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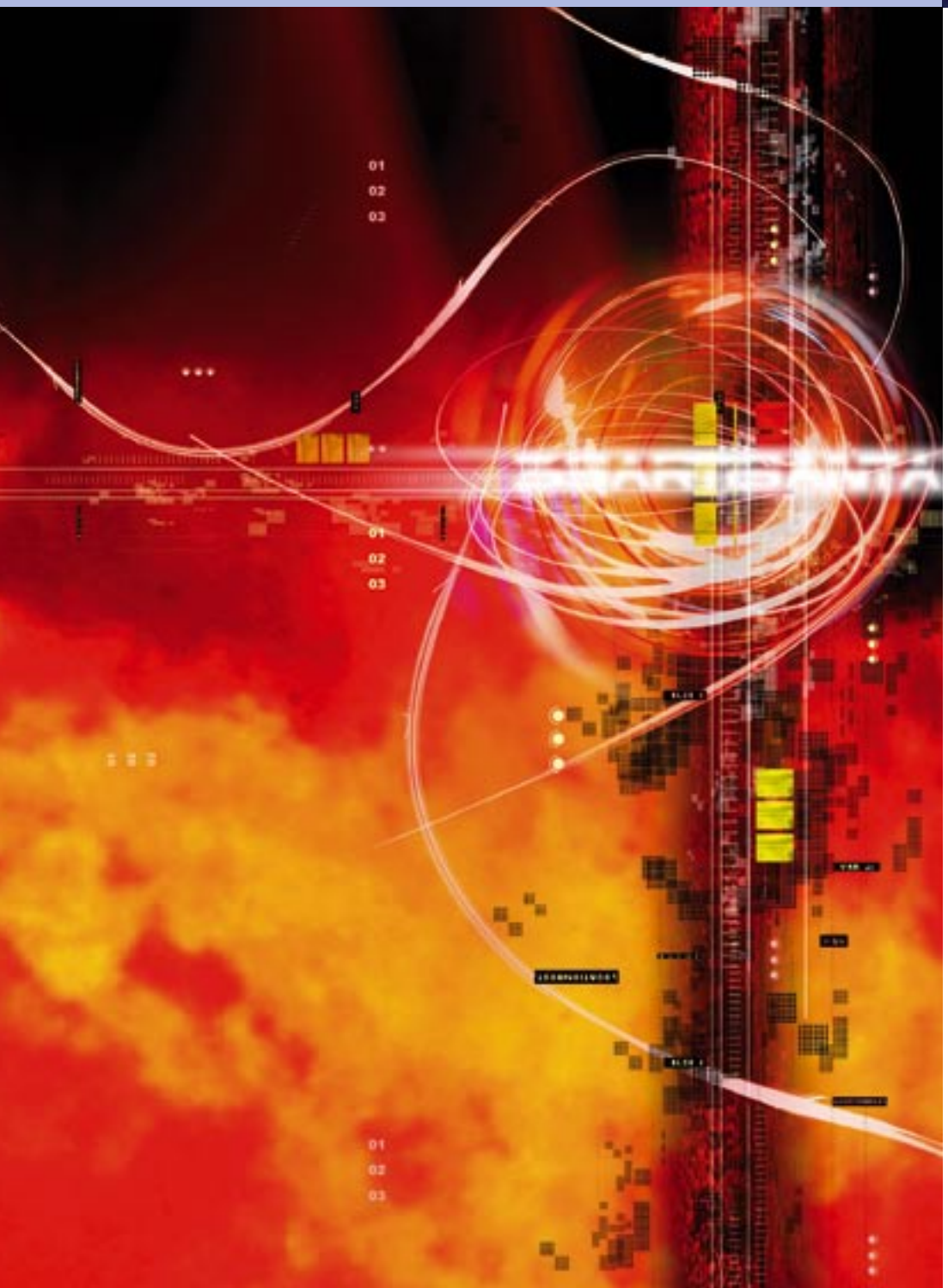
Section 4:

Xenex Conventional Fire Detection & Alarm System



4: CONVENTIONAL FIRE DETECTION

Xenex system architecture

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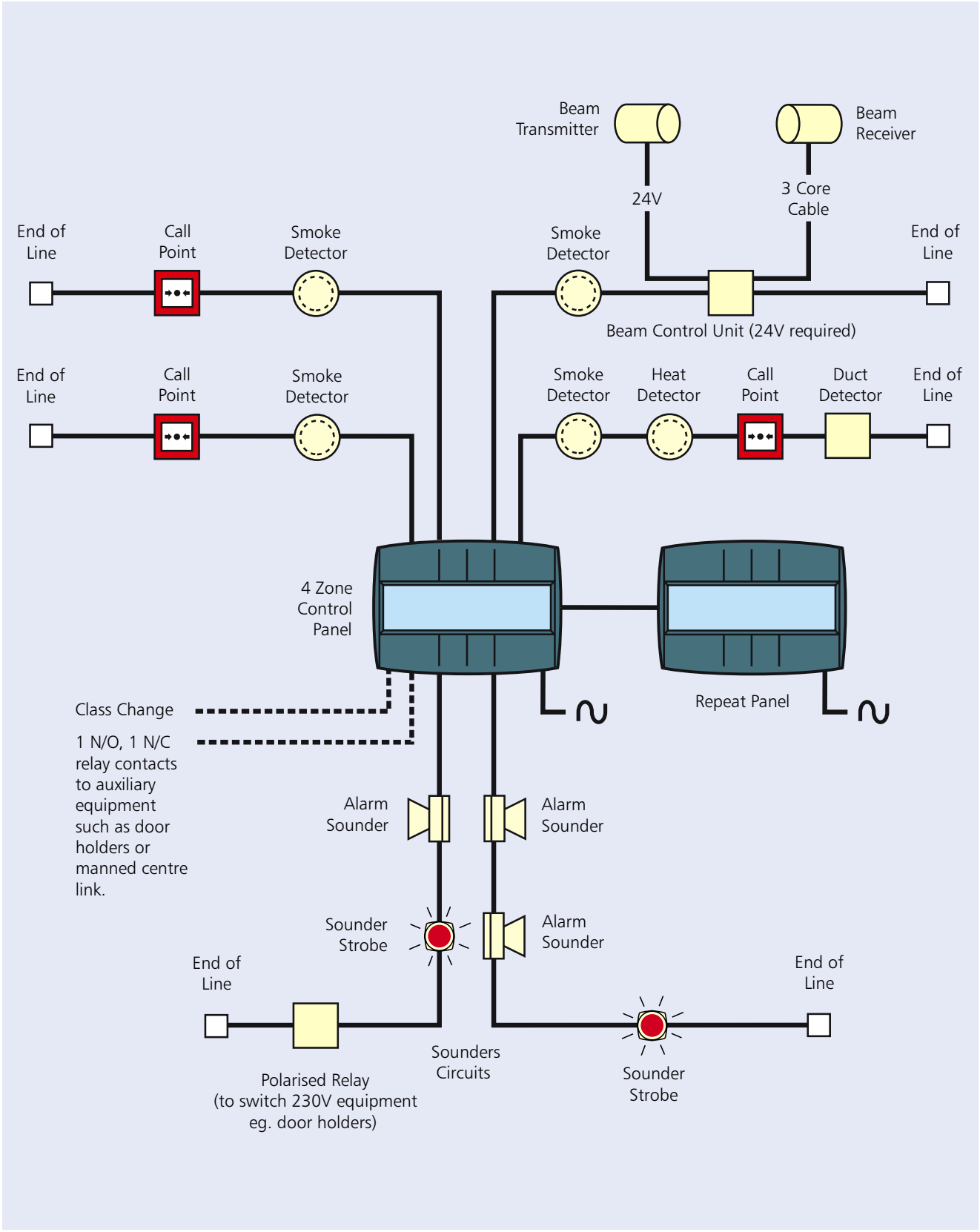

