



## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# SenTRI ONE CONTROL PANEL

- Designed to comply with EN54 parts 2 and 4
- Up to 127 devices on the loop
- All devices connect onto the same two core loop, separate sounder wiring circuits are not required
- Devices can be added and system changes can be managed via the panel interface or the commissioning tool
- SenTRI ONE's commissioning tool has been developed specifically to improve the set up and commissioning time
- A building's fire plan can be configured either at the SenTRI ONE panel or through the simple PC commissioning tool and then uploaded to the panel via the USB port or SD card
- This panel is most suitable for small to medium sized projects



SenTRI ONE has been designed with ease of use as a high priority. It is a single loop analogue addressable panel with an intuitive user interface and attractive appearance. Managing up to 127 devices on the loop, SenTRI ONE is ideal for small systems.

From installation and commissioning to everyday use, SenTRI ONE delivers an experience that makes the fire alarm system easy to use and safe to operate. The appearance of the panel means that SenTRI ONE may be installed and look good in any type of building.

SenTRI ONE operates the latest range of SenTRI devices. This allows a small system to benefit from SenTRI advanced fire detection technology and powered loop performance. Designed for small buildings, SenTRI ONE offers a simple cause and effect which can be configured by a simple and easy to use PC commissioning tool.

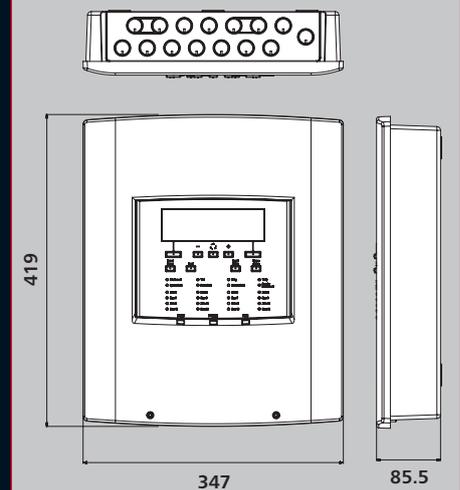
### ORDER CODES

SenTRI ONE Single Loop Panel	SENTRI1
SenTRI Control Panel	
Flush Surround	SENTRI1-FLUSH

### TECHNICAL SPECIFICATION

Loop Capacity	127
Batteries	2 x 7Ah
Battery Standby	24 hours standby (subject to battery calculations)
Mains Operating Voltage	230V +10% -6% 50Hz
Approx Weight	9 Kg (with batteries)
Operating Temperature	0°C to + 45°C
Cable entry	Top and rear knockouts
Standards	EN54 parts 2&4
Approval	LPCB Approved CPD Approved

### DIMENSIONS (mm)





## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# SenTRI TWO CONTROL PANEL

- Complies with EN54: Parts 2 & 4
- One loop and two loop options
- Network options for large systems
- Up to 200 device capacity per 1km loop
- 8 line x 40 character LCD back-lit display
- 32 zonal fire LEDs, hidden until lit
- Simultaneous display of first and current fires
- Password protection for user controls
- Suitable for small to medium sized projects



The SenTRI TWO Panel offers a flexible solution for small and medium sized buildings. The standard panel comes with 1 loop capable of connecting 200 devices. An additional loop can be added to the same panel doubling the size of the system managed by the same panel. For larger buildings, many SenTRI panels can be connected in a network of up to 10 panels. The network card delivers a fully secure and fault tolerant network loop. The flexible architecture delivers a saving in installation costs and a system that can be extended to meet the changing needs of a building throughout its life.

The SenTRI TWO panel meets all the requirements of BS 5839 Part 1 2002. 32 zonal fire LEDs provide a rapid identification of any zone in fire and the LCD display clearly presents information on the system status and pinpoints the exact location of an alarm.

The SenTRI TWO panel and detection loop provides a powerful and flexible system. A SenTRI loop can manage up to 200 devices. Sensors, call points, sounders, interfaces and repeat panels all connect to the same 2 core circuit delivering power and control without the need for additional power supplies. Powerful control panel software manages the detection of fires and fire plans can be configured to ensure the safe management of the building once an alarm is discovered.

ORDER CODES	
Control panel	SENTRI2
Network card	SENTRI2-NC
Flush Fixing Frame	SENADV-FLUSH
Additional Loop Card	SENTRI2-LPC



# SenTRI TWO CONTROL PANEL

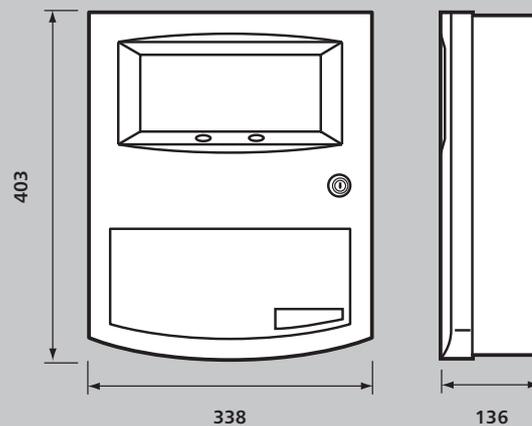
## Control Panel Outputs – Maximum

- 2 Master Alarm Circuits  
250mA @ 24V dc each
- RS232 / RS485 Serial  
Communications Port
- 1 dedicated RS485 Serial  
Communication for LCD  
repeat panel
- 1 Configurable Relay  
(1A @ 24V dc)
- 2 Auxiliary Contacts,  
programmable relays to  
operate with fire, fault or  
disablement (1A @ 24V dc)

## TECHNICAL SPECIFICATION

Max Number of Loops	2
Loop Capacity	200
Networking Capacity	Up to 10 panels/nodes
Ingress Protection	IP31
Approx Weight	16.6 Kg (with batteries)
Operating Temperature	0°C to +45°C
Batteries	2 x 12V @ 12Ah
Battery Standby	24 Hours + 30 minutes alarm
Mains Operating Voltage	230V +10% -6% 50Hz
Cable Entry	Top and rear
Dimensions W x H x D (mm)	403 x 338 x 136
Auxiliary Contacts	Programmable to activate on Fire, Fault or Disablement. (1 x SPCO 1 x DPCO)
Sounder Circuits	2 circuits @ 250mA each
Monitored input	1 input which is programmable to perform a logical action via a command build
Communication ports	1 x RS485 Repeat Panel Only (SENADV-IND) 2 x RS232 Selectable functions
Standards	EN54 Parts 2 & 4
Approvals	LPCB Approved and CPD Approved

