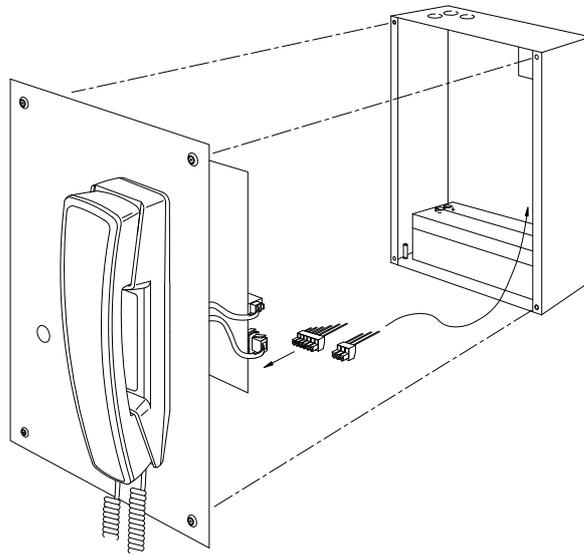


REFUGE CALL

(ORB/R/RS2 Radial WIRED)



Orbital

- Remote units – Hands free Stainless Steel or Green options available
- Master to remote and remote to master calling
- Fully monitored for open and short circuit cable failures
- Remotes connected via : '2' core Radial cable
- Compliant to BS5839 Pt.9 2010 & BS9999

Installation manual

Disabled Refuge Call ORB/R/RS2 Radial Wired

Contents

- 1) Installation Procedure**
- 2) Commissioning Procedure**
- 3) System Test**
- 4) Fault Indications**

Note: In all cases please use Drawing C51349/A (at the back of this manual) for reference to the above sections.

1) INSTALLATION PROCEDURE (refer to Dwg. C51349/A)

Install central enclosure, **with cable entry gland at top/knock outs**, at a height of approx 1.5 metres above floor height. Ensure fixings can support a load of 6 Kg.

The field cabling described below **must** be installed via top entry to the enclosure.

The system batteries will sit on the lower edge of the enclosure, and the entire space below the main PCB assembly must be kept clear to accommodate these items.

1.1 Connect Field Cabling

A - Connect 5A (lighting rated) A.C. Mains supply (220 - 240V) to appropriate (L)ive, (N)eutral and (E)arth terminals on the modular PSU unit DSP30, located on DIN Rail fixings at the top right of the main control unit (Max system load is 30 Watts).

N.B. Earth terminal must be connected to building earth.

B – Connect 2 core (+ screen) enhanced fire rated cable **out** to each remote outstation location.

Observe colour coding on PCB ident for cable cores:

BN (Brown) + : PWR (+ 24VDC)

BU (Blue) - : DAT (Data / Line)

Screen SCN : Cable screen (connected to system earth and COM internally)

This cable is then connected, in a 'Radial' configuration; each remote outstation is required to have the same address as the terminated location on the main control panel.

i.e Unit 1 Address 01 : to terminals 'REFUGE POINT 1' on DIN rail.

 Unit 2 Address 02 : to terminals 'REFUGE POINT 2' on DIN rail

The PCB sub-assembly CS1008 located in the back box of each remote location must continue to observe colour coding as listed above.

The following connections are optional, and are fitted only when the system specification requires these functions

C – Volt free 'Fault Out' changeover contacts, for remote fault reporting. (Fault relay is normally energised).

D – Volt free changeover contact – changes state with any call on the system. Use if remote call indication is required.

E – Short these terminals with a volt free closing contact (rated 50mA or higher) to enable the system 'Anti Tamper' feature.

(The 'Anti Tamper' feature enables the system to automatically disable incoming calls, whilst retaining system monitoring of the remote cabling and outstations. The system is returned to full operation with this contact opened).

1.2 Set-up Switch

The setup switch is located on the front of the control panel. Ident 'Lamp Test / Silence'. This is used to initially set up and commission the system.