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4: CONVENTIONAL FIRE DETECTION

Xenex control panel

The Xenex panel complies fully with the European standard EN 54 Parts 2 & 4 and can be used on installations meeting BS 5839-1.

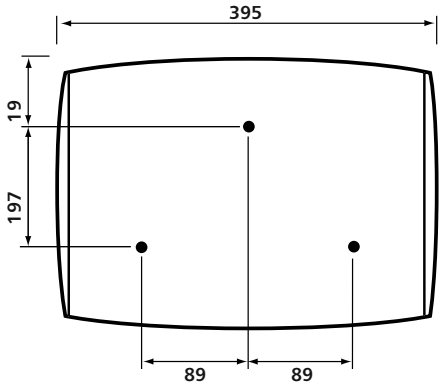
Each panel contains its own integral power supply and battery support for up to eight alarm sounder circuits, two auxiliary relay contacts, a zone disablement facility and a one man test and commission facility, all simplifying system design, installation and commissioning.

Xenex Control Panel

TECHNICAL SPECIFICATION					
No. of Zones	1	2	4	8	*8 Zone Repeat
Maximum Load per Zone	3mA	3mA	3mA	3mA	N/A
No. of Sounder Circuits	2	2	4	8	N/A
Max. Sounder Circuit Load	0.5A per circuit Total load not to exceed 1A				N/A
Batteries	2 x 12V, 2.1 Ah			2 x 12V, 2.8 Ah	2 x 12V, 2.1 Ah
Battery Standby	72 hours plus 0.5 hours alarm load				72 hours
Aux. Relay Contacts	1 N/O and 1 N/C pair, 1A at 24V				N/A
Approx Weight (with batteries)	5.8 Kg	5.8 Kg	5.8 Kg	6.2 Kg	5.8 Kg
Relevant Standard	EN 54 Parts 2 & 4				
Approvals	LPCB approved to EN54: Parts 2 & 4				
Cable Entry	13 Top and 13 Rear				
Cable Type	BS 6387, 2 core, min 1.5mm^2 CSA				
Class Change Facility	Via normally open push button switch located no more than 100m from panel				N/A
Operating Temperature	Indoor, 0 - 40ºC				

Note: Maximum of 1, 8 zone repeat panel per system.
Note: For maximum system loading table see page 20.

Dimensions of all panels (inc Repeat panel) (mm)



For flush mounting, aperture size 378mm x 245mm x 60mm

ORDER CODES	
1 Zone	13270-01
2 Zone	13270-02
4 Zone	13270-04
8 Zone	13270-08
8 Zone Repeat Panel	13271-08
Flush Surround	13270-29

4: CONVENTIONAL FIRE DETECTION

12-24 Zone Control Panels

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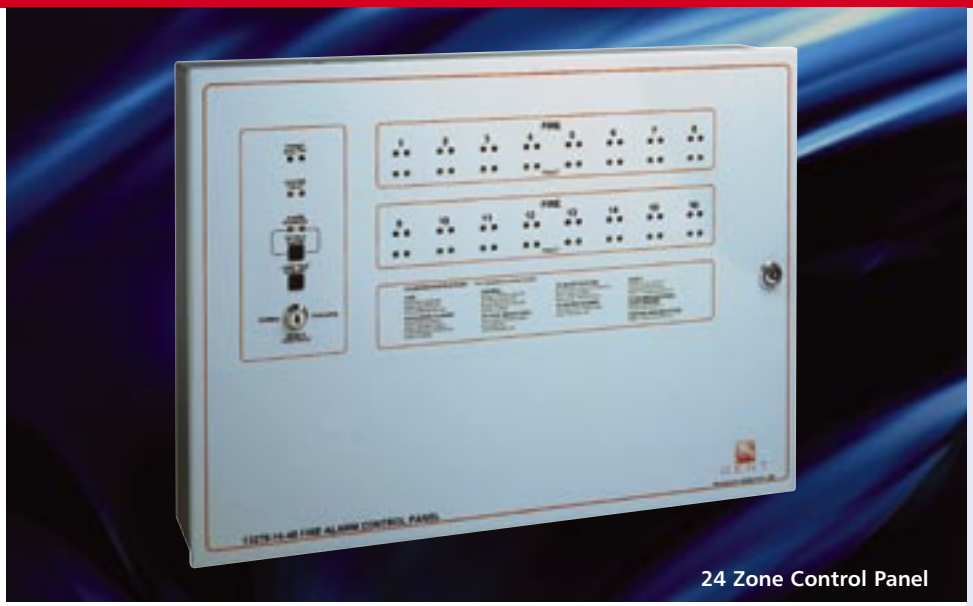


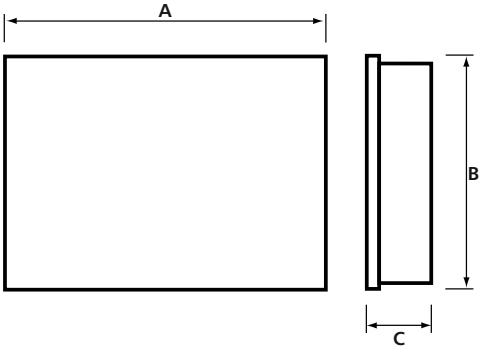
24 Zone Control Panel

For larger applications a 12,16 or 24 zone conventional panel is available together with complementary repeat panels. The panel complies with BS 5839 and includes facilities such as one man zone test, bomb alert and zoned or two stage alarm outputs as required.

For larger panel sizes or flush mounting versions please contact Gent.

