Installation Guide

Type Nos:
FMS5 FMS10
FMS20

Zoneable Fireman's Microphone Stations

Product Description

The FMS5, 10 and 20 Fireman's Microphone Stations each comprise a lockable wall-mounting box housing a fist microphone and associated electronics. All are designed to work with the VAR range of DSP Router/System Controllers.

The FMS5 provides 5 zone selection capability whilst the FMS10 and 20 provide 10 and 20 zones respectively. Buttons may also be configured to broadcast pre-recorded messages.

The FMS5-20 will operate in an all-call mode even in the event of processor failure within the router as required by BS 5839 Pt.8. In this instance, the All-Call-Only indicators will illuminate to indicate the restricted function.

Interfacing of Select buttons and indicators to the DSP Router/System Controller is via an RS485 serial connection.

Microphone audio is provided as a balanced 0dBu (nominal) analogue signal. The unit features an in-built signal limiter.

The microphone capsule is continuously monitored for open or short circuits. An outgoing 20Hz surveillance tone is generated to enable the audio cabling to the router to be monitored.

Hardwired connections are provided for the PTT switch and Speak Now and All-Call-Only indicators. This cabling is continuously monitored by the router for open and short circuits.

Field connections are provided by internal DIN rail mounted terminals on the back of the box.

Top and bottom cable entry points are provided fitted with removable metal blanking plugs. Rear cable entry is also catered for by means of 'knock-outs' in the rear of the box.

For further details please refer to the DSP Router/System Controller Handbook and the Application Solutions PA/VA Systems Design Handbook.

CE Declaration

CE This equipment is designed and manufactured to conform to the following EC standards:

EMC	EN 55103-1, Environment E1, EN 55103-2 E5
Safety	EN 60065

Failure to use the equipment in the manner described in the product literature will invalidate the conformity. A 'Declaration of Conformity' statement to the above standards and a list of auxiliary equipment used for compliance verification is available on request.

Safety and Precautions

ELECTRICAL SAFETY

Always replace blown fuses in the supply to this equipment with the correct type and rating. Ensure power supply cabling is adequately rated.

ENVIRONMENTAL PRECAUTIONS

The temperature and humidity ranges shown in the specifications for this product must not be exceeded. This equipment must not be installed in an area that is subject to a corrosive atmosphere, excessive moisture or may allow water or other liquids to come into contact with the unit or its external connections. In the close proximity of some radio frequency transmitters, the signal to noise ratio of this product may be reduced. If this occurs, re-location of the equipment or the signal cables is recommended.

ESD PRECAUTIONS

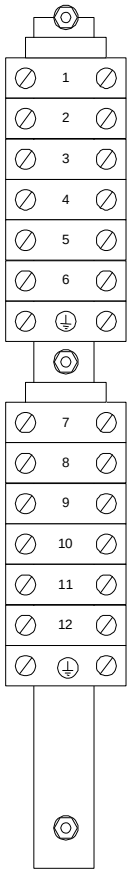
This product contains static-sensitive devices. Observe ESD precautions when working on the equipment with the cover removed.

To install this product you will need:

- The FMS5, FMS10 or FMS20 Unit.
- Suitable cable glands.
- A small flat bladed screw driver.
- A 2mm Allen key or driver.
- Suitable Wire cutters and strippers for Fire rated cable.
- Suitable fixings and tools for wall mounting.

Connections

DIN Rail Terminal Allocations:



Terminal	Connection	Detail
1	AUDIO +	Balanced Audio Out+
2	AUDIO -	Balanced Audio Out-
3	DATA-DXP	RS485 Data+
4	DATA-DXN	RS485 Data-
5	+24V INPUT	18-40V Supply Input
6	0V INPUT	Supply 0V
	SCREEN	Cable Screen
7	PTT+	Connection from Press-To-Talk switch **(fitted internally with 6k8/470 Ohm resistors)**
8	PTT -	Connection from Press-To-Talk switch **(fitted internally with 6k8/470 Ohm resistors)**
9	SPEAK NOW +	Connection to Anode of Speak-Now indicators **(built in series resistor)**
10	SPEAK NOW -	Connection to Cathode of Speak-Now indicators
11	ALL-CALL-ONLY +	Connection to Anode of All-Call-Only indicators **(built in series resistor)**
12	ALL-CALL-ONLY -	Connection to Cathode of All-Call-Only indicators **(built in series resistor)**
	SCREEN	Cable Screen

