

# CHANNEL

SAFETY SYSTEMS

# Scimitar



**4 wire conventional alarm system**  
from Channel Safety Systems



# Scimitar

## 4 wire conventional alarm system

The Scimitar Fire Alarm Control System is a comprehensive range of high specification conventional control panels.

The range is available in 2, 4 or 8 zone variants and is complemented by up to 8 matching two wire repeater panels per system.

Fully complying with EN54 parts 2 and 4 the Scimitar range provides an economical solution to installations where cost and flexibility are important factors.

The panel is supplied with coded access to the controls and also supplied with key switch access.

LPCB certified to the latest revisions of EN54 parts 2 and 4, our new-look super-enhanced Scimitar conventional fire panel offers an array of user and installer-friendly features at a very competitive price.

Supplied in an attractive flush or surface mountable plastic enclosure, 2, 4 and 8 zone versions are available, each featuring four conventional sounder circuits, class change and alert inputs, on-board fire and fault relays and combined keypad/keyswitch entry.

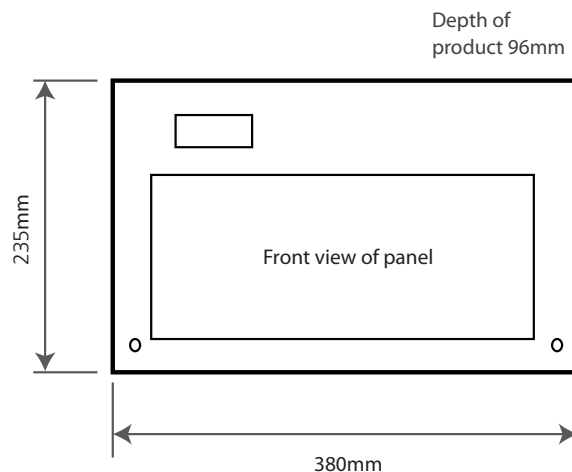
A wide range of engineering functions are also provided including selectable zone delays, coincidence and non-latching zone facilities. Comprehensive test and fault finding facilities are also provided.

### Features

- LPCB certified to the latest versions of EN54 Parts 2 and 4
- Intuitive user-friendly interface with colour-coded buttons and combined keypad/keyswitch entry to access level 2
- 2, 4 or 8 zone circuits (dependent on model purchased)
- Four conventional sounder circuits
- Integral 1.5A EN54-4/A2 compliant switch mode PSU
- Two on-board relays (Fire and Fault)
- Two open-collector outputs (Remote and Reset)
- 'Class change' and alert inputs
- Installer-friendly design accommodates easy first fix and straightforward maintenance
- Attractive flush or surface mountable plastic lid and enclosure - no bezel required
- Low 25mA quiescent current
- Multiple indicators
- End of line units included (one per zone)
- Ancillary system expansion connections provided for up to eight two-wire repeaters (one F/CHSC/RDC network driver card required per system).
- Space for two x 12V 3.2Ah VRLA batteries



PRODUCT CODE	DESCRIPTION
F/CHSC/2	Scimitar 2-zone panel
F/CHSC/4	Scimitar 4-zone panel
F/CHSC/8	Scimitar 8-zone panel
F/CHSC/R	Scimitar 8-zone repeater panel
F/CHSC/RDC	Repeater driver card
F/CH24/2.1	2.3AH 24V battery



All 2, 4, 8 zone panels have the same measurements

**Please note batteries are not included, all panels require F/CH24/2.1 to operate.**

PANEL SPECIFICATION	
Construction	Plastic lid and base
Enclosure Finish	RAL7035
IP Rating	IP30
Weight	1.75kg (without batteries)

POWER SUPPLY SPECIFICATION	
Mains supply voltage	230V 50/60Hz
Mains rated current	350mA maximum
Internal power supply	19V - 28.5V (27V nominal). Ripple 7V maximum (battery fault)
Total output current limit	1.5A @ 230Vac (ImaxA = 146mA)
Quiescent current	25mA (Mains failed, internal sounder active, power supply & general fault lights lit)
Supply and battery charger monitored for failure	YES (battery charger is also temperature compensated)
Batteries monitored for disconnection and failure	YES
Batteries protected against deep discharge	YES (Deep discharge cut off approx. 21 volts)
Max. Battery size and type	2 x 12V 3.2Ah VRLA connected in series (Use YUASA NP3.2-12 for LPCB approved systems) Minimum battery size = 1.2Ah
Mains fuse	240V 1A HRC ceramic 20mm compliant with IEC (EN60127 PT2)
Battery fuse	1.6A F 20mm compliant with IEC (EN60127 PT2)
Current draw from battery (Mains failed)	1.5A maximum