TECHNICAL SPECIFICATION			
No. of Zones	**12**	**16**	**24**
Maximum Load per Zone	1.6mA	1.6mA	0.8mA
No. of Sounder Circuits	2 (extra sounder circuits may be added using 4 way sounder cards)		
Max. Sounder Circuit Load	1A per circuit		
Batteries	2 x 7Ah,12V	2 x 7Ah,12V	2 x 12Ah,12V
Battery Standby	24 hours - For 48 hour or 72 hour requirements consult Gent		
Aux. Relay Contacts All contacts rated at 30 Vdc 1A maximum	Common fire contacts - Operates on fire condition		
	Zonal fire contacts - Per zone, operates on fire condition		
	Alarm contacts - Operates with alarm sounders		
	Fault contacts - Operates on any fault condition		
Approx Weight	15kg	17kg	17.5kg
Relevant Standard	BS 5839: Part 4 1988		
Cable Entry	Top and bottom		
Class Change Facility	Yes		

Note: If additional sounder circuits are required an extra power supply unit may be needed.



	A	B	C
12 Zone	**500**	**355**	**105**
16 Zone	**570**	**420**	**110**
24 Zone	**570**	**420**	**110**
Repeat panel			
12 Zone	**370**	**295**	**80**
16 Zone	**500**	**355**	**105**
24 Zone	**500**	**355**	**105**

ORDER CODES	
12 Zone	13275-12
16 Zone	13275-16
24 Zone	13275-24
Repeat Panel	
12 Zone	03276-12
16 Zone	03276-16
24 Zone	03276-24
4 Way Extension Sounder Card	03277-04

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Manual Call Points

Manual call points are manufactured from ABS with plastic covered push break glasses for safe and simple operation. No hammer is required. For non-standard variations such as LED versions see page 19.

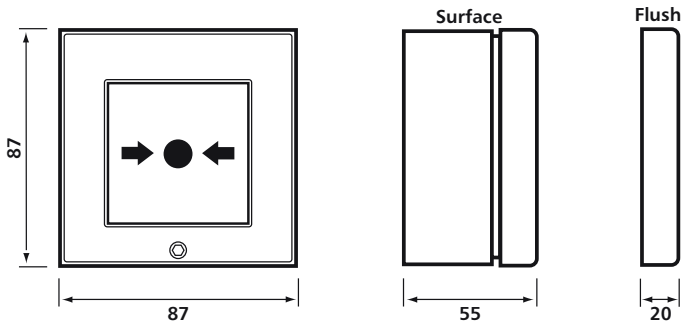
A polycarbonate cover version is available for applications susceptible to inadvertent operation, such as sports halls.

Note: All manual call points can be flush mounted by using a flush fixing plate.

Manual Call Point

TECHNICAL SPECIFICATION	
Nominal Voltage	24V dc
Ingress Protection	IP54 with gasket
Approx Weight	0.15 Kg
Operating Temperature	0ºC to +50ºC
Relevant Standard	EN 54-11
Approvals	LPCB applied for

Dimensions (mm)



ORDER CODES	
Standard Call Point	14112-08EN
Call Point with cover	14112-48EN
Weather Resistant	14112-19
Gasket Kit Pack of 10 Spare	14112-09EN
Glasses Flush fixing plate	19289-01

4: CONVENTIONAL FIRE DETECTION

Smoke Detectors

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Optical Detector

Smoke detectors for general fire detection applications.

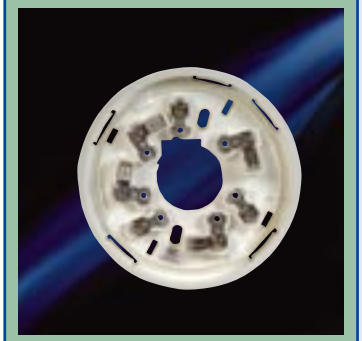
Ionisation smoke detectors are more suited to fast burning, high energy fires whilst optical smoke detectors are suited for slow smouldering fires.

ABS casing with red LED fire indicator.

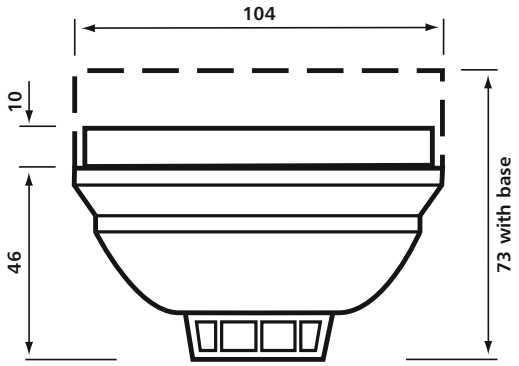
TECHNICAL SPECIFICATION		
Type	**Ionisation**	**Optical**
Nominal Voltage	8 - 28V dc	9 - 28V dc
Quiescent Current	15μA	60μA
Ingress Protection	IP30	IP30
Approx Weight	0.11 Kg	0.11 Kg
Operating Temperature	-10°C to +50°C	
Relevant Standards	EN 54–7	
Approvals	LPCB approved	

Special feature The use of the diode base allows monitoring of a removed detector to comply with BS 5839.

N.B. Maximum of 20 per zone.



Dimensions (mm)



ORDER CODES	
Ionisation	17830-01
Optical	17840-01
Common Base	17800-02
Common Base with Diode	17801-02
Base less Diode (surface cabling)	17800-01
Base with Diode (surface cabling)	17801-01
Remote LED module	17899-01
Remote Relay module	17899-44

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4: CONVENTIONAL FIRE DETECTION

Heat Detectors

Heat detectors operate when a certain temperature is reached and are better suited to smokey, dusty or steamy environments than smoke detectors.

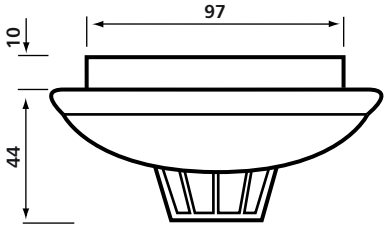
High fixed temperature devices are advised for kitchens or boiler rooms. Standard fixed temperature devices are suitable for areas where the temperature fluctuates for natural reasons or due to certain industrial processes.

ABS casing with red LED fire indicator.

Heat Detector

TECHNICAL SPECIFICATION			
Type	**Fixed Temp.**	**Rate of Rise**	**High Fixed Temp.**
Nominal Voltage	28V dc	28V dc	24V dc
Quiescent Current	30μA	30μA	30μA
Ingress Protection	IP30	IP30	IP30
Approx Weight	0.07 Kg	0.07 Kg	0.07 Kg
Operating Temperature	-10°C to +50°C		
Relevant Standards	EN 54 Part 5	EN 54 Part 5	EN 54 Part 8
Approvals	LPCB	LPCB	-
Trigger Temperature	58°C	NA (Factory preset 58°C)	85°C
Sensitivity	Grade 1	Grade 1	Grade 2

Dimensions (mm)



ORDER CODES	
Fixed Temperature	17850-01
Rate of Rise	17860-01
High Fixed Temperature	17870-01

4: CONVENTIONAL FIRE DETECTION

Beam Smoke Detectors

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Beam Detector

Optical smoke beam detectors are suitable for large open areas where installation of single point detectors may be difficult or uneconomical.