## DIMENSIONS (mm)





## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# SenTRI FOUR CONTROL PANEL

- Designed to EN54: parts 2 and 4
- PC based commissioning tools allow complex fire plans to be configured and flexible programming options are available at the panel.
- The control panel has a simple user interface with LCD screen providing accurate information in an emergency
- Networks of up to 10 panels can be programmed seamlessly as one system. 2 and 4 loop panels can be connected on the same network allowing flexibility of design
- In the event of a fire or fault, SenTRI's analogue addressable technology will provide a detailed log of events
- A built in printer fitted to the SenTRI FOUR can be used to print out device configurations, loop maps and historic logs. A menu option is available to turn off the printer when a printed record is not required



The SenTRI FOUR analogue addressable fire detection and alarm system offers medium to large sized building owners the latest in system flexibility and control panel aesthetics.

The SenTRI FOUR panel manages up to 4 loops each accommodating up to 200 devices on each loop, including repeat panels, interfaces, call points, sensors and sounders.

The back lit LCD display presents clear indication of Fire or fault location and the control panels innovative 8 line x 40 character display with push button keypad is simple to use.

### ORDER CODES

EN54 Control Panels	
1 to 4 Loop Control Panel	SENTRI4
SenTRI4 Loop Card	SENTRI4-LPC
SenTRI4 Network Card	SENTRI4-NC
SenTRI4 Master Control Card (MCC)	SENTRI4-MCC-24
SenTRI4 Input/Output Card	SENTRI4-IOC-DOM
Flush Surround	SENTRI4-FLUSH

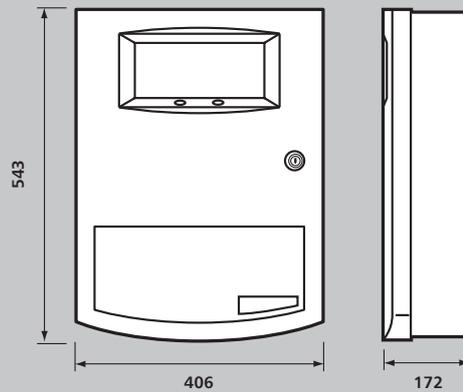


# SenTRI FOUR CONTROL PANEL

## TECHNICAL SPECIFICATION

Control Panel	
Max Number of Loops	4
Loop Capacity	200
Batteries	2 x 21Ah
Battery Standby	24 hours standby + 30 minutes alarm upgradeable to 72 hours
Mains Operating Voltage	230V +10% -6% 50Hz
Approx Weight	16.2 Kg
Operating Temp	0°C to +45°C
Cable Entry	Top and rear knockins
Standards	EN54 Parts 2 & 4
Approvals	LPCB Approved and CPD Approved

## DIMENSIONS (mm)





## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# SenTRI REPEAT PANEL

The SenTRI repeat panel displays all information provided to the main control panel as well as providing main control functions.

These fully functional repeat panels are connected to the detection loop thus allowing them to be distributed around the building.

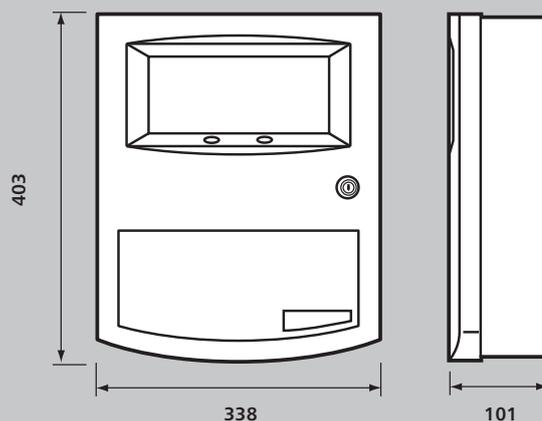
This panel is only compatible with SenTRI TWO and SenTRI FOUR installations.



### TECHNICAL SPECIFICATION

Max Number per Loop	4
Loop Capacity	N/A
Batteries	12V @ 7AH
Battery Standby	72 Hours + 30 minutes alarm
Mains Operating Voltage	230V 50Hz +10% -6%
Emission	BS EN61000-6-3 : 2001
Immunity	BS EN50130-4 : 1996 : Part 4
LVD	BS EN 60950-2006
Approx Weight	9 Kg
Operating Temperature	0°C to +45°C
Cable Entry	Top and rear entry knockins

### DIMENSIONS (mm)



### ORDER CODES

Fully Functional Loop Controlled Repeat Panel (max 4 per Loop)	SENTRI-RPT
Repeat Panel Flush Surround	SENTRI-RPT-FLUSH



## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# SenTRI LCD REPEAT PANEL

An affordable LCD repeat panel is available to support the SenTRI control panel. This neat unit can be powered from the SenTRI panel and is driven from a dedicated RS485 repeat output.

The LCD repeat panel indicates Fire, Fault and Disablement information on a 40 character display, either directly as events occur or by accessing the logs via dedicated keys.

A maximum of 4 Repeat Panels can be connected to a SenTRI control panel.

