



Amplifier

Features

- Remote monitoring
- High efficiency
- Small size
- Greater power density
- Fully integrated supervision
- Life dependant security
- End of line monitoring
- Reduced power consumption
- Line impedance monitoring as an option
- Plug and play, minimal set up

Description

The VA300+M amplifier is designed to provide reliable efficient service in critical life dependant alarm and voice broadcast applications (PAGA). The unit is based upon a compact industry standard size Euro card module designed to plug in/out of a 6U high card cage. The VA300+M incorporates an integral supervisory package, which silently and automatically monitors amplifier and the associated loudspeaker line insulation with respect to earth.

The VA300+M fascia carries a detailed LED diagnostic display, inducing ten digit line output meter and robust alloy handle to facilitate rapid withdrawal of the complete assembly and exchange with absolute minimum of down time. Surface mount manufacturing ensures consistent performance, obviates troublesome wiring looms, multiple printed circuit cards and shrinks the entire power amplifier module/supervisory to a single multi function micro adaptive motherboard.

Unique Vari-mode output stage configuration eliminates EMC emissions and critical loading requirements associated with pure Class D amplification, whilst maintaining extremely high efficiencies during

emergency broadcast request. Amplifier frequency response bandwidth extends to 25 kHz thereby enabling automatic amplifier/line checking at inaudible supersonic frequencies. The VA300+ amplifier is fully electronically protected against open/short/any abnormal load or temperature condition with automatic reset (once the condition is resolved) and is almost totally indestructible.

Output to loudspeaker network(s) is standard 100 V line with 70 V line as an option. Due to the excellent power density/printed circuit card board area ratio the units are fitted to shallow depth low profile 19 inch racking thereby saving considerable weight and floor space.

The VA300+M amplifier incorporates automatic supervision for up to eight separate loudspeaker networks. Each line is equipped with BARTEC VODEC intelligent end of line supervisory device type EOL01, EOL02, EOL03 or EOL04. No calibration is required other than simple switch selection of quantity of lines to be monitored e.g. 1 to 8. This obviates use of:

- Conventional current monitoring schemes, which provide very poor resolution
- DC supervisory systems that require blocking capacitors to be fitted inside each loudspeaker

Temperature monitoring and Protection monitoring

There is a thermal sensor fitted to each amplifier module which is arranged to conduct at temperatures exceeding about 90 °C. The temperature sensor illuminates the red temperature LED on the front panel of the amplifier; in addition the fans are initiated in the rack. The temperature sensor has no effect on the operation of the amplifier itself.

Protection

The amplifier is fitted with comprehensive thermal protection which ensures that the amplifier can never be damaged through high ambient temperature. The point at which the protection is applied is dependant on a number of variables:

- Load on the amplifier
- Signal level into the amplifier
- Type of signal applied to the amplifier
- Rail voltage on the amplifier
- Ambient temperature

Remote monitoring

The VA300+M is enhanced to capture and report detailed operational information in real-time and when connected to M-Class infrastructure all this information is available to a remote server, which logs and displays data as required.

The remote monitoring features are robustly implemented and designed in such a way so to not affect PAGA critical functions in any way. Additionally the VA300+M is enhanced to store and report its unique serial number and other asset management data to further improve uptime and afford predictive maintenance.

The VA300+M offers an optional upgrade to include line impedance monitoring, which also reports through the M-Class infrastructure to the remote server. This is a cost effective mechanism which complements the existing EOL supervisory and Intelligent Loudspeakers System architecture. The VA300+M is fully backward compatible with original P3 VA300+ amplifiers and may be used in non M-Class systems.

Technical data

Supply input

DC 48 V unregulated

Consumption

350 mA Quiescent
8.5 A max

Efficiency

better than 80 %

Input sensitivity

0 dBm (770 mV RMS)

Frequency response – 3dB points

150 Hz and 20 kHz

Distortion

better than 2 %

Regulation

better than 3 dB

Line output

100 (70) V line within 1 dB

Protection

V/I protection and temperature

Power output capability

325 W

Dimensions (width x height x depth)

50 mm x 266 mm x 160 mm
(6 units)

Construction

anodised alloy fascia and chassis

Finish

natural alloy

Temperature range

-20 °C to +50 °C

Service location

safe area internal

Humidity

25 to 85 % non-condensing

Vibration

max. shock 1 g any direction

Weight

2.5 kg