

Public Address General Alarm



EATON

Powering Business Worldwide



Hazardous Area Communications

MEDC Oxalis Sonix™ HERNIS™ Yuhua FHF

Eaton's Crouse-Hinds series hazardous area communications solutions are a comprehensive product suite for potentially explosive atmospheres, bringing together specialised products and systems solutions with trusted names such as MEDC, FHF, HERNIS™, Gitiessie and Oxalis. These products for harsh and hazardous environments bring together a range of world class specialist products and solutions for both safety and security in the fire & gas, telecommunications, PA/GA and CCTV markets.

The oil and gas industry relies on Eaton's highly respected MEDC range of signaling, alarms and loudspeakers. Designed for potentially explosive atmospheres, harsh industrial and marine environments, Eaton offers a comprehensive range of innovative notification solutions.

The Oxalis CCTV camera stations are specifically designed for use in the demanding oil & gas and other extreme environments and use leading edge technology such as full High Definition (HD) over IP technology.

Sonix Public Address General Alarm (PA/GA) is a tailor-made solution for your internal communication requirements. Is a world-class brand in the marine, offshore, and oil and gas industries offering integrated solution for internal communications and distributions of alarms and signals.

It is designed to be an high integrity, fully monitored and highly efficient solution. Along with MEDC signaling devices, FHF telephones and HERNIS CCTV, Sonix provides and end to end integrated telecoms solution from a single OEM manufacturer.

HERNIS™ is a world leading product range for high quality, durable and low maintenance Closed Circuit Television Systems (CCTV) for the oil and gas and marine industries. Designed for the extreme, our systems perform safely and reliably, increasing efficiency and providing safety to both people and equipment.

Engineers, end users and employees in a wide range of industries rely on the innovative FHF range. Decades of experience in the fields of industrial communication and signaling backed up with the continuous drive for improvement and innovation, lead to products which are considered as best in class.





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About Sonix™ PA/GA

The Eaton Sonix™ PA/GA system supplies public address and general alarm, telephones, evacuation systems, intercoms and critical telecoms equipment to industries with challenging environments in conjunction with CCTV systems. Potentially hazardous atmospheres demand superior performance and our expertise, together with many years' experience encompass numerous hazardous area applications including oil and gas, marine, power, nuclear and critical infrastructure.

Eaton is an ISO9001, ISO14001 and OHSAS18001 certified manufacturer operating at the highest levels of product quality and reliability. All products meet stringent safety specifications and are approved and certified by leading international regulatory bodies and authorities.

As the world is moving to rely on a faster IP and wireless based architecture, our in-house research and development team enables us to respond to industry trends and to combine proven designs with new technologies.

The Sonix™ system has been designed to provide a common technical solution for onshore, offshore and industrial applications where high integrity, life safety applications are necessary. Sonix™ PA/GA is the most secure, highly monitored and flexible public address general alarm solution available today. To reinforce the physical PA/GA system, Sonix™ is approved from several class societies for onshore, offshore and marine usage.

Let us introduce
our patented
revolutionary
Sonix™ platform
from Eaton



The Sonix™ PA/GA system has been developed and manufactured with inbuilt flexibility for oil, gas, petrochemical and power industries. Its flexibility comes from a universal communication format which allows information to be transmitted between the product, whether local or distributed. This information flow is transmitted via CAT6A cables which also provides a fast, secure and efficient interconnection system. To ensure reliability, these communication paths are fully duplicated, with auto switch over on data loss or corruption. As new products are developed, the new data generated can be easily integrated and targeted to units that need it.

At the heart of the system is a patent protected dual path 92% high efficiency amplifier, enclosed within a compact 1U case. This amplifier continues the flexibility out to the field by monitoring for both radial or loop speaker runs. The Sonix™ SAS adds further flexibility by allowing the system to be re-configured as the site develops throughout its life.

This software is completely passive and isolated from critical system operation, but provides a convenient way to monitor the detailed status of the system. This allows the software to be located offsite without affecting system performance or operation. Sonix™ is truly a plug and play solution for the harshest environments without compromising safety.

A large offshore oil rig is illuminated by bright lights at night, set against a dark sea and a hilly coastline in the background.

