![Protec - A Bosch Company logo]

EMS10-EMS50 - Zonable Emergency Microphone

- **Wall Mount Fist Microphones**

- **10, 20 or 50 Selection Buttons**

- **EN54 Compliant Indicators and Controls**

- **EN54 Fault List Display**

- **Speech Level 'VU' Bargraph**

- **Fully Monitored**

- **Hardware Bypass Fallback Operation**

- **Dual Redundant Outputs for A & B Routers**

- **Additional Voice over IP Interface, with PoE RJ45 Ethernet Port (With IP License)**

The EMS10, EMS20 and EMS50 Emergency Microphone Stations are EN54 compatible emergency microphones which provide live and pre-recorded message broadcast into user selected zones. The EMS10 provides 10 button selection capability whilst the EMS20 provides 20 buttons, and the EMS50 is formed from a 20 button EMS20 together with an additional 30 button EMX30 expansion unit. All microphones also provide EN54 compliant emergency functions and all EN54 mandatory indicators and controls.

The microphones are housed in a lockable wall-mounting box and feature a graphic LCD display together with indicators for 'Power', 'Voice Alarm', 'System Fault', 'Fault' and 'Speak Now'. The LCD display provides remote access to the list of active faults in the PA/VA system, while the EN54 mandated control keys enable navigation through the fault list, and also provide remote fault acceptance and clearance.

The microphones have multiple PA/VA system interfaces and can be connected directly to either one or two of our audio routers, enabling multiple options for system redundancy. The microphones

will operate in an All-Call hardware bypass fallback mode even in the event of processor failure within the host Voice Alarm Router. There is also a licensed, non-EN54 RJ45 Ethernet IP interface with Power over Ethernet capability for VoIP connections to our IP based PA/VA systems. All interconnect cabling and the microphone capsule is continuously monitored for open and short circuits.

Top, bottom and rear cable entry points are provided by means of 'knock-outs' in the enclosure, while the field connections are provided by means of a set of terminals on the inside rear panel of the back box.

The EMS10, EMS20 and EMS50 are compatible with our whole range of Voice Alarm and Public Address systems, and are designed to comply with EN54-16, ISO 7240-16 and BS5839-8. An All-Call version is available for applications which require this.
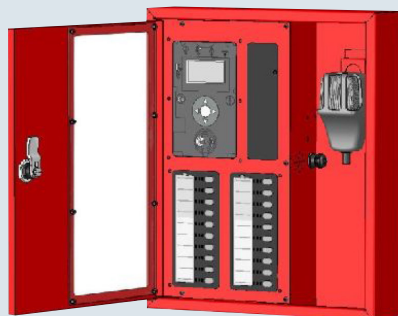
EMS Microphone Options

The base product of the EMS microphone range is the All-Call EMS 01. This Product Overview describes the extended variants in the range. These units have up to fifty general purpose programmable select buttons, each identified by means of a label which is protected under a clip-in cover.

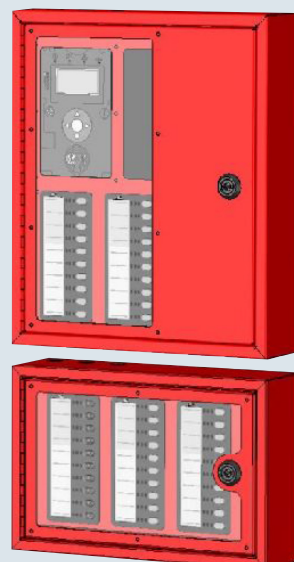See the separate EMS01 Product Overview for details of the All Call unit.

EMS50 Emergency Microphone
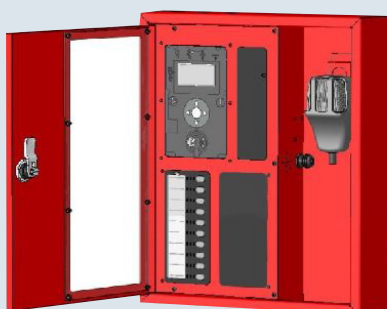
EMS10 Emergency Microphone

EMS20 Emergency Microphone

IP Option with IP Interface License
The EMS Microphone's built-in RJ45 Ethernet IP port is enabled with the addition of the IP interface license.
Note that this interface is not EN54 compliant.

EC Option with Eurocylinder Door Lock
The standard door lock can be replaced with a door which mounts a Eurocylinder lock. This is used for applications where improved security is required, or where a standard Eurocylinder lock is used for multiple items of equipment around a site.