DETECTOR CIRCUIT SPECIFICATION	
Number of circuits/zones	2 (F/CHSC/2 ), 4 (F/CHSC/4 ) or 8 (F/CHSC/8)
Max cable length per circuit	500 metres
Cable type	Fire resistant screened cable, minimum conductor size 1mm <sup>2</sup>
Connector blocks	Plug-on type, largest acceptable conductor size 1.5mm <sup>2</sup>
Line monitored for open circuit and short circuit	YES - DC monitoring
Line monitored for detector removal	YES - end of line monitoring device modules provided
Max. Allowable impedance (each conductor)	20 Ohm
Max. Cable capacitance	0.27uF
Call point resistor value	470 to 680
Max. Number of smoke/heat detectors per zone	25
Max. Combined number of detectors & call points	32 per zone

SOUNDER CIRCUIT SPECIFICATION	
Number of circuits	4
Max cable length per circuit	500 metres
Cable type	Fire resistant screened cable, minimum conductor size 1mm <sup>2</sup>
Connector blocks	Plug-on type, largest acceptable conductor size 1.5mm <sup>2</sup>
End of line resistor value	6800 ohm 5% Tol. 0.25W (blue, grey, red, gold)
Each circuit monitored for open and short circuit	YES - reverse voltage DC monitoring. Indicated by common fault
Alarm voltage	27V maximum, 20V minimum (final battery voltage)
Sounder circuit fuses (one per circuit)	Resettable type (200mA min. hold current; 400mA max. trip current; 50mA when tripped. Reset when faults removed)
Max. total sounder output current to all outputs	4 x 200mA = 800mA
Max. No. of bells @ 25mA	32
Max. No. of electronic sounders @ 20mA	40 (sounders must be polarised)

AUXILIARY RELAY OUTPUTS	
Aux. Fire relay output (AUX)	Voltage-free single pole changeover; Max switching current 1A; Max. Switching voltage 30Vdc
Fault relay output (FAULT)	Voltage-free single pole changeover; Max switching current 1A; Max. Switching voltage 30Vdc

AUXILIARY OPEN COLLECTOR OUTPUTS	
Aux. Fire relay output (AUX)	Voltage-free single pole changeover; Max switching current 1A; Max. Switching voltage 30Vdc
Fault relay output (FAULT)	Voltage-free single pole changeover; Max switching current 1A; Max. Switching voltage 30Vdc
Reset output (RESET)	Non-monitored open collector type; Active during reset cycle; Max. sink current 30mA; Max. Open circuit voltage 27Vdc
Remote output (REM)	Non-monitored open collector type; Active during any unsilenced fire condition (provided all relevant delays have expired); Max. sink current 30mA; Max. open circuit voltage 27Vdc
24V aux power output (for use with the above)	Output protected by a resettable fuse (100mA min. hold current). Resets when fault removed

