

FireBeta XT+ Extinguishing Control Panels

Part No's: 23911-K087 (4+1)
 23911-K085 (4+2)
 23911-K088 (8+2)
 23911-K089 (8+3)
 23911-K090 (8+4)

Operation and Maintenance Manual



TM204

Contents

1. Introduction	5
2. Safety and Mounting	6
2.1 Safety	6
2.2 Mounting	6
3. Technical Specification	8
4. Control panel fascias	12
4.1 Removing the detection module	13
5. Connecting to the circuit boards	14
5.1 Detection zone wiring	14
5.2 Sounder circuit wiring	15
5.3 Using intrinsically safe barriers	15
5.4. Monitored inputs	17
5.5. Extinguishing output	17
5.5.1 Solenoid wiring	17
5.5.2 Igniting actuator wiring	18
5.5.3 Setting up Extinguishing monitoring circuit	18
5.6 Remote inputs	19
5.7 Aux 24V dc supply outputs – Extinguishing module	20
5.8. Connection to relay contacts	20
5.8.1 Common Fault relay – Detection module	21
5.8.2 Fault relay – Extinguishing module	21
5.8.3 Local Fire relay – Detection module	21
5.8.4 Fire relay – Detection module	21
5.8.5 1 st stage Alarm relay – Extinguishing module	21
5.8.6 2 nd stage Alarm relay – Extinguishing module	21
5.8.7 Released relay – Extinguishing module	22
5.8.8 Abort relay – Extinguishing module	22
5.8.9 Extract relay – Extinguishing module	22
6. Connection and configuration of status indicators and ancillary boards	22
6.1 Adding new Status indicators/Ancillary boards	24
6.2 Removing Status indicators/Ancillary boards	25
7. Configuring the FireBeta XT+	26
7.1 Detection module	26
7.2 Extinguishing module	29
7.2.1 Extinguishing output mode	29
7.2.2 Activation mode	29
7.2.3 Activation zones	30
7.2.4 Reset inhibit time	30
7.2.5 Pre-release delay timer	31
7.2.6 Extinguishing release time	31
7.2.7 2 nd stage alarm	32
7.2.8 Released indication	32
7.2.9 Delay on manual release	33
7.2.10 Pre-release delay reset disabled	33
7.2.11 Release timer	34
7.2.12 R0V not removed on reset	34
7.2.13 Disable earth fault monitoring	34
7.2.14 Disable Fault output	35
7.2.15 Invert low pressure switch input	35
7.2.16 Extinguishing output monitoring levels	36

8 Panel operation – Access Levels 1 and 2	37
8.1 Normal condition	37
8.2 Detection module	37
8.2.1 Test mode	37
8.2.2 Disable zones	37
8.2.3 Disable sounder outputs	38
8.2.4 Activate delays	38
8.3 Extinguishing modules – Access Level 2	38
8.3.1 Disable extinguishing release output	38
8.3.2 Disable manual release	38
8.3.3 Disable stage 1 output	39
8.3.4 Disable stage 2 output	39
8.3.5 Disable released output	40
8.3.6 Disable extract output	40
8.3.7 Turn on extract output	40
8.4 Single zone fire condition	41
8.5 Double zone fire condition	41
8.6 Silence/Sound alarms	41
8.7 Reset	42
8.8 Detection zone fault	42
8.9 Sounder fault	42
8.10 Power fault	42
8.11 System fault – Detection module	42
8.12 System fault – Extinguishing module	42
8.13 General fault	43
8.14 Lamp test	43
8.15 Hold condition	43
8.16 Released condition	43
8.17 Low pressure switch	43
8.18 Manual only mode	43
8.19 Manual release	44
8.20 Abort input	44
9 Internal controls	44
9.1 Detection module	44
9.1.1 Watchdog reset	44
9.1.2 Processor reset	44
9.1.3 Write enable switch	44
9.2 Extinguishing module	45
9.2.1 Watchdog reset	45
9.2.2 Processor reset	45
9.2.3 Terminate Extinguishing	45
9.2.4 Write enable switch	46
9.2.5 Address switch	46
10 Internal indications	47
10.1 Detection module	47
10.1.1 Mains fail	47
10.1.2 Batt fail	47
10.1.3 CPU fault	47
10.1.4 Aux 24V fault	47
10.1.5 Batt low	47
10.1.6 Comms fault	47
10.1.7 Earth fault	47
10.1.8 Sys fuse fault	47

10.1.9 S1 fault	47
10.1.10 S2 fault	48
10.2 Extinguishing modules	48
10.2.1 Watchdog	48
10.2.2 System fuse	48
10.2.3 Man. Release	48
11. <i>Power supply</i>	48
12. <i>Maintenance</i>	51
13. <i>CE Mark</i>	51
14. <i>Commissioning instructions</i>	52

1 Introduction

The FireBeta XT control panel is designed in accordance with European standards EN54-2 and EN54-4 Fire Detection and Fire Alarm systems - Control and Indicating Equipment and EN12094-1 Fixed fire fighting systems - Components for gas extinguishing systems - Part 1: Requirements and test methods for electrical automatic control and delay devices.

The control equipment is a combined fire alarm control panel and extinguishing system and has three detection zones, any or all of which are capable of contributing to the Extinguishing release decision. Control panels have an integral, mains powered battery charger and power supply designed in accordance with the requirements of EN54-4.

In addition to the requirements of EN54-2 the control panel has the following facilities:

.....*Test condition* to allow the automatic resetting of zones in alarm for testing purposes. EN54-2 Section 10 option with requirements.

.....*Delay of the actioning* of fire alarm devices (sounders) so that an alarm may be verified before a premises is evacuated. EN54-2 Section 7.11 option with requirements.

.....*Fire alarm devices* to enable an audible warning to be sounded throughout premises upon the detection of a fire condition or the operation of a manual call point. EN54-2 Section 7.8 option with requirements.

In addition to the requirements of EN54-2, all control panels have volt free relay contacts for fire and local fire which operate upon a fire condition. These are to be used for local control and signalling.

In addition to the requirements of EN12094-1 the control panel has the following facilities:

.....*Delay of extinguishing signal* of up to 60 seconds. EN12094-1 Section 4.17 option with requirements.

.....*Signal representing the flow of extinguishing agent* to indicate the released condition. EN12094-1 Section 4.18 option with requirements.

.....*Monitoring of the status of components* by way of a low pressure switch input. EN12094-1 Section 4.19 option with requirements.

.....*Emergency hold device* to enable the Extinguishing delay time to be extended. EN12094-1 Section 4.20 option with requirements.

.....*Control of flooding time* to deactivate the releasing output after a set period of time. EN12094-1 Section 4.21 option with requirements.

.....*Manual only mode* to disable the release of Extinguishing via automatic detection devices. EN12094-1 Section 4.23 option with requirements.

.....*Triggering of equipment outside the system* by way of first and second stage contacts, extract fan output etc. EN12094-1 Section 4.26 option with requirements.

.....*Activation of alarm devices with different signals* to indicate pre-discharge and released warnings using different sounds. EN12094-1 Section 4.30 option with requirements.

2 Safety and mounting

2.1 Safety

Suppliers of articles for use at work are required under section 6 of the Health and Safety at Work act 1974, to ensure as far as is reasonably practicable that the article will be safe and without risk to health when properly used.

An article is not regarded as properly used if it is used 'without regard to any relevant information or advice' relating to its use made available by the supplier.

This product should be installed, commissioned and maintained by trained service personnel in accordance with the following:

- (i) IEE regulations for electrical equipment in buildings
- (ii) Codes of practice
- (iii) Statutory requirements
- (iv) Any instructions specifically advised by the manufacturer

According to the provisions of the Act, you are requested to take such steps as are necessary to ensure that you make any appropriate information about this product available to anyone concerned with its use.

This equipment is designed to operate from 230V 50Hz mains supplies and is of class 1 construction. As such it **must** be connected to a protective earth conductor in the fixed wiring of the installation and a readily accessible double pole disconnect device, meeting the requirements of EN60950/IEC950 which disconnects live and neutral simultaneously, shall be incorporated in the fixed wiring. Switch disconnect devices, such as MK Sentry 63A or similar are suitable for this.

WARNING: Failure to ensure that all conductive accessible parts of this equipment are adequately bonded to the protective earth will render the equipment unsafe.

This control panel is environmental class A and is designed for indoor use only at temperatures between -5°C (+/- 3) and +40°C (+/- 2) and with a maximum relative humidity of 95%.

The IP rating for the enclosure is IP30.

Operation outside of these limits may render the equipment unsafe.

2.2 Mounting

The control panel should be mounted on a dry, flat surface, with the displays at height in a level position such that the enclosure is not distorted.

Screws or bolts with a minimum diameter of 5mm must be used to mount the enclosure in all four mounting positions.

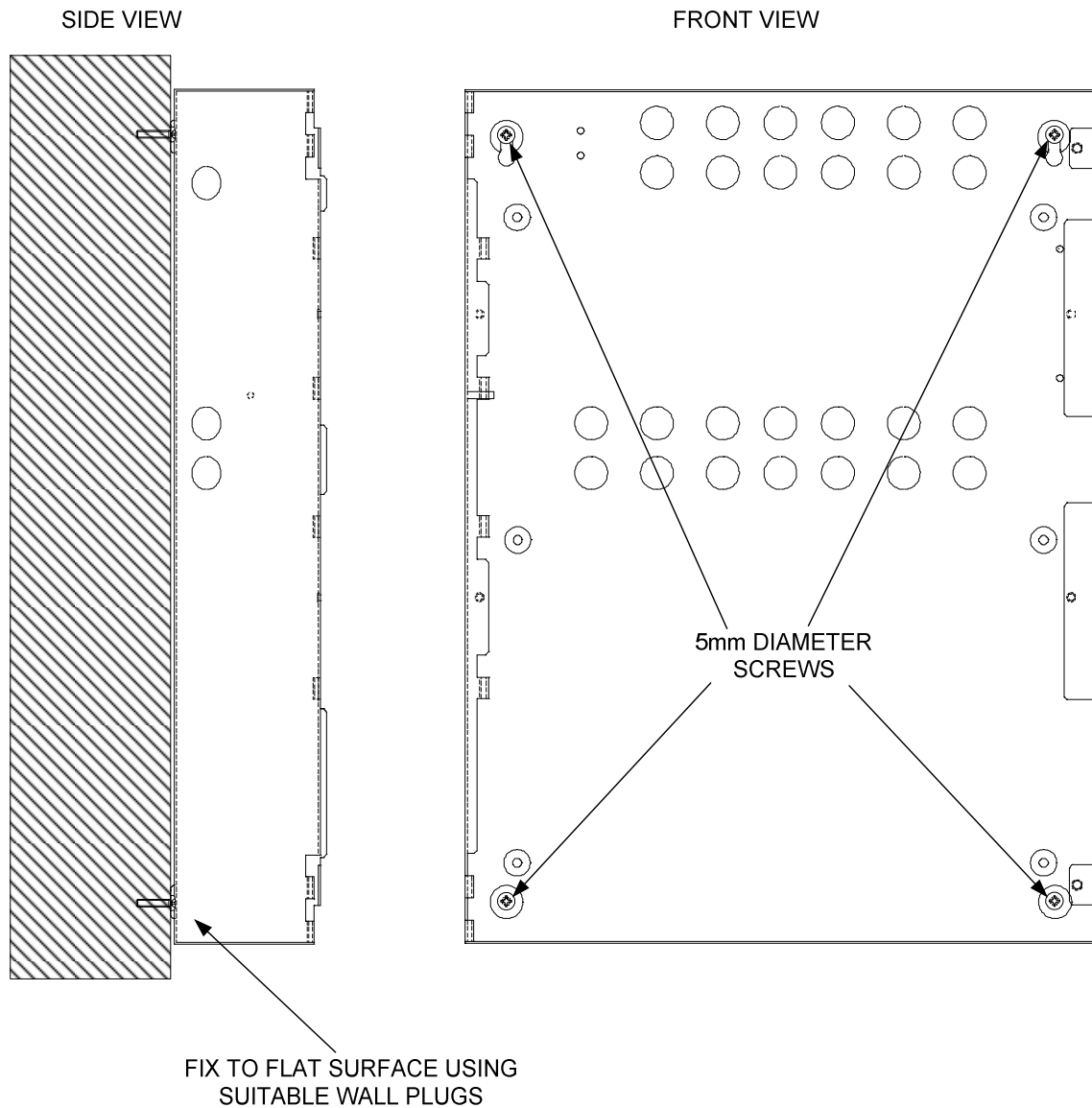
It should be positioned in an accessible place as agreed with the end user.

Suitable fixings should be used at all fixing points such that the control panel is securely mounted and is not liable to move once fixed.

The control panel should not be mounted in another enclosure or near sources of excessive heat.

Cables should be connected using suitable cable glands fitted in the knockouts provided. If additional cable entry points are required, all swarf and debris caused by drilling of additional cable entries must be cleared before power is applied to the panel.

Cables should not be installed in the bottom of the enclosure. This space must be kept free for batteries.



3 Technical Specification

Table 1 - Electrical specifications

ITEM	ELECTRICAL RATING	COMMENT	COMMUNICATION PARAMETERS
Mains supply	230V AC, 50Hz +10% - 15% (100 Watts maximum)		Standard European mains connection
Mains supply fuse (4+1, 4+2, 8+2)	1.6 Amp (F1.6A L250V)	Replace only with similar type	
Mains supply fuse (8+3, 8+4)	T2A L250V.	Replace only with similar type	
Power supply rating (4+1, 4+2, 8+2)	3 Amps total including battery charge 28V +/- 2V	See section 19 for maximum loading for each model	
Power supply rating (8+3, 8+4)	4 Amps including battery charge 28V +/- 2V	See section 19 for maximum loading for each model	
Maximum ripple current	200 mV		
Battery type (Yuasa NP)	2 x 12 Volt sealed lead acid in series		
Battery charge voltage	27.6VDC nominal (temperature compensated)	See chart below	Modulated DC
Battery charge current	0.7A maximum - (4+1, 4+2, 8+2) 1.5A maximum - (8+3, 8+4)		Modulated DC
Battery fuse	20mm, 3.15A glass (4+1, 4+2, 8+2) models only.	Replace only with the same type	
Current draw in mains fail condition	4+1 – 130 mA quiescent – 317 mA full alarm 4+2 – 185 mA quiescent – 424 mA full alarm 8+2 – 200 mA quiescent – 764 mA full alarm 8+3 - 255 mA quiescent – 871 mA full alarm 8+4 – 300 mA quiescent – 978 mA full alarm	Full alarm current consumption figure is with all zones in alarm and all modules activated.	
Maximum current draw from batteries	3 Amps (4+1, 4+2, 8+2) 4 Amps (8+3, 8+4)	With main power source disconnected	
Aux 24V output	Fused at 500mA with electronic fuse – 1 per Extinguishing area	200 milliamp maximum continuous load	
1 st and 2 nd stage Sounder outputs	21 to 28V DC Fused at 1A with electronic fuse	1.0 Amp total load over all circuits	Voltage reversing DC
Fault relay contact rating	5 to 30VDC 1A Amp maximum for each	Maximum ratings not to be exceeded	Volt free changeover contact
Fire relay contact rating	5 to 30VDC 1A Amp maximum for each	Maximum ratings not to be exceeded	Volt free changeover contact
Local fire relay contact rating	5 to 30VDC 1A Amp maximum for each	Maximum ratings not to be exceeded	Volt free changeover contact
First stage contact rating	5 to 30VDC 1A Amp maximum for each	Maximum ratings not to be exceeded	Volt free changeover contact
Second stage contact rating	5 to 30VDC 1A Amp maximum for each	Maximum ratings not to be exceeded	Volt free changeover contact
Extract contact rating	5 to 30VDC 1A Amp maximum for each	Maximum ratings not to be exceeded	Volt free changeover contact
Zone quiescent current	0mA minimum, 2mA maximum	See tables 2 and 3 for detector types	
Terminal capacity	0.5mm ² to 2.5mm ² solid or stranded wire		
Number of detectors per zone	Dependent on type	See table 2	
Number of sounders per circuit	Dependent on type and current consumption	See table 4 for sounder types	
Detection circuit end of line	6K8 +/- 5% ½ Watt resistor	Supplied in terminals	
Monitored input end of line	6K8 +/- 5% ½ Watt resistor	Supplied in terminals	
Sounder circuit end of line	10K +/- 5% ¼ Watt resistor	Supplied in terminals	
Extinguishing output end of line	1N4004 Diode	Supplied in terminals	