Rugged reliability

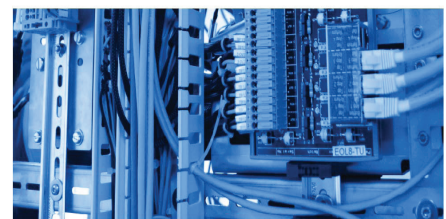
Public Address General Alarm system

Sonix™ PA/GA

Sonix™ has been designed to provide the most technically comprehensive and secure PA/GA solution available today. Sonix™ offers technical, commercial and operational value to integrators, EPCs and end users. Our design team has focused to ensure that Sonix™ adds true value to every level of the customer chain throughout all points of product development and execution.

The Sonix™ PA/GA System has been developed, manufactured and tested in line with the modern requirements of the oil, gas, petrochemical and power generation markets of today and tomorrow. Sonix™ is able to offer fully compliant communication solutions to meet the most demanding applications for onshore, offshore, marine and industrial installations. Designed to enhance modern communication philosophies, the Sonix™ PA/GA system includes a highly sophisticated yet simplified architecture that removes the need for lengthy engineering cycles, bespoke and costly software, custom field engineering or expensive on-site commissioning.

This results in a highly effective and flexible communications solution for the next generation. The Sonix™ system is rigorously designed for installation in both safe area or potentially explosive environments using latest protection philosophies including EExe, m, i and p to ensure the highest levels of safety without compromising operational features.



Sonix™ Hmi 5

PA/GA Hmi access unit

Sonix™ Hmi 5 is a compact, ATEX/IECEx Hmi access panel designed to operate as part of Sonix PA/GA. The Hmi 5 has been specifically designed to operate in harsh environments; it's certified from -40° to +60°C and can be used within Zones 0, 1 and 2 Ex environments just as easily as it can be in safe area applications. Tested to IP66 the Hmi 5 offers the perfect solution for external applications. Type approved for offshore and marine use has a fully duplicated design with galvanic isolation

it is connected to the Sonix™ system via a 2-pair and screen armoured cable via Hmi Br (IS barrier); this cable provides audio, data and power from the main cabinet. The Hmi 5 access panel features up to five (5) fully programmable, protected and oversized LED illuminated pushbuttons that can be operated with gloved hands, ensuring easy operations and clear visibility of operation during low light conditions. Button color and action can be customized for each client installation.

High integrity communication between the Hmi 5 and partner equipment is achieved in such a way as to avoid transmitted "DTMF" bleed-through, sometimes found on similar equipment. Communication to and from the Hmi 5 is fully monitored at all times.



Sonix™ Hmi 26

PA/GA Hmi access unit

Sonix™ Hmi 26 is a compact, rugged Hmi access panel designed to operate Sonix™ PA/GA equipment. The Hmi 26 has been specifically designed to operate as a 19" chassis, wall, console or desktop mounted unit. Certified to exceed IMO SOLAS regulations, the Hmi 26 connects to the partner equipment via a 2-pair and screen armoured cable providing audio, data and power from the main cabinet. The Hmi 26 access panel features up to twenty six (26) programmable, protected and

oversized pushbuttons that can be operated with gloved hands, ensuring easy operational and clear visibility of operation during low light conditions. The transparent membrane covering the buttons can have customized labeling to suite installation requirements. Key feature is the local mute control; this permits to direct control the local mute of loudspeakers reducing complexity, installation time, materials and adding system security. The Hmi 26 is a fully duplicated and isolated design, ensuring both

the sides remain isolated all the times. High integrity data communication between the Hmi 26 and partner equipment is achieved in such a way as to avoid transmitted "DTMF" bleed through, sometimes found on similar equipment. Connected via copper or fibre, the data communication to the Hmi 26 is fully monitored at all times.