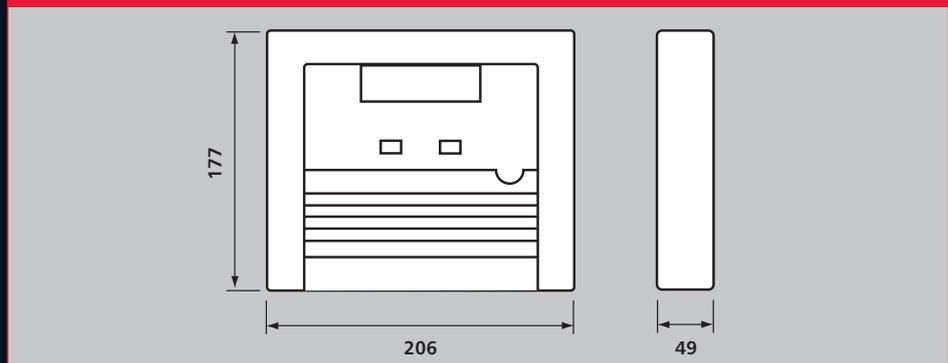
This panel is compatible with SenTRI ONE, SenTRI TWO and SenTRI FOUR installations.



### TECHNICAL SPECIFICATION

Ingress Protection	IP30
Supply Voltage	21 – 30V dc
Power Consumption	Approx 30 mA
Approx Weight	0.75 Kg
Operating Temperature	0°C to +45°C
Communication ports	1x RS485 to communicate with the main control panel
Cable Entry	Top and rear knockins

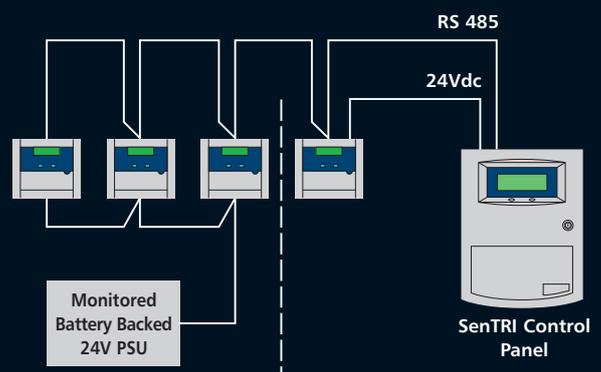
### DIMENSIONS (mm)



### Specific Wiring Details for a SenTRI TWO project – LCD Repeat Panel (indication only) Max Cable Length 1000M

One LCD repeat panel can be powered from the control panel, additional repeat indicators must be powered from an additional power supply.

The communication link to the panel is monitored, so if power to the repeat indicators fails the fault will be reported at the control panel.



### ORDER CODES

LCD Repeat Indicator Connects to the control panel via the RS485 serial link SENADV-IND



## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# SenTRI A3 MIMIC PANEL

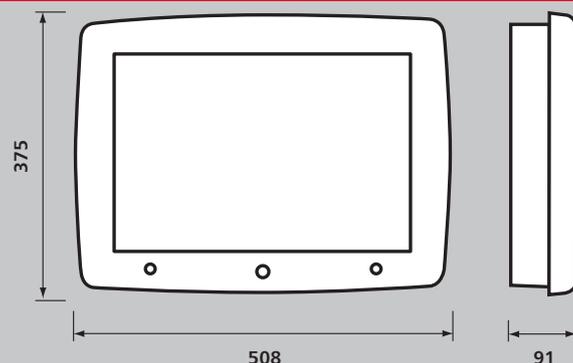
- Displays up to 128 zones and gives a rapid, visual indication of the location of any fire incident
- Used to provide an indication of fault and supervisory events in the fire system
- Panel supplied with pre-printed and blank high quality UV protected A3 sheets
- Site configuration held in flash memory so site changes can be programmed on site without changing LEDs or electronics



### TECHNICAL SPECIFICATION

Mains Operating Voltage	230V 50Hz +10% -6%
Max Number per Loop	A maximum load factor of 1000 allowed per SenTRI loop circuit Maximum number of combined repeat and mimic panels per loop = 4 Load factor per panel = 3
Loop Connection	3-way connection to a loop circuit
Indicators	1536 high intensity RED LEDs
Ingress Protection	IP30 (estimated)
Approx Weight	7.9 Kg (without batteries) 10.5 Kg (with batteries)
Operating Temperature	0°C to +45°C
Storage Temperature	-10°C to +55°C
Relative Humidity (Non condensing)	Up to 90% temperature 5°C – 45°C
Batteries	2 x 6V @ 7Ah sealed lead acid (weight 1.3Kg each) The integral battery provides power for 72 hours in standby condition and a further 30 minutes in alarm
Emission	BS EN61000-6-3 : 2001
Immunity	BS EN50130-4 : 1996 : Part 4
LVD	BS EN 60950-2006
Control	Cancel fault buzzer / lamp test button
Colour	Door – Pantone 422 Back box – Graphite Grey (RAL 7024)

### DIMENSIONS WITH BACK BOX (mm)



### ORDER CODES

SenTRI A3 Mimic Panel

SENTRI-ZONE



## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# SenTRI SENSOR RANGE

- Complete range of sensors and multisensors
- Patented multifunction sensor sounder and sensor sounder strobe
- LED output and monitored input facility on every device
- Powerful software algorithms to minimise false alarms



### SENSOR SOUNDER

- Attention tones can be programmed either as a bell\* or a choice of standard tones
- 'Soft' start (Volume option)
- Low current consumption
- Fully synchronised sound patterns via the control panel
- Rich harmonic sound output using patented design
- High sound output:
  - 90 dB(A) @1m (typical)

### SENSOR SOUNDER STROBE

- A strobe option warns those with hearing difficulties of a potential fire hazard, now a legal requirement in all public buildings through the Equality Act 2010 Legislation
- Low power consumption and high output LED technology ensures SenTRI strobes are cost efficient and more reliable in use than other high powered strobes
- Wide viewing angle synchronised across the loop
- Strobe can operate independently of the sounder if required
- Strobe variant includes bell tone ideal for class change in schools

\* Bell tone only available on Sensor Sounder Strobe

Advanced sensing technology coupled with integral sounder and strobe in one intelligent device provides the UK's most innovative solution to the detection and signaling of fires.

SenTRI sensors employ true analogue detection techniques combining exceptional processing power in the sensor as well as the power of the SenTRI control panel intelligence to achieve fast fire decisions. SenTRI combines traditional sensing technology with innovative techniques increasing the integrity of the fire decision and minimising incidents of false alarms.