No. of detection circuits	Two to eight. 21 to 28V DC	Dependent on model	
No. of sounder circuits	Dependent on model 21 to 28V DC	2 x on detection section –1 st stage and 1 x 2 nd stage per Extinguishing area.	
Extinguishing release output	21 to 28V DC. Fused at 1 Amp	1 Amp maximum load –for 5 minutes 3 Amps for 20 milliseconds	Voltage reversing DC with calibration facility
Extinguishing release delay	Adjustable 0 to 60 seconds (+/- 10%)	5 second steps	
Extinguishing release duration	Adjustable 60 to 300 seconds	5 second steps	
SIL, AL, FLT, RST inputs	Switched –ve, min resistance 0 ohms, max resistance 100 Ohms	Only to be used with Aux ROV terminal	Switched DC
Zone normal threshold (Allowable EOL)	8K ohm to 1K ohm	Use 6K8 end of line resistor	
Detector alarm threshold	999 ohms to 400 ohms	Nominal trigger resistance 470 ohms	
Call point alarm threshold	399 ohms to 100 ohms	Nominal trigger resistance 270 ohms	
Short circuit threshold	99 ohms to 0 ohms		
Head removal condition	15.5 to 17.5 volts	2-wire detector base or schottky diode base	
Cabling	FP200 or equivalent (maximum capacitance 1uF max inductance 1 mH	Metal cable glands must be used	
Monitored inputs normal threshold (Allowable EOL)	10K ohm to 2K ohm		
Monitored inputs alarm threshold	2K ohms to 150 ohms +/- 5%		
Monitored inputs Short circuit threshold	140 ohms to 0 ohms +/- 5%		
Status unit/Ancillary board connection	Two wire RS485 connection (EIA-485 specification)	Maximum of 7 units per area- RS485 data cable. Compatible status units - 23911-K071, 23911-K072, 23911-K073, 23911-K074, 23911-K075, 23911-K076, 23911-K079, 23911-K080, 23911-K081	(EIA-485 specification)
Status unit power output	21 to 28V DC, Fused at 500mA with electronic fuse	300 milliamp maximum load	

Table 2 - Compatible detectors

Model	Type	Manufacturer	Maximum Number per zone
SLR-E/SLR-E3	OPTICAL	Hochiki	32
SIJ-E/	IONISATION	Hochiki	32
DCD-1E/DCD-AE3	HEAT	Hochiki	32
DCD-2E	HEAT	Hochiki	32
DCD-1RE/DCD-CE3	HEAT	Hochiki	32
DFG-60E	HEAT	Hochiki	32
DFJ-60E/DFJAE3	HEAT	Hochiki	32
DFJ90-E/DFJCE3	HEAT	Hochiki	32
SPB-ET	BEAM	Hochiki	8
SRA-ET	BEAM	Hochiki	5
55000-200/210 - SERIES 60	IONISATION	Apollo	32
55000-300 - SERIES 60	OPTICAL	Apollo	32
55000-100 - SERIES 60	HEAT	Apollo	32
55000-101 - SERIES 60	HEAT	Apollo	32
55000-102 - SERIES 60	HEAT	Apollo	32
55000-103 - SERIES 60	HEAT	Apollo	32
55000-104 - SERIES 60	HEAT	Apollo	32
55000-215 - SERIES 65	IONISATION	Apollo	32
55000-216 - SERIES 65	IONISATION	Apollo	32
55000-217 - SERIES 65	IONISATION	Apollo	32
55000-218 - SERIES 65	IONISATION	Apollo	32
55000-219 - SERIES 65	IONISATION	Apollo	32
55000-220 - SERIES 65	IONISATION	Apollo	32
55000-315 - SERIES 65	OPTICAL	Apollo	32
55000-316 - SERIES 65	OPTICAL	Apollo	32
55000-317 - SERIES 65	OPTICAL	Apollo	32
55000-120 - SERIES 65	HEAT	Apollo	32
55000-121 - SERIES 65	HEAT	Apollo	32
55000-122 - SERIES 65	HEAT	Apollo	32
53541-151 - SERIES 30	IONISATION	Apollo	32
53541-152 - SERIES 30	IONISATION	Apollo	32
53551-101 - SERIES 30	OPTICAL	Apollo	32
53531-221 - SERIES 30	HEAT	Apollo	28
53531-211 - SERIES 30	HEAT	Apollo	28
53531-212 - SERIES 30	HEAT	Apollo	28
53531-213 - SERIES 30	HEAT	Apollo	28
53531-214 - SERIES 30	HEAT	Apollo	28
ORB-OP-12001-APO	Optical	Apollo	15
ORB-OH-13001-APO	Multisensor	Apollo	15
ORB-HT-11001-APO	A1R Heat	Apollo	15
ORB-HT-11002-APO	A2S Heat	Apollo	15
ORB-HT-11003-APO	BR Heat	Apollo	15
ORB-HT-11004-APO	BS Heat	Apollo	15
ORB-HT-11005-APO	CR Heat	Apollo	15
ORB-HT-11006-APO	CS Heat	Apollo	15
NID-58	IONISATION	Nittan	32
2KC/2KD	OPTICAL	Nittan	32
2SA-LS/2SA-70T-LS	HEAT	Nittan	32
TCA-70-LS	HEAT	Nittan	32
NFD-18-2/NFD-18-5	FLAME	Nittan	3
NID-48F	IONISATION	Nittan	32
NS-12-7	HEAT	Nittan	32
NC-9C-70T	HEAT	Nittan	32
ECO1002	HEAT/PHOTO	System Sensor	20
ECO1003	PHOTO	System Sensor	13
ECO1005	HEAT	System Sensor	13
ECO1005T	HEAT	System Sensor	13

Although the current consumption of many detection devices would allow more than 32 to be connected to a zone, this number should be limited to 32 to ensure that a short or open circuit on the wiring does not prevent the indication of a fire alarm from more than 32 fire detectors and/or call points as required by European standard EN54-2. If an active end of line LCMU (K14060) is used fit a maximum of 20 detectors per zone.

Table 3 - Compatible detector bases and call points

Model	Type	Manufacturer	Comments
YBN-R/6	STANDARD WITH REMOTE LED	Hochiki	
YBO-R/4(1S)	STANDARD WITH REMOTE LED (I.S.)	Hochiki	
YBN-R/6SK	DIODE BASE	Hochiki	Must be used with LCMU
YBO-R/6R	STANDARD LATCHING RELAY	Hochiki	
YBO-R/6RN	STANDARD NON-LATCHING RELAY	Hochiki	
YBO-R/6RS	DIODE BASE WITH LATCHING RELAY	Hochiki	Must be used with LCMU
ECO1000R	STANDARD	System Sensor	
ECO1000BRSD	DIODE BASE	System Sensor	Must be used with LCMU
456821-200	STANDARD BASE	Apollo	
456821-201	DIODE BASE	Apollo	Must be used with LCMU
ORB-MB-00001-APO	Timesaver Base	Apollo	
ORB-DB-00003-APO	Timesaver Diode Base	Apollo	
ORB-RB-10004-APO	Timesaver Relay Base	Apollo	
MXT+1	470 OHM CALL POINT	KAC	
CX	470 OHM CALL POINT	Fulleon	
NXT+-T	CALL POINT	Nittan	
	ELECTRONICS FREE BASES	ALL	

Note: LCMU (Line Continuity Monitoring Device) part number TBA allows call points mounted down line of detectors that have been removed from diode bases to continue to operate.

Table 4 - Compatible sounders

Model	Type	Manufacturer	Comments
BANSHEE	ELECTRONIC	VIMPEX	
WAFER	ELECTRONIC	VIMPEX	
FIRECRYER RANGE	ELECTRONIC VOICE	VIMPEX	
KOBELL	MOTORISED	VIMPEX	
ASKARI	ELECTRONIC	FULLEON	
ROSHNI	ELECTRONIC	FULLEON	
SQUASHNI	ELECTRONIC	FULLEON	
SYMPHONI	ELECTRONIC	FULLEON	
ELECTRONIC BELL	ELECTRONIC	FULLEON	
CFB BELLS	MOTORISED	FULLEON	
B6 AND B8 BELLS	SOLENOID	FULLEON	

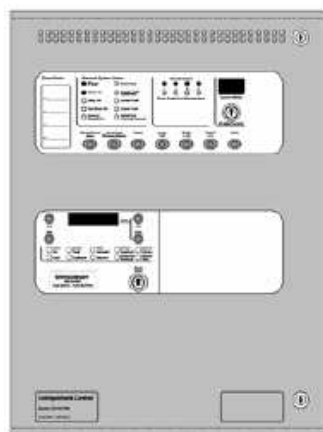
Table 5 - Compatible I.S. barriers

Model	Type	Manufacturer
MTL5061	DETECTION ZONE GALVANIC ISOLATOR	MTL
MTL778ac	ALL SOUNDER CIRCUITS	MTL

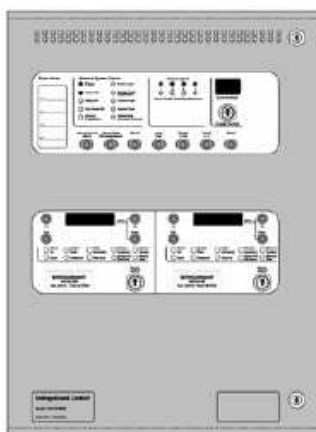
Note: Use galvanic isolator with Hochiki or Apollo detectors only

4 Control Panel Fascias

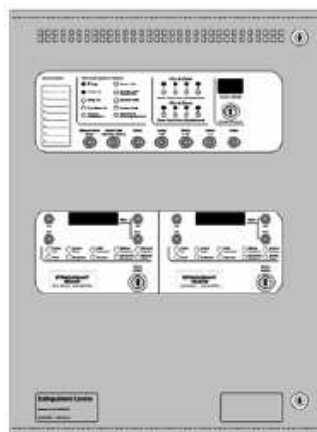
This drawing shows the fascias of the models available in the FireBeta XT+ range.



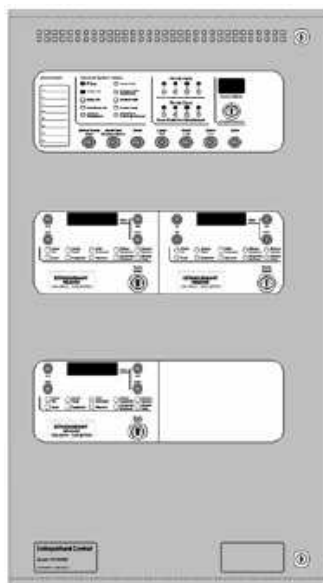
23911-K087(4+1)



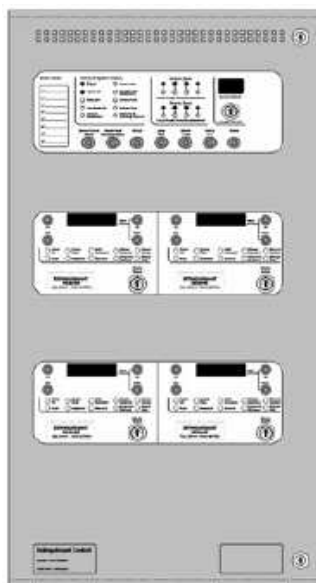
23911-K085 (4+2)



23911-K088 (8+2)



23911-K089 (8+3)



23911-K090 (8+4)

The fascias are divided into sections for the detection panel and extinguishing modules. A standard EN54-2 control and indicating equipment section with up to eight zones is located in the top aperture of the panel fascia and EN12094-1 extinguishing modules are fitted in the lower apertures.

4.1 Removing the Detection Module

Open the control panel lid using the two 801 lock keys.

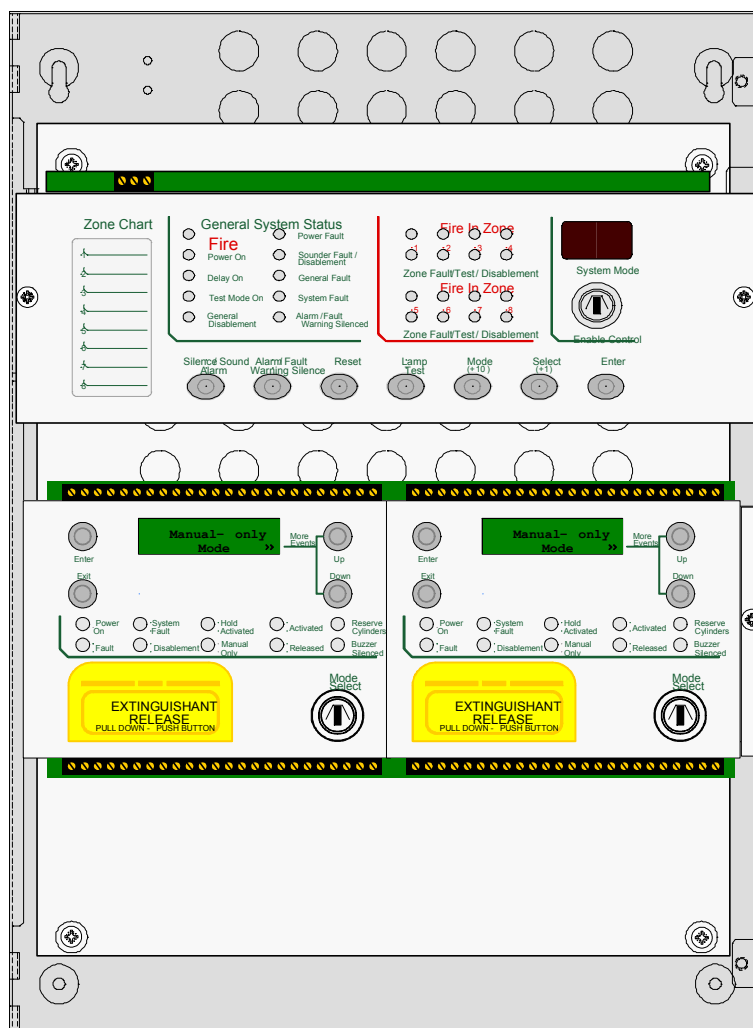
Before the chassis can be removed it will be necessary to disconnect the power connector terminal block on the left hand side of the PCB. This is fitted on pins and can be pulled towards you to remove it. Do not remove the wires from the terminals.

The chassis is held in place by two screws. Undo the two screws and lift the chassis gently away from the box towards you.

With the chassis removed, there is much more room inside the panel for making off and dressing cables.

When cabling work is complete, the chassis can be re-fitted with the two screws and the terminal block plugged back onto the pins on the board.

The extinguishing module chassis should not be removed.



5 Connecting to the Circuit Boards

All connections for field wiring are to rows of terminals along the top and bottom of the circuit boards.

Shielded fire alarm cable such as FP200 and metal cable glands must be used for all connections to the panel. The shield of the cable must be bonded securely to the enclosure earth via a metal cable gland.

The resistance of any core of any cable must not exceed 25 ohms. The shield of the cable must be bonded securely to the enclosure, via the metal gland.

