



Certificate of Conformity

Certificate num.	Registration date	Version	Valid until	
afp - 3779	9-Mar-2023	Number 2	Issue date 14-Apr-2023	30-Apr-2024

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Product designation

Pertronic, EA60 and EA120, 60 Watt and 120 Watt amplifier modules for Pertronic F220 fire alarm system

(Refer to the Schedule/enclosures for further specified details)

Agent/distributor

Pertronic Industries Pty Limited
Unit B2, Hallmarc Business Park, 2A Westall Road, SPRINGVALE, VIC, AUSTRALIA, 3171

Registrant

Pertronic Industries Pty Limited
Unit B2, Hallmarc Business Park, 2A Westall Road, SPRINGVALE, VIC, AUSTRALIA, 3171

Producer

Pertronic Industries Pty Limited
Unit B2, Hallmarc Business Park, 2A Westall Road, SPRINGVALE, VIC, AUSTRALIA, 3171

Conformance criteria and evaluation

The Pertronic, EA60 and EA120, 60 Watt and 120 Watt amplifier modules for Pertronic F220 fire alarm system has been evaluated and verified as conforming with the relevant requirements of the following criteria.

1. Australian Standard AS 4428.16:2020, 'Fire detection, warning, control and intercom systems - Control and indicating equipment Part 16: Emergency warning control and indicating equipment'.

Limitations/conditions of conformance

Limitations/conditions of conformance, where identified on this certificate, are derived from qualifications from evaluation(s) for conformity and/or other related technical documentation. All details with respect to design, assembly and installation instructions and restrictions should be checked against the producer's current technical manual/data sheets and the requirements of the Authority having Jurisdiction.

Specified limitations/conditions, determined from the evaluation for conformity, include the following.

- i. The EA60 and EA120 amplifier modules are only compatible with the Pertronic F220 fire alarm system.
- ii. The EA60 and EA120 amplifier modules are fitted within the same cabinet as the Pertronic F220 fire alarm system.
- iii. The EA60 and EA120 amplifier modules are not distributed among separate cabinets.
- iv. The EWCIE enclosure is fitted with the labels as described in the test report (21-529M06.07_EWCIE) to meet the Marking requirements of Section 17.

Issued by

Kai Loh

Executive Officer – ActivFire Scheme



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- v. The EA60 and EA120 amplifier modules are installed and maintained as recommended by the manufacturer.
- vi. The EA60 and EA120 amplifier shares the F220 Fire alarm system power supply, and for each installed system calculations are required to ensure the maximum design load is not exceeded.
- vii. The EA60 and EA120 amplifier is separately fused.

Producer's description

The Pertronic, EA60 and EA120, 60 Watt and 120 Watt amplifier modules for Pertronic F220 fire alarm system are Grade 3 EWCIE Evacuation Amplifiers 60W & 120W, 24V DC, with Integral Tones, Voice Messages, & bidirectional VAD Output. The EA120 has a selectable dual 60W or single 120W 100V line output.

Pertronic, EA Series, 60 Watt and 120 Watt amplifier modules for Pertronic F220 fire alarm system are AS 4428.16-compliant amplifiers for Pertronic F220 fire systems.

These amplifiers are suitable for all non-emergency and emergency applications including occupant warning, public address, and background music.

The on-board keyboard and LCD display provide speaker load measurement and other menu-driven test and management features, together with user-friendly configuration of operating settings, announcements, and signals. Configuration files can be saved and loaded via USB, allowing a single configuration file to be copied to multiple amplifiers, including between amplifier models.

The built-in audible signal generator produces signals and announcements for many purposes including the evacuation and alert signals specified in AS 4428.16. Additional signals including custom voice messages are easily added via USB.

The EA60 & EA120 provide a large number of configurable options.

Technical specification

The following details are a representative extract of the technical specification for the Pertronic, EA60 and EA120, 60 Watt and 120 Watt amplifier modules for Pertronic F220 fire alarm system and may be subject to change. Complete and current details should be determined from the designated producer's technical manual/data sheets.

Schedule of variant designations

The following is a schedule of validated variant designations of the certified/listed equipment.

Variant		Description
Type	Ident.	
Part num.	EA60	Evac Amplifier 60 W, 24 V DC with Integral Tones, Voice Messages, & VAD O/P
	EA120	Evac Amplifier 120 W, 24 V DC with Integral Tones, Voice Messages, & VAD O/P

Schedule of properties/characteristics

The following schedule is an extract of physical and operational properties/characteristics of the certified/listed equipment.