Sonix™ Hmi benefits and features

- State of the art technology
- 50% reduction in cable and installation costs for Hmi
- Local mute speaker bypass and control via Hmi access unit
- Fully monitored audio path
- Ease of installation and relocation once installed
- Back lit push buttons for low light conditions
- Fully reprogrammable button configurations
- Low profile design, reducing cabinet size
- Vastly simplified architecture
- Fully duplicated and monitored internal cables
- Full range of type approvals
- ATEX and IECEx certified



Control, manage and protect

System controller

Sonix™ 2Mx

Control and matrix switching unit

The Sonix™ 2Mx matrix unit provides an integral backbone for the structure of the Sonix™ PA/GA system, housed within an ergonomic and compact 1U case. Connectivity of this unit is via colour coded, rapid fit RJ45 patch cords to ensure efficient installation and maintenance. The unit provides a highly visible front panel and system activity status, along with status of the external GUI for remote users. The 2Mx internal data bus and field wiring is fully monitored, and multi broadcast on a hybrid data network. It operates on internal and external self-healing rings to ensure stable, secure and continuous service at all times.

With 30 address zones, 12 manual alarm tones, the 2Mx unit provides a comprehensive set of powerful, flexible and secure field alterable

features. Real-time continuous monitoring of the PA/GA system and peripheral connectivity is controlled and managed within the 2Mx unit. Hmi access panel audio and data signals are independently monitored, loudspeaker networks are monitored with an inaudible integrity signal and beacon network monitored with a very short duration test signal designed to not trigger standard beacons. To ensure rapid and early warning of any system issues all monitoring of amplifier, power supply, data communication network and field cabling is reported through the 2Mx matrix, on the Sonix SAS software interface and out to the site wide DCS/SCADA system.

In a fully duplicated architecture, the 2Mx unit allows for auto switch over of all signals between A & B

systems in the event of a local fault. This ensures that under a single system 2Mx outage condition, 100% of its audio and visual output signals are

re-routed from the operational system and then on to all loudspeakers and flashing beacons, resulting in zero loss of broadcast

signal whilst maintenance is completed. This is achieved without overloading the remaining operational system. In addition to this, the 2Mx unit can propagate input signals to a second 2Mx unit over the sync bus (A+B Plus). It allows a single input, Hmi access panel or PABX input etc, to activate all appropriate loudspeakers and beacons. This provides full coverage from a fault, on an access panel for example, or by intentional design with a non-fully duplicated system.



Compact design

High efficiency amplifiers

Sonix™ 350-d

PA/GA parallel power amplifier unit

Sonix™ 350-d power amplifier is a compact 1U designed 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 sometimes associated with complex 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-temp protection circuit that isolate the unit until the fault/temperature is rectified.

Power supply and fans are fully monitored and diagnosed to ensure in life integrity and operation at all times. In the event of a fault hot standby unit can automatically drop into replace the output drive; redundancy ratio from one (1) active amplifier per hot standby to 31 per hot standby are supported. Central to the Sonix™ PA/GA system efficiency is the patent protected 350-d parallel power amplifier. The 350-d has been specifically designed with Sonix™ parallel amplifier technology to offer the most efficient > 92% and compact amplifier and power supply available. The 350-d simply and securely connects to the PA/GA system via rapid fit RJ45 and standard IEC power receptacles to ensure speedy installation and ease of servicing.

Designed as 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 to connect and monitor speaker loops. The 350-d can also be used as part of a post amplifier switching arrangement to provide audio into multiple zones. To ensure a rapid warning of any system issues, all monitoring of 350-d, power supply, data communication network and field cabling is reported onboard the front status panel, the 2Mx matrix, on the Sonix SAS and out to the site wide distributed control system (DCS).



Constant performance

Power management

Sonix™ Pm 10

PA/GA power management unit

Sonix™ Pm-10 is a compact 1U device housing the circuitry for power distribution, switchover and integrity management for the Sonix™ PA/GA system components. Pm-10 ensures that all the times critical power is protected, monitored, and efficiently and securely distributed throughout the PA/GA system. For highly critical systems requiring duplicated power inputs, the Sonix™ Pm-10 ensures PAGA system is operation at all times; in the event of site supply failure or dangerous fluctuations then the system will automatically switch over to the standby

power supply. Even under full operation, this is achieved without any disruption to the system operation.

Should the primary supply return to the system, the unit will automatically return to the primary supply and continue to monitor Fused and monitored power is distributed between eight (8) outputs, one (1) auxiliary AC feed and one (1) 48 Vdc power distribution, providing all internal power needs in a single compact enclosure resulting in fast and effective fault finding, speedy repair, ease of use and system repair.

