the 8th order for each channel.
- ▶ Output EQ: Every zone has an 8-band parametric EQ. It also contains Dynamic Bass Enhancement.
- ▶ Delay: Output delay for up to 120ms per channel.
- ▶ DRC (Dynamic Range Compressor): Threshold, ratio, attack, release, and gain, per channel.
- ▶ Output Level: Ability to limit amplifier channel outputs.
- ▶ Output Level Mixer: All amplifier outputs are controlled on a single screen allowing quick and easy adjustment for individual channels.
- ▶ Fault and thermal indication per amplifier channel.
- ▶ Channel mute and system mute.
- ▶ Manual standby.
- ▶ Control via PC GUI and/or iOS app. Third-party control software can be used to control the output level mixer and standby modes over Ethernet.

#### Dynamic Bass Enhancement

An area sounding perfectly well at normal output levels can sometimes sound 'thin' when the volume is turned down. The Dynamic Bass Enhancement automatically gives a richer sound even at low SPL. When the zone is restored to the normal level the bass enhancement decreases proportionally to restore the original level and tuning.

#### Standby and Auto Standby Mode

The Standby Mode reduces the environmental impact and the running cost of owning power amplifiers.

Standby can be engaged and disengaged manually via the PC GUI software. With the addition of Bosch motion detectors Auto Standby Mode is available. If activity/movement is not detected across the zones, the amplifier will automatically shift to a low power consumption mode after a predetermined time. When the area becomes active again, the amplifier simply reverts to being fully active in under a second by ramping the sound back in smoothly.

The amplifier also comes with a 12 V DC power output, to make installation of motion detectors quick and easy.

#### Certifications and approvals

Safety	According to EN 60065
EMC emission	According to EN 55103-1
EMC immunity	According to EN 55103-2

#### Installation/configuration notes

##### Connections and Amp Link

###### Inputs

The PLM-4Px2x amplifiers are designed for use with either TRS jack, 3-pin XLR or Phoenix Euroblock on each of the input channels. As these connections are wired in parallel, you can simply loop out via the connection that is not used as an input.

The Amp Link input makes connection to the PLM-8M8 DSP Matrix Mixer very easy. Simply connect the supplied CAT5 cable using the Amp Link ports to carry 4 channels of audio from the DSP mixer to the amplifier. No set up or configuration is required.

In addition there is a balanced line level override input that can be activated by a contact closure. This input will override all the other inputs in the amplifier.

###### Output

Connections to 100 V, 70 V, 8 ohm and 4 ohm outputs are available for each channel. Outputs can be bridged (channels 1–2 and/or 3–4) via dip switches. All output impedances and configurations are supported simultaneously. An example: Ch. 1–2 are bridged with an 8 ohm load, Ch. 3 has 100 V and Ch. 4 has an 8 ohm load; all possible with no loss of performance.

#### Parts included

Quantity	Components
1	PLM-4P125 or PLM-4P220 DSP Power Amplifier
1	Power cord
1	Set of 19" mounting brackets
1	CAT5 cable, 26 AWG shielded (1 m)
1	Safety documentation

## Technical specifications

### Electrical

#### Power supply

Mains voltage:	
• Nominal input voltage	100 to 240 VAC, 50/60 Hz
• Input voltage limits	90 to 264 VAC
Power consumption (–6dB/ idle/standby):	
• PLM-4P125	254 W / 27 W / 6 W
• PLM-4P220	412 W / 36 W / 6 W

#### Performance

Rated outputs taps	taps 100 V / 70 V / 8 ohm / 4 ohm
Rated output power per channel (continuous*):	
• PLM-4P125	125W
• PLM-4P220	220 W
Rated output power per channel (burst*):	
• PLM-4P125	125 W
• PLM-4P220	220 W
Bridged (CH 1–2/3–4) (continuous*):	
• PLM-4P125	250 W
• PLM-4P220	385 W
Bridged (CH 1–2/3–4) (burst*):	
• PLM-4P125	250 W
• PLM-4P220	445 W
THD+N (1 kHz, –6 dBFS):	
• PLM-4P125	0.1 %
• PLM-4P220	0.03 %
Dynamic range (A-weighted):	
• PLM-4P125	>101 dB
• PLM-4P220	>102 dB
Frequency response (–1dB)	65 Hz to 20 kHz (+0/–3 dB)
Crosstalk @ 1 kHz	<–70 dB