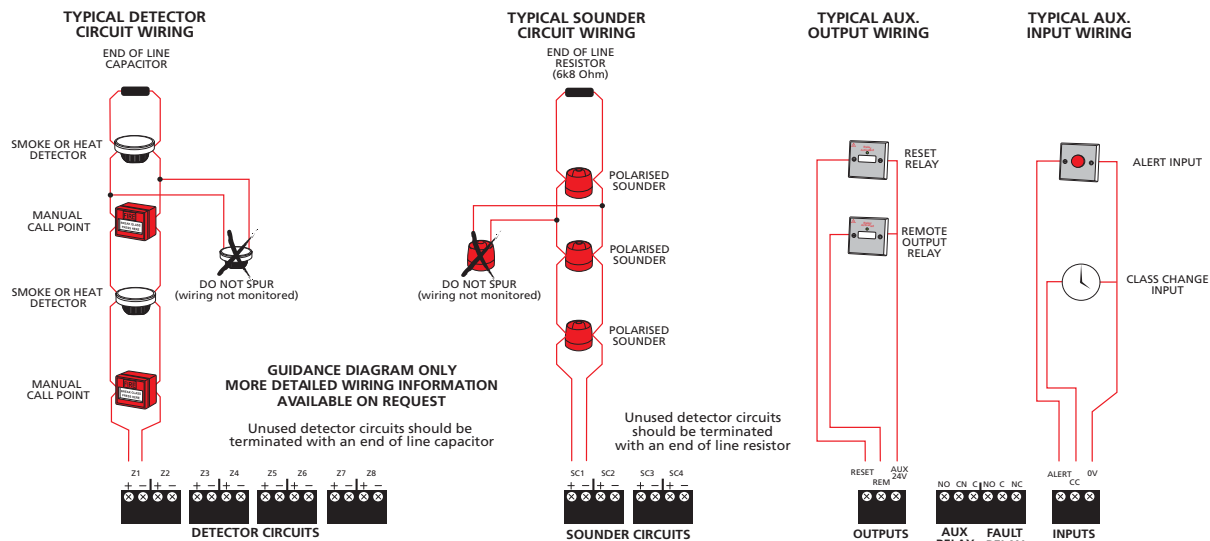
AUXILIARY INPUTS	
Class Change (makes sounders sound continuously)	Connect to OV to trigger. Max. input voltage 27V (non-latching)
Alert (makes sounders pulse intermittently)	Connect to OV to trigger. Max. input voltage 27V (non-latching)

AUXILIARY INPUTS	
Class Change (makes sounders sound continuously)	Connect to OV to trigger. Max. input voltage 27V (non-latching)
Alert (makes sounders pulse intermittently)	Connect to OV to trigger. Max. input voltage 27V (non-latching)

INDICATORS	
External indicators	General fire; Zone fire; Zone fault; Zone disabled; Zone test; Supply present; Remote output activated; Remote output status; Test; Accessed; General disablement; Fault output status; General fault; System fault; Repeater fault; System status; Sounder status; Power supply fault; Auxiliary output status; Output delays
Internal indicators	System fault (distinguishes between watchdog, site memory and phase lock loop faults); Zone fault (distinguishes between open circuit and short circuit faults); Hazardous voltages present; Repeater fault (indicates which repeaters, if fitted, are faulty)

USER & ENGINEER CONTROLS	
General user controls (access level one)	Mute internal sounder; Override delays; Enter access level
Authorised user controls (access level two)	Silence alarm sounders; Activate alarm sounders; Reset the system; Test the lamps; (Entry via key-pad code or keyswitch); Disable/enable zones; Disable/enable fault output; Disable/enable remote output; Disable/enable sounders; Disable/enable auxiliary output; Disable/enable output delays
Engineer controls (access level three)	Program coincidence (double knock); Invoke one man walk test; Program delays; Set up zones for non-latching operation; Program sounders to resound (or not resound) when a new zone enters alarm; Enter fault diagnostic facilities

# Typical Wiring



## Series 65 Optical Smoke

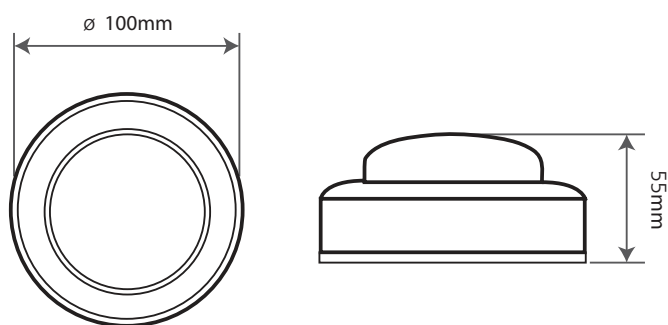
The Series 65 Optical Smoke Detector incorporates a pulsing LED located within the housing of the detector. The external detector moulding is identical to that of the ionisation detector but has an indicator LED which is clear in quiescent state but produces a red light in alarm.