Rapid fit RJ45 power bus connection permits intelligent monitoring of incoming power, voltage, current, and distribution cabling.

Reporting of each alarm back to the 2Mx status panel, Sonix™ SAS and site wide DCS system ensures the operator is aware of system status at all times.

Input power connection to the Pm-10 unit is via a shake proof plug and socket, ensuring simple and quick connectivity of the unit and efficient maintenance.



Distributed intelligence

Digital messaging

Sonix™ Ms 12

PA/GA digital message store

The Sonix™ Ms12 is a compact 19" 1U design unit housing an efficient circuit interface between the Sonix™ PA/GA system and the Sonix™ digital message store. Ms12 provides the user with the secure means to record and play back digital messages via the PA/GA system. It provides fully duplicated, synchronized and isolated outputs to ensure that both A and B PA/GA systems broadcast simultaneously. Users can simply record analogue messages and load them to one of the Ms12 secure memory locations. Loading is simply achieved via the rear of the device via either 12 volt free contacts on the rear of the Ms12 or programmable keys on the Hmi 26 access panel.

Via Sonix™ SAS the user can select if the messages should be broadcast to all zones (global) or to pre configured zones of address. Connectivity to the host PA/GA systems can be carried out either through CAT6A or 2 pair twisted cable depending upon user selection. Zoned broadcast is available via CAT 6A and only, while global broadcast is available via either 2 pair or CAT6A connectivity.

To ensure a rapid warning of any system issues, all monitoring of Ms12, power supply, data communication network and field cabling is reported onboard the front status panel, the 2Mx matrix, on the Sonix™ software interface and out to the site wide distributed control system (DCS).





Broadcast

Private branch exchange interface

Sonix™ Pbx

PA/GA Pbx interface

Sonix™ Pbx is a compact 19" 1U design unit, housing a compact and efficient circuit to interface the PAGA system to site PABX systems. It provides live or record and play back PABX messages via the PA/GA without risk of Larsen effects. Users can use the audio prompt feature to opt for either global (all zones) or zone select message playback ensuring at all the times, that only the required zones of address are selected. Upon completion of the message, the PA/GA system will broadcast the message as selected. If required the delay can be removed or cancelled to provide a direct live access to the PA/GA system.

The Sonix™ Pbx provides fully duplicated and isolated synchronised outputs to ensure that both A and B PA/GA systems broadcast simultaneously. Also provided is a supervisor monitor and reject feature that allows all recorded messages to be monitored prior to broadcast. Any unwanted or inappropriate messages can simply and effectively be removed from the playback queue. Connectivity to the host PA/GA systems can be either through CAT6 or 2 pair twisted cable depending upon user selection. Zoned selection is available via CAT6A only, while global is available via 2 pair connectivity or CAT6A.

Connectivity to PABX is either 2-wire audio and 2-wire E&M connectivity. To ensure rapid and early warning of any system issues, all monitoring of Pbx power supply, data communication network and field cabling is reported on the front status panel, the 2Mx matrix, Sonix™ SAS interface, and out to the site wide DCS.





The administration software

Configuration and monitoring

Sonix™ SAS

Next generation solution Sonix™ SAS is a dedicated software package that allows integrators, users and operators to log in to the Sonix™ PA/GA system for re-configuration, status and activity logs, ensuring that the full control and flexibility of the Sonix™ system is held within our customer control.

Sonix™ PA/GA system has been designed from concept to allow maximum hardware and firmware flexibility, whilst ensuring highest level of security and system operation stability. The Sonix™ SAS adds further to this flexibility and control, providing an unrivalled solution for the most demanding and security sensitive applications.

Sonix™ SAS can be operated, accessing the system via a local PAGA mounted computer or network connected computer.

This flexibility ensures that at no time the system status is unknown.

For added security Sonix™ SAS is provided with log in facility and operator restrictions, to ensure users are permitted defined access as and when determined by the owner. A detailed log of user, date, time and changes access is also available to provide an auditable trace for safety analysis if needed.