Each SenTRI sensor has sensitivity settings managed by the panel which can be adjusted to suit the environment / application and can be programmed for different time periods during the day or night.

### SenTRI SENSOR SOUNDER STROBE

This cost effective solution saves money on the number of devices required to satisfy the site and Equality Act 2010 (formerly Disability Discrimination Act) requirements, as well as impacting hugely on both the cabling requirements and the labour time needed to install the device.

In addition, should the sound output need to be raised in particular areas, it is easy to replace a sensor for a sensor sounder directly into the base unit already installed.

Synchronised tones and the high intensity strobe are transmitted through the same sensor that detects the fire. This neat device is a cost effective way to deliver compliance to the fire detection and alarm requirements of the Equality Act 2010 (formerly Disability Discrimination Act).



# SenTRI SENSOR RANGE

The patented combined sensor sounder strobe technology provides a cost effective solution for alarm signalling. The fully integrated high quality sounder and strobe in the sensor housing offers a power efficient solution to all site requirements.

The sounder and strobe functionalities within the sensor are fully compatible and synchronised with SenTRI Sounder Strobes installed on the same system.



The table below shows the various 'states' of these smoke sensor options.

ORDER CODES	
SenTRI Optical Sensor	SEN-715
SenTRI Optical Heat Sensor	SEN-710
SenTRI Optical Heat Sensor Sounder	SEN-770
SenTRI Optical Heat Sensor Sounder & Strobe***	SEN-770-ST
SenTRI Heat Sensor	SEN-720
SenTRI Heat Sensor Sounder	SEN-780
SenTRI Heat Sensor Sounder & Strobe***	SEN-780-ST
SenTRI Detector Base (With Remote LED Output)	S4-700
SenTRI Semi-Flush mounting kit	S4-FLUSH
SenTRI Sensor Dust Cover (50 Pack)	805589
SenTRI Removal Tool Kit	805580
SenTRI Dust Cover Remover (Spare – remover tool c/w sucker)	S4-COVER-REMOVER
SenTRI Base Label Plate (10 Pack)	805576

SENTRI OPTICAL/SMOKE & HEAT SENSOR		
STATE	SENSOR	Description of State set up
0	OHeat	Medium Optical + A1 Heat
2	OHeat	Low Optical + A1 Heat
3	OHeat	High Optical + A1 Heat
5	OHeat	Medium Optical + B Heat
6	OHeat	Low Optical + BS Heat
8	OHeat	Delayed Medium Optical + A1 Heat
11	OHeat	Low Optical + B Heat
12	OHeat	A1 Heat Only
15	OHeat	All channels set to off

TECHNICAL SPECIFICATION		
	Heat Sensor Sounder	Optical Heat Sensor Sounder
Device Load Factor*	8-16**	8-16**
Ingress Protection	IP30	
Approx Weight	0.11 Kg (0.17 Kg with base)	
Operating Temperature	-10°C to +50°C	
Relevant Standards	EN54 Parts 3 & 5	EN54 Parts 3 & 7 + 5
Sound Output at 1m	Typically 90 dB(A)	
Approvals (EN54 Parts 5 & 7)	LPCB Approved and CPD Approved	

\* Load factors for guide purposes only. \*\* Higher load factor for bell tone.

**DIMENSIONS (mm)**

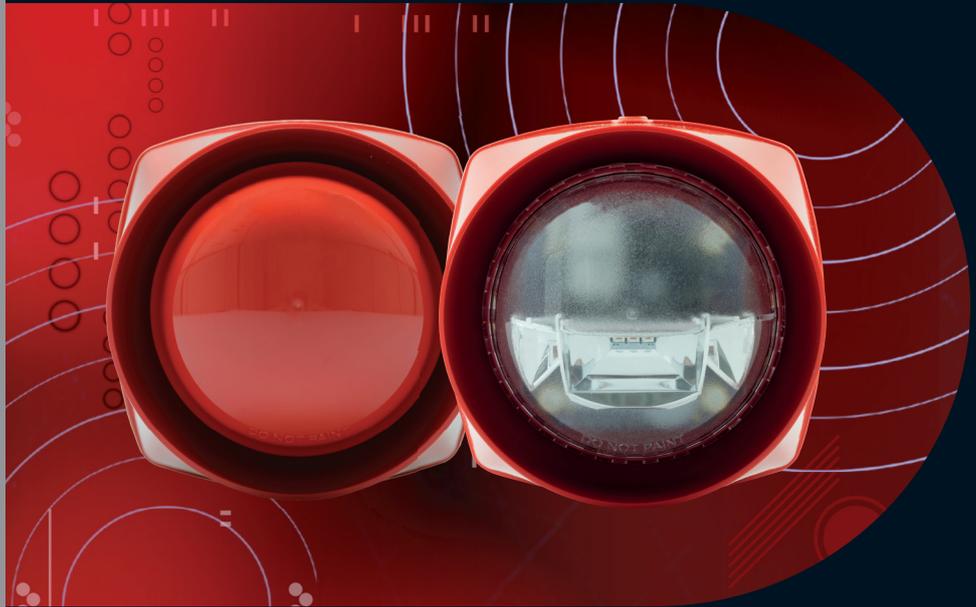
\*\*\* This product is not a visual alarm device and does not meet EN 54-23.



## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# SenTRI VISUAL ALARM DEVICES

- High efficiency design allows more devices per loop e.g. up to 200 sounders can be powered per loop
- EN54 part 23 VAD with industry beating coverage
- Active monitoring of sounder and VAD circuit
- All tones and visual alarms are synchronised across loops in the same control panel
- Complements the SenTRI sensor with complex sound signals
- The HandiLink remote control makes it much easier to adjust the sound level in situ
- Products incorporate innovative design features which are patented
- Combined VADs and Sounder VADs allow complete compliance with the Equality Act 2010



The SenTRI wall sounder VADs incorporate EN54-23 visual alarms and sound in one device. The range offers all variants in a choice of red or white flash with either a standard IP 21 rating or an EP variant meeting IP66. The range offers this industry beating functionality all powered by the loop.