### Features

- Responds well to slow-burning, smouldering fires
- Well suited for bedrooms and escape routes
- Unaffected by wind or atmospheric pressure
- Flashing LED and magnet operated test switch option

### SPECIFICATIONS

Supply Voltage	9 to 33V
Ripple Voltage	2V peak to peak maximum at 0.1Hz to 100kHz
Quiescent Current	45µA at 24V, 40µA at 9V
Switch-on Surge Current	45µA at 24V, 40µA at 9V
Alarm Voltage	6 to 28V
Alarm Current	52mA at 24V, 17mA at 9V
Alarm Indicator	Red LED
Design Alarm Load	420Ω in series with a 2V drop
Holding Voltage	6V
Holding Current	10mA
Storage Temperature Range	-30°C to +120°C
Operating Temperature	-20°C to +90°C (no icing)
Humidity	0% to 95% relative humidity
IP Rating	23D in accordance with BS EN 60529
Weight	80g (131g in base)



PRODUCT CODE	DESCRIPTION
F/CHSM/P	Optical smoke detector + base

## Series 65 Ionisation

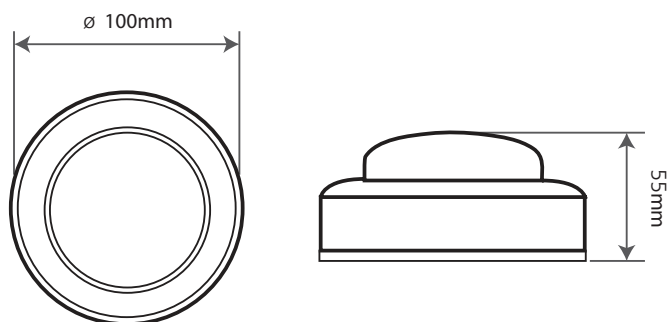
The Apollo Series 65 Ionisation Smoke Detector uses a low activity radioactive foil to detect fires by irradiating the air in the smoke chamber and causing a current flow. If smoke enters the chamber, the current flow is reduced leading to an alarm.

### Features

- Responds well to fast-burning, flaming fires
- Designed to operate in a variety of environments
- Flashing LED and magnet operated test switch option

### SPECIFICATIONS

Supply Voltage	9 to 33V
Ripple Voltage	2V peak to peak maximum at 0.1Hz to 100kHz
Quiescent Current	45µA at 24V, 40µA at 9V
Switch-on Surge Current	45µA at 24V, 40µA at 9V
Alarm Voltage	6 to 28V
Alarm Current	52mA at 24V, 17mA at 9V
Alarm Indicator	Red LED
Design Alarm Load	420Ω in series with a 2V drop
Holding Voltage	6V
Holding Current	10mA
Storage Temperature Range	-30°C to +120°C
Operating Temperature	-20°C to +90°C (no icing)
Humidity	0% to 95% relative humidity
IP Rating	23D in accordance with BS EN 60529
Weight	80g (131g in base)



PRODUCT CODE	DESCRIPTION
F/CHSM/A	Ionisation smoke detector + base

# Series 65 Heat Detectors

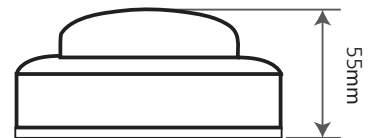
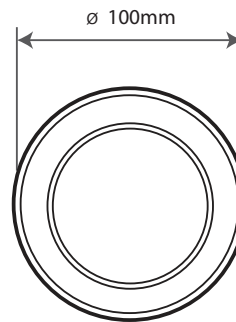
The Apollo Series 65 Heat Detector monitors temperature by using a dual thermistor network which provides a voltage output proportional to the external air temperature. There are 3 heat detectors in the Series 65 range supplied by Channel Safety Systems, which are designed to suit a wide variety of operating conditions.