Cable Types

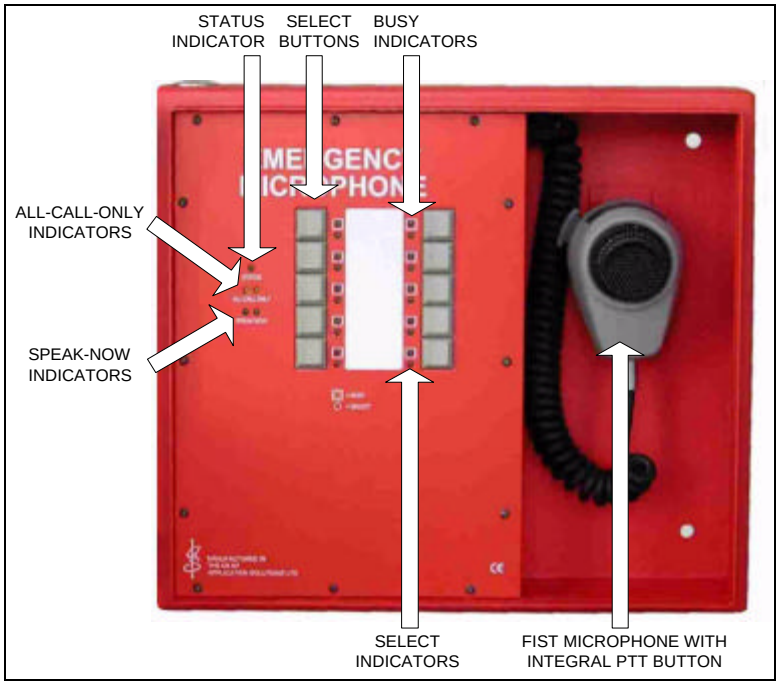
For BS EN 5839 Pt 8 compliance fire rated cable (Firecell for example) must be used.

For cable-run limitations and alternative cable types please refer to Application Solutions Ltd for advice.

Recommended installation procedure

- Remove the front panel by removing the 12 off M3 Allen Screws.
- Disconnect the electronics/front panel assembly by unplugging the multiway connectors from the electronics module.
- Store the front panel assembly and fixing screws safely.
- The unit may now be wall mounted and field cabling connected without risk of damage to the internal electronics.
- Once the site work is complete, the front panel assembly may be reconnected and fixed back in place.