#### Connectors

Inputs (wired in parallel):	<ul style="list-style-type: none"> <li>• 4x XLR/TRS combo</li> <li>• 4x 3-pole balanced Phoenix terminal (Metric)</li> <li>• 1x RJ45 (Amp Link)</li> </ul>
Loudspeaker output	4x 3-pole balanced Phoenix terminal (Metric)
Logic and standby override	2-pole Phoenix terminal (Metric)
Ethernet Network 10/100 Mbps	RJ45
12 V output power for motion sensor	2-pole Phoenix terminal (Metric)

\* According to CEA-490-A R-2008

### Mechanical

Dimensions (H x W x D)	90 x 440 x 417 mm 3.5 x 17.3 x 16.4" (19" wide, 2RU high)
Mounting	Stand-alone, or in 19" rack
Color	Traffic black (RAL 9017) Silver (RAL 9006)
Weight:	
• PLM-4P125	Approx. 15 kg Approx. 33 lb
• PLM-4P220	Approx. 18 kg Approx. 39.7 lb

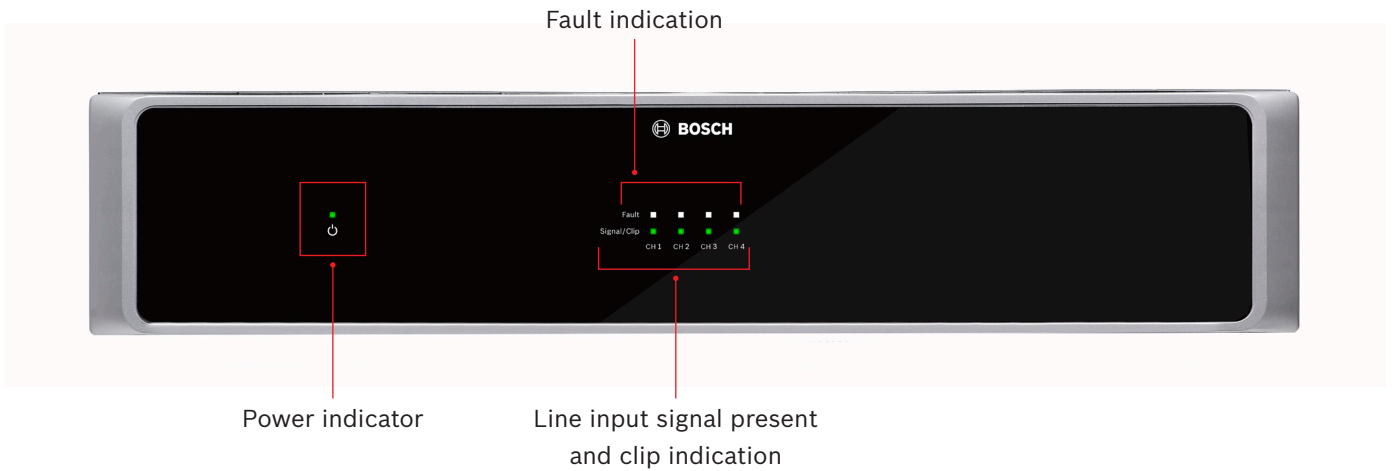
### Environmental

Operating temperature	–10 °C to +45 °C
Storage temperature	–40 °C to +70 °C
Relative humidity	<95 %

### Ordering Information

PLM-4P125 PLENA matrix 4-Channel DSP 125W Amplifier	Order number <b>PLM-4P125</b>
PLM-4P220 PLENA matrix 4-Channel DSP 220W Amplifier	Order number <b>PLM-4P220</b>
PLM-8M8 PLENA matrix 8-Channel DSP Matrix Mixer	Order number <b>PLM-8M8</b>
PLM-8CS PLENA matrix 8-Zone Call Station	Order number <b>PLM-8CS</b>
PLM-WCP PLENA matrix Wall Control Panel	Order number <b>PLM-WCP</b>