Interconnection Options

The EMS microphone range has multiple PA/VA system interfaces, with the physical interfaces formed of terminals located in the inner rear face of the back box. These provide connections as follows:

• Dual 'Router Microphone Ports'
- Analogue Microphone Audio
- RS485 Communications
- DC Power Supply

• 'Router Microphone Auxiliary Port'
- Hardware Bypass Emergency Microphone Connections for both single and dual Routers

• USB Port
- Software and Configuration Update

• Ethernet Port
- RJ45 IP Network Port with PoE
- Built-In VoIP Interfacing (with license)

Implementation Options

Single Router Connection

The most basic connection method uses either the Router 1 or Router 2 Microphone Port connected direct to a single audio router.
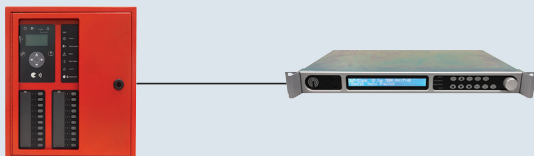
Connection to Dual Redundant Routers

If the EMS is used with a PA/VA system which has dual redundant 'A' and 'B' audio routers, then both the Router 1 and Router 2 Microphone Ports are used, one connected to each Audio Router.

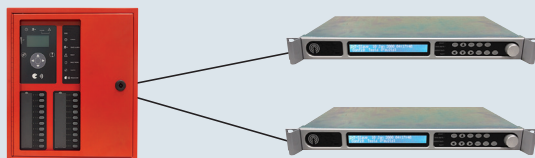In this installation the PA/VA system will continue to operate even if one of the audio routers suffers a total failure, such as a loss of power to that equipment room.

Dual Redundant Connection to a Single Router

If the EMS is used with a single audio router, then both the Router 1 and Router 2 Microphone Ports can be used, in order to provide dual redundant cabling between the EMS microphone and the router.

In this installation the microphone will continue to operate normally even if one of the two connection cables is cut.
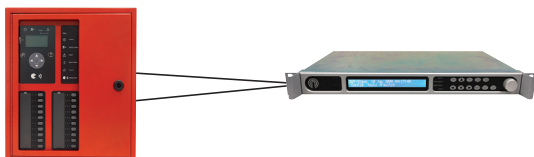
Hardware Bypass Redundant System Operation

Any of the connection methods above can have additional peace of mind added for critical Voice Alarm applications by the addition of Hardware Bypass functionality, with any of our Audio Routers, and in single or dual router systems.

This uses an extra connection cable to the router, which carries the hard wired PTT and Speak Now connections which are used to provide All-Call broadcast functionality even in the event of the router CPU or DSP failing.

Daisy Chain Router Connection

Multiple EMS microphones can be connected to a single VIPEDIA microphone port by 'daisy chaining' the Router 1 and Router 2 Microphone Port connectors.

This enables more microphones to be connected than there are available microphone ports on the router, although only one of the daisy chained microphones can be used at once.

Note that this interconnection method is not currently EN54 compliant.
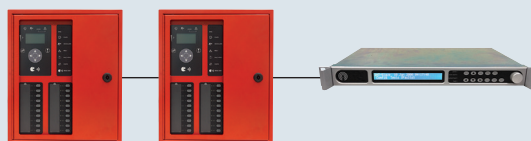
IP Network Connection

The built-in Ethernet port enables direct connection to a site's IP Network, and enables the EMS microphone to broadcast to any or all PA zones on that network.

The PA IP network may be confined to a single building, or may be a larger network, such as one linking separate buildings across a site or large complex.

Note that an IP license is required and this interconnection method on its own is not currently sufficient for EN54 compliance.
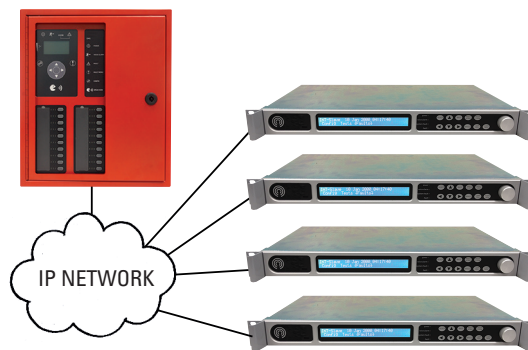
Multiple Connections for Redundancy

Any of the direct router connections can be combined with an IP Network connection to provide redundancy.