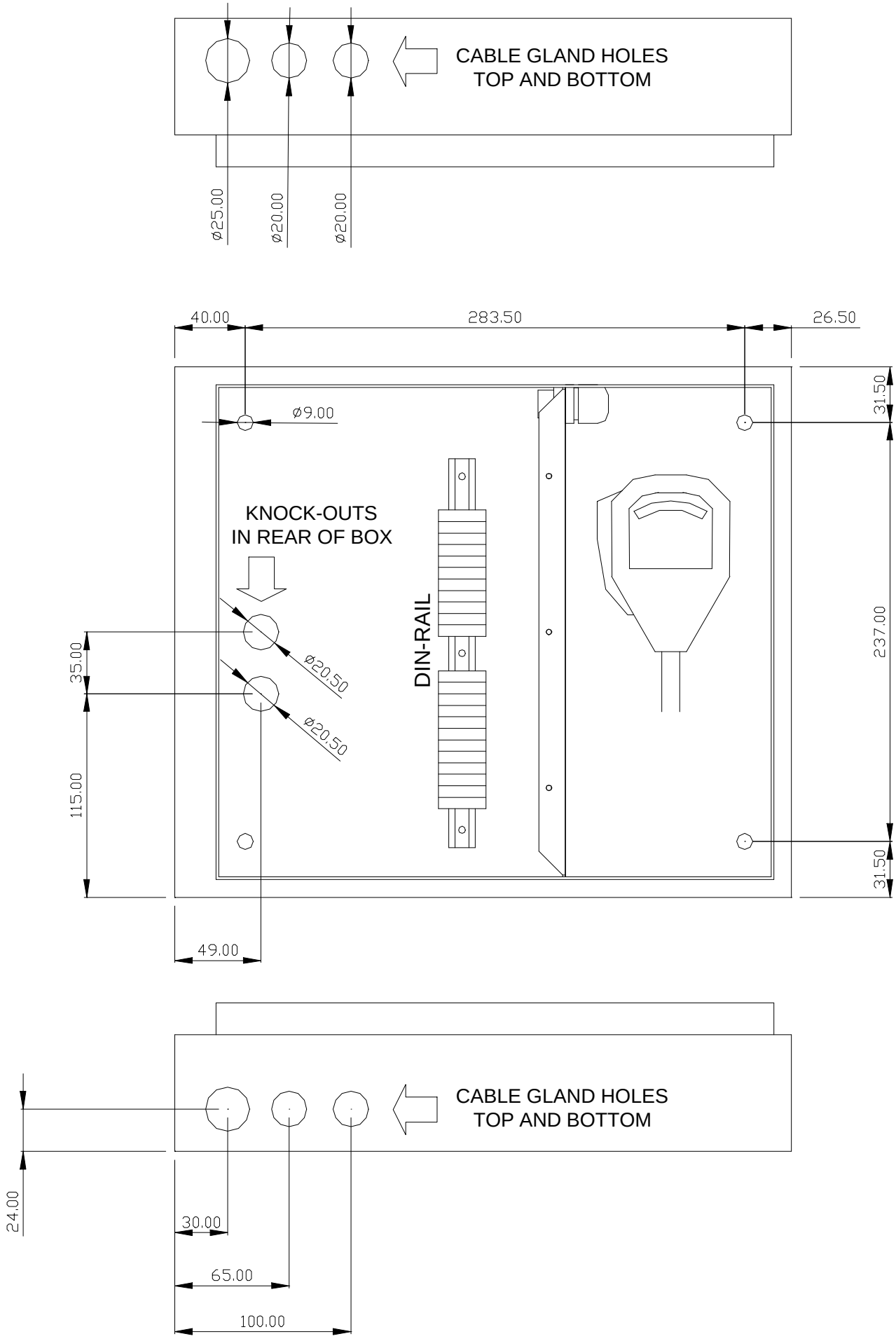
Controls and Indicators



Select Button	Selects which zone(s) will receive the paging announcement from this microphone unit. If pressed a second time, the zone will be de-selected. Select buttons can be configured at the VAR DSP Router/System Control Unit to control a single zone, a group of zones, all zones or to trigger recorded message playback.
Busy Indicator	When lit, indicates the zone (or one or more of the group of zones controlled by this button) is already in use by another input. This microphone unit can only select the zone if the other input is of a lower priority. If a higher priority input selects the zone during a paging announcement, the zone will be deselected and the Busy indicator will be lit. Announcements will continue to other zones.
Select Indicator	When flashing, it indicates the zone is successfully selected and is ready for use by this microphone station. This indicator will be steady once the PTT button is pressed (as long as a higher priority input has not selected the same zone). If a higher priority input selects the zone during a paging announcement, the zone will be deselected and the Select indicator will go out. Announcements will continue to other zones. If configured for recorded message playback, flashing indicates that playback is finishing.
Press To Talk Button	The press-to-talk button is integral to the fist-microphone. When pressed, it activates the all-call zone selection, opens the microphone channel and triggers the pre-announcement chime (if selected at the VAR DSP Router/System Controller) ready for the paging announcement. When released, the microphone channel is closed and the zone selections may be either cancelled or left selected as programmed at the VAR DSP Router/System Controller.
Speak-Now Indicators	When the Press To Talk button is pressed, and the chime (if any) has finished, this indicator is lit to indicate that the announcement can be made.
All-Call-Only Indicators	Illuminates if there is a fault within the Router or FMS processor control or the RS485 comms cabling between them. In this mode the microphone will work as all-Call when the PTT switch is operated.
Status Indicator	Flashes green slowly to indicate healthy and powered status. If the indicator flashes fast, there is an RS485 communications fault with the VAR Router. If the indicator is off or on constantly, there is a fault with the FMS1 electronics or loss of power.

For full information about interfacing the FMS5-20 to the VAR Routers, refer to the DSP Router Handbook.

Mechanical Details



Specifications

Current consumption (24Vdc supply)	Maximum - all indicators on	75mA @ 24V DC supply (FMS5) 80mA @ 24V DC supply (FMS10) 90mA @ 24V DC supply (FMS20)
	Quiescent	64mA (FMS5-20)
Dimensions (H x W x D)		300mm x 350mm x 88.5mm (excluding handle)
Top and bottom cable entry hole diameters		1 x 25mm ∅ and 2 x 20mm ∅
Rear knock-out diameters		2 x 20.5mm ∅
Fixing Holes		4 x 9mm ∅
Colour		Red. RAL3020.
Weight		5.7 kg (FMS5-10) 5.9 kg (FMS20)
Temperature Range (storage and operating)		-5°C to +50°C
Humidity Range		0% to 93% Non-condensing
EMC EN 61000-4-3. 80MHz to 1GHz EN61000-4-6 0.15MHz to 80MHz		ITU/R 562-3 impairment level 3. In the close proximity to some radio frequency transmitters, the signal to noise ratio of this system may be reduced. If this occurs, ensure adequate system RF earthing or re-locate the equipment or signal cables. *Full performance information available on request.*

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This equipment is designed and manufactured in the UK by Application Solutions Ltd to a quality system certified to the internationally recognised quality standard: BS EN ISO 9001: 1994

Certificate number: 96-LON-AQ-041