		EA60 Amplifier	EA120 Amplifier
Firmware version		V0.1.184 b751	
Operating Voltage		19.2 V dc to 28.8 V dc	
Operating Current, No Audio		40 mA	40 mA
Operating Current, with Evac. Signal	AS 4428.16, 520 Hz, Male, Au	1.0 A average @ 24 V dc 3 A peak ¹	2.2 A average @ 24 V dc 6 A peak ¹
	Evac. Signal NZS 4512, Male, GB	2.5 A average @ 24 v dc 3 A peak ¹	4.5 A average @ 24 V dc 6 A peak ¹
Power Output		60 W @ 100 V rms ²	1 × 120 W @ 100 V rms ² , or 2 × 60 W @ 100 V rms ²
Frequency Response		400 Hz – 12 kHz ³	
Total Harmonic Distortion		<0.2% ³	
Signal to Noise Ratio		>80 dB ³	
Load Measurement Accuracy		± 10% if full scale	
Bell In, Bell Out		19 V dc to 32 V dc ⁴	
RS-485 Bus Input Current		12 mA ⁴	
RS485 Data Rate		9.6 kb/s or 115.2 kb/s	
Inputs 1-3	Sensitivity	Configurable, 5 mV rms to 1 V rms (balanced) ³	
	Input Impedance	20 kΩ (10 kΩ to ground from each leg)	
PTT (inputs 1 and 2)		3.3 volt active low	
Isolated 100 V rms Output		Continuously supervised for short-circuit, open-circuit, and overload. (10 kΩ 2 W EOL)	

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	EA60 Amplifier	EA120 Amplifier
ADM-4 Channel Select Control	One ⁵	Two ⁵
Audio 1 V Line Output	1 V rms, capable of driving up to 7 EA series repeater amplifiers	
Audio Active Sync ("AA")	Active low output, capable of activating up to 7 EA series repeater amplifiers	
Repeater Trigger Input	3.3 volt active low	
Direct Sound Controls	Six 3.3 volt active low inputs ⁴	
Supervised Fire Panel Input ("FIP")	Activate by switching a 10 kΩ resistor in parallel with the 10 kΩ EOL resistor ⁴	
Dual Strobe Output	Dual polarity, 24 V dc (nominal), 3 amp, supervised	
Assignable Relay	1 × form C, 1 amp, 30 V dc	
USB Port	USB-A Host	
Input 3, Stereo Port	3.5 mm Stereo Socket	
Screw	DC In/Out, & VAD O/P	0.5 to 2.5 mm ² stranded cable
Terminals	All other connectors	0.2 to 1.5 mm ² stranded cable
Dimensions (L × H × D mm)	154 × 99 × 50	226 × 99 × 50
Weight	660 g	1.2 kg
Operating Temperature	-10 °C to +50 °C	
Relative Humidity	≤ 95% non-condensing	

Notes:

1. "Peak" current is the dc input current, rms averaged over 50 to 100 milliseconds, during the loudest part of the evacuation signal.
2. If the supply voltage is less than 20 volts dc, the amplifier operates at reduced audio power output.
3. Audio performance and input sensitivity figures are referenced to maximum output power.
4. In AS 4426.16 compliant systems, the control inputs should not be connected to external equipment.
5. Each ADM-4 channel select control provides five open collector (active low) outputs: One per ADM-4 output channel, plus one "all channel" output.

Supplementary information

Schedule of relevant articles

The following schedule is an extract of articles significant and/or related as evidence of conformity.

Reference		Title / description	Date issued (or date validated)	Source
Type	Ident.			
Report	21-529M06.07_EWC IE	Compliance appraisal of Pertronic model EA60 and EA120 EWCIE to AS 4428 Pert 16 2020 "Fire Detection, Warning, Control and Intercom Systems – Control and Indicating Equipment Part 16: Emergency Warning Control and Indicating Equipment"	27-Feb-2023	WSP, Lower Hutt, NZ.
	16-527748.08_cie	Opus Research Report: 16-527748.08_cie COMPLAINE APPARISAL OF THE Pertronic F220 panel TO AS7240.2:2004 "FIRE DETECTION AND ALARM SYSTEMS PART 2: CONTROL AND INDICATING EQUIPMENT"	18-May-2016	Opus International Consultants Ltd, Lower Hutt, NZ
	220511.1	TEST REPORT Pertronic EA60, EA120 Evacuation Amplifiers and ADM-2, ADM-4 Audio Distribution Modules tested to the specification IEC 62599-2:2010 (as modified by AS 4428.16:2020) Alarm systems – Part 2: Electromagnetic compatibility – Immunity requirements for components of fire and security alarm systems for Pretronic Industries Ltd.	29-Aug-2022	EMC Technologies (NZ) Ltd, Auckland, NZ
Datasheet	0326-0327-EA-Series-Amplifiers-DS-AAN-20220901	PERTRONIC INDUSTRIES LTD DATASHEET EA Series 60 Watt and 120 Watt Amplifiers EA60 & EA120	9-Sep-2022	Pertronic Industries Limited, NZ