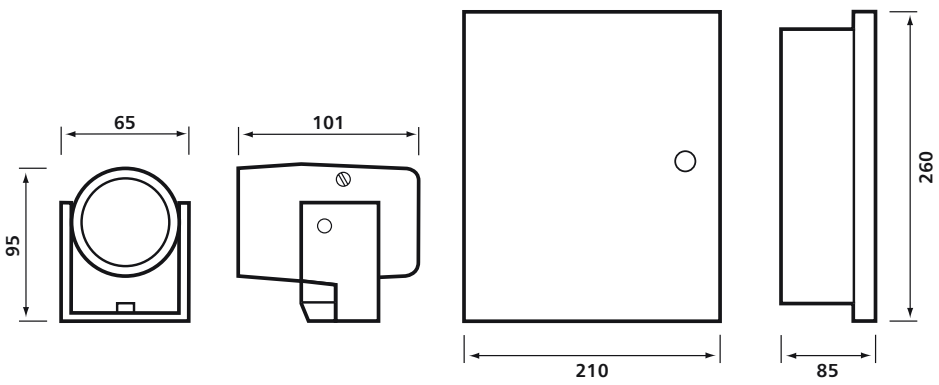
Sheet steel case in an ivory finish.

Adjustable brackets.

Note: An additional 24V dc power supply is required.

TECHNICAL SPECIFICATION	
Nominal Voltage	24V dc
Quiescent Current	Receiver: - 8mA
	Transmitter: - 5mA
Ingress Protection	IP 50
Approx Packaged Weight	3.2 Kg
Ambient Temperature	-10ºC to 50ºC
Relevant Standards	BS 5839-5
Beam Length	10m - 100m
Mounting Height	2.7m - 25m

Dimensions (mm)



ORDER CODES

Beam Detector	07011-41

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4: CONVENTIONAL FIRE DETECTION

Duct Smoke Detector

The duct detector kit is comprised of a conventional detector and duct detector housing.

The duct detector is mounted on the outside of the air duct with the Venturi tube protruding through a hole into the duct. A sample of the air inside the duct is fed into the smoke detector via the Venturi tube and then returned to the duct through the Venturi tube.

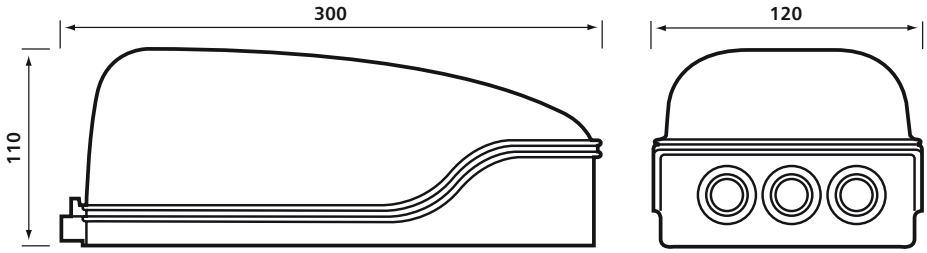
When the smoke density in the sampled air reaches the trigger level of the smoke detector an alarm will be signalled on the fire alarm control panel.

Duct Detector

TECHNICAL SPECIFICATION	
Ingress Protection	IP54
Operating Temperature	-10ºC to +60ºC
Approx Weight	0.7Kg
Finish	ABS plastic (Grey)
Air Velocity	1M/S to 20M/S
Quiescent Current	90μA

ORDER CODES	
Duct Detector	17815-01
Venturi Tube, 2.8m	781458
Venturi Tube, 1.5m	781457
Venturi Tube, 0.6m	781456
Mounting Kit For round and installed air ducts	781459
Remote Relay Module	17899-44

Dimensions (mm)



4: CONVENTIONAL FIRE DETECTION

S³ Electronic Sounders / Strobes

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The S-cubed range of alarm sounders incorporate sound, speech and strobe effects all in one range of alarm devices. The range offers all variants in the choice of 2 colours red or white with either a shallow base version sealed to IP31 or a deep base version sealed to IP55. All the low profile sounders have the option of an integral strobe.

As an aid to commissioning there is the option to use the HandiLink IR remote control to select sounder tones and adjust the volume remotely. This means physical access is not required to make this adjustment. This facility is only active when the sounders are turned on from the fire alarm panel.

TECHNICAL SPECIFICATION – 1.0. SOUNDERS AND STROBES			
Type	**Sounder**	**Sounder/Strobe**	**Strobe Only**
Sound Output at 1m	See Tone Table	See Tone Table	N/A
Strobe Flash Rate	See Tone Table	See Tone Table	Variable
Strobe Output	N/A	Equivalent to a 3w Xenon Strobe	Equivalent to a 3w Xenon Strobe
Average Current	See Tone Table	See Tone Table	6 mA
Synchronisation	Sound & Strobe synchronisation better than ±30mS over 20 minutes with all units powered from the same circuit		
Operating Voltage Range	10.8V – 28.8V	10.8V – 28.8V	10.8V – 28.8V
Ingress Protection	IP55C with the Deep Base IP31C with the Shallow Base		
Approx Weight	0.3Kg	0.3Kg	0.3Kg
Operating Temperature	-10ºC to 50ºC	-10ºC to 50ºC	-10ºC to 50ºC
Relevant Standards (Sounder only)	EN54-3	EN54-3	N/A
IR Control Operating Distance	3m	3m	N/A
Approvals	LPCB approved to EN 54-3		

- Very low power consumption means more sounders and strobes per circuit
- The strobe option is equivalent to a standard 3w xenon strobe and uses 1/20th of the power
- 32 sounder tones are available
- Voice enhanced sounders are available in the range
- 4 voice phrases and a bell sound are available as standard
- All sound and strobe signals are synchronised to better than +/- 30mS over 20 minutes
- Sounders are compatible with 12V and 24V systems
- A third wire option allows the selection of 2 alternative sounds. Ideal for class change applications
- Products incorporate innovative design features for which multiple patents are pending

ORDER CODES

IP31 Low Profile Sounders	
Sounder/Strobe Red	C3-SN-ST-RR
Sounder/Strobe White	C3-SN-ST-WR
Sounder Red	C3-SN-R
Sounder White	C3-SN-W
IP65 Low Profile Sounders	
Sounder/Strobe Red	C3IP-SN-ST-RR
Sounder/Strobe White	C3IP-SN-ST-WR
Sounder Red	C3IP-SN-R
Sounder White	C3IP-SN-W
IP65 Strobe only	
Strobe Red Body/ Red Lens	C2IP-ST-RR
Remote Control	
HandiLink IR Remote Control	S3-CONTROL

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4: CONVENTIONAL FIRE DETECTION

