

Sonix™ 350-d



PA/GA power amplifier unit

Overview

From Eaton's Sonix™ range of communication systems, the Sonix™ 350-d amplifier provides the perfect balance of proven technology, innovation and quality engineering, to deliver you the right solution for your PA/GA needs.

Sonix™ 350-d power amplifier is a compact 1U design, housing the 350W amplifier module, power supply, status panel and thermal management units.

Sonix™ 350-d autonomously monitors and supervises the amplifier, loudspeaker cable insulation and loop integrity with an inaudible signal. The robust and industrial design of the 350-d amplifier ensures its protection against open, short circuit, load deviation and abnormal loads associated with field loop faults. In the event of abnormally high ambient temperatures, the 350-d is fitted with an intelligent multi stage auto reset/retry, including over-temperature protection device, that isolates the unit until the fault/temperature is rectified. Internal power supply and fans are fully monitored and diagnosed to ensure in life integrity and operation at all times.

To ensure rapid and early warning of any system issues all monitoring of amplifier, power supply, data communication network and field cabling is reported on board the amplifier status panel, on board the 2Mx matrix, on the Sonix™ software interface and out to the site wide DCS/SCADA system.

In the event of a fault a hot standby unit can automatically drop in to replace the output drive; redundancy ratios from 1 active amplifier per hot standby amplifier to 31 per hot standby amplifier are supported.

Central to the Sonix™ PA/GA system efficiency is the 350-d parallel power amplifier. The 350-d has been specifically designed with Sonix™ parallel amplifier technology to offer the most efficient >92%, compact amplifier and power supply available.

The 350-d simply connects within the PA/GA system via rapid fit RJ45 and standard IEC power receptacles to ensure speedy installation and ease of servicing. Designed as a complete sealed unit without the need for sub frames or cards, reducing the risk of failure between distributed parts and dramatically reduces down time in the unlikely event of equipment replacement. Works in conjunction with Sonix™ Eol8 unit to connect and monitor speaker loops, see Eol8 datasheet. The 350-d can also be used as part of a post amplifier switching arrangement to provide audio into multiple zones, additional materials required as part of system build.

Features

- Huge 350W power in 1U package
- High power efficiency >92% Sonix™ parallel amplifier system (patent GB 1300553.3)
- Real time high integrity field cable monitoring
- Design focused MTBF/MTTR
- Compact efficient design
- Low thermal emissions/footprint
- Support for hot standby configurations
- Operating on monitored internal/external self-healing ring
- 8P*C (RJ45) connectivity for easy maintenance
- Better than 1% Ac-Dc regulation
- High accuracy +/- 0.5dB 100V line regulation
- Zone configuration between 1 and 30 or All-Call
- Post amplifier switching support
- Configurable via Sonix™ Software

Certifications

Certification CE, Environmental and EMC (IEC60945)

Specifications

Mechanical/environmental

Fixing 1U 19" industrial mounting

Weight 4.5 Kg Max

Dimensions (W x D x H mm) 482 x 306 x 43

Material Casing black anodised aluminium

Operating temperatures
 Quiescent ambient temperature 0°C to +55°C
 Continuous* full load ambient temperature +40°C
 Short term full load ambient temperature +45°C

Operating relative humidity 20 to 95% non-condensing

Service location Safe internal location

Connectors Dc i/p & fault o/p: PA/PBT push fit, shake proof plug & outlet. Mating: Phoenix Contact 1803578.
 Data/ EOL & Hot stand-by bus: Rapid Fit 8P8C (RJ45) CAT6A modular jacks.
 Power: IEC connector. Mating: IEC C13

Ingress protection rating IP30

Electrical

Power output 350 W ±0.5dB

Efficiency under alarm 92%

Line voltage 100 V line (±5%)

Power supply Primary: 265 Vac** 50-60Hz. internally managed to 48 Vdc ±0.5% regulated
 Secondary: 48 Vdc must be externally regulated to ±0.5%

Consumption AC quiescent 125 mA

Consumption AC max 1.6 A (230 Vac) 3.4 A (110 Vac)

Heat max <30 W

Input sensitivity 0dBu (770mV RMS)

Frequency response 300 – 25 kHz (-3dB points)

Output distortion <1% at 1 kHz, full load

Signal to noise ratio 60 dB (A-weighted)

350d unit protection On board fuse 10 A @48 Vdc

Amplifier protection Thermal, open, short, earth, intermittent and line deviation

Status indicator High visibility LEDs

General

Fault contact Volt free (max. 60 Vdc/30 Vac) normally closed, open on amplifier fault (non-latching)

Connectivity (all internal connectivity can be radial or self-healing loops as standard)

Amp bus 2 x RJ45, 1 independently monitored loop allowing for up to 32 (350 W) amps per 2Mx to be controlled

Eol bus 2 x RJ45, 1 amplifier output loop allowing field cabling to be monitored for integrity

H/S/B bus 2 x RJ45, 1 independently monitored loop allowing for hot standby configuration. 1:1 up to 1:31 configurations

DC Input 2-way terminal block, accepting up to 1.5mm² solid or with suitable ferrule

Fault Outputs 2 x 2-way terminal block, accepting up to 1.5mm² solid or with suitable ferrule

* De-rate load if sustained operation is required in ambient temperatures above 40°C

** De-rate load when supply is below 110 Vac

Ordering requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box.