Configurations can be easily prepared in advance, away from the system, in readiness of upload. Once connected and loaded, configurations can be overwritten, saved and modified as needed with backups saved off the host PA/GA system.

Sonix™ PA/GA offers the highest level of security as, once in the software has downloaded new

configuration files to the hardware, the system operation is not dependent upon the software for any operational activities. All configurations are hard programmed to on board memory to guarantee secure operations.

The user is provided with a clear a concise system status representation. This real time feed provides detailed information on any faults, location of fault in system, serial numbers, confirmation that backup hardware is operational, system temperature, voltages and current monitoring. This level of status ensure that monitoring of the system remotely offers the same level of details as being local at the equipment.





Monitors and protects

End of line units

Sonix™ Eol8

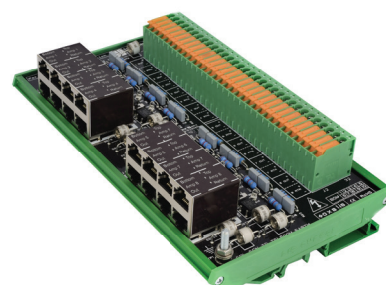
PA/GA power amplifier end of line units

Sonix™ Eol8 unit is a compact, amplifier loop termination and monitoring device. Designed to work with Sonix 350-d securely houses the circuitry whilst managing loudspeakers connected to Sonix PAGA system and external field cabling. Sonix™ PA/GA autonomously monitors and supervises the amplifier, loudspeaker cable insulation and loop integrity with a 22 kHz inaudible out of band signal every 30 seconds. The robust and industrial design of the system ensures its protection against open circuit, short circuit, earthing issues and abnormal loads associated with field loop faults.

In the event of such common field loop faults, the system rapidly detects, reports and diagnoses the fault, reporting this information back to the amplifier, 2Mx controller, ICCS output and to the Sonix™ SAS. During this process, the amplifier intelligently protects the output from permanent damage.

Provided with blade terminals on amplifier loop outputs terminals to securely and safely isolate the field cables for testing and fault rectification. The Eol8 ensures that at all times field speakers are driven with audio signals in both directions. This self-healing loop design feature ensures that in the event of an open circuit condition critical communications are not lost.

Within the Sonix™ central cabinet the Eol8 is connected via rapid fit RJ45 connectors using CAT6A cables, ensuring quick and failsafe connection to the amplifier. In the event that any internal CAT6A cable are disconnected the fault will be logged on the Sonix™ system and reported via amplifier through 2Mx to Sonix™ SAS. Each Eol8 can support eight (8) amplifiers or be easily configured to provide eight (8) common (series) outputs per amplifier to assist with field cable topology and reduce IDF requirements on larger loops.





Loop monitoring

End of line units

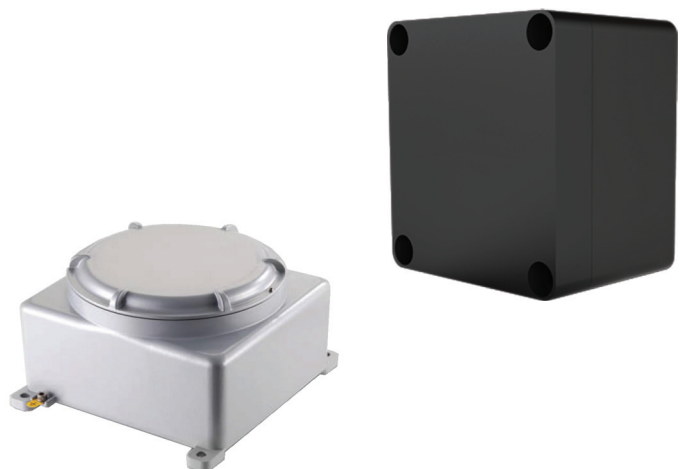
Sonix™ Eol 1

PA/GA power amplifier field end of line units

Sonix™ Eol 1 is a compact designed unit, housing the circuitry for amplifier loudspeaker circuit monitoring. On systems where loudspeakers cannot be connected in "self-healing loop" topology, the Eol 1 can be located after or within the last radial speaker to monitor that radial/spur. For use in either safe or hazardous areas, the Eol 1 provides fault free and seamless speaker loop monitoring as if connected in a loop back to the PA/GA cabinet. The Sonix™ 350-d amplifiers regularly perform silent monitoring and interrogation of each amplifier loop connected to the system, checking for open circuit, short, earth and loudspeaker load deviations.