S³ Electronic Sounders / Strobes

TONE TABLE FOR SOUNDER ONLY AND SOUNDER / STROBE VARIANTS

					12V			24V						
						Operating Current			Operating Current					
Signal 1	Strobe	Description	SW1 Switch	Graphical representation	dB(A) @1m	With Strobe mA	Without Strobe mA	dB(A) @1m	With Strobe mA	Without Strobe mA	**Signal 2**	Strobe	**Signal 3**	Strobe
Tone 1	1Hz	Alternating tone 800/ 970Hz @ 2Hz - FP 1063.1 Telecoms BS 5839: Part 1			101.8	16.5	7.4	101.8	9.5	3.4	Tone 3	0.5Hz	Tone 6	1Hz
Tone 2	1Hz	Alternating tone 800/ 970Hz @ 1Hz - BS 5839: Part 1			101.7	16.5	7.3	101.7	9.5	3.4	Tone 3	0.5Hz	Tone 6	1Hz
Tone 3	1Hz	Intermittent tone 970Hz @ 1Hz LF back up alarm - BS 5839: Part 1			101.6	15.5	4.5	101.6	8.2	2.0	Tone 5	0.8Hz	Tone 6	1Hz
Tone 4	1Hz	Intermittent tone 2850Hz @ 1Hz HF back up alarm - 2nd tone BS 5839: Part 1			103.7	15.8	5.5	103.7	8.5	2.5	Tone 3	0.5Hz	Tone 6	1Hz
Tone 5	0.8Hz	Intermittent tone 970Hz 0.25s - on, 1s off - BS 5839: Part 1			101.2	12.0	2.0	101.4	6.0	1.0	Tone 2	0.5Hz	Tone 6	1Hz
Tone 6	1Hz	Continuous @ 970Hz - BS 5839: Part 1			102.0	16.5	8.0	102.1	9.8	3.7	Tone 3	0.5Hz	Tone 1	1Hz
Tone 7	0.5Hz	Slow sweep 300Hz- 1200Hz over 2s - Vds2300 Signal			99.3	13.0	7.9	99.3	7.0	3.7	Tone 3	0.5Hz	Tone 6	1Hz
Tone 8	1Hz	Fast sweep 800Hz - 970Hz @ 7Hz - BS 5839: Part 1			93.5	16.3	8.2	93.7	9.4	3.7	Tone 3	0.5Hz	Tone 6	1Hz
Tone 9	1Hz	Medium sweep 800Hz - 970Hz @ 1Hz - BS 5839: Part 1			94.1	16.5	8.7	94.3	9.5	4.0	Tone 3	0.5Hz	Tone 6	1Hz
Tone 10	1Hz	Continuous @ 2850Hz			104.4	16.5	9.7	104.7	10.2	4.4	Tone 3	0.5Hz	Tone 6	1Hz
Tone 11	1Hz	Sweep 2400 - 2850Hz @ 7Hz			100.2	16.5	11.2	100.8	10.6	5.4	Tone 12	0.5Hz	Tone 10	1Hz
Tone 12	1Hz	Sweep 2400 - 2850Hz @ 1Hz			101.9	16.5	12.0	102.7	11.5	5.8	Tone 3	0.5Hz	Tone 10	1Hz
Tone 13	0.86Hz	Slow whoop 500Hz - 1200Hz over 3s with 0.5s off			98.8	15.5	7.5	99.2	8.7	3.5	Tone 3	0.5Hz	Tone 6	1Hz
Tone 14	1Hz	Sweep 1200Hz @ 1200Hz - 500Hz @ 1Hz with 10ms silence - German DIN tone evacuate			96.6	16.2	7.3	98.1	9.5	3.5	Tone 3	0.5Hz	Tone 6	1Hz
Tone 15	1Hz	Alternating tone 2400/ 2850Hz @ 2Hz			101.7	16.5	12.0	102.5	11.8	6.2	Tone 12	0.5Hz	Tone 10	1Hz
Tone 16	1Hz	Alternating tone 554Hz for 100mS then 440Hz for 400ms - French AFNOR tone			89.3	15.8	5.2	89.6	8.7	2.5	Tone 3	0.5Hz	Tone 6	1Hz
Tone 17	1Hz	Alternating tone 440Hz / 554Hz @ 2Hz - Turn out Sweden			90.1	15.8	5.7	90.3	8.9	2.8	Tone 19	0.5Hz	Tone 18	1Hz
Tone 18	1Hz	Continuous 700Hz - All clear Sweden			95.9	16.2	7.0	96.3	9.8	3.3	Tone 1	0.5Hz	Tone 3	1Hz
Tone 19	1Hz 6s - On 12s - Off	Intermittent tone 700Hz 6s On 12s Off - Pre- vital message Sweden			95.9	6.1	4.0	96.3	5.0	2.3	Tone 17	0.5Hz	Tone 18	1Hz
Tone 20	1Hz	Intermittent tone 1000Hz @ 1Hz - Local warning Sweden			100.6	15.5	5.8	101.0	8.5	2.7	Tone 17	0.5Hz	Tone 25	1Hz
Tone 21	1Hz	Rising 1s, constant 4s, fall 1s @ 1000Hz - Industrial alarm Germany			100.9	16.0	10.0	101.2	10.0	4.0	Tone 3	0.5Hz	Tone 6	1Hz
Tone 22	1Hz 4s - On 4s - Off	Intermittent tone 700Hz 4s On , 4s Off - Industrial alarm Germany			101.4	8.7	5.7	101.9	6.4	3.0	Tone 19	0.5Hz 6s - On 12s - Off	Tone 6	1Hz
Tone 23	Sync. pulses	Emergency evacuation to ISO 8201 - ISO 8201 Tone			104.0	12.0	4.0	104.5	6.0	1.5	Tone 3	0.5Hz	Tone 6	1Hz
Tone 24	1Hz	Slow whoop 500Hz - 1000Hz over 4.5s - Evacuate Netherlands			99.6	16.0	7.2	100.2	9.5	3.4	Tone 3	0.5Hz	Tone 6	1Hz
Tone 25	1Hz	Siren (ramp up from 500Hz - 1200Hz in 3s then ramp down 1200Hz - 500Hz in 3s)			98.2	16.0	7.5	98.5	9.5	3.5	Tone 3	0.5Hz	Tone 6	1Hz
Tone 26	1Hz	Fast whoop 500Hz - 1000Hz @ 7Hz			95.8	15.8	7.0	96.0	8.7	3.3	Tone 24	0.5Hz	Tone 25	1Hz
Tone 27	Sync. pulses	US temporal tone LF			100.6	12.0	3.0	100.6	5.5	1.0	Tone 3	0.5Hz	Tone 6	1Hz
Tone 28	Sync. pulses	US temporal tone HF			99.0	11.8	2.5	99.0	5.3	0.8	Tone 4	0.5Hz	Tone 6	1Hz
Tone 29	1Hz	LF buzz 800Hz- 970Hz @ 50Hz			98.8	16.3	9.4	99.2	10.0	4.3	Tone 3	0.5Hz	Tone 6	1Hz
Tone 30	1Hz	Alternate 2500/ 3100 @ 2Hz - Security alarm			101.6	16.5	13.0	102.2	10.8	6.4	Tone 3	0.5Hz	Tone 31	1Hz
Tone 31	1Hz	Alternate 2500 / 3100 @ 4Hz			101.2	16.5	13.0	102.0	10.8	6.4	Tone 3	0.5Hz	Tone 8	1Hz
Tone 32	1Hz	Define during manufacture - default is a fast siren			98.8	16.0	7.5	99.2	9.5	3.5	Tone 3	0.5Hz	Tone 6	1Hz