Wiring should enter the enclosure at the top or back of the panel, using the knockouts provided and be dressed tidily to the appropriate terminals.

Route mains cables away from all other cables and segregate by 50mm.

Terminals are capable of accepting wires of up to 2.5mm².

Wiring must not go across the front of the circuit boards. If cable entries need to be in positions other than at the knockouts provided, wiring must be fed behind and well away from the surface of the circuit board.

The space at the bottom of the enclosure is largely occupied by the standby batteries, so this must be taken in mind when considering cable entry points.

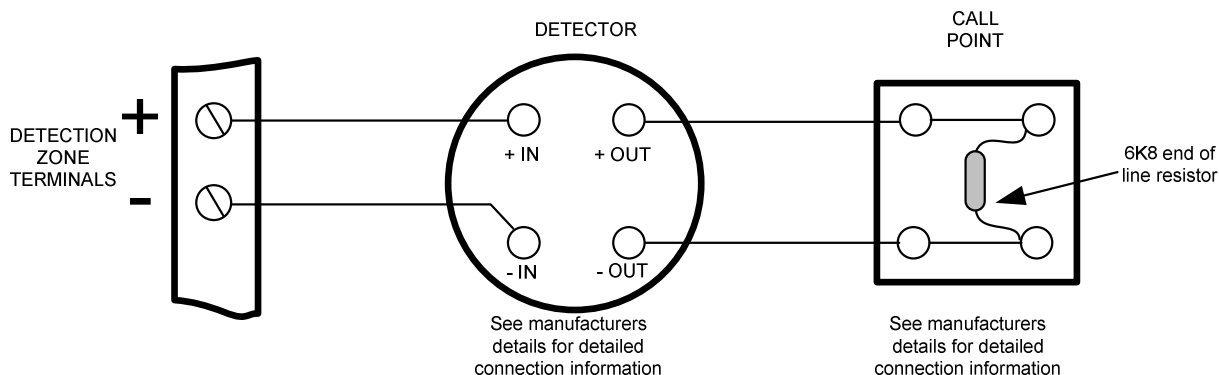
5.1 Detection Zone Wiring

The detection zones provide a nominal 20V dc to power conventional detectors and call points as listed in compatibility tables 2 and 3.

The wiring is monitored for open and short circuit fault conditions by placing a 6K8 0.5W end of line monitoring resistor in the last device that is wired to the zone circuit (resistors are supplied in panel terminals).

Detection zone circuits must be wired as a single, radial circuit with no spurs to enable the monitoring circuit to work correctly.

For systems that are required to comply with BS5839 Part1:2002 detector removal requirements, either detector bases fitted with a Schottky diode should be used and the end of line resistor replaced with an LCMU active end of line monitoring device or zener clamping bases such as Hochiki PA6 or Apollo Savwire used.

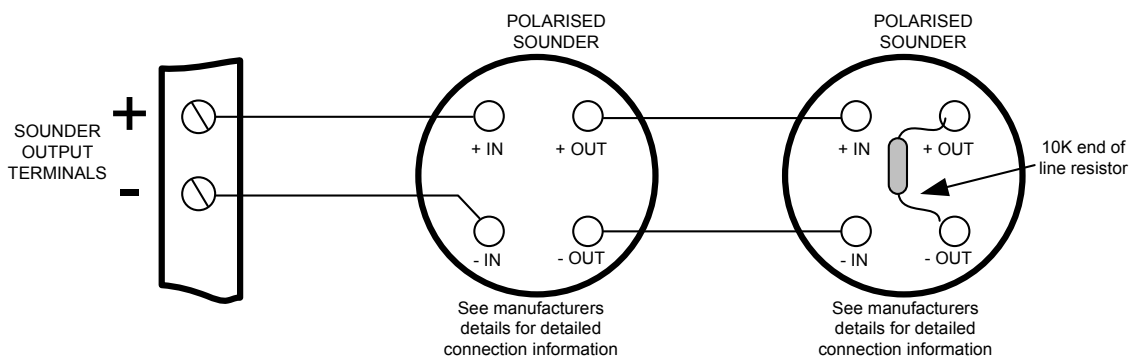


5.2 Sounder Circuit Wiring

All sounders must be polarised type, if non-polarised sounders are used the control panel will permanently show a fault condition. See table 4 for a list of compatible sounder types.

Sounder circuits are monitored for open and short circuit faults, by placing a 10K 0.25W end of line monitoring resistor across the last device on the circuit.

Sounder circuits must be wired as a single, radial circuit with no spurs to enable the monitoring circuit to work correctly.



5.3 Using Intrinsically Safe Barriers

FireBeta XT+ control panels support the use of I.S. barriers for connecting to equipment in hazardous areas.

Only certified detectors, call points and sounders may be used in hazardous areas and these must be connected to the control panel via a compatible I.S. barrier as listed in table 5.

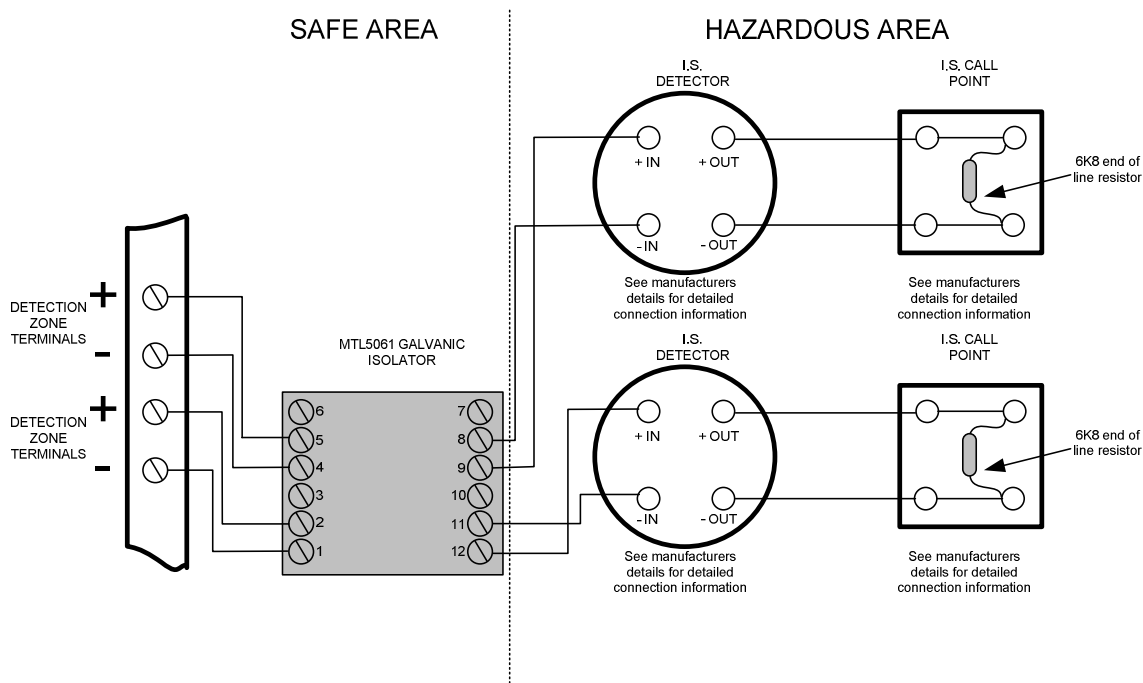
Connection of the I.S. barrier changes the characteristics of the detection circuit so zones that have I.S. barriers connected must be adjusted to function correctly.

Programmable options C61 to C68 on the detection section allow each zone to operate with I.S. barriers.

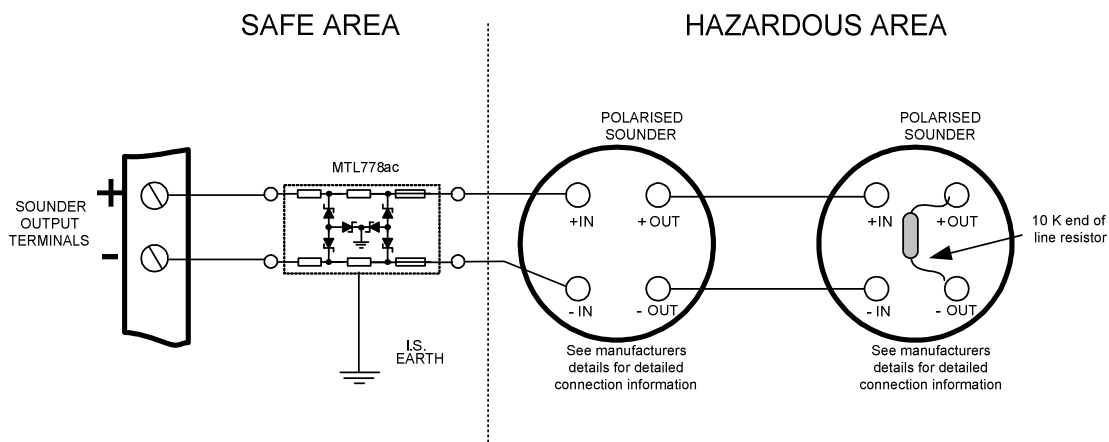
The amount of detectors and call points that can be connected to a zone is limited by the I.S. approval system diagram, which should be supplied by the detector manufacturer.

The power rating of the end of line resistor will be dependent upon the zone classification rating (Gas class) this will be specified on the system diagram.

Detection zone wiring through an MTL5061 galvanic isolator



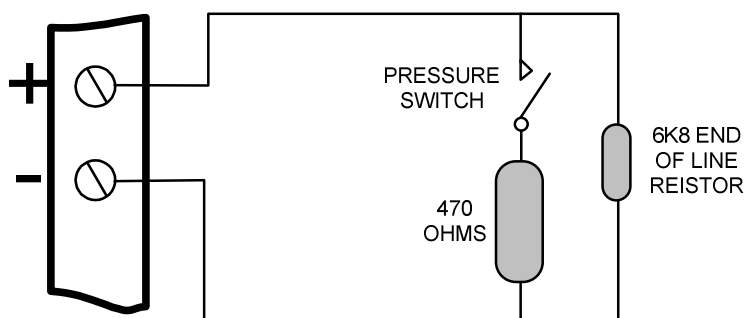
Detection zone wiring through an MTL778ac I.S. barrier



5.4 Monitored Inputs

Monitored inputs (Mode Select, Manual Release, Hold, Abort, Released Pressure Switch and Low Pressure Switch) have the same characteristics as detection zone inputs and require a 6K8 0.5W end of line monitoring resistor and a nominal, 470 ohm 1 W trigger resistor.

Example of wiring to a monitored input



5.5 Extinguishing Output

The Extinguishing output is capable of supplying up to 1 Amp for the maximum duration to a solenoid or 3 Amps for 20 milliseconds to an igniting actuator or Metron.

The wiring for solenoids and igniting actuators is different as shown below. Igniting actuators of different types or from different manufacturers should not be mixed on the same circuit.

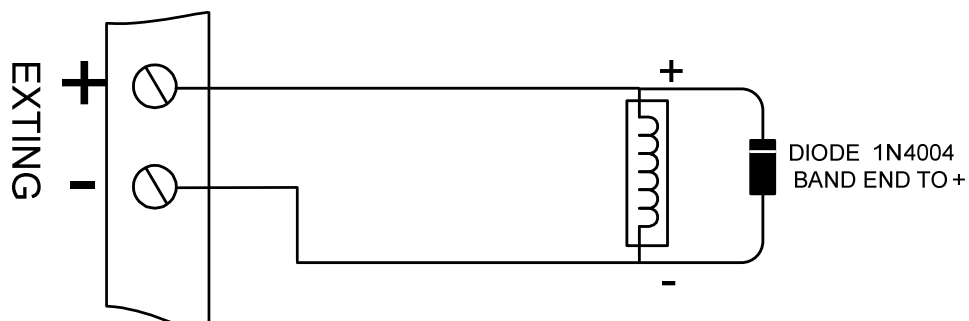
5.5.1 Solenoid Wiring

Solenoids must have a resistance of greater than 28 ohms to ensure that the maximum current rating of the Extinguishing output is not exceeded.

Solenoids should be fitted with a suppression diode to prevent EMF generated by the solenoid when it de-energises from upsetting the operation of the control panel.

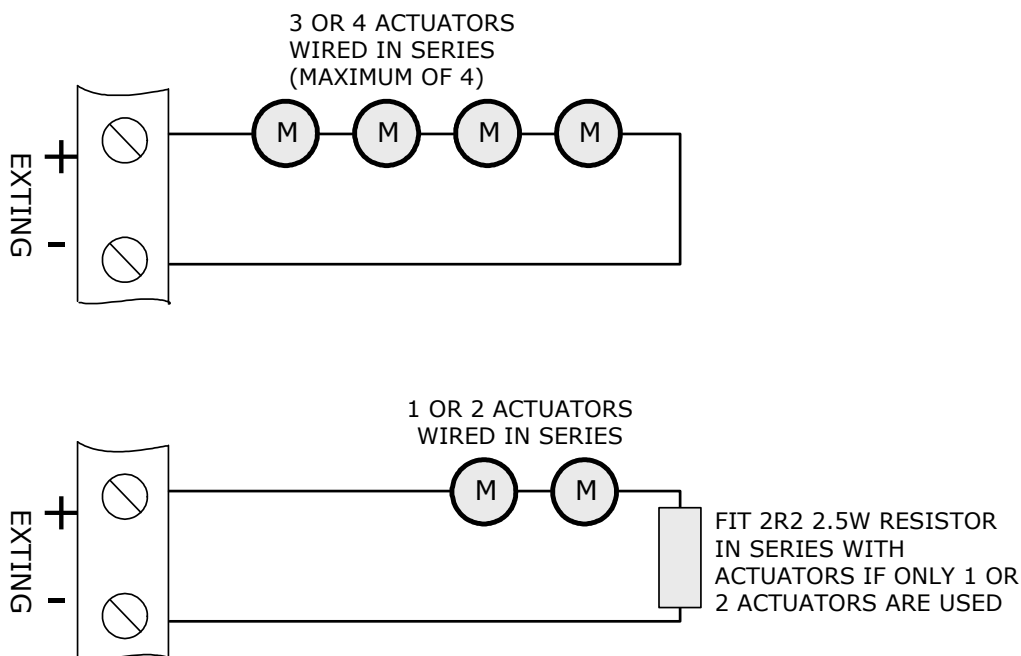
Only polarised solenoids (i.e. solenoids fitted with an internal polarising diode) should be used.

Example of wiring a solenoid



5.5.2 Igniting Actuator Wiring

A maximum of four igniting actuators can be wired in series. If only one or two actuators are fitted, a 2R2, 2.5 Watt resistor must be wired in series with them to provide the correct monitoring resistance. The end of line diode can be discarded when igniting actuators are used.



To guarantee firing under all conditions, the total resistance of actuators, monitoring resistor and cable should not exceed 7 ohms.

5.5.3 Setting up Extinguishing Monitoring Circuit

The extinguishing output circuit is factory set to monitor the end of line diode that is fitted to the terminals and will normally show a value of around 270.

If the parameters of the extinguishing output change e.g. by connecting a solenoid in parallel with the monitoring diode or removing the diode and fitting igniting actuators, then the extinguishing output monitoring level will need to be "learnt". See section 7.2.16 for details. To do this, operate the **ENABLE CONTROL** keyswitch to put the system into Access Level 2.

The LCD will show:

```
ACCESS LEVEL 2 ►
ENTER FOR MENU
```

Operate the **WRITE ENABLE** switch on the extinguishing module by gently sliding it to the left. The LCD will show:

```
AL3 UPDATES = XX
ENTER FOR MENU
```

Press the **ENTER** button and then the **(+)** button repeatedly until the LCD displays:

```
EXTING. O/P 1
LEVEL = XXX
```

The XXX displayed here is the previous (factory level) to which the monitoring level had been sent.

