



EVC Standalone Master Station User Guide



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Scope

The Crisis EVC Standalone Master Station User Guide provides a comprehensive description of the Crisis Emergency Voice Communication System.

This guide introduces the Crisis EVC Standalone Master Station features, technical specifications and gives an understanding of its components and their function. You will also find instructions on installing, configuration and testing.



This guide is for anyone involved with the design, maintenance and purchasing of a Crisis EVC system. It is assumed that anyone using this product has the knowledge and appropriate certification from local fire and electrical authorities.

Document Conventions

The following typographic conventions are used in this document:

Convention	Description
Bold	Used to denote: Emphasis.
<i>Italics</i>	Used to denote: References to other parts of this document or other documents.

The following icons are used in this document:

Convention	Description
	Recommended guideline: Advising to do so.
	Caution: Not appropriate to do so or; care taken to avoid danger or mistakes.

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1 Introduction

1.1 What is an Emergency Voice Communication System?

An Emergency Voice Communication System, or EVCS, is a system that allows voice communication in either direction between a central control point and a number of other points throughout a building or building complex, particularly in a fire emergency situation. The control points, or outstations by which they are more commonly referred, generally comprise of a Type A outstation, a Type B outstation, or a Type C Combined Type outstation. "Assist Call" emergency assistance alarm systems can also be incorporated into the EVCS.

EVCS is generally required in the following situations:

- In any building or sports or similar venue where there are disabled people, or people who may have difficulty negotiating the evacuation route.
- In buildings with phased evacuation and/or fire fighting lifts where it facilitates secure communications for building managers, fire wardens, and attending fire officers.
- At sports venues and similar complexes, where it will assist stewards in controlling the evacuation of the area in an emergency.

The Crisis Emergency Voice Communications System (EVCS) is designed to fully comply with BS5839 Part 9:2021 for use as a Fire Telephone system, Disabled Refuge Call system or as a combined system when both Fire Telephones and Disabled Refuge Points are required.

1.2 Suitability

Fire telephone systems are recommended for all public buildings and multi-story buildings over four floors by BS9999:2017.

Disabled Refuge systems are required in buildings where the public or staff gains access to any floor other than the ground floor using lifts. A refuge is a relatively safe waiting area provided at each storey exit from each protected stairway.

Refuge areas are not just for wheelchair users, they are for anyone who may need assistance i.e. someone who's immediate evacuation will impede the egress of others, a pregnant woman over 6 months term or persons with long term injuries, arthritis etc.

2 Product Overview

Crisis EVC Standalone, comprises of a Master Station and one or more outstations. Additionally, the "Assist Call" emergency assistance alarm system can either be connected to the same line as a Type B outstation or connected to a dedicated line. Neither the outstations nor the "Assist Call" emergency alarm system require a separate power supply unit as each line is powered from the Master Station. This has the additional benefit of each line being fully monitored and battery backed up.


The Standalone Master Station has been designed for radial star topology. In most cases this will reduce the cable requirements for all ring-based systems. The topology consists of spurs formed of 1 off two core 1.5mm CSA cables (soft skin enhanced up to 500m per leg, MICC 200m per leg) to each outstation.

3 Important Safety Information

This Equipment must only be installed and maintained by a suitably skilled and competent person.

This Equipment is defined as Class 1 in EN60065 (Low Voltage Directive) and must be EARTHED.



	<p>Caution: Indoor Use Only Warning: Shock Hazard - Isolate Before Opening Warning: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE Warning: THIS UNIT MUST BE EARTHED Warning: NO USER SERVICEABLE PARTS</p>
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Each Crisis EVC Standalone Master Station requires local isolation with verification as per the Electricity at Work Regulations 1989, returning to a B6A breaker clearly marked 'EMERGENCY VOICE COMMUNICATION SYSTEM. DO NOT TURN OFF'.



Anti-static handling guidelines

Make sure that electrostatic handling precautions are taken immediately before handling PCBs and other static sensitive components.

Before handling any static-sensitive items, operators should get rid of any electrostatic charge by touching a sound safety earth. Always handle PCBs by their sides and avoid touching any components.

4 Operation

All conversations are under the command of the Crisis EVC Standalone Master Station.

4.1 Receiving a Call

1. One of the eight zone LEDs and the mode LED will flash red to indicate an incoming call. The flash rate will identify the outstation type, with a Type A outstation having a faster flash rate than a Type B outstation.
2. Lift the Master handset receiver. The User LED will illuminate Red.
3. Press the corresponding zone button (indicated by the red flashing LED). This LED and the User LED will change to flashing green to show that this line is now connected, and a conversation can take place.

4.2 Making a Call

1. To make a call, lift the Master handset receiver and the User LED will illuminate red.
2. Press the zone button for the required outstation. The corresponding zone LED will flash red. This flash rate will be slower than the flash rate for either an incoming Type A or Type B call.
3. When the outstation answers the call, the zone LED flashes green, the mode LED illuminates red and the user flashes green to indicate this line is now connected and a conversation can take place.