2) COMMISSIONING PROCEDURE (refer to Dwg C51349/A)

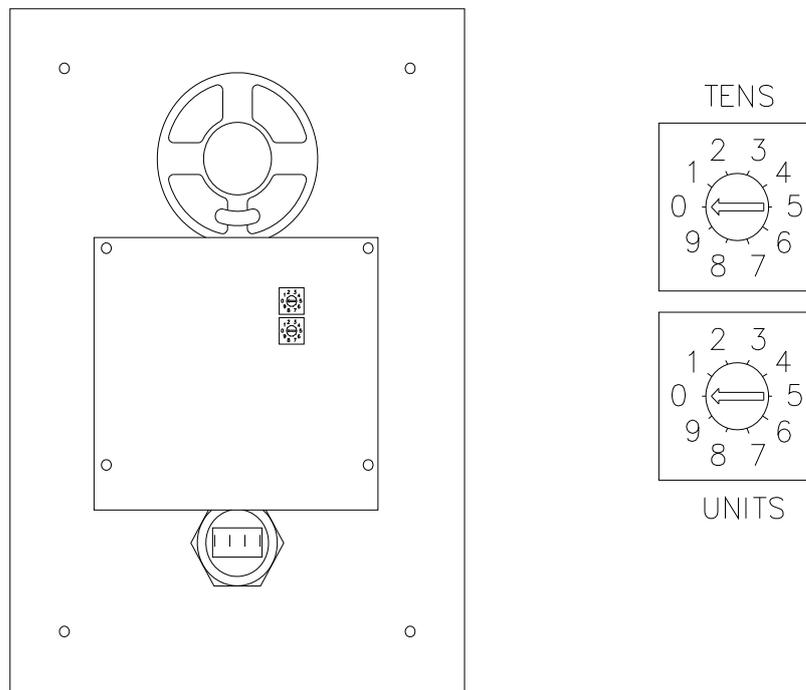
2.1 Batteries

Fit battery loom as indicated on this drawing. CHECK RED LEAD IS CONNECTED TO THE RED (+) BATTERY TERMINAL. CONNECTING THE BATTERY LEAD WITH REVERSE POLARITY WILL DAMAGE THE EQUIPMENT.

2.2 Remote Outstation Addressing

Remote outstation addressing: CS965. Each outstation requires an address which relates to the switch position on the master control panel.

SW1 & SW2 are located on CS965 as below.



The remote outstation address is SW1 Tens and SW2 Units

Examples

Switch	No.	Switch Set	Address
SW1 (Tens)		0	
SW2 (Units)		1	(Unit 1)
SW1 (Tens)		0	
SW2 (Units)		2	(Unit 2)

2.3 Radial Cable Testing

Remote outstation wiring tests:

Ensure cables are connected correctly both ends. These are polarity conscious.

2.4 Apply A.C. Power to the system

Connect all remotes to DIN rail terminals B.

Check before power up that the master control panel is plugged in.

Plug the 6 way and 3 way cable loom terminal to the appropriate terminals. See Dwg. C51349/A. Terminal F and G. (NB. System must have A.C. power to enable correct set up of system).

Note. If only one refuge point is being used then only the 6 way connection need be connected (F).

On power up the system will display all faults. Pressing the Lamp Test / Silence button will mute the fault sounder. All control panel Led's will illuminate in time with the fault indicators.

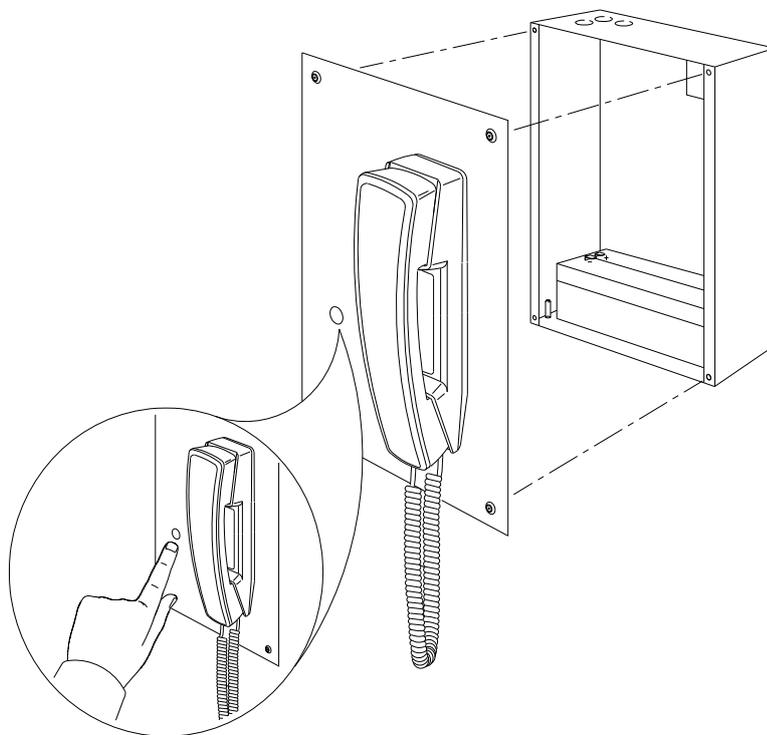
2.5 System Setup

Press and hold the setup button 'Lamp test/Silence' on the front of the control panel until the setup switch illuminates, then release. This can take between 7 to 10 seconds. The front control panel will sound three times to signify that the system is in a setup mode and switch will stay illuminated. If the switch is not stayed illuminated then it is likely that it has been depressed for too long or release of the switch was not soon enough once the acknowledgement beeps had been heard/. Re-apply above if this is the case.