Press the **ENTER** button. The LCD will now show:

```
EXTING. O/P 1
LEVEL = XXX ?
```

The XXX shown here is the current monitoring level detected on the extinguishing input. Press the **ENTER** button to learn the new monitoring level.

Press the **(+)** button to set the monitoring level for output 2 in the same way if it is being used, otherwise push the extinguishing module WRITE ENABLE slide switch to the right (off) position and check that an open or short circuit fault on the extinguishing output(s) is detected and shown on the control panel.

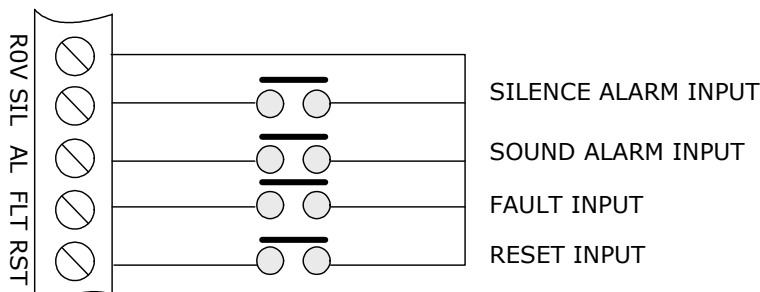
5.6 Remote Inputs

Some functions of the detection module can be controlled externally from the module if required. The external equipment operating inputs **must be restricted by an Access Level 2 control** as defined in EN54-2. The functions are abbreviated at the terminal block on the detection zone PCB in the top part of the control panel as follows:

- a) Remote 0 Volt supply – R0V
- b) Silence Alarm – SIL (Silences sounder outputs S1 & S2)
- c) Sound Alarm – AL (Operates sounder outputs S1 & S2)
- d) Fault – FLT (Generates a general fault and operates the fault relay)
- e) Reset – RST (Resets the system back to normal condition)

To activate these inputs, the remote 0 Volt (R0V) supply must be connected to the input via a normally open switch or contact and a resistance of no greater than 100 ohms.

All of the remote control inputs are non-latching.



5.7 Aux 24V DC Supply Output – Extinguishing Module

The terminals for the Aux 24V supply are labelled Aux 24V + and R0V. The R0V terminal is the negative terminal.

It is possible to have the Aux24V supply outputs removed for a few seconds when the panel is reset. Aux 24V not removed upon reset is set as default on the extinguishing modules. To change this, switch the system to Access Level 2 by operating the enable control keyswitch and then operate the extinguishing module **WRITE ENABLE** switch by gently sliding it to the left.

The LCD will show:

```
AL3 UPDATES = XX  
ENTER FOR MENU
```

Press the **ENTER** button and then the **(+)** repeatedly until the LCD displays:

```
R0V NOT REMOVED  
ON SYSTEM RESET
```

Press the **ENTER** button. The LCD will show:

```
R0V NOT REMOVED  
ON SYSTEM RESET?
```

Press the **ENTER** button. The LCD will show:

```
R0V REMOVED  
ON SYSTEM RESET
```

Press the **EXIT** button.

The Aux 24V supply outputs are fitted with an electronic, self resetting fuse rated at 0.5 Amps to protect the control panel's 24V supply in the event of a wiring fault.

Any standing load on the Aux 24V supply outputs must be taken into account when calculating battery standby times. Standby times will be significantly affected by even modest standing loads on these outputs. It is recommended that the Aux 24V outputs are **not** used to power standing loads.

Where the Aux 24V supply outputs are used to power electromechanical devices such as relays or door retainers it is imperative that a suppression diode is fitted across the coil of the device to prevent the generation of high voltage transients back to the control panel power supply.

5.8 Connection to Relay Contacts

Volt free changeover relay contacts are provided for local control and signalling if required. These contacts are rated for switching signalling circuits only and the maximum ratings listed in *Table 1 – Electrical specifications*, should not be exceeded under any circumstances.

Typically, the Aux 24V outputs of the control panel are switched through these relays and used to control other systems.

5.8.1 Common Fault Relay – Detection Module

The common fault relay is normally energised and will de-energise upon any fault condition on the detection part or the extinguishing part of the control panel, including total loss of power.

The fault relay can be disabled by setting configuration option 22 at Access Level 3, as shown in *Table 6 - Detection module configuration options*.

Important!

Setting this option does not comply to EN54-2.

5.8.2 Fault Relay – Extinguishing Modules

These fault relays are normally energised and will de-energise upon any fault condition on the extinguishing module or total loss of power.

5.8.3 Local Fire Relay – Detection Module

The local fire relay will energise upon activation of a fire condition on any of the zones, or by pressing the sound alarm button on the front panel. The relay will remain activated until the alarm is silenced, or the panel is reset. This relay will not operate upon activation of the remote AL input, or when a fire condition is triggered on a zone that is in test mode. This makes the local fire relay suitable for inter panel signalling without the panels latching each other.

Note.

The local alarm relay can be re-configured using programmable option C2A to operate upon gas released if required

5.8.4 Fire Relay – Detection Module

The fire relay will energise upon activation of a fire condition on any of the detection zones, or by pressing the sound alarm button on the front panel. The relay will remain activated until the alarm is silenced, or the panel is reset. This relay will not operate upon activation of the remote AL input and the sound alarm button.

The fire relay can be disabled by setting configuration option 26 at Access Level 3 as shown in *Table 6 - Detection module configuration options*.

5.8.5 1st stage Alarm Relay – Extinguishing Modules

First stage alarm relays will operate upon activation of a zone that has been configured to contribute to the extinguishing release and will de-activate only when the panel has been reset.

This relay will also operate upon activation of the panel mounted or remote manual release switch.

The stage 1 relay output can be disabled at Access Level 2, via the menus on the extinguishing module.

5.8.6 2nd stage Alarm Relay – Extinguishing Modules

Second stage alarm relays will operate when the panel enters the activated condition (i.e. the release countdown timer has started) and will de-activate only when the panel has been reset from the released condition.

The stage 2 relay output can be disabled at Access Level 2, via the menus on the extinguishing module.

5.8.7 Released Relay – Extinguishing Modules

The released relay on the extinguishing module will operate when the module enters the released condition, either by being activated automatically via detection zones or by being activated by a manual release input. The released relay will also operate if the panel enters the released condition via the released pressure switch input.

The Released relay can be disabled at Access Level 2, via the menus on the extinguishing module.

5.8.8 Abort Relay – Extinguishing Modules

The Abort Relay will operate when the panel is in the aborted condition, activated via an abort switch input.

5.8.9 Extract Relay – Extinguishing Modules

The extract relay will operate when selected at Access Level 2. This provides a means to vent a room of extinguishing gases but prevents the gases from being vented during a discharge.

To switch on the extract relay, operate the enable keyswitch and then press **ENTER** on the module on which the required extract relay is fitted.

The LCD will show:

```
DISABLE  
EXTING RELEASE ?
```

Press the **(+)** button until the display shows:

```
TURN ON  
EXTRACT OUTPUT ?
```

Press **ENTER** to turn the extract output on.

The LCD will change to the following:

```
TURN OFF  
EXTRACT OUTPUT ?
```

Pressing **ENTER** again will turn the extract off.

6 Connection and configuration of Status indicators and Ancillary boards

Important!

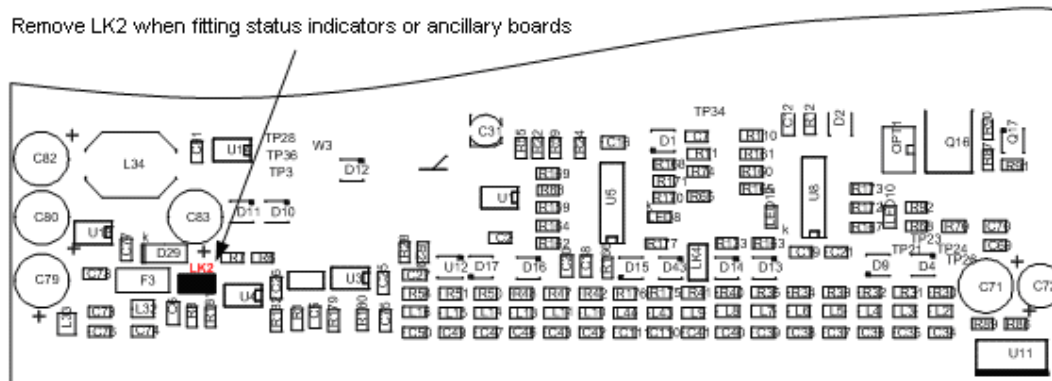
The control panel should not be powered during the connection of status indicators or ancillary boards.

Status indicators and ancillary boards require a four-wire connection from the associated extinguishing module to the corresponding data and power, in and out terminals. Two of the cables carry power to the units (24V) and the other two carry data.

A four core cable suitable for carrying RS485 data should be used. If this is a twisted pair cable then one twisted pair should be used for the data connections and the second pair used for the power connections.








When fitting status indicators or ancillary boards, link LK2 must be removed from the rear of the extinguishing module. The last status indicator connected to the serial bus will have a terminating link fitted as described in manuals TM202 and TM203.

Rear view of extinguishing module



Each status indicator and ancillary board has a 3-bit DIL switch and must be allocated a unique address between 1 and 7.

The system is able to distinguish between status indicators and ancillary boards so it is possible to have a status indicator set to address 1 and an ancillary board set to address 1 if desired.

ADDRESS	SWITCH POSITIONS
1	
2	
3	
4	
5	
6	
7	

The address switch is located on the bottom left hand corner of the status indicator or ancillary PCB.

Note:

The address is only read when the boards are first powered or if the processor reset switch on the ancillary board or status indicator is pressed. Address switches should not be altered on a system that has power applied.

It is important that each individual status indicator and each ancillary board is allocated a unique address in the range 1 to 7. Units of the same type with the same address will cause intermittent faults to be displayed.

NOTE:

10 lamp status indicators (Part no's 23911-K077, 23911-K078 and 23911-K082) are not compatible with FireBeta XT+ extinguishing modules.

6.1 Adding New Status Indicators/Ancillary Boards

When the system is powered, it will search for connected status indicators and/or ancillary boards connected to Extinguishing modules.

If status indicators or ancillary boards are fitted and detected by the control panel, the LCD will display:

```
X FAULTS ►  
ENTER TO VIEW
```

X = the number of faults

Press **ENTER** on the module to which the status indicators or ancillary boards are connected with the **ENABLE CONTROL** keyswitch off and use the **(+)** button on the module to view the faults. If status indicators and/or ancillary boards are detected the LCD will display:

```
STATUS UNIT X  
FAULT
```

X = the address of the status unit found

Or

```
OUTPUT UNIT X  
FAULT
```

X = the address of the ancillary board found

To accept the status indicators and/or ancillary boards found, turn the **ENABLE CONTROL** keyswitch on and slide the **WRITE ENABLE** switch on the module to which the status indicators or ancillary boards are connected gently to the left.

The LCD will then display:

```
STATUS UNIT X  
ENTER TO ACCEPT
```

X = the address of the status unit found

Or

```
OUTPUT UNIT X  
ENTER TO ACCEPT
```

X = the address of the ancillary board found

When the **ENTER** button is pressed on the module to which the status indicators or ancillary boards are connected, the selected status indicator or ancillary board will be added to the system and the next unit to be added will be displayed. Press the **ENTER** button on the extinguishing module until all of the units have been accepted, then gently slide the **WRITE ENABLE** switch on the module to the right.

Once all of the status indicators and ancillary boards found by the extinguishing module have been added, disconnection of any of them will be displayed as a fault on the extinguishing and detection modules. If any status indicators are disconnected, a **HOLD** activated indication will also be displayed on the extinguishing module and all ancillary boards or status indicators that remain connected.

With the **ENABLE CONTROL** keyswitch off, the LCD will display:

REMOTE BUS
FAULT

When additional status indicators or ancillary boards are added to the system, these will be shown on the LCD of the extinguishing module when the system is powered up, or the processor reset switch is pressed on the module to which the status indicators or ancillary board is connected. They can then be added to the system by following the procedure above.

6.2 Removing Status Indicators/Ancillary Boards

If a status indicator or ancillary board needs to be removed from the system, disconnect the status indicator or ancillary board taking care not to short power supply or data cables. The extinguishing module will display:

REMOTE BUS
FAULT

Press the processor reset button on the extinguishing module to which the status unit or ancillary board is connected.

When the extinguishing module has re-started, it will display:

STATUS UNIT X
FAULT

X = the address of the disconnected status indicator.

OR

OUTPUT UNIT X
FAULT

Turn the **ENABLE CONTROL** keyswitch on and gently slide the **WRITE ENABLE** switch on the extinguishing module to which the status indicators or ancillary boards are connected, to the left.

The LCD will then display:

STATUS UNIT X
ENTER TO ACCEPT

X = the address of the remaining status indicators

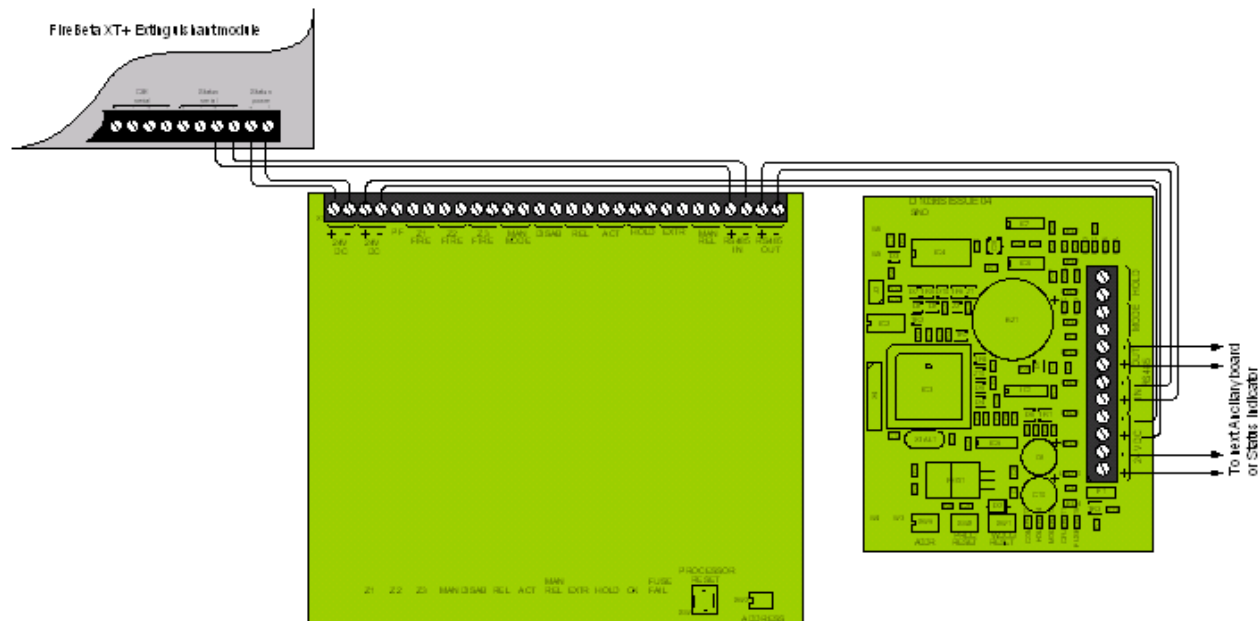
OUTPUT UNIT X
ENTER TO ACCEPT

X = the address of the remaining ancillary boards

When the **ENTER** button is pressed on the module to which the status indicators or ancillary boards are connected, the selected status indicator or ancillary board will be added to the system and the next unit to be added will be displayed. Press the **ENTER** button on the extinguishing module until all of the units have been added then gently slide the **WRITE ENABLE** on the extinguishing module switch to the right.