Therefore an EMS microphone can be connected by both an IP network and local PA/VA system analogue wiring. Thus even if there was a total IP network failure the direct connection to the local PA/VA system would continue to provide local operation.

Technical Specification

General

Standards..EN54-16, ISO 7240-16 / BS5839-8
Power Supply Inputs ....Dual 18 to 48V DC
Dual Redundant Power Inputs on Router Mic. Ports
PoE on Ethernet Port
Current Consumption
Min.. 98mA @ 24V DC supply
Max (EMS10). .... 252mA @ 24V DC supply
Max (EMS20). .... 352mA @ 24V DC supply
Max (EMS50). .... 652mA @ 24V DC supply
Format / Colour .... Wall mounting metal box / Red RAL3020
Door ....Key Locked
Option to use Eurocylinder lock

Installation Connections

Location ....Internal Terminals
Direct Router Connections.. For 2 Routers
Router 1 Mic. Port & Router 2 Mic. Port
Audio Out... 0dBu balanced (nominal) / 66R
Control Data...EIA RS485 / 38400 baud
Hardware Bypass Connections.. For 2 Routers
(VIPEDIA-12 Mic. Aux Port)
Push To Talk (PTT) switch ....Router 1 & Router 2
Speak Now Indicator ....Router 1 & Router 2
IP Network Connection..100baseT Ethernet / RJ45
With PoE (Power over Ethernet)
USB Connection.. USB Slave / 'B' Socket
(Used for Software and Config Update only)

Dimensions and Weight

Dimensions (H xW x D) ....
EMS10, EMS20.. 402.4mm x 344mm x 95mm
EMS50.. 660.8mm x 344mm x 95mm
Mounting Holes .... 9mm diameter
Cable Entry Knock-Outs .... 20mm diameter
Weight...
EMS10, EMS20... 5kg
EMS50.. 6.5kg

User Interface

Front Panel GUI ....LCD Display and Buttons
All EN54-16 Mandatory Controls and Indicators
Fault Reporting & Status Display
Buttons..All Touch Sensitive
PTT...No-Click Touch Pad PTT
GUI Navigation..Touch Rotary Selector
Menu Controls.. Fault Mode / Setup Mode
Option of additional Message Trigger Button
LED Indicators..EN54 and General
General Indicators..2 Indicators
PTT Touch Indication
VU Level Bargraph (5 LEDs)
EN54 Mandatory Indicators .... 4 LEDs
Power / Voice Alarm / System fault / Fault
LCD Display ....Graphic dot matrix backlit
GUI Languages.. English plus Custom Language
Custom Language stored on uSD Card
Microphone ....Fist Mic.

Maintenance Support

Microphone .... Replaceable
LCD Display and Buttons ....Front Panel
EN54 Access Level Control
Fault Buzzer
Fault Reporting & Status Display
Fault Acknowledgement and Clearing
USB Port .... Internal
Laptop Configuration and Software Update Port
uSD Card .... Internal
Custom Language Storage

Environmental

Temperature Range ....
Operating Temperature Range... −10°C to +55°C
Storage Temperature Range.. −20°C to +55°C
Humidity Range... 0% to 93% Non-condensing
Ingress Protection...IP30

PRODUCT PART NUMBERS

EMS10 - N 47-670-06 .... 10 button Zoneable Emergency Microphones (Analogue Interfaces)
EMS20 - N 47-670-07 .... 20 button Zoneable Emergency Microphones (Analogue Interfaces)
EMS50 - N 47-670-08... 50 button Zoneable Emergency Microphones (Analogue Interfaces)
EMS10-IP / EMS20-IP / EMS50-IP ....10 / 20 / 50 button Zoneable Emergency Microphones (Analogue and IP Interfaces)

OPTION PART NUMBER SUFFIXES

EC...Eurocylinder compatible Door Lock

Functions and Compatibility

The EMS10, EMS20, and EMS50 are compatible with the whole range of our Voice Alarm and Public Address systems, and are designed to comply with EN54-16, ISO 7240-16 and BS5839-8. Please note that this Datasheet is provisional and that not all of the functions described in this Product Overview may be available at the current time. Please contact us to confirm current availability of any particular product features.

$\mathsf{C}\mathsf{E}$ This equipment is designed and manufactured to conform to the following EC standards:
EMC: EN55103-1/E1, EN55103-2/E5, EN50121-4, ENV50204
Safety: EN60065

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