## Features

- Can be used for applications where smoke detectors are unsuitable
- Ideal for environments that are dirty or smoky under natural conditions
- Flashing LED and magnet operated test switch option

## SPECIFICATIONS

Supply Voltage	9 to 33V
Ripple Voltage	2V peak to peak maximum at 0.1Hz to 100kHz
Quiescent Current	45µA at 24V, 40µA at 9V
Switch-on Surge Current	45µA at 24V, 40µA at 9V
Alarm Voltage	6 to 28V
Alarm Current	52mA at 24V, 17mA at 9V
Alarm Indicator	Red LED
Design Alarm Load	420Ω in series with a 2V drop
Holding Voltage	6V
Holding Current	10mA
Storage Temperature Range	-30°C to +120°C
Operating Temperature	-20°C to +90°C (no icing)
Humidity	0% to 95% relative humidity
IP Rating	23D in accordance with BS EN 60529
Weight	80g (131g in base)



PRODUCT CODE	DESCRIPTION
F/CHHF/A	Fixed temp (57 deg C) H D + base. Individually boxed and labelled
F/CHHF/A/HT	High temp (90 deg C) H D + base attached + logo
F/CHHR/A	Rate of rise heat detector + base

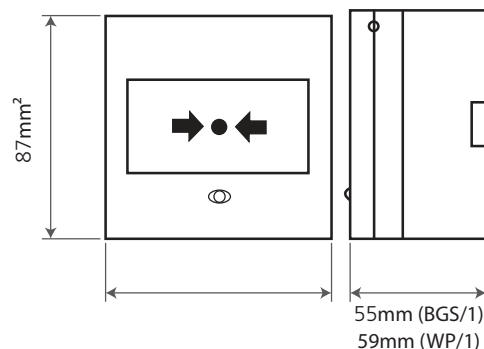
# Call Points

We offer a range of break glass call points, combining a number of features into one package, simplifying selection and reducing stock variants.

Designed to provide the facilities most frequently used, our Break Glass Call Points are compatible with most fire alarm systems in a variety of rain and weatherproof options.

## Features

- Proven design approved and certified to EN54-11
- Secure & convenient clip fit cover
- Use of glass or plastic re-settable element without modification
- Superior led alarm indication
- Back box
- F/CHBG/WP/1 version suitable for outdoor use



## SPECIFICATIONS

Supply Voltage	9-30V DC
Resistors	Series 470R & 680R resistor with LED alarm indicator, resistor value selected by connection
IP Rating	IP24D (BGS/1) IP66 (WP/1)
Weight	0.19Kg (BGS/1) 0.22Kg (WP/1)

PRODUCT CODE	DESCRIPTION
F/CHBG/S	Break glass - surface
F/CHBG/WP/1	Waterproof break glass



## LED Sounder Visual Indicator

A combined sounder visual indicator allows both an audible and visual alarm to be provided but requires only a single installation point.

### Features

- Features a flashing red LED when in alarm mode
- Automatic Synchronisation
- Lockable deep base supplied as standard
- ABS construction and PC lens
- Reverse Polarity Monitoring



PRODUCT CODE	DESCRIPTION
F/CHWB/BN/RD/DB	LED red sounder visual indicator with deep base
F/CHWB/BN/WH/DB	LED white sounder visual indicator with deep base

### SPECIFICATIONS

Supply Voltage	9-15V DC
Power Consumption	50mA
Sound Output	108dB
Tones	32
Operating Frequency	440Hz to 2900Hz
Flash Rate	1Hz
Temperature	-20° C to +70° C
IP Rating	IP65
Weight	0.25Kg

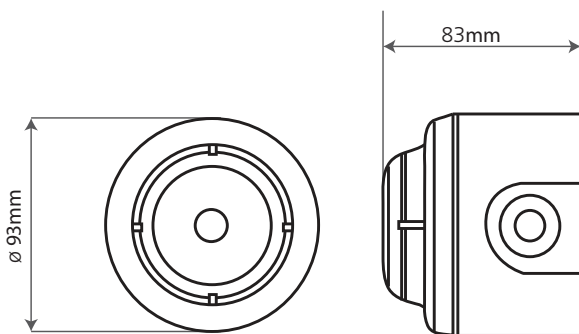
## LED Visual Indicator

24V Red LED Visual Indicator Deep Base are available to complement audible alarms for use in areas where people may be present who have impaired hearing or areas with high ambient noise levels.

A combined sounder visual indicator allows both an audible and visual alarm to be provided but requires only a single installation point. LED visual indicators have a dramatically lower current consumption than that of traditional xenon visual indicators making them ideal for applications where sounder circuit capacity is limited.