The SenTRI Sounder VADs have been designed to assist with compliance to the fire detection and alarm requirements of the Equality Act 2010 (formerly Disability Discrimination Act).

As an aid to commissioning, there is the option to use the HandiLink Infrared remote control to adjust the volume in the room without the need for physical or mechanical access to the device. Password access at the control panel is required to enable this feature so it is not possible to make this adjustment accidentally or maliciously.

### TECHNICAL SPECIFICATION – 1.0 WALL SOUNDERS

Type	System Sounder	
	Standard Tone	Inc Bell Sound
Approx max quantity per Loop (dependent on loop load)	200	160
Ingress Protection	Standard range IP21	
Approx Weight	0.3 Kg	
Operating Temperature	-10°C to +50°C	
Sound Output at 1m	103 dB(A) ± 3dB(A) @1m	
IR Control Operating Distance	3m	
Standards	Certified to EN54 Part 3 (sounders only) and EN54 Part 17	
Approvals	LPCB approved to EN54-3, and EN54-17	



# SenTRI VISUAL ALARM DEVICES

## TECHNICAL SPECIFICATION – 1.1 SOUNDERS WITH VAD

Type	Integrated Sounder and VAD	VAD Only		
Strobe Colour	Red or White	Red or White		
Approx Max Quantity per Loop (dependent on loop load)	High Power – 38 Medium Power – 47 Low Power – 72	High Power – 44 Medium Power – 57 Low Power – 100		
Ingress Protection Standard range	IP21			
Ingress Protection EP range	IP66			
Approx Weight	0.3Kg			
Operating Temperature	-10°C to +50°C			
Sound Output at 1m	103 dB(A) ± 3 dB(A)			
VAD Category - High Performance				
	<b>Power setting</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>
	Red	W-6.7-14	W-6.5-12.5	W-5-9.5
	White	W-5-12.5	W-4.5-11.3	W-3-8.5
VAD Category – Standard Performance*	Red and White units W3-8.5			
VAD Flash Frequency	0.5Hz			
Approvals	Sounder VAD EN54-3, EN54-23:2010, EN54-17, VAD - EN54-23:2010, EN54-17			

\* The Standard Performance category relates to a restricted number of devices in the range, please see part numbers in the below table.

NB: To use the new range of sounders the panel software (main & repeat) may need to be upgraded.

### ORDER CODES

#### Sounders

Sounder/Red Body SEN-S-R

#### Sounder VAD

Sounder/HP White  
VAD/Red Body SEN-S-VAD-HPW-R

Sounder/HP Red  
VAD/Red Body SEN-S-VAD-HPR-R

#### VAD

HP White VAD/Red body SEN-VAD-HPW-R

HP Red VAD/Red Body SEN-VAD-HPR-R

#### Standard Power Sounder VAD

Sounder/Standard Power  
White VAD/Red Body SEN-S-VAD-LPW-R

Sounder/Standard Power  
Red VAD/Red Body SEN-S-VAD-LPR-R

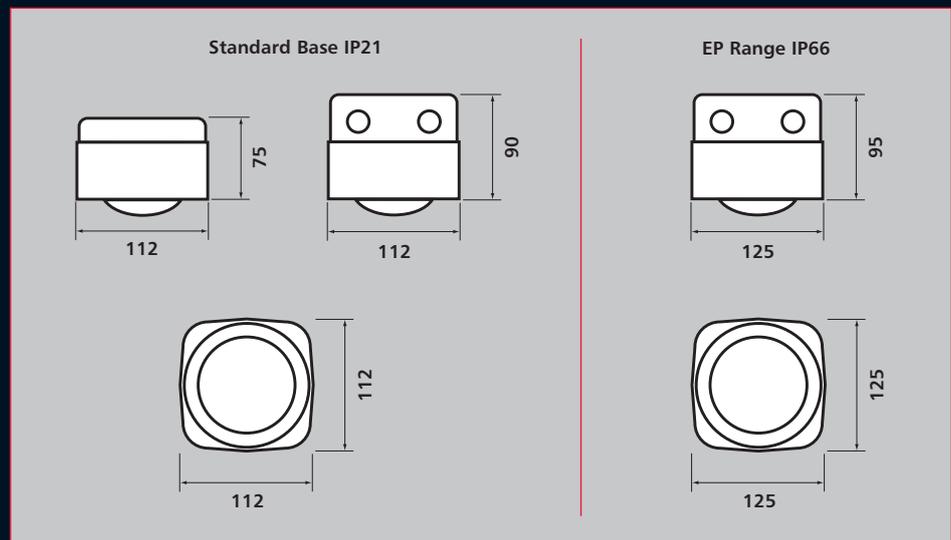
#### Environmentally Protected (EP) Range

SenTRI EP (IP66) Sounder  
Red Body SEN-S-EP-R

SenTRI EP (IP66) Red Body Sounder High Power  
White VAD SEN-S-VAD-HPW-EP-R

SenTRI EP (IP66) Red Body Sounder High Power  
Red VAD SEN-S-VAD-HPR-EP-R

\* HP - High Performance VADs are configurable during commissioning to one of three intensity settings





# BEAM SENSORS

- Loop powered supporting 16 pairs per loop (8 pairs on SenTRI one).
- Each beam can be set to one of 6 sensitivity states to provide a best fit for individual applications.
- The beam provides increased resilience to interference from the sun and other light sources.
- Remote key switch can be used to provide a test facility at ground level without the need to gain access to beams mounted in high areas.
- The beam incorporates an LED array to indicate signal strength allowing accurate alignment during one person commissioning.
- Optimum sensitivity is maintained by automatic gain setting triggered at the beam during alignment.
- The optical lens design is intended to minimise build up of dust to reduce the maintenance and cleaning required.
- Designed to meet EN54:Part 12 and EN54: Part 17
- Product is rated at IP30



The SMS SenTRI-Beam provides an enhanced solution for linear beam detection for applications where point detection is either not practical or uneconomic.

SenTRI loop powered technology allows up to 16 beam pairs to be connected to the same loop circuit, each covering a distance of up to 100m without the need for an external Power Supply Unit, wiring or interfacing.