Note: The current data in the table is for Red strobe only.
The nominal sound frequencies stated in the table are based on the resonance frequency of the transducer.
Tone 1 is the factory default setting

4: CONVENTIONAL FIRE DETECTION

S³ Voice Enhanced Sounders

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TECHNICAL SPECIFICATION – 1.1 VOICE ENHANCED SOUNDERS & STROBES		
Type	**Voice Enhanced Sounder**	**Voice Enhanced Sounder/Strobe**
Sound Output at 1m	See Table 3	See Table 3
Strobe Flash Rate	See Table 3	See Table 3
Strobe Output	Equivalent to a 3w Xenon Strobe	
Average Current	See Table 3	See Table 3
Synchronisation	Sound & Strobe synchronisation better than ± 30mS over 20 minutes with all units powered from the same circuit	
Message and Attention Tone Period	10 Seconds	10 Seconds
Operating Voltage Range	10.8V – 28.8V	10.8V – 28.8V
Maximum Reverse Monitoring Voltage	30V/20μA	30V/20μA
Ingress Protection	IP55C with the Deep Base	IP31C with the Shallow Base
Approx Weight	0.3 Kg	0.3 Kg
Operating Temperature	-10°C to 50°C	-10°C to 50°C
IR Control Operating Distance	3m	3m

CONVENTIONAL SPEECH SOUNDER AND STROBE		
Table 1		
Message No.	Speech Message	
M1	Attention please this is an emergency please leave the building by the nearest available exit. (Female voice)	
M2	An incident has been reported in this building please await further instructions. (Female voice)	
M3	This is a test message no action is required. (Female voice)	
M4	This is a fire alarm! Please leave the building immediately by the nearest available exit. (Male voice)	
Complex Tone No.	Description of Tone	
CT0	Alarm Bell (equivalent to 8" Solenoid Bell) 12V 105dB(A) @ 1m with strobe 14.2mA (without strobe 4.5mA) 24V 105.5dB(A) @ 1m with strobe 12mA (without strobe 4.5mA)	
	Standard messages and complex tones (Voice IC 2202- 001)	
Table 2		
Tone	Description	Graphical representation
Tone 1	Alternating tone 800/ 970Hz @ 2Hz - FP 1063.1 Telecoms	
Tone 2	Intermittent tone 970Hz @ 1Hz LF back up alarm - BS 5839: Part 1	
Tone 3	Intermittent tone 970Hz 0.25s on, 1s off - BS 5839: Part 1	
Tone 4	Continuous @ 970Hz - BS 5839: Part 1	
Tone 5	Fast sweep 800Hz - 970Hz @ 7Hz - BS 5839: Part 1	
Tone 6	Medium sweep 800Hz - 970Hz @ 1Hz - BS 5839: Part 1	
Tone 7	Sweep 1200Hz @ 1200Hz - 500Hz @ 1Hz with 10ms silence - German DIN tone evacuate	
Tone 8	Alternating tone 440Hz / 554Hz @ 2Hz - Turn out Sweden	
Tone 9	Intermittent tone 1000Hz @ 1Hz - Local warning Sweden	
Tone 10	Intermittent Tone 700Hz 4s On , 4s Off - Industrial alarm Germany	
Tone 11	Fast whoop 500Hz - 1000Hz @ 7Hz	
Tone 12	US temporal tone LF	
Tone 13	US temporal tone HF	
Tone 14	Define during manufacture - default is a fast siren	

Note: Only the messages and complex tones specified in table 1 are applicable to this S-cubed product.
Note: The nominal sound frequencies stated in the table are based on the resonance frequency of the transducer.

How to select a speech message and attention tone

1. Select the required speech message and tone from the signal 1 column of table 3 referring to table 1 and 2 for message and tone descriptions.

2. If the third wire option is used the two alternative messages and ones for your first selection are shown on the right hand side of table 3.

3. After making a selection set the switch SW1 as shown in the SW1 column of table 3.

ORDER CODES

IP31 Low Profile Sounders	
Voice Sounder Red	C3-VO-R
Voice Sounder White	C3-VO-W
Voice Sounder/Strobe Red	C3-VO-ST-RR
Voice Sounder/Strobe White	C3-VO-ST-WR
IP65 Low Profile Sounders	
Voice Sounder Red	C3IP-VO-R
Voice Sounder White	C3IP-VO-W
Voice Sounder/Strobe Red	C3IP-VO-ST-RR
Voice Sounder/Strobe White	C3IP-VO-ST-WR
Remote Control	
HandiLink IR Remote Control	S3-CONTROL