Full details of status units and ancillary boards can be found in TM202, TM203 and TM206.

Wiring to status units and ancillary boards

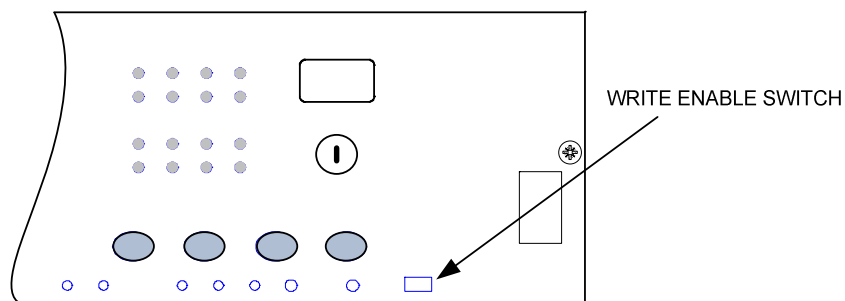


7 Configuring the FireBeta XT+

7.1 Detection Module

FireBeta XT+ extinguishing control panels consist of 2 parts. The detection part has 2, 4 or 8 detection zones and has a number of configuration options, which can be set at commissioning to suit the requirements of the installation. These options are normally set once and will rarely need to change.

The configuration options are only available at Access Level 3, which is accessed by operating the **WRITE ENABLE** switch to the left as shown below. When the panel is at Access Level 3, the buzzer will “pip” three times every few seconds as an indication that it is at this Access Level.

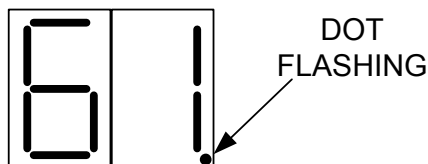


Configuration options are simple to enter using the codes shown in *Table 6 - Detection module configuration options*. When the control panel is at Access Level 3, the sub-text of the *Mode* and *Select* buttons is used to enter a number using tens (+10) and units (+1).

When the required code number is displayed, pressing the ENTER button will cause the dot on the units seven segment display to flash. This indicates that a configuration option has been set. To review which configuration options have been set previously, simply scroll through numbers 1 to 99, A1 to A8, C1 to C8 and E1 to E8 and those with a flashing dot indicate which options have been set.

Example display showing option set and not set

ZONE 1 I.S. BARRIER
OPTION SET



ZONE 1 I.S. BARRIER
OPTION NOT SET

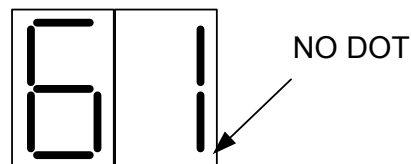


Table6 – Detection module configuration

CODE	FUNCTION	COMMENTS
00	SOUNDER DELAY TIME = 30 SECONDS	Sets the time delay before sounders operate in combination with configuration codes 31 to 48 and Access Level 2 function Ad.
01	SOUNDER DELAY TIME = 1 MINUTE	
02	SOUNDER DELAY TIME = 2 MINUTES	
03	SOUNDER DELAY TIME = 3 MINUTES	
04	SOUNDER DELAY TIME = 4 MINUTES	
05	SOUNDER DELAY TIME = 5 MINUTES	
06	SOUNDER DELAY TIME = 6 MINUTES	
07	SOUNDER DELAY TIME = 7 MINUTES	
08	SOUNDER DELAY TIME = 8 MINUTES	
09	SOUNDER DELAY TIME = 9 MINUTES	
10	COMMON ALARM MODE (default)	All sounders operate upon any fire condition
11	TWO-STAGE ALARM MODE	Not used
12	ZONED ALARM MODE	Not used
21*	DISABLE FIRE BUZZER	Buzzer will not operate on fire condition
22*	DISABLE FAULT OUTPUT	Fault relay will not operate except upon total power failure
23	DISABLE EARTH FAULT MONITORING	Connection of fire alarm wiring will not announce a fault
24	PULSED REMOTE CONTROL OUTPUT	Aux 24V supply pulses 1 sec on/1 sec off
25	ENABLE SOUNDERS ON DETECTION CIRCUITS	Not used
26	DISABLE FIRE OUTPUT	Fire relay will not operate upon any alarm
27	DO NOT CHANGE	DO NOT CHANGE
31	ZONE 1 ALARM FROM DETECTOR DELAYED	Sounder outputs will be delayed by time set at options 0-9 when selected zone(s) triggered by detector only. Note Access Level 2 function Ad must be set for this to take effect.
32	ZONE 2 ALARM FROM DETECTOR DELAYED	
33	ZONE 3 ALARM FROM DETECTOR DELAYED	
34	ZONE 4 ALARM FROM DETECTOR DELAYED	
35	ZONE 5 ALARM FROM DETECTOR DELAYED	
36	ZONE 6 ALARM FROM DETECTOR DELAYED	
37	ZONE 7 ALARM FROM DETECTOR DELAYED	
38	ZONE 8 ALARM FROM DETECTOR DELAYED	
41	ZONE 1 ALARM FROM CALL POINT DELAYED	Sounder outputs will be delayed by time set at options 0-9 when selected zone(s) triggered by call point only. Note Access Level 2 function Ad must be set for this to take effect.
42	ZONE 2 ALARM FROM CALL POINT DELAYED	
43	ZONE 3 ALARM FROM CALL POINT DELAYED	
44	ZONE 4 ALARM FROM CALL POINT DELAYED	
45	ZONE 5 ALARM FROM CALL POINT DELAYED	
46	ZONE 6 ALARM FROM CALL POINT DELAYED	
47	ZONE 7 ALARM FROM CALL POINT DELAYED	
48	ZONE 8 ALARM FROM CALL POINT DELAYED	

Code	Function	Comments
51	COINCIDENCE ZONE 1	Zone contributes to ancillary board coincidence O/P. Any number of zones can be selected to contribute.
52	COINCIDENCE ZONE 2	
53	COINCIDENCE ZONE 3	
54	COINCIDENCE ZONE 4	
55	COINCIDENCE ZONE 5	
56	COINCIDENCE ZONE 6	
57	COINCIDENCE ZONE 7	
58	COINCIDENCE ZONE 8	
61	CONFIGURE Z1 FOR I.S BARRIER	Detection threshold changed for use with IS barrier
62	CONFIGURE Z2 FOR I.S BARRIER	
63	CONFIGURE Z3 FOR I.S BARRIER	
64	CONFIGURE Z4 FOR I.S BARRIER	
65	CONFIGURE Z5 FOR I.S BARRIER	
66	CONFIGURE Z6 FOR I.S BARRIER	
67	CONFIGURE Z7 FOR I.S BARRIER	
68	CONFIGURE Z8 FOR I.S BARRIER	
71*	ZONE 1 SHORT CIRCUIT INDICATES ALARM	Changes the trigger threshold of the zone so that the control panel can be used on older systems that had no short circuit monitoring.
72*	ZONE 2 SHORT CIRCUIT INDICATES ALARM	
73*	ZONE 3 SHORT CIRCUIT INDICATES ALARM	
74*	ZONE 4 SHORT CIRCUIT INDICATES ALARM	
75*	ZONE 5 SHORT CIRCUIT INDICATES ALARM	
76*	ZONE 6 SHORT CIRCUIT INDICATES ALARM	
77*	ZONE 7 SHORT CIRCUIT INDICATES ALARM	
78*	ZONE 8 SHORT CIRCUIT INDICATES ALARM	
81*	ZONE 1 NON-LATCHING	Renders the zone self-resetting so that it can be used to receive signals from other systems and will reset when the input is removed. Note: It can take up to 20 seconds for zone to reset itself when sounders are operating
82*	ZONE 2 NON-LATCHING	
83*	ZONE 3 NON-LATCHING	
84*	ZONE 4 NON-LATCHING	
85*	ZONE 5 NON-LATCHING	
86*	ZONE 6 NON-LATCHING	
87*	ZONE 7 NON-LATCHING	
88*	ZONE 8 NON-LATCHING	
91	ZONE 1 DOES NOT SOUND ALARMS	Prevents the zone from operating the two common sounder outputs.
92	ZONE 2 DOES NOT SOUND ALARMS	
93	ZONE 3 DOES NOT SOUND ALARMS	
94	ZONE 4 DOES NOT SOUND ALARMS	
95	ZONE 5 DOES NOT SOUND ALARMS	
96	ZONE 6 DOES NOT SOUND ALARMS	
97	ZONE 7 DOES NOT SOUND ALARMS	
98	ZONE 8 DOES NOT SOUND ALARMS	
A1*	ZONE 1 ANY ALARM DELAYED	Zone needs to be triggered for 30 seconds continuously before an alarm is generated.
A2*	ZONE 2 ANY ALARM DELAYED	
A3*	ZONE 3 ANY ALARM DELAYED	
A4*	ZONE 4 ANY ALARM DELAYED	
A5*	ZONE 5 ANY ALARM DELAYED	
A6*	ZONE 6 ANY ALARM DELAYED	
A7*	ZONE 7 ANY ALARM DELAYED	
A8*	ZONE 8 ANY ALARM DELAYED	
C1	ZONE 1 SOUNDERS INHIBITED	Not used
C2	ZONE 2 SOUNDERS INHIBITED	
C3	ZONE 3 SOUNDERS INHIBITED	
C4	ZONE 4 SOUNDERS INHIBITED	
C5	ZONE 5 SOUNDERS INHIBITED	
C6	ZONE 6 SOUNDERS INHIBITED	
C7	ZONE 7 SOUNDERS INHIBITED	
C8	ZONE 8 SOUNDERS INHIBITED	
E1*	ZONE 1 WILL NOT OPERATE FIRE RELAY	Enables individual zones to be selected to not operate the fire relay. This is sometimes combined with the non-latching function to prevent ring around on interconnected panels
E2*	ZONE 2 WILL NOT OPERATE FIRE RELAY	
E3*	ZONE 3 WILL NOT OPERATE FIRE RELAY	

Code	Function	Comments
E4*	ZONE 4 WILL NOT OPERATE FIRE RELAY	Enables individual zones to be selected to not operate the fire relay. This is sometimes combined with the non-latching function to prevent ring around on interconnected panels
E5*	ZONE 5 WILL NOT OPERATE FIRE RELAY	
E6*	ZONE 6 WILL NOT OPERATE FIRE RELAY	
E7*	ZONE 7 WILL NOT OPERATE FIRE RELAY	
E8*	ZONE 8 WILL NOT OPERATE FIRE RELAY	

Note:

Setting the options marked with asterisks does not comply with EN54-2

7.2 Extinguishing Module

The following sub-sections detail the various configuration options available on the FireBeta XT+ extinguishing module.

7.2.1 Extinguishing Output Mode

The FireBeta XT+ extinguishing module has two extinguishing outputs. These can be configured to operate together at the same time (common) or be configured as main and reserve outputs.

The factory default setting for the extinguishing outputs is common.

To change this, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module. The display will show:

```
EXTING O/P MODE.
= COMMON
```

Press the **ENTER** button and the display will show:

```
EXTING O/P MODE.
= MAIN/RESERVE ?
```

Press the **ENTER** button to select main/reserve.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

When the extinguishing module is activated, only extinguishing output 1 operates.

There is an additional menu item at Access Level 2 to allow the reserve extinguishing output to be selected.

7.2.2 Activation Mode

It is possible to configure the extinguishing modules to be activated by coincidence i.e. any 2 zones from a range of zones or a single zone from a range of zones. The activation mode is factory set to coincidence.

To change this, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button. The display will show:

```
ACTIVATION MODE.
= COINCIDENCE
```

Press the **ENTER** button and the display will show:

```
ACTIVATION MODE,  
= SINGLE ?
```

Press the **ENTER** button to select single zone activation mode.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

Operation of any detection zone in the range of zones selected to trigger the extinguishing module will put the extinguishing module into the activated condition.

7.2.3 Activation Zones

The extinguishing modules are factory set to be activated by coincidence activation of the logical zones on the detection module and are addressed logically from 1 to 4.

This means that on an 8 zone 4 extinguishing area panel, zones 1 and 2 will be set to activate the extinguishing module at address 1, zones 3 and 4 will be set to activate the extinguishing module at address 2 and so on.

This can be changed if required so that any zones can activate the extinguishing module.

To do this, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module and then the **(+)** button until the display shows:

```
FIRST ACTIV.  
ZONE = X
```

X = Zone number currently selected to be the first activation zone

```
FIRST ACTIV.  
ZONE = X ?
```

This can be changed if required by using the **(+)** and **(-)** buttons to select the required zone number. When the required zone number is displayed, press the **ENTER** button. The display will show:

```
LAST ACTIV.  
ZONE = X
```

X = Zone number currently selected to be the last activation zone

This can be changed if required by using the **(+)** and **(-)** buttons to select the required zone number. When the required zone number is displayed, press the **ENTER** button. The display will show:

```
LAST ACTIV.  
ZONE = X ?
```

X = Zone number currently selected to be the last activation zone

Activation of any of the zones in the range selected will now contribute to the activation of this module.

7.2.4 Reset Inhibit Time

It is a requirement of the extinguishing control panel standard EN12094-1, to inhibit reset of the system after it has been activated until there is a signal representing the end of the discharge (a released input) or for an adjustable time period of up to 30 minutes. The factory default for the reset inhibit time is 0.

To change the reset inhibit time, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

```
RESET INHIBIT  
TIME = 0
```

Press the **ENTER** button and the display will show:

```
RESET INHIBIT  
TIME = 0 ?
```

To change the reset inhibit time, press **(+)** or **(-)** buttons until the time required is displayed and then press **ENTER**.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

Resetting of the extinguishing module after it has been activated will now be prohibited until the set reset inhibit time.

7.2.5 Pre-release Delay Time

The extinguishing control panel standard EN12094-1 allows for a time delay to be set from activation of the extinguishing module to operation of the extinguishing release output. This time may be between 0 and 30 seconds in 5 second increments.

The factory default time delay on the FireBeta XT+ extinguishing modules is 30 seconds.

To change the pre-release delay time, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

```
PRE-REL DELAY  
TIME = 30 SEC.
```

Press the **ENTER** button and the display will show:

```
PRE-REL DELAY  
TIME = 30 SEC.?
```

To change the time, press the **(+)** or **(-)** buttons until the required time is displayed.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

The pre-release delay time will now be set to the chosen value.

7.2.6 Extinguishing Release Time

The time that the extinguishing output is active for can be set between 60 and 300 seconds. The factory default time for this is 120 seconds. It is also possible to disable this timer such that the extinguishing outputs remain active until the module is reset. See Release Timer menu option section 7.2.11.

To change the extinguishing release time, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

```
EXTING. RELEASE  
TIME = 60 SEC.
```

Press the **ENTER** button and the display will show:

EXTING. RELEASE
TIME = 60 SEC. ?

To change the time, press the **(+)** or **(-)** buttons until the required time is displayed

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

The extinguishing release time will now be set to the chosen value.

7.2.7 2nd Stage Alarm

The second stage alarm output can be configured to be steady or pulsing at about 1 second on, 1 second off to suit the desired application. The factory default for the second stage alarm is pulsing.

To change the operation of the second stage sounders, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

PULSED
ACTIV. ALARMS

Press the **ENTER** button and the display will show:

STEADY
ACTIV. ALARMS ?

To change to steady second stage alarms, press the **ENTER** button.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

The second stage alarm output will operate in steady mode when the module is activated.

7.2.8 Released Indication

It is possible to select whether the released indication on a module is operated at the same time as the extinguishing release output operates, or by operation of a pressure switch connected to the released, pressure switch input.

The factory default setting is for the released indication to be operated by operation of a pressure switch connected to the released pressure switch input.