Compatible with the full range of SenTRI control panels the SenTRIBeam uses the panel software to ensure a fast response to fire while offering software filters to reduce the number of unwanted alarms.

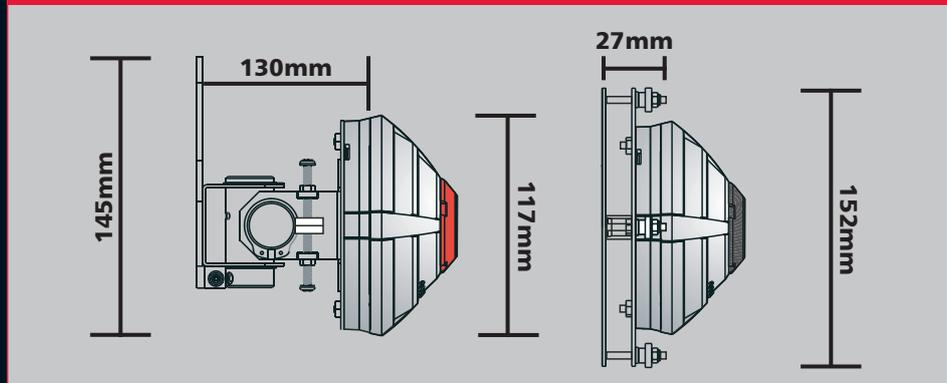


# BEAM SENSORS

## TECHNICAL SPECIFICATION

Ambient temperature	-10° C to +60° C
Storage temperature	-15° C to +65° C
Protection Class	IP30 (IP20 when mounted on bracket)
Housing	ABS Plastic
Weight	Transmitter or receiver 105g Angle bracket and base 620g Parallel bracket and base 600g Light shield 14g
Dimension (HxWxD)	Transmitter or receiver: 117 x 117 x 54(mm) Angle Bracket with base: 145 x 106 x 130(mm) Parallel bracket: 152 x 152 x 27(mm)
Operating voltage	35-41V
Colour	RAL 9010
Emissions	BS EN50081-1:1992 part 1 residential, commercial and light industry Class B limits
Immunity	BS EN50130-4 1996: part 4 Alarm systems
Transmission Path	2 – 100m
Standards	Designed to meet EN54:Part12 and EN54:Part17
Approvals	LPCB Pending Approval. States 0,1,2 and 3

## DIMENSIONS (mm)



## ORDER CODES

Beam Pair	SENTRI-BEAM
Angle Bracket	SEN-741-01
Parallel Bracket	SEN-741-03
Light Shield	S4-34741-99
Test cards	S4-34741-50



## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# SenTRI MANUAL CALL POINTS

An EN54 part 11 compliant addressable call point with a response time of less than 3 seconds.

Available options:

- Resettable or break glass
- Surface and flush mounted into a back box
- Anti vandal lift up cover
- Simple glass replacement process
- LED confirmation of operation
- Weather resistant version rated at IP67



### TECHNICAL SPECIFICATION

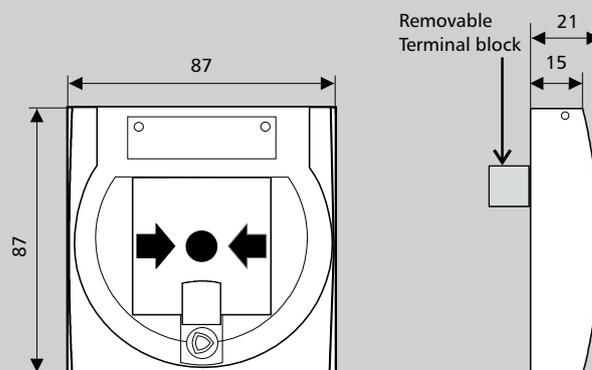
Max Quantity per Loop	200
Operating Temperature	-25°C to +55°C
Ingress Protection	Standard MCP - IP43 EP Version - IP67
Approx Weight	0.11 Kg
Device Load Factor	1
Certification / Approvals	SEN-805, SEN-805-EP & SEN-800 = EN54-11, EN54-17 SEN-807 (key-operated version) EN54-17

Note: SEN-807 - Key operated MCP is not covered in EN54-11. If required on a site the need for a variation to BS5839-1 should be considered.

### ORDER CODES

SenTRI Manual Call Point (Glass) IP43	SEN-800
SenTRI Manual Call Point with Resettable Element	SEN-805
SenTRI Surface Mounted Key switch MCP complete with back box	SEN-807
IP 67 SenTRI Manual Call Point with resettable element and back box	SEN-805-EP
Resettable Element for SenTRI MCP (sold in packs of 10) price per pack	SEN-890
Replacement Glass for SenTRI MCP (sold in pack of 10) price per pack	SEN-891
Protective Cover for SenTRI MCP Range (sold in pack of 20) price per pack	S4-34892
Surface Back Box for SenTRI MCP (Red) (Sold in packs of 10) price per pack	SEN-895
Test Key for SEN-800 range of MCP (sold in packs of 25) price per pack	S4-34899
A set of keys for Key Switch Interface and MCP (1 set = 2 keys)	S4-34499