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S³ Voice Enhanced Sounders

TABLE 3 – TONE / VOICE TABLE FOR VOICE AND VOICE / STROBE VARIANTS

					Decibel (dBA) and current (mA) values							Intermittent 1S On and 1S Off				
	Signal 1 Message	Strobe	Attention Tone	SW1 Switch	12V dB(A) @1m	With Strobe mA	Without Strobe mA	24V dB(A) @1m	With Strobe mA	Without Strobe mA	**Signal 2 Message**	Strobe	Attention Tone	**Signal 3 Message**	Strobe	Attention Tone
ATTENTION TONE FOLLOWED BY SPEECH MESSAGES	**M1**	1Hz	Tone 1		101.8	16.5	7.4	101.8	9.5	3.4	M2	0.5Hz	Tone 2	M3	1Hz	Tone 4
	M1	1Hz	Tone 6		94.1	16.5	8.7	94.3	9.5	4.0	M2	0.5Hz	Tone 3	M3	1Hz	Tone 4
	M1	1Hz	Tone 11		95.8	15.8	7.0	96.0	8.7	3.3	Tone 5	0.8Hz	Tone 6	M3	1Hz	Tone 4
	M1	1Hz	Tone 5		93.5	16.3	8.2	93.7	9.4	3.7	Tone 3	0.5Hz	Tone 6	M3	1Hz	Tone 4
	M1	1Hz	Tone 8		90.1	15.8	5.7	90.3	8.9	2.8	Tone 2	0.5Hz	Tone 6	M3	1Hz	Tone 4
	M1	1Hz	Tone 7		96.6	16.2	7.3	98.1	5.5	1.0	Tone 3	0.5Hz	Tone 1	M3	1Hz	Tone 4
	M1	1Hz	Tone 12		98.8	16.0	7.5	99.2	9.5	3.5	Tone 3	0.5Hz	Tone 6	M3	1Hz	Tone 4
	M1	1Hz	Tone 14		101.8	16.5	7.4	101.8	9.5	3.4	Tone 3	0.5Hz	Tone 6	M3	1Hz	Tone 14
	M4	1Hz	Tone 1		94.1	16.5	8.7	96.0	8.7	3.3	Tone 3	0.5Hz	Tone 6	M6	1Hz	Tone 4
	M4	1Hz	Tone 6		93.5	16.3	8.2	93.7	9.4	3.7	Tone 3	0.5Hz	Tone 6	M6	1Hz	Tone 4
	M4	1Hz	Tone 11		90.1	15.8	5.7	90.3	8.9	2.8	Tone 12	0.5Hz	Tone 10	M6	1Hz	Tone 4
	M4	1Hz	Tone 5		96.6	16.2	7.3	98.1	9.5	3.5	Tone 3	0.5Hz	Tone 10	M6	1Hz	Tone 4
	M4	1Hz	Tone 8		100.6	12.0	3.0	100.6	5.5	1.0	Tone 3	0.5Hz	Tone 6	M6	1Hz	Tone 4
	M4	1Hz	Tone 7		98.8	16.0	7.5	99.2	9.5	3.5	Tone 3	0.5Hz	Tone 6	M6	1Hz	Tone 4
	M4	1Hz	Tone 12		Refer to decibel (dBA) and current (mA) values stated in Table 1.						Tone 12	0.5Hz	Tone 10	M6	1Hz	Tone 4
	M4	1Hz	Tone 14								Tone 3	0.5Hz	Tone 6	M3	1Hz	Tone 14
	M1	1Hz	CT0								Tone 19	0.5Hz	Tone 18	M3	1Hz	CT0
	M1	1Hz	CT1								Tone 1	0.5Hz	Tone 3	M3	1Hz	CT1
	M1	1Hz	CT2								Tone 17	0.5Hz	Tone 18	M3	1Hz	CT2
	M1	1Hz	CT3								Tone 17	0.5Hz	Tone 25	M3	1Hz	CT3
	M1	1Hz	CT4								Tone 3	0.5Hz	Tone 6	M3	1Hz	CT4
	M1	1Hz	CT5								Tone 19	0.5Hz 6s - On 12s	Tone 6	M3	1Hz	CT5
	M1	1Hz	CT6								Tone 3	0.5Hz	Tone 6	M3	1Hz	CT6
	M1	1Hz	CT7								Tone 3	0.5Hz	Tone 6	M3	1Hz	CT7
TONE ONLY	-	1Hz	CT0								Tone 3	0.5Hz	Tone 6	-	1Hz	CT0
	-	1Hz	CT1								Tone 24	0.5Hz	Tone 25	-	1Hz	CT1
	-	1Hz	CT2								Tone 3	0.5Hz	Tone 6	-	1Hz	CT2
	-	1Hz	CT3								Tone 4	0.5Hz	Tone 6	-	1Hz	CT3
	-	1Hz	CT4								Tone 3	0.5Hz	Tone 6	-	1Hz	CT4
	-	1Hz	CT5								Tone 3	0.5Hz	Tone 31	-	1Hz	CT5
	-	1Hz	CT6								Tone 3	0.5Hz	Tone 8	-	1Hz	CT6
	-	1Hz	CT7								Tone 3	0.5Hz	Tone 6	-	1Hz	CT7

Note: Only the complex tones (CTn) and speech messages (Mn) specified in Table 1 are valid.

The highlighted row in this table shows the factory default setting of the S-cubed unit.

Bells

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Bell

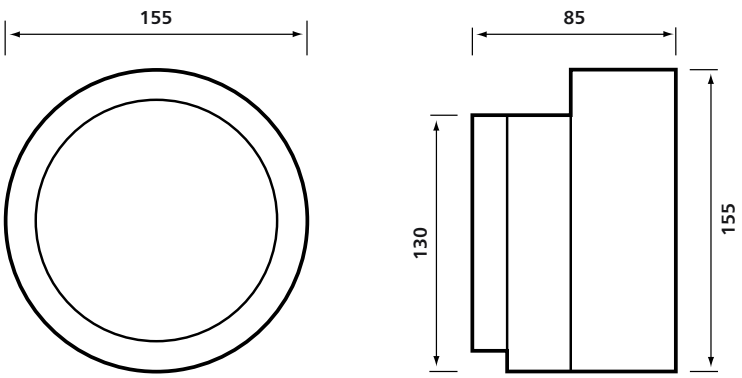
An electric bell for a wide range of uses.

Metal casing available in red or grey finish.

Suitable for semi flush or surface mounting.

TECHNICAL SPECIFICATION		
Type	24V dc	230V ac
Ingress Protection	Standard IP40	Standard IP41
	Special IP55	Special IP55
Approx Weight	1.1 Kg	1.25 Kg
Operating Temperature	Indoor, -10°C to +50°C	
Sound Output at 1m	93dB(A)	96dB(A)
Current at Nominal Voltage	30mA	30mA
Relevant Standard	EN 54-3	

Dimensions (mm)



ORDER CODES	
24V dc Bell, Red	12141-04
24V dc Bell, Red, IP55	12143-04
230V ac Bell, Red	12142-09
230V ac Bell, Red, IP55	12144-09
24V dc Bell, Grey	12141-54
230V ac Bell, Grey	12142-59
230V ac Bell, Grey IP55	12144-59

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Door Release

To close fire doors in an emergency and prevent the spread of fire and smoke.

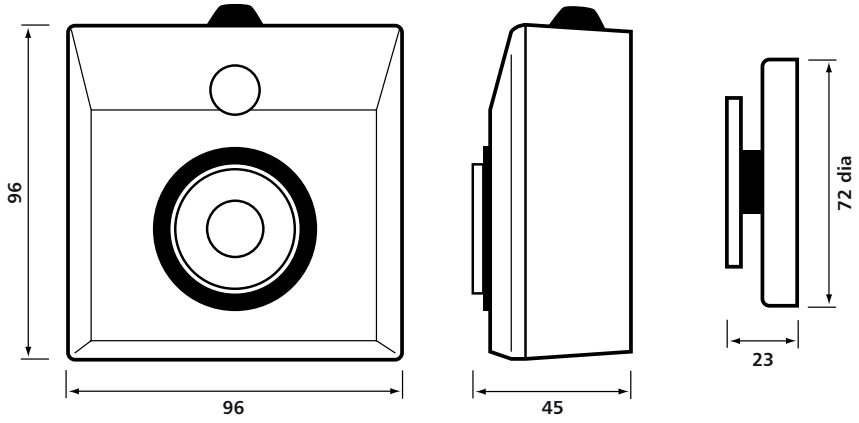
Moulded ABS and steel enclosure capable of floor or wall mounting.

Complies with BS 5839-3.