In this mode the system will send out addresses for one or both outstations. With a response from an outstation a solid illumination will appear on the front control panel. Once all outstations are correctly displaying on the control panel front the system unit set is ready.

Please ensure that each outstation address number matches the DIN terminals. To check this lift the isolator yellow tag on each DIN terminal pair 'B' and ensure that correct solid illumination clears from the front panel.

Press the setup button again until the setup switch illumination goes out. The front control panel will sound twice to signify that the system has come out of the setup mode.



3) SYSTEM TEST (refer to Dwg. C51349/A)

Once the installation and commissioning procedures are complete, test for correct system operation, and fault reporting functions:

- Test each of the locations for correct call in / call out functions, by following the operational instructions listed on the Central control front panel.
- Remove primary power, to check correct operation of battery support supply. Central control will report a fault condition.

The fault sounder will be activated on the main control panel, and the fault LED's will be illuminated with a slow flash pattern.

The fault out relay will be de-energised.

Press the 'lamp test / silence' switch on the control panel momentarily, to silence the fault sounder to an intermittent state.

Open the main control panel to confirm display of the 'mains fail' and 'charge fail' fault LED's located on the top edge of the main PCB ref. CS1018.

Reconnect primary power. To reset the fault press and hold the setup button on the front of the control panel until the fault clears from CS1018.

Where utilised, check the function of the anti-tamper feature by applying a volt free closed contact (or temporary wire link) across the Anti-tamper terminals.

Under this condition, any call made from a remote hands free outstation will be automatically cancelled by the central controller.

The system will remain inactive from remote calling for c.10 seconds, to minimise nuisance recalling.

An open circuit at the anti-tamper terminals will allow normal system operation.

Note that making a call out from the master is not effected by the anti-tamper status.

Note that use of the anti-tamper facility is not recommended where telephone type remote outstations are used.

If a remote telephone is maliciously left off hook, the anti tamper circuitry will continue to attempt to clear the call until the handset is replaced. This will disable the remote fault monitoring system, until such time as the system is activated.

4) FAULT INDICATIONS (refer to Dwg. C51349/A)

The LED function references on Dwg. C51349A, and on PCB CS1018, identify the function of all fault indications within the central enclosure. Note that any fault condition will cause the front panel fault Light Emitting Diodes (LED's) to indicate with a slow flashing pattern, and will activate the audible fault sounder as a continuous tone.

Pressing the 'Lamp Test / Silence' switch will change the sounder function to intermittent. (A short 'reminder' bleep approx every 90 seconds). Generation of a second fault condition will reactivate the fault sounder to a continuous tone.

The following table lists the various fault LED's, and describes the action to be taken to help identify specific faults.

Fault LED Description	Nature of Fault	Action required to assist fault location	Action required to clear fault state, after correction
D13 Master H/S Fault	Master Handset short circuit or disconnected	Check master handset connections.	-
D7 -'Load'	Indication of periodic battery load test	No Fault	-
D15 - 'Mains Fail'	Failure of primary supply	Check for primary power to enclosure – check for + 28V DC out from DSP30 Din Rail PSU	Replace faulty DSP30 power supply if necessary.
	Failure of support battery(s) under load condition	Press setup switch to start new test sequence, and allow 2 minutes for repeat test. If 'Batt Fail' indicator illuminates again, replace batteries	Press setup switch after replacement batteries are fitted. Re-test.
	Failure of battery connection, or failure of primary supply	Check battery connection loom, including the in-line protection fuse Replace if necessary (5A anti-surge)	-
Front panel fault led flashing only. No internal fault led's on	Remote fault. Failure of one (or more) remote units to respond	Check for missing responses on 'UNIT' LEDS in setup mode	Likely open or short circuit cable fault. Locate and repair. Faulty outstation. Replace or swap with known good unit.

4.1 Jumper Links

There are a number of jumper links located on the main PCB.

L1 - Fit to enable piezo fault sounder

L2 - Programming enable (do not remove or alter)

L3 - Fit to defeat Master handset cord monitor (NOT NORMALLY FITTED)

RS2 ASSEMBLY