### DIMENSIONS (mm)

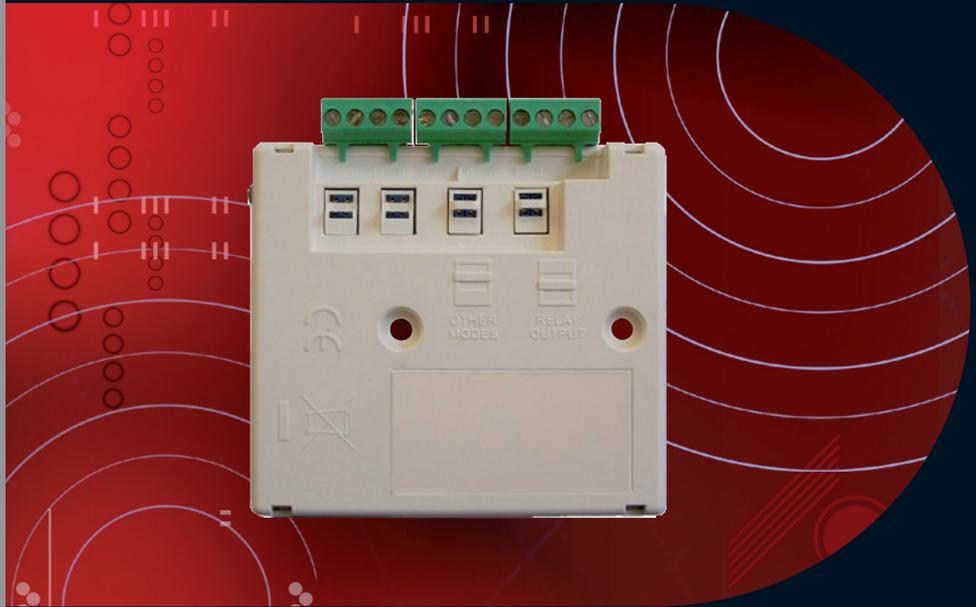




# SenTRI INTERFACES

A comprehensive range of SenTRI system interfaces allows plant control and connection to other life safety systems such as sprinklers. SenTRI interfaces provide highly flexible functionality and most units are loop powered without the need for separate power supplies.

A range of mounting options is available making it easy to design and install the SenTRI interfaces.

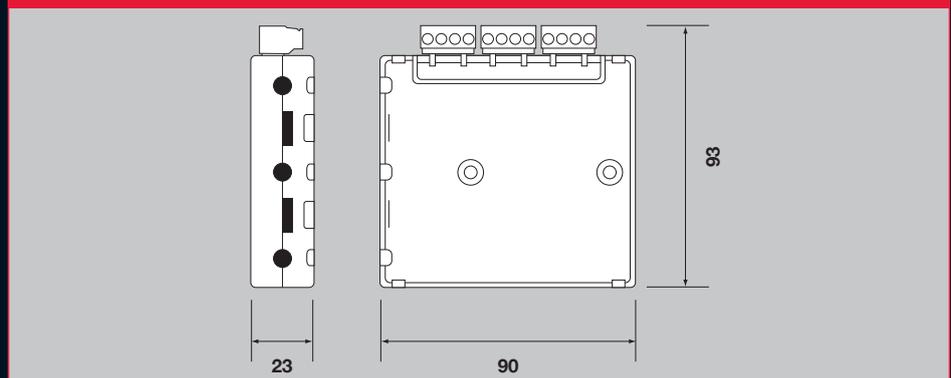


ORDER CODES	
Output Interface (mains switching 240V, 13A) c/w metal enclosure	SEN-INT-AC
Output Interface (mains switching 240V, 13A) c/w DIN Rail mounting kit	SEN-INT-ACDIN
Input Interface (low voltage relay 30V, 1A)	SEN-INT-INPUT
Output Interface (low voltage relay 30V, 1A)	SEN-INT-OUTPUT
4 Channel Input Output Unit	SEN-INT-4IO
Key Operated Output Interface (low voltage)	SEN-INT-KEY
Interface Housing (plastic)	SEN-490
DIN Rail Mounting Kit (pack of 5)	SEN-491
Interface Housing for Single Channel (metal)	SEN-492

### TECHNICAL SPECIFICATION

	Low Voltage Input / Output Range			Output Interface (Mains)
	Single Input SEN-INT-INPUT	Four Channel Input/Output (I/O) SEN-INT-4IO	Single Input/ Output SEN-INT-OUTPUT	SEN-INT-AC / SEN-INT-ACDIN
Weight	92g ①	100g ①	100g ①	DIN mountable: 138g PCB with cover in metal box: 800g
Operating Temperature	-10°C to +60°C			
Relative Humidity	Up to 95% – Temperature +5°C to +45°C (Non condensing)			
Ingress Protection	IP31 for plastic box SEN-490 IP40 estimated for metal box SEN-492			Metal box – IP40 estimated
Load Factor	Load Factor 1-4 switch inputs = 1 (maximum 200 per loop) 1-4 relay outputs = 2 (maximum 200 per loop only 8 individually sectored) Zone Input = 26 (maximum 30 per loop) Every LED output = + 5 (maximum 100 LED outputs per loop)			5 (maximum 200 devices per loop)
Panel Compatibility	Compatible with Loop = V4.35 and Main Control Card = V4.37			
Standards	EN54-17 and EN54-18			
Approvals	LPCB Approved			

### DIMENSIONS (mm)





## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# Enhanced SenTRI Loop Card

SMS's all new Loop Card provides EN54-23 compliance and increased max alarm load.



### Key Features

- Increased capacity for loop powered devices including the new EN54-23 visual alarm devices
- Loop current increased to 800mA when used with the latest SenTRI devices