### Features

- Ultra low current – led technology
- Sounder & visual indicator with a single installation point
- Lockable base
- Compact Size
- For use with Veritas 2 and Scimitar panels



PRODUCT CODE	DESCRIPTION
F/CHBN/RD/DB	24v Red LED visual indicator - deep base

### SPECIFICATIONS

Supply Voltage	10-30V DC
Current	3mA or 5mA (user selectable)
Light Output	>0.5Cd or 1Cd (user selectable)
Temperature	-10o C to +55o C
IP Rating	IP33C
Weight	0.1Kg

## Fire Bells

Fire bells still remain a popular choice for many premises such as schools and universities.

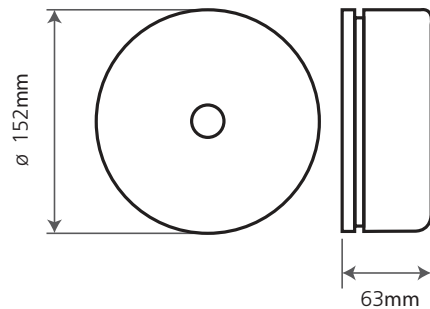
The 6" motorised bell has been designed to offer maximum performance combined with rapid installation and a sleek low profile appearance.

The bell is approved to EN54-3 with LPCB and CE marked.

### Features

- High efficiency low current consumption design
- Terminals will accept 2.5mm cables
- Simple installation via multifixing base plate for all types of location
- Fitted with two series diodes for fault monitoring
- Option of customized discs printed with company name and logo
- For use with Veritas 2 and Scimitar panels

SPECIFICATIONS	
Supply Voltage	20-28V DC
Power Consumption	25mA
Sound Output	95dB
Temperature	-10° C to +55° C
IP Rating	IP21C
Weight	0.45Kg



PRODUCT CODE	DESCRIPTION
F/CHBL/6/2	24V 6" Red fire bell
F/CHBL/W8	Waterproof 8" red fire bell

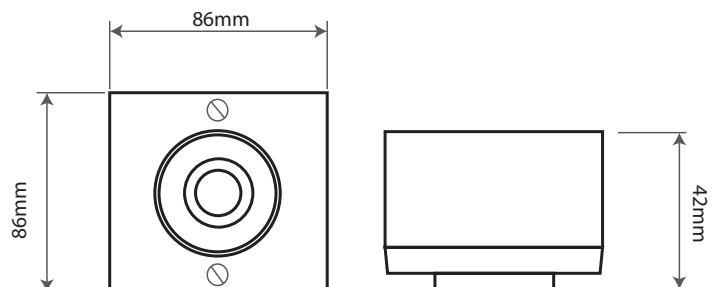
## High Output Sounders

The versatile room sounder is a discreet sounder that is available for flush or surface fixing. The sounder provides an excellent combination of high sound output and neat appearance, ideal for retail, hotel and residential applications such as sheltered housing. Available in white or red.

### Features

- High sound output
- Low current consumption
- Volume control
- Second tone for two stage alarms

SPECIFICATIONS	
Supply Voltage	9-28V DC
Current	18mA
Sound Output	97dB
Tones	32
Volume Control	10dB
Temperature	- 10°C to + 55°C
IP Rating	IP21C
Weight	0.11Kg



PRODUCT CODE	DESCRIPTION
F/CHWB/R	High output electronic sounder - white



## Squashni Alarm Warbler

The Squashni Alarm Warbler's large flat surface allows the mounting of most popular European detectors, while the high efficiency and low operating current permit compatibility with many systems. This product can be used with a variety of different open protocol fire detection systems.

