

Power Amplifiers / E series

EN 54-16

SMART-PA8080/E / SMART-PA4160/E / SMART-PA8160/E / SMART-PA1650/E / SMART-PA2650/E



The Amplifiers are designed for perfect integration into the Ambient System solutions. Thanks to their flexibility, they can also be used for any other Public Address and Voice Evacuation applications. These amplifiers have been developed to meet the specific requirements of the EN 54-16 standard for safety installations.

The SMART-PAXXXX/E is a family of 2U, rack mountable, 8-channel (SMART-PA8080/E, SMART-PA8160/E), 4-channel (SMART-PA4160/E), 2 channel (high power SMART-PA2650/E) and 1 channel (SMART-PA1650/E) class-D transformer isolated power amplifiers for 50 V and 100 V distributed loudspeaker systems. Amplifier SMART-PA8080/E can deliver up to 8 × 80 W, for SMART-PA8160/E and SMART-PA2650/E delivering power increases respectively to the 8 × 160 W and 2 × 650 W. In a bridged mode amplifier channels are

combined and can deliver 4 × 160 W for SMART-PA8080/E, 4 × 320 W for SMART-PA8160/E and 1 × 1300 W for SMART-PA2650/E. These amplifiers have 48 VDC input which allows to connect with battery backup system for maximum availability and durability in an voice evacuation system. The SMART-PAXXXX/E amplifiers are powered from external power supply module SMART-PS48800 working in a block. The current from block is distributed to individual amplifiers through the “power manager” SMART-PSM48 (device includes a battery charger and is in compliance with EN 54-4). The SMART-PAXXXX/E amplifiers are prepared to connect an external audio source by using up to the eight BGM inputs (1 per channel) with the sensitivity level regulation. In the alarm mode the BGM inputs have to be muted by shorting the lines from BGM CTRL to the ground.

CHARACTERISTICS

- » **Front panel indicators include:**
 - › Supply / Active / Fault
- » **100 / 50 Volt available via terminal blocks at the rear**
- » **Output channels can be linked into:**
 - › SMART-PA8080/E, SMART-PA4160/E, SMART-PA8160/E: 4 × 160 W, 2 × 320 W or 4 × 320 W by daisy-chaining 50 V tapping (input on parallel)
 - › SMART-PA2650/E: 1 × 1300 W by daisy-chaining 50 V tapping (input on parallel)
- » **SMART-PAXXXX/E series combines with the SMART-PSM48/E Power Supply Manager (charger and back-up supply)**
- » **At the rear of the SMART-PAXXXX/E you will find: Individual level adjusters / General fault contact (Dry contact) / BGM inputs**

SMART-PA8080/E / 8 × 80 Watt class-D power amplifier
Can be bridge into: 1 × 160 W + 6 × 80 W; 2 × 160 W + 4 × 80 W;
3 × 160 W + 2 × 80 W or 4 × 160 W

SMART-PA4160/E / 4 × 160 Watt class-D power amplifier
Can be bridge into: 1 × 320 W + 2 × 160 W or 2 × 320 W

SMART-PAXXXX/E casings: are 2U high, 19-inch rack mountable.

SMART-PA8160/E / 8 × 160 Watt class-D power amplifier
Can be bridge into: 1 × 320 W + 6 × 160 W; 2 × 320 W + 4 × 160 W;
3 × 320 W + 2 × 160 W or 4 × 320 W

SMART-PA1650/E / 1 × 650 Watt class-D power amplifier

SMART-PA2650/E / 2 × 650 Watt class-D power amplifier
Can be bridge into: 1 × 1300 W

	SMART-PA8080/E	SMART-PA4160/E	SMART-PA8160/E	SMART-PA1650/E	SMART-PA2650/E
Power supply					
Nominal DC input voltage	48 V				
DC input voltage range	42 – 57 V				
DC fuse rating (internal)	6× 7.5 AF-H	2× 15 AF- H 2× 7.5 AF-H	4× 15 AF-H 2× 7.5 AF-H	1× 15 AF- H 2× 7.5 AF-H	2× 15 AF- H 2× 7.5 AF-H
Overall power efficiency nominal DC input max. output power at 1 kHz	80%				
Power consumption (48 V DC)					
Standby	0.2 A	0.18 A	0.2 A	0.15 A	0.15 A
Active	0.7 A	0.43 A	0.7 A	0.23 A	0.33 A
Max. nominal current	20 A	19 A	38 A	19 A	38 A
Amplifier					
Continuous nominal output power per channel, all channels driven into nominal load at 1 kHz 30°C ambient	80 W 125 Ω / 100 nF	160 W 62 Ω / 200 nF	160 W 62 Ω / 200 nF	650 W 15.4 Ω / 200 nF	650 W 15.4 Ω / 200 nF
Nominal balanced input level for 100 V output at 1 kHz and nominal load	1 V				
Balanced input level trim range for 100 V output at 1 kHz and nominal load*	0.95 – 3 V				
Max. balanced input level	3 V				
Input impedance at 1 kHz	22 kΩ				
Input common mode rejection at <1 kHz	>61 dB				
Frequency response (-6 dB)	75 Hz – 20kHz 125 Ω / 100 nF	75 Hz – 20kHz 62 Ω / 200 nF	75 Hz – 20kHz 62 Ω / 200 nF	75 Hz – 22 kHz 15.4 Ω / 200 nF	75 Hz – 22 kHz 15.4 Ω / 200 nF
S/N ref nominal power at 1 kHz 22 Hz – 22 kHz	> 85 dB 125 Ω / 100 nF	> 85 dB 62 Ω / 200 nF	> 85 dB 62 Ω / 200 nF	> 85 dB 15.4 Ω / 200 nF	> 85 dB 15.4 Ω / 200 nF
THD power 1 kHz (42 V – 57 V)	< 10%				
Crosstalk between channel 50 Hz – 20 kHz nominal load	< -70 dB 125 Ω / 100 nF	< -70 dB 62 Ω / 200 nF	< -70 dB 62 Ω / 200 nF	< -70 dB 15.4 Ω / 200 nF	< -70 dB 15.4 Ω / 200 nF
Connectivity					
DC input socket	DG58C-A-2P13				
Audio output socket	3 pin PHOENIX 5.08 mm				
Nominal output voltage taps	50 / 100 V				
Mechanical					
Front panel width	482 mm				
Back panel width	445 mm				
Height	88.5 mm				
Net Weight	15 kg	13 kg	18.6 kg	10.8 kg	15 kg
Gross weight (including packaging)	16.2 kg	14.2 kg	19.8 kg	12 kg	16.2 kg
Packaging dimensions	150 × 530 × 610 mm				

* Available only for SMART-PA E series