To change the operation of the released indication, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

RELEASED IND ON
RELEASED INPUT

Press the **ENTER** button and the display will show:

RELEASED IND ON
EXTING. REL ?

To change setting, press the **ENTER** button.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

The released indicator will now be lit when the extinguishing output operates.

7.2.9 Delay on Manual Release

The manual release function (panel mounted and remote) can be configured to have a pre-release time delay (as per the set pre-release time) or to have no pre-release delay allowing immediate operation of the extinguishing output when a manual release is operated.

The factory default setting for this is for the manual release to have a delay time the same as the pre-release delay.

To configure the module to have no delay when a manual release is operated, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

```
DELAY ON  
MANUAL RELEASE
```

Press the **ENTER** button and the display will show:

```
NO DELAY ON  
MANUAL RELEASE ?
```

To change to this, press the **ENTER** button.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

Operation of a manual release will now operate the extinguishing outputs with no time delay.

7.2.10 Pre-release Delay Reset Disabled

Once activated, an extinguishing module can not be reset until after the reset inhibit time has expired and the extinguishing release timer has expired. It is possible to configure the module such that it can be reset during the pre-release delay.

The factory default setting is for the pre-release delay reset to be disabled.

To configure the module such that it may be reset during the pre-release delay, switch on the **ENABLE CONTROLS** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the right. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

```
PRE-RELEASE DELAY  
RESET DISABLED
```

Press the **ENTER** button and the display will show:

```
PRE-RELEASE DELAY  
RESET ENABLED
```

To change to this, press the **ENTER** button.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

It will now be possible to reset the module during the pre-release delay but not while the extinguishing outputs have operated or until after expiry of the reset inhibit time.

Note:

Disabling the pre-release delay reset does not comply with the requirements of EN12094-1.

7.2.11 Release Timer

The release timer can be disabled such that once the extinguishing output has operated; it remains operated until the system is reset.

To disable the release timer, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

```
RELEASE TIMER  
ENABLED
```

Press the **ENTER** button and the display will show:

```
RELEASE TIMER  
DISABLED ?
```

To disable the release timer, press the **ENTER** button.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

With the release timer disabled, the extinguishing outputs will remain operated until the system is reset.

7.2.12 R0V Not Removed on Reset

It is possible to configure the AUX24V output on the FireBeta XT+ module to be removed for a few seconds when the system is reset.

The factory default setting is for the Aux24V output not to be removed when the system is reset.

To configure the module such that Aux24V output is removed for a few seconds when the system is reset, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

```
R0V NOT REMOVED  
ON SYSTEM RESET
```

Press the **ENTER** button and the display will show:

```
R0V REMOVED  
ON SYSTEM RESET?
```

To select this option, press the **ENTER** button.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

With the release module configured to remove the R0V output on system reset, the Aux 24V output will be removed for a few seconds when the reset button is pressed.

7.2.13 Disable Earth Fault Monitoring

The earth fault monitoring facility can be disabled on each module individually, this facility is enabled as default.

To disable the earth fault monitoring, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

EARTH FAULT
ENABLED

Press the **ENTER** button and the display will show:

EARTH FAULT
DISABLED ?

To select this option, press the **ENTER** button.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

The earth fault monitoring facility on the module will now be disabled.

7.2.14 Disable Fault Output

The fault output relay can be disabled on each module individually.

The factory default setting is for the fault output relay to be enabled.

To disable the fault output relay, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

FAULT OUTPUT
ENABLED

Press the **ENTER** button and the display will show:

FAULT OUTPUT
DISABLED ?

To select this option, press the **ENTER** button.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

The fault output relay on the module will now be disabled.

Note:

Disabling the fault output does not comply with the requirements of EN54-2.

7.2.15 Invert Low Pressure Switch Input

To enable low pressure switches to be used which have normally closed rather than normally open contacts, it is possible to invert the low pressure switch input.

The factory default setting is for the low pressure switch input to use a normally open contact.

To invert the low pressure switch input, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

LOW PRESS. I/P
MODE = NORMAL

Press the **ENTER** button and the display will show:

LOW PRESS. I/P
MODE = INVERTED ?

To select this option, press the **ENTER** button.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

The low pressure switch input will now require a normally closed contact with a 470R trigger resistor and 6K8 end of line resistor for correct supervision.

7.2.16 Extinguishing Output Monitoring Levels

The extinguishing outputs are able to monitor both solenoid and igniting actuator release devices. To do this the outputs must be calibrated with the release device and the cable, fitted as it will be in the working system.

The extinguishing outputs are fitted with a 1N4004 diode at the factory and the default monitoring level will be set at approximately 206 but may be between 204 and 208. Before calibrating the extinguishing outputs ensure that the release device is fitted to the cable as shown in section 10.

To change the monitoring level for extinguishing output 2, switch on the **ENABLE CONTROL** keyswitch and slide the **WRITE ENABLE** switch on the module to be configured gently to the left. Press the **ENTER** button on the extinguishing module then press the **(+)** button until the display shows:

```
EXTING. O/P 2
LEVEL = 206
```

Press the **ENTER** button and the display will show:

```
EXTING. O/P 2
LEVEL = XXX ?
```

The XXX here will be the actual monitoring level read by the module.

To save this setting press the **ENTER** button.

To set the monitoring level for extinguishing output 1, press the **(+)** button. The display will show:

```
EXTING. O/P 1
LEVEL = 206
```

Press the **ENTER** button and the display will show:

```
EXTING. O/P 1
LEVEL = XXX ?
```

The XXX here will be the actual monitoring level read by the module.

To save this setting press the **ENTER** button.

To save the settings, slide the **WRITE ENABLE** switch gently to the right.

The extinguishing output levels will now be set and any significant variation detected in the monitoring levels will be announced as an **EXTING. O/P** fault.

8 Panel Operation – Access Levels 1 and 2

8.1 Normal Condition


Under normal conditions and with all modules in Manual & Auto mode, control panels will have only the green, **Power On** LED lit on the detection and extinguishing modules. With the **ENABLE CONTROL** keyswitch off, the display on the detection part of the panel will be blank and, the LCDs on the extinguishing modules will show:

MANUAL & AUTO

Any modules that are in **Manual Only** mode will have an additional, Manual only yellow LED lit and their display will show:

MANUAL MODE

The control panel has 3 Access Levels. Access Level 1 is available at all times and allows operation of the Alarm/Fault warning Buzzer Silence and Lamp Test buttons on the detection part of the panel only. Access Level 2 is enabled after operation of the front panel mounted **ENABLE CONTROL** keyswitch. Access Level 3 allows configuration options to be set on both the detection part of the panel and the extinguishing modules following operation of their respective Write Enable switches at Access Level 2 (**ENABLE CONTROL** keyswitch operated).

When the **ENABLE CONTROL** keyswitch is operated (Access Level 2) the 7-segment display on the detection module will show  and the LCDs on the extinguishing modules will show:


ACCESS LEVEL 2 ►
ENTER FOR MENU



8.2 Detection Module – Access Level 2

8.2.1 Test Mode

It is possible to put one or more zones into test mode. When a zone is in test mode it will self reset after a few seconds. This enables the system to be tested without having to reset the control panel to between device activations.

To put a zone into test mode, switch the **ENABLE CONTROL** keyswitch on.

The 7 segment display will show  (test zone 1). To put zone 1 into test mode, press the **ENTER** button on the detection module.




The display will now show a flashing dot next to the , and the yellow **test** LED will be lit. To select further zones to put into test mode, press the Select button and then the ENTER button so that the flashing dot appears next to the selected display e.g. .


To remove a zone from test mode, press the **SELECT** button to reveal any zones that have a flashing dot and then press the **ENTER** button to take that zone out of test mode. Once all zones have been taken out of test mode, the yellow, **test** LED will go off.

8.2.2 Disable Zones

It is possible to disable one or more zones on the FireBeta XT+. When a zone is disabled it will not report fire or fault conditions. This enables the system to be worked on without false fire or fault conditions being displayed.

To disable one or more zones, switch the **ENABLE CONTROL** keyswitch on.




The 7 segment display will show  (test zone 1), press the **MODE** button and the display will show 
 To disable zone 1 press the **ENTER** button. The display will show  and the yellow Disablement LED will be lit.



To select further zones to disable, press the **SELECT** button and then the **ENTER** button so that the flashing dot appears next to the selected display e.g. .

To remove disablements, press the **SELECT** button to reveal any zones that have a flashing dot next to the displayed zone number and then press the **ENTER** button. Once all zones have been enabled, the yellow, Disabled LED will go off.

8.2.3 Disable Sounder Outputs




The sounder outputs on the detection module can be disabled if required.



To disable the panel sounder outputs, switch the **ENABLE CONTROL** keyswitch on. The 7 segment display will show  (test zone 1), press the **MODE** button until the display shows  and press the **ENTER** button. The display will now show , the yellow Disablement and Sounder fault LEDs will be lit.

To enable the sounder outputs, press the **MODE** button while at Access Level 2 (**ENABLE CONTROL** keyswitch operated) and scroll with the **MODE** button until  is displayed. Press the **ENTER** button and the display will change to  and the Sounder fault and Disablement LEDs will go off if there are no other disablements active on the panel.

8.2.4 Activate Delays

It is possible to set delays before sounder outputs will operate (see section 7.1). Before these time delays become effective it is necessary to turn on the activate delays function.
 To do this, switch the **ENABLE CONTROL** keyswitch on.

The 7 segment display will show  (test zone 1)
 Press the **MODE** button until the display shows 
 Press the **ENTER** button, the display will now show  and the yellow Alarm delay and Disablement LEDs will be lit.

To switch off the delay, press the **MODE** button while at Access Level 2 (**ENABLE CONTROL** keyswitch operated) and scroll with the **MODE** button until  is displayed. Press the **ENTER** button. The display will change to  and the Alarm delay and Disablement LEDs will go off if there are no other disablements active on the panel.

8.3 Extinguishing Modules – Access Level 2

With the **ENABLE CONTROL** keyswitch operated, all extinguishing modules will display:

```
ACCESS LEVEL 2 ►
ENTER FOR MENU
```

8.3.1 Disable Extinguishing release outputs.

To disable both of the extinguishing release outputs, press the **(+)** button on the module while at Access Level 2.

The display will show:

```
DISABLE  
EXTING. RELEASE ?
```

Press the **ENTER** button to toggle this function.

The yellow Disabled LED on the module that has been disabled will be lit.

Turn the **ENABLE CONTROL** keyswitch off to leave the disablement active. To re-enable the extinguishing outputs repeat the procedure above.

8.3.2 Disable Manual Release

To disable all Manual release inputs (front panel mounted and remotely connected), press the **(+)** button on the module while at Access Level 2 until the module displays:

```
DISABLE  
MANUAL RELEASE ?
```

Press the **ENTER** button to select this function. The yellow Disabled LED on the module that has been disabled will be lit and the display will show:

```
ENABLE  
MANUAL RELEASE ?
```

Turn the **ENABLE CONTROL** keyswitch off to leave the disablement active. To re-enable the manual release facility, repeat the procedure above.

8.3.3 Disable Stage 1 Output

To disable the 1st stage relay output, press the **(+)** button on the module while at Access Level 2 until the display shows:

```
DISABLE  
STAGE 1 OUTPUT ?
```

Press the **ENTER** button to select this function. The display will show:

```
ENABLE  
STAGE 1 OUTPUT ?
```

The yellow Disabled LED on the module that has been disabled will be lit.

Turn the **ENABLE CONTROL** keyswitch off to leave the disablement active. To re-enable the stage 1 relay output, repeat the procedure above.

8.3.4 Disable Stage 2 Output

To disable the 2nd stage relay output, press the **(+)** button on the module while at Access Level 2 until the display shows:

```
DISABLE  
STAGE 2 OUTPUT ?
```

Press the **ENTER** button to select this function. The display will show:

```
ENABLE  
STAGE 2 OUTPUT ?
```

The yellow Disabled LED on the module that has been disabled will be lit.

Turn the **ENABLE CONTROL** keyswitch off to leave the disablement active. To re-enable the stage 2 relay output repeat the procedure above.

8.3.5 Disable Released Output

To disable the released relay output, press the (+) button on the module while at Access Level 2 until the display shows:

```
DISABLE  
RELEASED OUTPUT ?
```

Press the **ENTER** button to select this function. The display will show:

```
ENABLE  
RELEASED OUTPUT ?
```

The yellow Disabled LED on the module that has been disabled will be lit.

Turn the **ENABLE CONTROL** keyswitch off to leave the disablement active. To re-enable the Released relay output repeat the procedure above.

8.3.6 Disable Extract Output

To disable the Extract relay output, press the (+) button on the module while at Access Level 2 until the display shows:

```
DISABLE  
EXTRACT OUTPUT ?
```

Press the **ENTER** button to select this function. The display will show:

```
ENABLE  
EXTRACT OUTPUT ?
```

The yellow disabled LED on the module that has been disabled will be lit.

Turn the **ENABLE CONTROL** keyswitch off to leave the disablement active. To re-enable the extract relay output repeat the procedure above.

8.3.7 Turn on Extract Output

To turn on the extract relay output, press the (-) button on the module while at Access Level 2 until the display shows:

```
TURN ON  
EXTRACT OUTPUT
```

Press the **ENTER** button to select this function. The display will show:

```
TURN OFF  
EXTRACT OUTPUT ?
```

The yellow disabled LED on the module that has been disabled will be lit.

Turn the **ENABLE CONTROL** keyswitch off to leave the extract output active. To turn off the extract output, repeat the procedure above.

Note:

The extract output does not turn off when the module is reset.

8.4 Single Zone Fire Condition

Upon receipt of a fire condition by activation of a detector or call point, the **Common Fire** indicator on the detection module will light, the fire buzzer will sound and the zonal **Fire** indicator(s) will flash at around 2Hz.

The fire and local fire relays will also operate providing signals to any systems to which they are connected.

Any sounders connected to the sounder circuits S1 & S2 on the detection module will operate.

If the zone that has activated is contributing to the extinguishing release sequence on an extinguishing module and the module is configured for coincidence activation, the Release Imminent LED on the module will flash, the first stage relay contact will operate, the first stage sounder output will operate and the display will show:

PREACTIVATED ►

Pressing the **SILENCE ALARM** button on the detection module will turn off the sounder outputs on the detection section and the first stage alarm outputs on the extinguishing module

8.5 Double Zone Fire Condition

Upon receipt of a second fire condition that contributes to extinguishing release on modules that are switched to Automatic/Manual mode with their Hold inputs inactive and the Disable Extinguishing function has not been invoked, the detection section will respond as above and extinguishing modules will respond as listed below:

- a) The second stage alarm output will operate. (Sounder circuit S3)
- b) The 2nd stage contact will operate.
- c) The Activated indicator will operate
- d) The display will indicate:

ACTIVATED

and show the time remaining until release in seconds.

- e) The Extinguishing output will operate after the configured delay time and for the configured duration.
- f) The display will show :

ACTIVATED DISCHARGING

for the duration of the release time.

When the extinguishing module is activated (i.e. the Release Imminent indicator is lit) it shall not be possible to reset the extinguishing module of the panel until the Reset Inhibit timer has elapsed.

8.6 Silence/Sound alarms

The **SILENCE/SOUND ALARM** button can only be operated at Access Level 2. (**ENABLE CONTROL** keyswitch operated).

To silence the sounders, insert the **ENABLE CONTROL** key, turn to the right and press the **SILENCE/SOUND ALARM** button.

When the sounders have been silenced, the Zone Fire LEDs will change from flashing to a steady state.

Note:

Pressing the **SILENCE/SOUND ALARM** button whilst the control panel is in the silenced condition will cause the sounders to operate again.

The sounders can be toggled on and off with the Silence/Sound alarm button as required.

8.7 Reset

To reset the panel, insert the **ENABLE CONTROL** key, turn to the right then press the **RESET** button. The extinguishing module will reset only after the reset inhibit timer has expired once the activated condition has been established.