During this process, the Eol 1 will acknowledge the signal and handshake report back its status to the amplifier. Any loss of handshake or non-definitive results will trigger the amplifier and 2Mx to report a fault which will be displayed to the user via front status panels and out to the site Sonix SAS and telecoms management system. The Eol 1 is supplied as standard in an industrial IP67 polycarbonate, or EExd explosion proof enclosure, ready to install.

Other enclosure options are available upon request. Connection to the Eol 1 is simply achieved by means of three 2.5mm² terminals; two for the speaker cable (non-polarised) and one bonded to earth. No additional cables are required.



Field device control

Termination units

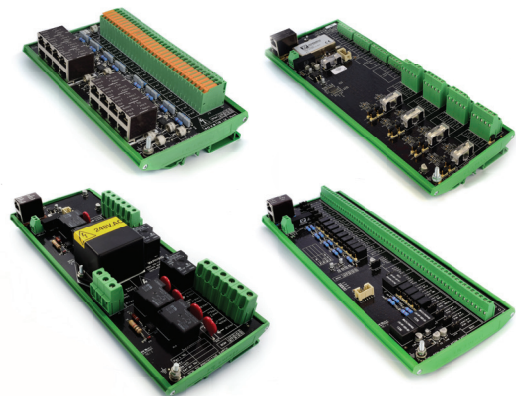
Sonix™ termination units

Sonix™ Hmi Tu provides a secure and reliable means of terminating the Hmi field cable to the PA/GA cabinet whilst providing monitoring and management of up to 4 phantom powered Hmi panels on 2 pair screened cables.

Sonix™ Vw2 unit is a compact, high capacity, beacon loop monitoring device. Designed to work with the 2Mx PA/GA matrix, the Vw2 is a compact DIN rail mountable device to manage, monitor and report on two (2) loops of external beacon and field cabling.

Sonix™ Ig lo unit is a compact, DIN mountable, high efficiency, input-output termination device. Designed to work with the 2Mx matrix, the Ig lo provides connection of all external interfaces inbound and outbound to the PA/GA system, F&G, ICCS, Entertainments, UHF radio, PBX and many others.

Sonix™ Ig Au unit is a compact, DIN mountable, audio input- output audio expansion. It is designed to work in conjunction with the Ig lo where additional input or output audio signal are required like intercoms, third-party systems, access panels and many others inputs are required.





Keep talking

Telephony

Weatherproof telephone

This weatherproof telephone from FHF is as stylish for indoor use as it is resistant for outdoor use in safe areas. With an operating temperature of -20°C to +60°C, and an ingress protection rating of IP65, the FernTel 3 is suitable for many different applications.

The unit is offered in two variations; the 16 buttons without display or with 21 buttons with display. Both variations are offered with spiral cord or steel armoured cord. Additionally, some models of the FernTel 3 come with additional features such as telephone directory (display version)

and hotline phone (ZB version). The FernTel 3 is suitable for almost universal use thanks to its transformability and can be mounted to either a wall or desk.



Telephone protection hood

The telephone protection hood is an excellent aid to cut out extraneous noise and improve audibility in noisy surroundings when open telephones have to be installed for economic reasons.

The special shape of the hood and its inner lining of sound-absorbing material optimally reduces noise in the area of the telephone. Eavesdropping is also made difficult.

The best acoustic effect is achieved when the protection hood is mounted with its back facing the noise source or loudest noise source



Ex industrial telephone

The Ex ResistTel telephone from FHF is an Explosion-proof and weatherproof, industrial telephone, certified for use in hazardous dust and gas atmospheres. It is completely programmable, and has been equipped with a 21-piece stainless

steel (4VA) keypad, designed for use with industrial gloves. This Ex telephone has been developed for operation in the petro-chemical industry, offshore plants, mills and harbours. It is build to withstand extreme

temperatures, air humidity, sea water dust and strong mechanical wear and tear.