4.3 Ending a Call

- To end the call from the outstation, either replace the Type A receiver back on its hook or press the call/cancel button for a Type B outstation.
- To end a conversation from the Crisis EVC Standalone Master Station, replace the Master handset receiver back on its hook.



This will not end the call, only the conversation. The outstation will revert back to requesting a call, and the zone LED will flash red to indicate this. The call **MUST** be ended at the outstation.

4.4 Putting a Call on Hold

1. To put a call on hold, press the zone button for the required outstation that is already connected. The zone LED will change from flashing green to flashing green/red. The hold tone will be heard in the handset.
2. To reconnect the call, press the zone button for the required outstation again. The zone LED will change from flashing green/red to flashing green to indicate the call is now connected again.

4.5 Conference Call

Depending upon the number of Line Cards fitted in the Master Station, up to five lines can be connected to the conference call at any one time. To receive a call, see 8.1. To make a call to an individual outstation, see 4.2. The Master Station controls which lines are involved in the conference, and only one conference group is allowed.

4.6 Acknowledging “Assist Call” Alarms

1. When an “Assist Call” goes into alarm, the appropriate zone LED will flash blue, and a two-tone buzzer sounds to indicate that an “Assist Call” alarm has been operated.
2. To acknowledge the alarm, press the corresponding zone button, and the blue LED will illuminate continuously with an intermittent buzzer tone every 15 seconds. If after 2 minutes the “Assist Call” alarm has not been cancelled, the buzzer will resound and the LED will flash blue.
3. Within the WC cubicle the pull cord indicator will change from continuous indication to no indication. The cancel plate will alter from flashing to continuous and the buzzer will change from continuous to intermittent. Outside the cubicle the Over door plate indication will alter from flashing to continuous and the buzzer will change from continuous to intermittent. This change in indication and buzzers during the acknowledge phase indicates to the WC user that help is on the way.

4.7 Accepting Faults

1. Before accepting faults, the fault must be noted in the log book, along with the time the fault was reported.
2. To accept the fault, enter either the access level 2 (code: 1664) or access level 3 (code: 1812) menu, then press zone button 1. The buzzer will silence and the general fault LED will now go steady.
3. Press zone button 8 to exit this menu and to return to the menu options.
4. The buzzer will resound on each new fault.

4.8 Panel Indicator Test

1. To test the panel indicators, enter either the access level 2 (code: 1664) or access level 3 (code: 1812) menu, then press zone button 2.
2. All LEDs will illuminate in a predefined sequence, and the buzzer will sound.
3. Press zone button 8 to stop the panel indicator test and to return to the menu options.

5 Indications and Controls



Figure 1: Crisis EVC Standalone Master Station Indication and Control

5.1 Mode Indicator Summary

Mode	Description
Green Solid	Normal state
Red Solid	Outstation off hook
Blue Solid	Assist call active
Yellow Solid	Refuge (type B) points disabled
Flashing Red/Blue	Incoming call/ Assist Call alarm at same time

Table 1: Indicator Summary

5.2 Power Supply & CPU indicator Summary

AC	DC	PSU	General	CPU	Description
ON					Mains OK
OFF		FLASH	FLASH		Mains failure
ON	ON				Battery OK
ON	OFF	FLASH	FLASH		Battery open circuit
ON	OFF	ON	FLASH		Battery short circuit
ON	FLASH	ON	FLASH		Battery high impedance
ON		ON	FLASH	ON	PSU processor fail
ON			FLASH	ON	Display or Exchange Processor Fault or Display-Exchange comms fault
ON			FLASH		Display or Exchange Processor Fault or Display-Exchange comms fault on remote panel (if applicable)
ON	FLASH		FLASH		Remote Battery fault
FLASH			FLASH		Remote Mains fault

Table 2: Power Supply & CPU Indicator Summary

ON = LED illuminated
 OFF = LED off
 FLASHING = LED Flashing

	When faults are accepted the general LED illuminates solid.
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5.3 User Indicator Summary

Red	Master handset off hook
Flashing Yellow	Master handset open circuit
Cyan	User logged in
Magenta	Engineer logged in
Flashing Green	Call connected
Flashing Red/Green	Call on hold
Solid Yellow	Master handset short circuit
Solid White	Call connected on remote master station