8.8 Detection Zone Fault

Removal of a detector from its base or a fault on any of the zone wiring will cause the General Fault LED and relevant Zone Fault LED to flash, indicating the zone in which the fault has occurred.

8.9 Sounder Fault

A fault on the wiring to the detection module sounder circuits will cause the General Fault LED to light and the Sounder Fault LED to flash.

A fault on the sounder circuits of the extinguishing modules will light the Fault LED on the detection module as well as the extinguishing module. The extinguishing module will display:

STAGE 1 ALARMS
FAULT

Or

STAGE 2 ALARMS
FAULT

8.10 Power Fault

Failure of the mains power or disconnection of the standby battery supply will cause the *Fault* and *Power Fault* LEDs to light on the detection module, indicating an abnormality in the power supply to the control panel. There will be no indication of this condition on the extinguishing modules.

8.11 System Fault – Detection Module

The system fault and general fault LEDs will light if the configuration memory has not been set or has become corrupted.

8.12 System fault – Extinguishing module

The System Fault and general fault LEDs will light if the configuration memory has not been set or has become corrupted.

8.13 General Fault – Detection Module

The general fault LED will illuminate under any fault condition.

This LED will also light if the **WRITE ENABLE** switch has been left in the Access Level 3 position and the **ENABLE CONTROL** keyswitch is turned off.

8.14 Lamp Test

All LED indicators on the detection module can be tested at any time by pressing the Lamp Test button. The **ENABLE CONTROL** keyswitch does not need to be operated to carry out this test.

Indicators on individual extinguishing modules can be lamp tested by holding down the **EXIT** button for more than 2 seconds.

8.15 Hold Condition

Activation of the Hold input or a fault on the monitored wiring of the Hold circuit on a module or at a remotely mounted status indicator will cause the Hold Activated indicator to light on the module and on any status units or ancillary boards connected to it.

If the extinguishing module is in the Activated condition and the pre-release timer is running, then the extinguishing release sequence will be halted and the pulsing 2nd stage sounders shall change to 1 second on, 2 seconds off.

Release of the Hold input will re-start the pre-release timer from the beginning.

8.16 Released Condition

The released pressure switch input will be connected to a pressure switch mounted on the extinguishing cylinder which operates when the extinguishant has been released. This will activate the released indicator on the control panel. If the extinguishant has been released by mechanical means i.e. the control panel is not in the activated condition, operation of the released pressure switch input will establish the Released condition. (See also 7.2.8)

8.17 Low Pressure Switch

The low pressure switch input will be connected to a pressure switch on the extinguishing cylinder and will operate if the pressure in the cylinder falls below a set point. This will happen after the extinguishant has been released or because of a leak. The fault LED on the extinguishing module and on the detection module will illuminate, the panel buzzer will sound.

8.18 Manual Only Mode

The mode of the system can be toggled between Manual Only and Automatic & Manual by operating the **MODE SELECT** keyswitch on the extinguishing module.

When a module is in Manual Only mode, the extinguishant cannot be released by the operation of automatic detectors.

The mode can also be changed to manual by the external mode select input, or by a keyswitch on a status unit. Any mode select input that is switched to Manual only mode, will override any keyswitches switched to Automatic and Manual mode. All inputs must be switched to Manual and Automatic mode for a module to be in Automatic and Manual mode.

8.19 Manual Release

Extinguishing modules may be manually activated by one of the following:

- The manual release control on the front of the module
- A remotely mounted manual release callpoint connected to the monitored manual release inputs
- A manual release control mounted on a status indicator.

Activation of any of these manual release controls will immediately activate the extinguishing module and begin the pre-release timer if the module is configured to have a time delay for manual release inputs.

8.20 Abort input

Each module has the facility for connection of an Abort control. Operation of the Abort input during the pre-release delay time will illuminate the Abort indicator on the extinguishing module and the extinguishing release timer will be cancelled i.e. the extinguishant will not be released. The module can be immediately reset from this condition.

Activation of the hold input in a non-alarm condition will indicate an abort circuit fault and disable the gas extinguishant release circuit

9 Internal Controls

9.1 Detection Module

9.1.1 Watchdog Reset

If for any reason the microprocessor in the detection part of the control panel fails to carry out its operation correctly it will attempt to restart. This process is called a “watchdog” and the control panel must record and indicate these events.

If a watchdog event occurs, the detection module will show the Fault and System Fault LEDs on the front panel, the CPU fault internal LED inside the panel will light and the buzzer will sound. This fault can only be cleared by pressing the Watchdog Reset button located inside the control panel. The control panel buzzer will continue to sound until the watchdog activation is reset.

9.1.2 Processor Reset

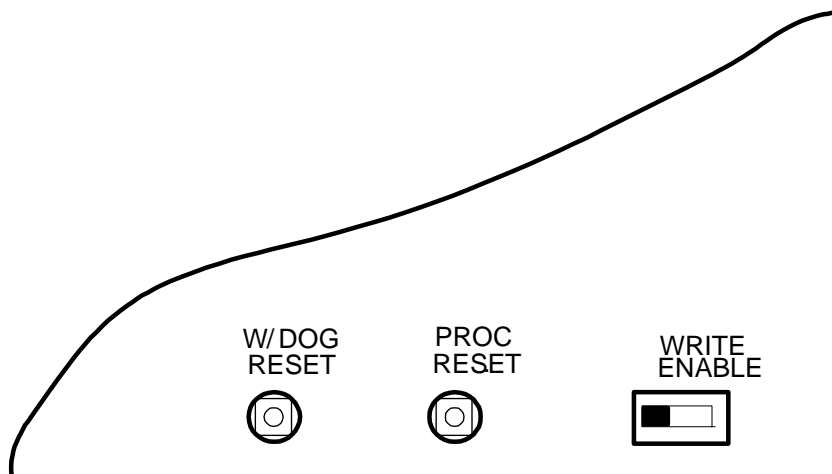
Once started, the microprocessor controlling the detection part of the panel should continue to run without interruption. If the microprocessor fails to run correctly, it can be reset by pressing the Processor Reset button on the PCB inside the control panel.

This should not normally be necessary, but should be done as a matter of course if the system is behaving abnormally. The system should resume normal operation within a couple of seconds of pressing the processor reset button. It will be necessary to press the Watchdog Reset button a few seconds after pressing the Processor Reset button to clear the Watchdog indication and buzzer.

9.1.3 Write Enable Switch

It is necessary to protect the configuration memory of the panel while it is running normally. To do this a memory Write Enable switch is provided. The memory Write Enable switch must be switched on before any changes can be made to the configuration. The Write Enable switch can be fragile and should be operated with care.

Internal controls on detection part of control panel



9.2 Extinguishing Modules

9.2.1 Watchdog Reset

If the microprocessor on an extinguishing module fails to carry out its operation correctly it will attempt to restart. If a watchdog event occurs, the extinguishing module will show Fault and System Fault LEDs along with CPU fault. The detection module will show a fault and the panel buzzer will sound.

This fault can only be cleared by pressing the Watchdog Reset button on the extinguishing module. The control panel buzzer will continue to sound until the watchdog activation is reset.

9.2.2 Processor Reset

If the microprocessor on an extinguishing module fails to run correctly it can be reset by pressing the Processor Reset button inside the control panel.

This should not normally be necessary but should be done as a matter of course if the system is behaving abnormally. The system should resume normal operation within a couple of seconds of pressing the processor reset button.

9.2.3 Terminate Extinguishing

Once the extinguishing outputs have been operated they can not be switched off until after the reset inhibit timer has elapsed. For test purposes a terminate extinguishing button is provided which will terminate operation of the extinguishing outputs and allow the system to be reset.








9.2.4 Write Enable Switch

It is necessary to protect the configuration memory of the extinguishing module while the system is running normally. To do this a memory Write Enable switch is provided on each module. The memory Write Enable switch must be switched on before any changes can be made to the configuration. The Write Enable switch can be fragile and should be operated with care.

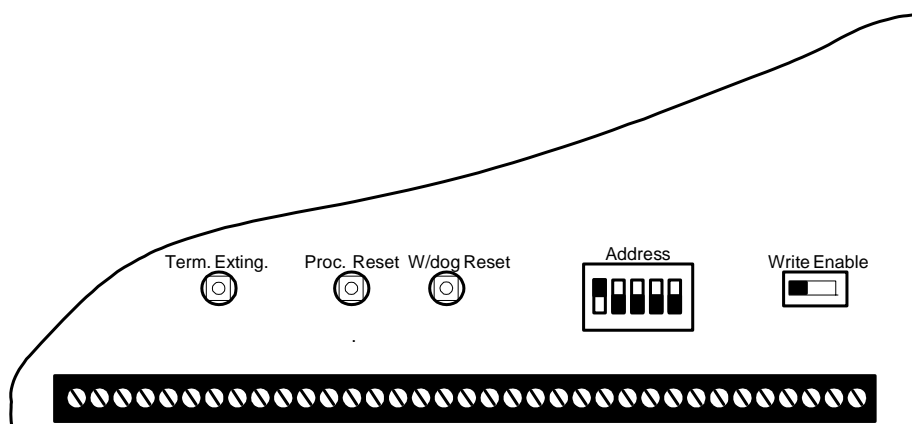
9.2.5 Address Switch

Extinguishing modules are connected to the serial bus of the FireBeta XT+ detection module and each module must be allocated an address between 1 and 7 using the binary coded DIP switch.

The switch setting are shown in this table

ADDRESS	SWITCH POSITIONS
1	
2	
3	
4	
5	
6	
7	

Internal controls on extinguishing modules



10 Internal Indications

10.1 Detection Module

To assist in identifying fault conditions which are not detailed on the front of the control panel, a number of internal indicators are visible with the control panel door open as follows:

10.1.1 Mains Fail

Indicates that the 230V AC supply is not present and the system is running on standby batteries. If there is not a power cut, check the panels mains fuse.

10.1.2 Batt Fail

Indicates that the standby battery supply or the charging circuit of the control panel has failed.

Check that both batteries are connected and linked together, measure the battery voltage, disconnect battery and ensure that approximately 28 Volts can be measured on battery charger leads.

10.1.3 CPU Fault

Indicates that the processor has failed to correctly execute code and has been re-started by the system watchdog. The watchdog reset switch must be pressed to clear the CPU fault condition. Press watchdog reset, if the system does not return to normal then the panel is probably damaged and needs the circuit board replacing.

10.1.4 Aux 24V Fault

The Aux 24V and R0V terminals provide a 500 milliamp, 24V DC power supply to power fire alarm ancillary equipment. This LED indicates that the fuse protecting the R0V output has failed and the rating of this output has been exceeded. The fuse is a self resetting type and the supply will resume when the fault condition is removed.

10.1.5 Batt Low

Illuminates when the system is running on batteries and the battery voltage is between 21.5 V and 20.5 V (the minimum battery voltage).

10.1.6 Comms Fault

Indicates that communication has been lost with an extinguishing module, repeater panel or ancillary board. Check for comms fault at all extinguishing modules, repeaters and ancillary boards to identify the source of the problem.

10.1.7 Earth Fault

Indicates that part of the system wiring is connected to earth. Remove all system wiring and re-connect cables one at a time until the earth fault returns. This will indicate on which cable the earth fault is present.

10.1.8 Sys Fuse Fault

Indicates that the total power rating of the power supply has been exceeded and that the system fuse has failed. Remove and review all loads then re-connect one at a time.

10.1.9 S1 Fault

Indicates a short or open circuit on sounder output S1. Check sounder circuit wiring, if wiring is OK remove cables from the panel sounder circuit and fit EOL resistors into the terminals. If the fault clears re-check sounder circuit wiring and sounders, if the fault remains replace the panel PCB.

10.1.10 S2 Fault

Indicates a short or open circuit on sounder output S2. Check sounder circuit wiring, if wiring is OK remove cables from the panel sounder circuit and fit EOL resistors into the terminals. If the fault clears re-check sounder circuit wiring and sounders, if the fault remains replace the panel PCB.

10.2 Extinguishing Modules

10.2.1 Watchdog

Indicates that the processor has failed to correctly execute code and has been re-started by the watchdog circuit. The watchdog reset switch must be pressed to clear the Watchdog fault condition. Press the Watchdog reset button. If system does not return to normal then the module is probably damaged and needs the circuit board replacing.

10.2.2 System Fuse

Indicates that the modules main fuse has been overloaded and the module is shut down. Remove and review all loads then re-connect one at a time.

10.2.3 Man. Release

Indicates that either the panel mounted or a remotely connected Manual release control has been operated. This indication can only be cleared by power cycling the module or pressing the processor reset switch.

11 Power Supply

The control panel requires a 230V (+10%/-15%), 50/60Hz, AC mains power supply which connects to the fused terminal block labelled "230V".

Panels with a 3A power supply have a 20mm, F1.6A L250V mains fuse.

Panels with a 4A power supply have a 20mm T2A L250V mains fuse.

These fuses should only be replaced with fuses of the same or similar types.

The table below shows the power supply rating and recommended battery capacity for each model in the FireBeta XT+ range.

Part no.	Description	Power supply rating	Batteries recommended for 24 hour standby
23911-K087	Four zone single area	3A	7Ah
23911-K085	Four zone two area	3A	7Ah
23911-K088	Eight zone two area	3A	7Ah
23911-K089	Eight zone three area	4A	12Ah
23911-K090	Eight zone four area	4A	12Ah

The maximum loading on the power supply must be carefully considered, when connecting externally powered equipment such as sounders and solenoids.

Exceeding the maximum power supply rating may cause a fuse or other protective device to operate and render the equipment inoperative until the fuse is replaced, or protective devices are reset.

The tables below can be used to calculate the loading for all models by adding the loads in the second column.

23911-K087 - 4 zone single area	Current in milliamps
Detection section max alarm load	210
Extinguishing module max alarm load	105
Detection section total sounder load (S1&S2)	
Detection section Aux 24V supply	
Extinguishing module total sounder load	
Extinguishing module Extinguishing output load	
Extinguishing module Aux 24V supply	
TOTAL LOAD (must be less than 3A)	

23911-K085 - 4 zone two area	Current in milliamps
Detection section max alarm load	210
Extinguishing module 1 max alarm load	105
Extinguishing module 2 max alarm load	105
Detection section total sounder load (S1&S2)	
Detection section Aux 24V supply	
Extinguishing module 1 total sounder load	
Extinguishing module 2 total sounder load	
Extinguishing module 1 Extinguishing output load	
Extinguishing module 2 Extinguishing output load	
Extinguishing module 1 Aux 24V supply	
Extinguishing module 2 Aux 24V supply	
TOTAL LOAD (must be less than 3A)	

23911-K088 - 8 zone two area	Current in milliamps
Detection section max alarm load	550
Extinguishing module 1 max alarm load	105
Extinguishing module 2 max alarm load	105
Detection section total sounder load (S1&S2)	
Detection section Aux 24V supply	
Extinguishing module 1 total sounder load	
Extinguishing module 2 total sounder load	
Extinguishing module 1 Extinguishing output load	
Extinguishing module 2 Extinguishing output load	
Extinguishing module 1 Aux 24V supply	
Extinguishing module 2 Aux 24V supply	
TOTAL LOAD (must be less than 3A)	

23911-K088 - 8 zone three area	Current in milliamps
Detection section max alarm load	550
Extinguishing module 1 max alarm load	105
Extinguishing module 2 max alarm load	105
Extinguishing module 3 max alarm load	105
Detection section total sounder load (S1&S2)	
Detection section Aux 24V supply	
Extinguishing module 1 total sounder load	
Extinguishing module 2 total sounder load	
Extinguishing module 3 total sounder load	
Extinguishing module 1 Extinguishing output load	
Extinguishing module 2 Extinguishing output load	
Extinguishing module 3 Extinguishing output load	
Extinguishing module 1 Aux 24V supply	
Extinguishing module 2 Aux 24V supply	
Extinguishing module 3 Aux 24V supply	
TOTAL LOAD (must be less than 4A)	

23911-K089 - 8 zone four area	Current in milliamps
Detection section max alarm load	550
Extinguishing module 1 max alarm load	105
Extinguishing module 2 max alarm load	105
Extinguishing module 3 max alarm load	105
Extinguishing module 4 max alarm load	105
Detection section total sounder load (S1&S2)	
Detection section Aux 24V supply	
Extinguishing module 1 total sounder load	
Extinguishing module 2 total sounder load	
Extinguishing module 3 total sounder load	
Extinguishing module 4 total sounder load	
Extinguishing module 1 Extinguishing output load	
Extinguishing module 2 Extinguishing output load	
Extinguishing module 3 Extinguishing output load	
Extinguishing module 4 Extinguishing output load	
Extinguishing module 1 Aux 24V supply	
Extinguishing module 2 Aux 24V supply	
Extinguishing module 3 Aux 24V supply	
Extinguishing module 4 Aux 24V supply	
TOTAL LOAD (must be less than 4A)	

The output voltage of the power supply is 28V DC +/- 2V and the total current rating is either 3A or 4A depending on the model (see tables above).