### Features

- Fixing platform for most popular detectors
- Low current consumption
- Tamper proof cap for standalone use
- First fix base for easier installation
- Combined sounder & visual indicator version available
- LED triggered option available



PRODUCT CODE	DESCRIPTION
F/CHWB/D	Squashni alarm warbler - white

### SPECIFICATIONS

Supply Voltage	9-28V DC
Current	18mA
Sound Output	93dB
Tones	32
Volume Control	20db
Temperature	-10° C to +55° C
IP Rating	IP54
Weight	0.15Kg

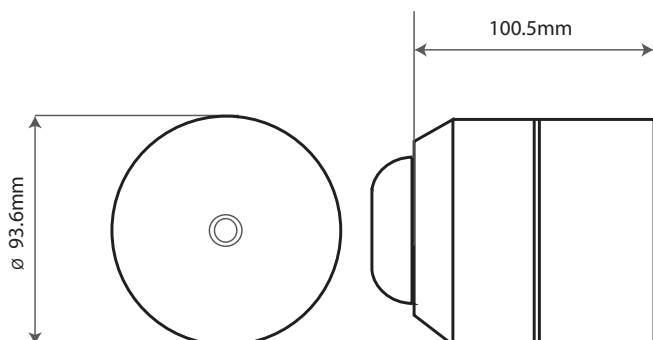
## Electronic Siren

The Electronic Siren is for use with the Veritas 2 and Scimitar panels and works in harmony alongside the other detectors.

The wide operating voltage and range of tones available allow the siren to be tailored to the individuals requirements.

### Features

- Ideal for general signalling and Fire use
- Fire approved and general signalling tone options
- Alert and alarm function
- Improved tone clarity, reducing confusion

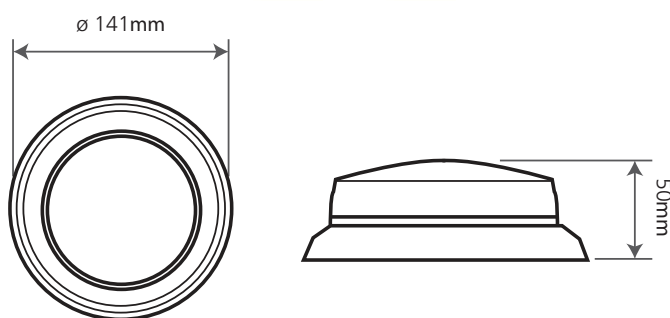


PRODUCT CODE	DESCRIPTION
F/CHWB/RD/DB	Electronic sounder

### SPECIFICATIONS

Supply Voltage	21.6 - 28V DC
Operating Frequency	440 - 2900Hz
Sound Output	101dB
Tones	32
Monitoring	reverse polarity
Max. Current Consumption @ 24VDC	117.7 mA
Sound Output (Max)	102.3dBA
Temperature	-20° C to +70° C
IP Rating	IP33C
Weight	0.25Kg

## Sounder & LED Visual Indicator



Our Base Sounder and LED Visual Indicator combines LED technology, with its unique lens design providing 360° visibility, and a flash rate of once per second, it is ideally suited for applications where sounders alone may not be sufficient to raise an alarm.

These applications include factories, machine rooms, workshops and areas where there may be people who are hearing impaired, such as offices and public buildings.

It can be used with or without a detector and is compatible with all leading brands of conventional fire detectors.

### Features

- Ultra low current – LED technology
- Sounder & visual indicator with a single installation point
- Lockable base
- Compact Size

### SPECIFICATIONS

Sound Output - @ 1 meter	93dBa (max)
Current Consumption @ 24Vdc	11.5mA (max)
Voltage Range	18 - 30Vdc
Number of Tones	32
Operation Frequency	440Hz to 2900Hz
IP Rating	IP21C
Temperature Range	- 20°C to + 70°C
Weight	270g

PRODUCT CODE	DESCRIPTION
SP/CHWB/D/BN	White base nounted sounder/LED visual indicator

# FREE DESIGN SERVICE

On the basis of receipt of order on contract award

Channel Safety Systems offers a complete Design, Supply & Commissioning service:-

Fire Alarm, to BS.5839. Part 1 2013

Emergency Lighting to BS.5266 Part 1 2011

Nurse Call Systems

Disabled Refuge Systems

CCTV and Access Control Systems

As our Project Sales Engineers and Service Engineers are based across the UK, we offer a fast and efficient service for design, site surveys, project management and all commissioning and maintenance services requirements. All our external team members are fully qualified to 'sign off' designs and Channel maintains all the relevant insurance policies which means the legal onus is on us, not the contractor.



For all requirements please contact Channel Technical Services team  
on 0845 884 7000