See and hear the Sonix™ experience

Field equipment

Ex flashing beacon

The Eaton XB12 high output certified beacon has been designed for use in potentially explosive atmospheres and harsh environmental conditions. The enclosures are suitable for use offshore or onshore, where light weight combined with corrosion resistance is required. With a glass reinforced polyester body, the XB12 leads the way in signalling devices

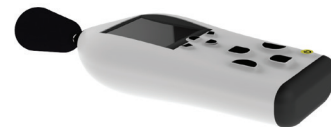
where the effects of harsh environmental conditions and extreme temperatures of -55°C to +70°C demand the highest quality and performance possible. With global certifications including ATEX, IECEx, Inmetro, cULus, ULC, CUTR & CQST, the XB12 can be specified and selected for all applications.



Sonix™ sound pressure meter

Sonix™ Spl 100 is a compact, ruggedized digital sound pressure meter. It is vital to ensure that any PA/GA installation produces the correct level and coverage of audio power to meet user

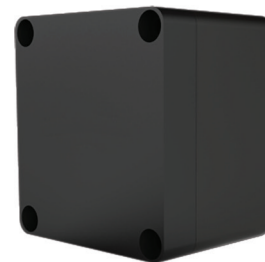
specifications and regulatory requirements. The Sonix™ Spl 100 provides the latest features and benefits usually only reserved for far more expensive and complex devices.



Sonix™ mute tu PA/GA

The Sonix™ mute allows for direct connection of a mutable loudspeaker control to the local Hmi panel. Whilst control is local the audio is fed via the main amplifier loop. This efficient feature removes the need for extensive, exposed

mutable speaker cables back to the main PA/GA cabinets, with up to 50% saving on purchase, installation and maintenance costs. The mute unit ensures that all mutable speakers are part of a fully monitored amplifier loop and monitored at



Audible and visual combination unit

This MEDC CU1 combination unit is intended for use in potentially explosive gas atmospheres providing a sound output of up to 116dB(A) and tube energy of up to 10 joules (beacon). With global certifications including ATEX, IECEx, CUTR and Inmetro, it is suitable for use in the harsh environmental conditions found in the offshore and onshore, oil, gas and petrochemical industries.

The flamepaths, flare and body are manufactured from a UV stable glass reinforced polyester. Stainless steel screws and mounting stirrup are incorporated to ensure a corrosion-free product. A tapered flamepath is used to overcome the problems of assembly of parallel spigot flamepaths.



Ceiling-mounted loudspeaker

This MEDC ceiling-mounted loudspeaker, intended for use in potentially explosive atmospheres, has a power rating of up to 8 Watts (upon request) and is suitable for use in the harsh environmental conditions found in the offshore and onshore, oil, gas and petrochemical industries. The lightweight, patented design provides self-supporting and self-locking mounting

onto a ceiling tile from 0.5 to 55mm thick.

The speaker is held in the mount via a twist-fit support and locking grille, giving access from above or below and allowing first fit of either ceiling or speakers. The DB20C's compact design will fit a ceiling cavity of limited space and its aesthetically pleasing appearance will enhance the surroundings.



Ex loudspeaker

The DB4B is a high power, explosion proof loudspeaker from MEDC 0/. Certified for use in a wide range of temperatures (from -55°C to +70°C) the Ex enclosure is manufactured from GRP with a rugged thermoplastic flare

providing a corrosion free and aesthetically pleasing product.

The SPL figure for sensitivity (1W @ 1m) is 110dB. At 1m, 25W unit produces a maximum SPL of 124dB, the 15W unit 122dB and the 8W unit 120dB.



Services

From simple Ex electrical enclosures through to complex PA/GA and CCTV solutions, the availability and reliability of Sonix™ equipment is down to how well it is installed and commissioned. To assist clients in all aspects of site work, Eaton offers a team of

fully certified, qualified and experienced field engineers. Ensuring that equipment is installed to the latest regulatory standards, the system is commissioned fully and handed over for SAT in a compliant and expedient manner.





Eaton

The safety you rely on.

See the complete offering at www.crouse-hinds.com/hac

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