Table 3: User Indicator Summary

5.4 Zone Indicator Summary

Zone Indicator Status	User Indicator Status	Buzzer Status	Description
Slow Flashing Red		OFF	Outgoing call
Fast Flashing Red		Ringing	Incoming call from type A outstation
Normal Flashing Red		Ringing	Incoming call from type B outstation
Normal Flashing Green	Normal Flashing Green	OFF	Call connected to local master handset
Normal Flashing Green/Red	Normal flashing Green/Red	OFF	Call on hold
Normal Flashing Green/White	Solid White	OFF	Call connected via a remote master handset
Solid Yellow		ON	Line Short circuited
Slow Flashing Yellow		ON	Line card missing
Normal Flashing Yellow		ON	Line Open circuit or EOL missing
Fast Flashing Yellow		ON	Line Earth fault
Solid Cyan	Solid Cyan	OFF	Access level 2
Solid Magenta	Solid Magenta	OFF	Access level 3
Normal Flashing Blue		2 Tone Alarm	Incoming Assist Call alarm
Solid Blue		Intermittent Double Beep	Assist call acknowledged


Table 4: Zone Indicator Summary

6 Maintenance

It is a requirement of BS 5839-9:2021 that a maintenance agreement be in place for the EVCS. The maintenance schedule should be as follows:

Frequency	Test
Weekly	Test a different outstation on the system each week and make a call to the master station. Repeat each week until all outstations and master stations are tested. Record these results in the site log. *if more than one master station is present alternate weekly. Non EVC mode devices should also be tested for correct operation, at a frequency of at least 1 per week so that all devices are tested over a 12 month period.
Biannually	Engineer call to check system operation, intelligibility, field strength of attached AFILS equipment and check battery health. Record results and any variations into the site Log Book
5 Yearly	In addition to Yearly tests replace all batteries and record in Log Book.

Table 5: Maintenance

	Refer to BS5839-9:2021 for full details of maintenance and testing requirements.
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7 Design, Installation and Commissioning Certificate

Site Name	
Address	
Customer	
Customer Address	
Areas Covered	
System Design	In accordance with Section 1 of BS 5839-9:2021 Sub Clause 6 the system design is has in accordance with the recommendations of this code except for the following:
Installation	In accordance with Section 3 of BS 5839-9:2021, the wiring has been inspected and tested and been found to be in accordance with the recommendations of this code except for the following:
Commissioning	In accordance with Section 4 of BS 5839-9:2021 Sub Clause 22C 1. Intelligible conversation is heard at all locations. 2. All controls and indicators operate correctly.
Acceptance	The system is accepted in good working order and, in accordance with BS5839-9:2021, record drawings, operating instructions and a system log book have been supplied and received. Attention has been drawn to the recommendations concerning user's responsibilities, particularly those concerned with routine attention and test procedures in Section 5, and an appointed responsible person should be nominated by the customer in accordance with the recommendations of Section 6 of BS5839-9:2021.
Engineer	
Date	
Position	
Signature	

Table 6: Design, Installation and Commissioning Certificate

8 Site Specific Information

Responsible Person	
Date	
Position	
Signature	

Crisis EVC Master Station		
Cable ID	Line	Area Served
	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	

Table 7: Site Specific Information

9 Log Book

Date	Event or Work Carried Out	Engineer	Company	Signature
	Crisis EVC System commissioned			

Date	Event or Work Carried Out	Engineer	Company	Signature

Table 8: Log Book

10 Technical Specification

Power Supply & Charger	
AC Input	230Vac +/- 10%, 50/60Hz
Internal Power Supply	12Vdc Nominal
Supply and Battery	Monitored Open, Short, Fuses
Protection	Deep Discharge, Short, Thermals
Temperature Compensation	Yes
Battery Information	1 x 12V 7Ah VRSLA
Mains Fuse	1A HRC(T)
Battery Fuse	Self Resetting PTC
Max Charge Current	500mA

Table 10: Power Supply & Charger Technical Specification

Inputs	
Lines	Between 2 and 8
Remote Enable	Short to Use
End of Line Monitoring	10KΩ 0.6W Resistor

Table 11: Inputs Technical Specification

Relay Outputs	
Number and Type	Fault and In Use, Volt Free 30Vdc 1A

Table 12: Relay Outputs Technical Specification

Controls	
Number and Type	8 x Push Button Zone Keys

Table 13: Controls Technical Specification

Indication	
Number and Type	8 x RGB Line Indicators 3 x PSU Status Indicators 1 x General Fault Indicator 1 x RGB Mode Indicator 1 x User Status Indicator

Table 14: Indication Technical Specification

Enclosure	
Back Box Finish	RAL 7035 Grey
Dimensions (W x H x D)	350mm x 300mm x 95mm
Entries	14 x Knockouts Top, 2 x Rear Slots
Flush Cut Out	352mm x 302mm x 85mm

Table 15: Enclosure Technical Specification

Standards	
EMC	EN 55035:2017+A11:2020 EN 55032:2015+A1:2020
LVD	EN IEC62368-1:2020+A11:2020
Product Family	BS5839-9:2021 BS9999:2017 BS8300-2:2018

Table 7: Standards Technical Specification

The Crisis Standalone EVC system is designed and manufactured in the UK.