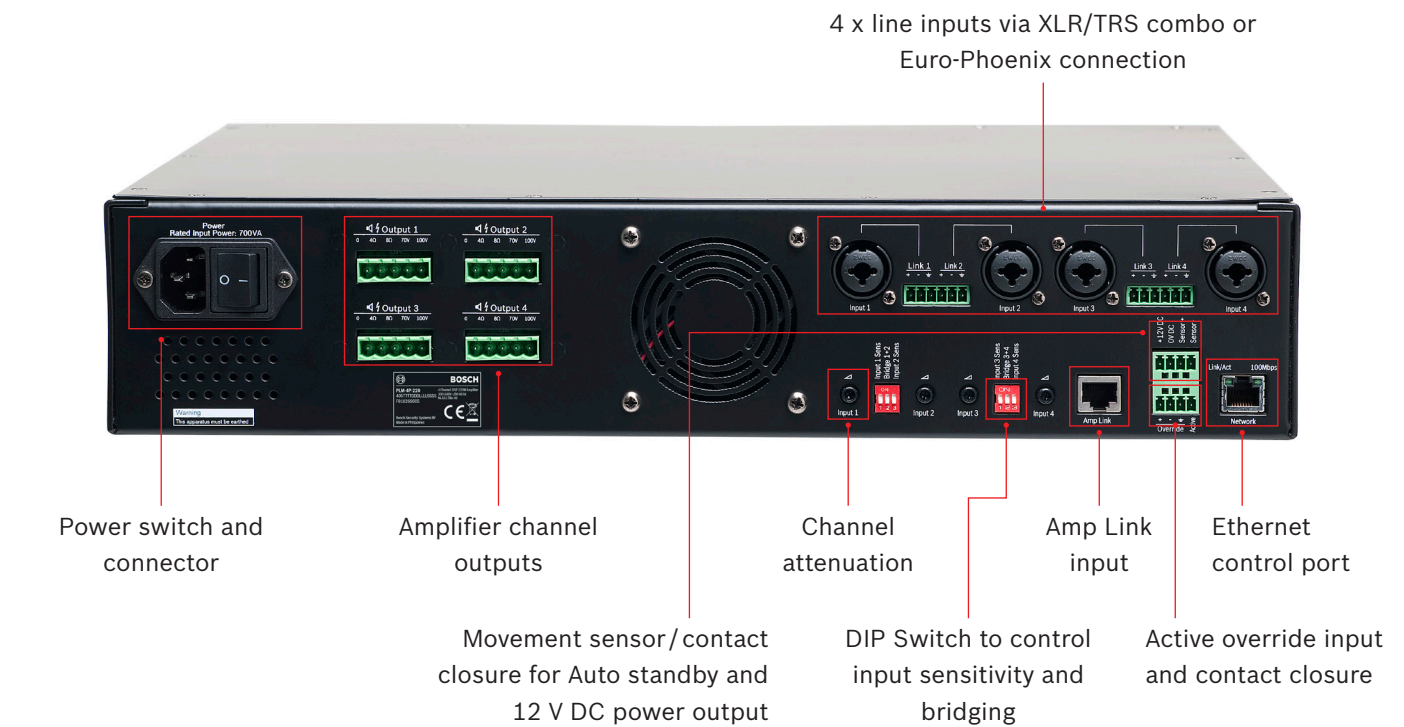
### Front panel layout



Power indicator

Fault indication  
Line input signal present and clip indication

### Rear panel layout



4 x line inputs via XLR/TRS combo or Euro-Phoenix connection

Power switch and connector

Amplifier channel outputs

Movement sensor/contact closure for Auto standby and 12 V DC power output

Channel attenuation

DIP Switch to control input sensitivity and bridging

Amp Link input

Ethernet control port

Active override input and contact closure

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