The incoming mains cable should be routed well away from other lower voltage wiring by a distance of at least 50mm.

Mains wiring should include an earth conductor, which is securely bonded to the building earth and should enter the enclosure as close as possible to the mains terminal block. Mains wires should be kept very short inside the enclosure and secured together close to the mains terminal block with a cable tie.

The maximum capacity batteries that should be fitted are 7Ah for the 4+1, 4+2, 8+2 models and 17Ah for the 8+3 and 8+4 models.

The maximum current drawn from the batteries when the main power source is disconnected, is 3 Amps for the 4+1, 4+2 and 8+2 models and 4 Amps for the 8+3 and 8+4 models.

Battery leads are supplied wired to the power supply along with a link to connect the two batteries together.

Important!

The polarity of the batteries must be carefully observed when connecting. Wrongly connected batteries could cause damage to the control panel.

12 Maintenance

FIREBETA XT+ control panels do not require any specific maintenance, but should the control panel become dirty it can be wiped over with a lightly damp cloth. Detergents or solvents should not be used to clean the panel and care must be taken that water does not enter the enclosure.

The control panel contains sealed lead acid batteries to provide standby power in the event of mains failure. These batteries have a life expectancy of around 4 years and should be tested in accordance with the battery manufacturer's recommendations annually to determine their suitability for continued standby applications.

Testing of the extinguishing system should only be carried out by trained personnel and must be done with appropriate isolation measures in place to ensure that accidental discharge of the extinguishing agent is avoided.

Should the control panel become faulty, the complete electronic assemblies and front plates can be replaced.

To do this, any configured options should be noted then both mains and battery power should be removed before the work is started.

The field wiring should be carefully labelled and removed from the terminals. The power terminal block can be unplugged from the PCB by pulling it towards you.

The faulty PCB plate assembly can now be taken out of the panel by removing the 2 screws. Fitting the new PCB is the reverse of the procedure for removing the board.

13 CE Mark

All control panels have a label affixed to the inside of the lid which displays the CE mark. Along with other information relating to the panel.

This label should not be removed under any circumstances.

14 Commissioning Instructions

Before applying power to the panel, any solenoids or igniting actuators must be physically isolated from the panel by disconnecting both wires, this will prevent any accidental release of extinguishant.

When power is applied and all connections are correct, only the green Power On and either the Automatic/Manual or Manual Only indicators should be lit.

If any fault indicators are lit, the wiring to the appropriate input or output should be checked and all faults cleared before proceeding.

Once the panel is fault free, it can be configured with the desired options as described in section 7.

Once the panel has been configured, the system should be thoroughly tested to ensure that the control panel responds as expected and required.

After satisfactory testing, any final connections should be made (such as to the extinguishing release actuator).

A record of the configuration options that have been set should be recorded in the tables below and provided as part of the documentation recommended by BS5839:Part 1:2002 section 40.2 b).

Detection section

CODE	FUNCTION	TICK IF SET
00	SOUNDER DELAY TIME = 30 SECONDS	
01	SOUNDER DELAY TIME = 1 MINUTE	
02	SOUNDER DELAY TIME = 2 MINUTES	
03	SOUNDER DELAY TIME = 3 MINUTES	
04	SOUNDER DELAY TIME = 4 MINUTES	
05	SOUNDER DELAY TIME = 5 MINUTES	
06	SOUNDER DELAY TIME = 6 MINUTES	
07	SOUNDER DELAY TIME = 7 MINUTES	
08	SOUNDER DELAY TIME = 8 MINUTES	
09	SOUNDER DELAY TIME = 9 MINUTES	
10	COMMON ALARM MODE (default)	
11	TWO-STAGE ALARM MODE	
12	ZONED ALARM MODE	
21*	DISABLE FIRE BUZZER	
22*	DISABLE FAULT OUTPUT	
23	DISABLE EARTH FAULT MONITORING	
24	PULSED REMOTE CONTROL OUTPUT	
25	ENABLE SOUNDERS ON DETECTION CIRCUITS	
26	DISABLE FIRE OUTPUT	
27	DO NOT CHANGE	
31	ZONE 1 ALARM FROM DETECTOR DELAYED	
32	ZONE 2 ALARM FROM DETECTOR DELAYED	
33	ZONE 3 ALARM FROM DETECTOR DELAYED	
34	ZONE 4 ALARM FROM DETECTOR DELAYED	
35	ZONE 5 ALARM FROM DETECTOR DELAYED	
36	ZONE 6 ALARM FROM DETECTOR DELAYED	
37	ZONE 7 ALARM FROM DETECTOR DELAYED	
38	ZONE 8 ALARM FROM DETECTOR DELAYED	
41	ZONE 1 ALARM FROM CALL POINT DELAYED	
42	ZONE 2 ALARM FROM CALL POINT DELAYED	
43	ZONE 3 ALARM FROM CALL POINT DELAYED	

44	ZONE 4 ALARM FROM CALL POINT DELAYED	
45	ZONE 5 ALARM FROM CALL POINT DELAYED	
46	ZONE 6 ALARM FROM CALL POINT DELAYED	
47	ZONE 7 ALARM FROM CALL POINT DELAYED	
48	ZONE 8 ALARM FROM CALL POINT DELAYED	
51	COINCIDENCE ZONE 1	
52	COINCIDENCE ZONE 2	
53	COINCIDENCE ZONE 3	
54	COINCIDENCE ZONE 4	
55	COINCIDENCE ZONE 5	
56	COINCIDENCE ZONE 6	
57	COINCIDENCE ZONE 7	
58	COINCIDENCE ZONE 8	
61	CONFIGURE Z1 FOR I.S BARRIER	
62	CONFIGURE Z2 FOR I.S BARRIER	
63	CONFIGURE Z3 FOR I.S BARRIER	
64	CONFIGURE Z4 FOR I.S BARRIER	
65	CONFIGURE Z5 FOR I.S BARRIER	
66	CONFIGURE Z6 FOR I.S BARRIER	
67	CONFIGURE Z7 FOR I.S BARRIER	
68	CONFIGURE Z8 FOR I.S BARRIER	
71*	ZONE 1 SHORT CIRCUIT INDICATES ALARM	
72*	ZONE 2 SHORT CIRCUIT INDICATES ALARM	
73*	ZONE 3 SHORT CIRCUIT INDICATES ALARM	
74*	ZONE 4 SHORT CIRCUIT INDICATES ALARM	
75*	ZONE 5 SHORT CIRCUIT INDICATES ALARM	
76*	ZONE 6 SHORT CIRCUIT INDICATES ALARM	
77*	ZONE 7 SHORT CIRCUIT INDICATES ALARM	
78*	ZONE 8 SHORT CIRCUIT INDICATES ALARM	
81*	ZONE 1 NON-LATCHING	
82*	ZONE 2 NON-LATCHING	
83*	ZONE 3 NON-LATCHING	
84*	ZONE 4 NON-LATCHING	
85*	ZONE 5 NON-LATCHING	
86*	ZONE 6 NON-LATCHING	
87*	ZONE 7 NON-LATCHING	
88*	ZONE 8 NON-LATCHING	
91	ZONE 1 DOES NOT SOUND ALARMS	
92	ZONE 2 DOES NOT SOUND ALARMS	
93	ZONE 3 DOES NOT SOUND ALARMS	
94	ZONE 4 DOES NOT SOUND ALARMS	
95	ZONE 5 DOES NOT SOUND ALARMS	
96	ZONE 6 DOES NOT SOUND ALARMS	
97	ZONE 7 DOES NOT SOUND ALARMS	
98	ZONE 8 DOES NOT SOUND ALARMS	
99		
A1*	ZONE 1 ANY ALARM DELAYED	
A2*	ZONE 2 ANY ALARM DELAYED	
A3*	ZONE 3 ANY ALARM DELAYED	
A4*	ZONE 4 ANY ALARM DELAYED	
A5*	ZONE 5 ANY ALARM DELAYED	

A6*	ZONE 6 ANY ALARM DELAYED	
A7*	ZONE 7 ANY ALARM DELAYED	
A8*	ZONE 8 ANY ALARM DELAYED	
C1	ZONE 1 SOUNDERS INHIBITED	
C2	ZONE 2 SOUNDERS INHIBITED	
C3	ZONE 3 SOUNDERS INHIBITED	
C4	ZONE 4 SOUNDERS INHIBITED	
C5	ZONE 5 SOUNDERS INHIBITED	
C6	ZONE 6 SOUNDERS INHIBITED	
C7	ZONE 7 SOUNDERS INHIBITED	
C8	ZONE 8 SOUNDERS INHIBITED	
E1*	ZONE 1 WILL NOT OPERATE FIRE RELAY	
E2*	ZONE 2 WILL NOT OPERATE FIRE RELAY	
E3*	ZONE 3 WILL NOT OPERATE FIRE RELAY	
E4*	ZONE 4 WILL NOT OPERATE FIRE RELAY	
E5*	ZONE 5 WILL NOT OPERATE FIRE RELAY	
E6*	ZONE 6 WILL NOT OPERATE FIRE RELAY	
E7*	ZONE 7 WILL NOT OPERATE FIRE RELAY	

Extinguishing module 1

CONFIGURATION OPTION	WRITE SETTING
EXTINGUISHING OUTPUT MODE =	
ACTIVATION MODE =	
FIRST ACTIV. ZONE =	
LAST ACTIV. ZONE =	
RESET INHIBIT TIME =	
PRE-REL. DELAY TIME =	
EXTING. RELEASE TIME =	
PULSED ACTIV. ALARMS ?	
STEADY ACTIV. ALARMS ?	
RELEASED IND. ON RELEASE INPUT ?	
RELEASED IND. ON EXTING RELEASE ?	
DELAY ON MANUAL RELEASE ?	
NO DELAY ON MANUAL RELEASE ?	
PRE-REL DELAY RESET ENABLED ?	
PRE-REL DELAY RESET DISABLED ?	
RELEASE TIMER ENABLED ?	
RELEASE TIMER DISABLED ?	
R0V NOT REMOVED ON SYSTEM RESET ?	
R0V REMOVED ON SYSTEM RESET ?	
EARTH FAULT ENABLED ?	
EARTH FAULT DISABLED ?	
FAULT OUTPUT ENABLED ?	
FAULT OUTPUT DISABLED ?	
LOW PRESS. I/P NORMAL ?	
LOW PRESS. I/P INVERTED ?	
EXTING. O/P 1 LEVEL ?	
EXTING. O/P 2 LEVEL ?	

Extinguishing module 2

CONFIGURATION OPTION	WRITE SETTING
EXTINGUISHING OUTPUT MODE =	
ACTIVATION MODE =	
FIRST ACTIV. ZONE =	
LAST ACTV. ZONE =	
RESET INHIBIT TIME =	
PRE-REL. DELAY TIME =	
EXTING. RELEASE TIME =	
PULSED ACTIV. ALARMS ?	
STEADY ACTIV. ALARMS ?	
RELEASED IND. ON RELEASE INPUT ?	
RELEASED IND. ON EXTING RELEASE ?	
DELAY ON MANUAL RELEASE ?	
NO DELAY ON MANUAL RELEASE ?	
PRE-REL DELAY RESET ENABLED ?	
PRE-REL DELAY RESET DISABLED ?	
RELEASE TIMER ENABLED ?	
RELEASE TIMER DISABLED ?	
R0V NOT REMOVED ON SYSTEM RESET ?	
R0V REMOVED ON SYSTEM RESET ?	
EARTH FAULT ENABLED ?	
EARTH FAULT DISABLED ?	
FAULT OUTPUT ENABLED ?	
FAULT OUTPUT DISABLED ?	
LOW PRESS. I/P NORMAL ?	
LOW PRESS. I/P INVERTED ?	
EXTING. O/P 1 LEVEL ?	
EXTING. O/P 2 LEVEL ?	

Extinguishing module 3

CONFIGURATION OPTION	WRITE SETTING
EXTINGUISHING OUTPUT MODE =	
ACTIVATION MODE =	
FIRST ACTIV. ZONE =	
LAST ACTV. ZONE =	
RESET INHIBIT TIME =	
PRE-REL. DELAY TIME =	
EXTING. RELEASE TIME =	
PULSED ACTIV. ALARMS ?	
STEADY ACTIV. ALARMS ?	
RELEASED IND. ON RELEASE INPUT ?	
RELEASED IND. ON EXTING RELEASE ?	
DELAY ON MANUAL RELEASE ?	
NO DELAY ON MANUAL RELEASE ?	
PRE-REL DELAY RESET ENABLED ?	
PRE-REL DELAY RESET DISABLED ?	
RELEASE TIMER ENABLED ?	
RELEASE TIMER DISABLED ?	
R0V NOT REMOVED ON SYSTEM RESET ?	
R0V REMOVED ON SYSTEM RESET ?	
EARTH FAULT ENABLED ?	
EARTH FAULT DISABLED ?	
FAULT OUTPUT ENABLED ?	

FAULT OUTPUT DISABLED ?	
LOW PRESS. I/P NORMAL ?	
LOW PRESS. I/P INVERTED ?	
EXTING. O/P 1 LEVEL ?	
EXTING. O/P 2 LEVEL ?	

Extinguishing module 4

CONFIGURATION OPTION	WRITE SETTING
EXTINGUISHING OUTPUT MODE =	
ACTIVATION MODE =	
FIRST ACTIV. ZONE =	
LAST ACTV. ZONE =	
RESET INHIBIT TIME =	
PRE-REL. DELAY TIME =	
EXTING. RELEASE TIME =	
PULSED ACTIV. ALARMS ?	
STEADY ACTIV. ALARMS ?	
RELEASED IND. ON RELEASE INPUT ?	
RELEASED IND. ON EXTING RELEASE ?	
DELAY ON MANUAL RELEASE ?	
NO DELAY ON MANUAL RELEASE ?	
PRE-REL DELAY RESET ENABLED ?	
PRE-REL DELAY RESET DISABLED ?	
RELEASE TIMER ENABLED ?	
RELEASE TIMER DISABLED ?	
R0V NOT REMOVED ON SYSTEM RESET ?	
R0V REMOVED ON SYSTEM RESET ?	
EARTH FAULT ENABLED ?	
EARTH FAULT DISABLED ?	
FAULT OUTPUT ENABLED ?	
FAULT OUTPUT DISABLED ?	
LOW PRESS. I/P NORMAL ?	
LOW PRESS. I/P INVERTED ?	
EXTING. O/P 1 LEVEL ?	
EXTING. O/P 2 LEVEL ?	