Door Holder

TECHNICAL SPECIFICATION			
	Wall Mounted	**Wall Mounted**	**Floor Mounted**
Type	24V dc	230V ac	24V dc
Approx Weight	Door plate, 0.07 Kg Door holder, 0.53 Kg		
Current Consumption	21mA	12mA	45mA
Operating Temperature	Indoor/Outdoor, -10ºC to + 50ºC		
Nominal Magnetic Pull	112 Newton		200 Newton
Relevent Standard	BS 5839- 3		
Finish	Moulded ABS		

Dimensions (mm)



ORDER CODES	
24V dc Door Holder c/w door plate	04390-31
230V ac Door Holder c/w door plate	04390-55
Door Holder Floor Plate	04390-92
24V dc Relay	19107-52
Door Holder Floor Mounted	04390-41

4: CONVENTIONAL FIRE DETECTION

Relays

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Low Profile Enclosure

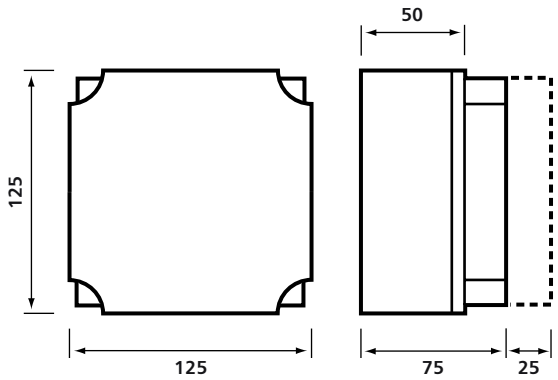
Low profile enclosure to house mini relays for light loads or deep enclosure for heavy duty applications involving relays and timers.

All purpose polycarbonate construction.

Suitable for activating class change or 'start work' signals.

TECHNICAL SPECIFICATION				
Coil Voltage	24V dc (mini)	12V dc	24V dc	230V ac
Coil Current	22mA	100mA	50mA	30mA
Contact Rating 240V ac	2A	6A	6A	6A
Contact Rating 24V dc	3A	5A	5A	5A
Profile	Low	High	High	High
Max. Capacity	4 mini relays	2 base or relay/mini mixture		
Ingress Protection	IP67			
Operating Temperature	Indoor/Outdoor, 0 - 40°C			

Dimensions (mm)



ORDER CODES	
24V dc Relay c/w enclosure	19107-52
High Profile Enclosure	19100-02
Low Profile Enclosure	19100-12
24V dc Mini Relay	19102-52
24V dc Relay	19104-52
230V ac Relay	19104-55
24V dc Timer	19106-02
24V dc Pulsar	19106-03
12V dc Relay	19104-30

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4: CONVENTIONAL FIRE DETECTION

Power Supplies

To supply additional standby power for control panels or relays.

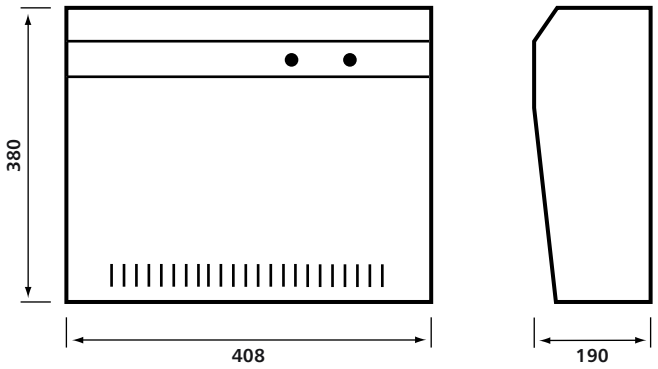
Protected against over-voltage and reverse polarity connections.

Fault monitoring to comply with BS 5839.

Power Supply Unit

TECHNICAL SPECIFICATION			
Mains Input	230V ac	230V ac	
Output Current	6A	4A	1.25A
Output Voltage	27.5V dc	27.6V dc	
Operating Temperature	-10º to +40ºC	-10º to +50ºC	
Max. Battery Capacity	2 x 12V/24Ah	2 x 12V/12Ah	2 x 12V/7Ah
Approx Weight	8.5 Kg	12Kg	7.5Kg

Dimensions (mm)



ORDER CODES

Power Supply Units (less cells)

24V, 1.25A charger continuous rating 0.625A	05211-24
24V, 4.0A charger continuous rating 2.0A	05214-24
24V, 6.0A charger	05216-24

Accessories

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Key Box

A neat circular enclosure in which a key can be kept for use in emergencies.

Particularly suitable for buildings where there is a need for unsupervised emergency exits to be kept locked.

Accommodates keys up to 75mm long.

ORDER CODES	
Key Box	08205 - 00
10 Spare Glasses (Plain)	4144 - 007
10 Spare Glasses (Printed)	4144 - 088

LED Call Point

Integral LED, illuminating when call point is operated for ease of identification.

ORDER CODES	
Standard	14112 - 05
Surface c/w cover	14112 - 45

Key Operated Call Point

Preventing unauthorised operation for use in areas with a high risk of tampering or vandalism.

ORDER CODES	
Standard	14115 - 01

General Purpose Call Point

For other emergency systems such as poolside drowning alarms or chemical spillage warnings.

ORDER CODES	
Standard	14114 - 01
Surface c/w cover	14114 - 41

Spares

Test Keys For testing call points without breaking the glass.

Weather Resistant Kit Allowing a call point to be used externally, providing weather resistance to IP54.

Semi-flush Spacing Kit For part recessing call points.

ORDER CODES	
Pack of 10 Test Keys	14112 - 10
Weather Resistant Kit	14112 - 19
Semi-Flush Spacing Kit	14112 - 20
Pack of Ten Spare Glasses	14112 - 09EN

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4: CONVENTIONAL FIRE DETECTION

Maximum System Loading

Zone Loading

To calculate the maximum zone loading complete the table below and ensure that the grand total does not exceed system limits (see pages 4 and 5).

	NO. (a)	QUIESCENT LOAD (μA) (b)	TOTAL LOAD (μA) (a x b)
Ionisation Smoke Detector		15	
Optical Smoke Detector		60	
Fixed Temperature Heat Detector		30	
Rate of Rise Heat Detector		30	
High Temperature Heat Detector		30	
24V dc Duct Detector		90	
			Grand Total

Notes:

1. If detector removal monitoring is required to comply with BS 5839, a detector base with diode should be used and the maximum number of detectors should not exceed 20 per zone.

2. Any number of manual call points may be included in zone calculations.

3. Beam detectors will require a separate power supply.

Sounder Circuit Loading

To calculate the maximum sounder loading complete the table below and ensure that the grand total does not exceed system limits (see pages 4 and 5).

	NO. (a)	OPERATING CURRENT (mA) (b)	TOTAL LOAD (mA) (a x b)
24V dc Electronic Sounder		18	
Sounder Base		18	
24V dc Bell		30	
S3 Sounder Strobe		*	
24V dc Xenon (Low current)		45	
			Grand Total

**See tone table for specific operating currents.*

Note:

1. Sirens will require a separate power supply.

2. Xenon flashers may require a separate power supply.