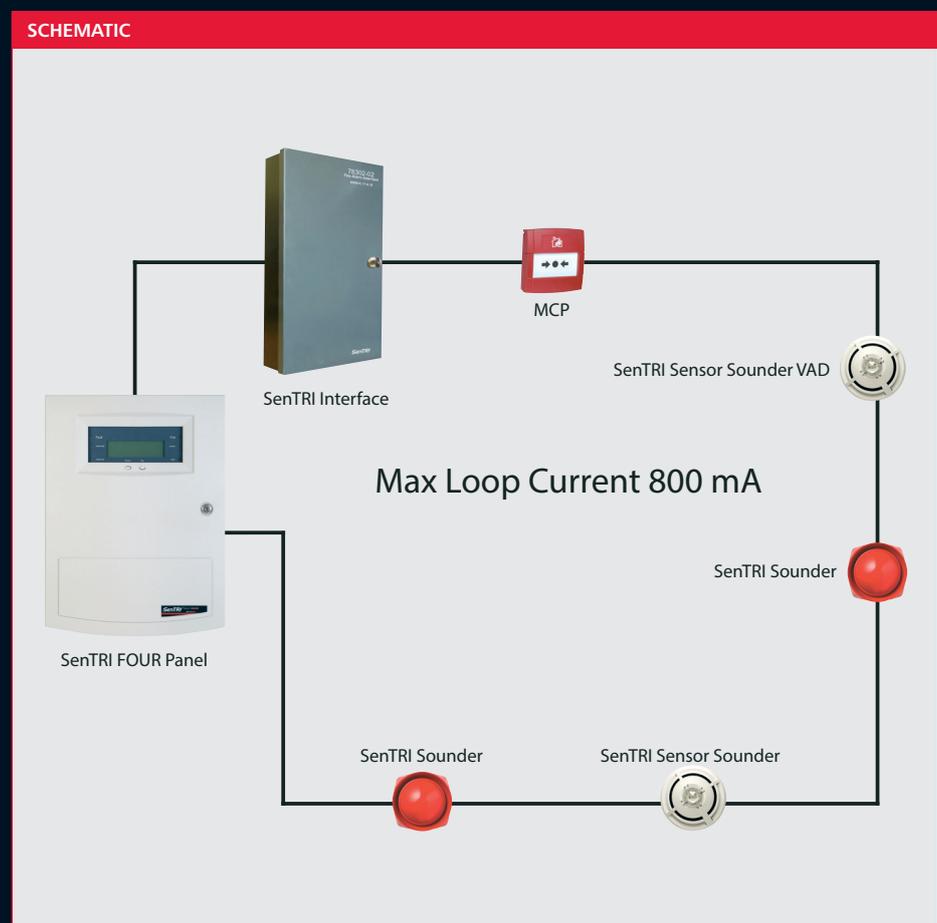
### Benefits

- Improved efficiency with 2 times more alarm power with no loss of standby
- Supports up to 100 SenTRI Sensor Sounder VADs certified to EN54-23
- Supports the upgrade of existing SenTRI installations

Note: the Loop Load design tool must be used to ensure design limits are not exceeded.

The new Loop Card is designed to fully comply with EN54-23 and is available on EN54 versions of the SenTRI TWO and SenTRI FOUR systems. The increased power allows for up to 100 EN54-23 sensor-sounder-strobes, managing up to 200 devices in total.

### SCHEMATIC





# Enhanced SenTRI Loop Card

## COMPATIBILITY OF PANELS AND LOOP DEVICES



SPECIFICATION				
		NEW LOOP CARD		OLD LOOP CARD
PANELS	DATE OF MANUFACTURE	FULL < 800MA	RESTRICTED < 400MA	1KM < 400MA
SenTRI TWO and SenTRI FOUR	Sept 2014 - present	✓	✓	✓
SenTRI TWO and SenTRI FOUR	2003 - present	✗	✓	✓
Senator (1 & 2) Recommend Upgrade	2000 - 2007	✗	✗	✓
SENSORS WITH SENSOR SOUNDER AND VAD				
SenTRI Sensors	2005 - 2014	✓	✓	✓
SenTRI Sensor Sounders	2005 - Aug 2014	✗	✓	✓
SenTRI Sensor Sounders	Sept 2014 - present	✓	✓	✓
SenTRI Sensor Sounder Strobe	2005 - Aug 2014	✗	✓	✓
SenTRI Sensor Sounder Plus VAD	2014 - present	✓	✓	✓ Compatibility Mode
Senator 2 Sensors	1995 - 2013	✗	✓	✓
Senator 2 Sensor Sounders	1995 - 2013	✗	✓	✓
Senator 1 Sensors	1987 - 1996	✗	✗	✓
SOUNDERS				
SenTRI Mark 3 Sounders	To be launched end of 2014	✓	✓	✓
SenTRI Mark 3 Sounders with VAD		✓	✓	✓ Compatibility Mode
SenTRI Mark 2	2005 - 2014	✗	✓	✓
SenTRI Mark 2 Sounder and Sounder Strobe	2013 - 2014	✗	✓	✓
SenTRI Mark 1 Sounder	2002 - 2014	✗	✓	✓
Senator 2 Sounders	1996 - 2002	✗	✗	✓
Senator 1 Sounders	1986 - 1996	✗	✗	✓
MANUAL CALL POINTS				
SenTRI MCP	2007 - 2014	✓	✓	✓
Senator MCP	1987 - 1996	✗	✗	✓
INTERFACES				
SenTRI Mains Switching Interfaces	2011 - 2014	✓	✓	✓
SenTRI Mains Powered Interface	2010 - 2014	✓	✓	✓
SenTRI Loop Powered Interfaces	2007 - 2014	✓	✓	✓
Senator Mains Powered Interface	1995 - 2007	✗	✓	✓
Senator Loop Powered Interfaces	1995 - 2007	✗	✓	✓



# Enhanced SenTRI Loop Card

## FEATURES AND BENEFITS

### LOOP ALARM CURRENT

The new loop card is designed to support a higher loop load in alarm delivering a higher capacity for EN54-23 compliant visual alarms devices. The maximum alarm load of 800mA is available ONLY with the new range of alarm devices. With any of the old range of alarm devices (SenTRI Pre September 2014) the maximum alarm load is limited to 400mA per loop.

### LOOP LENGTH

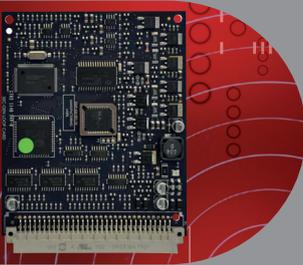
The loop card supports at least 1km loop length. Loop load design calculator must be used to confirm actual loop design limit. This also provides information on the effect of alarm device distribution. Evenly distributed load with latest devices may allow increased loop lengths.

### VALIDATING LOOP LENGTH

The loop card will automatically measure (and display on the panel) the loop resistance of each loop on allocation. This will allow engineers to easily fulfil one of the required tasks for commissioning the system. If the resistance exceeds a safe limit it will indicate a fault.

### ORDER CODES

SENTRI TWO LOOP CARD	
– EN54 pt23 ready	SENTRI2-LPC-EN
SENTRI FOUR LOOP CARD	
– EN54 pt23 ready	SENTRI4-LPC-EN





## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# SenTRI Multi-Sensor with Integrated Sounder and Visual Alarms Device (VAD)



### Key Features

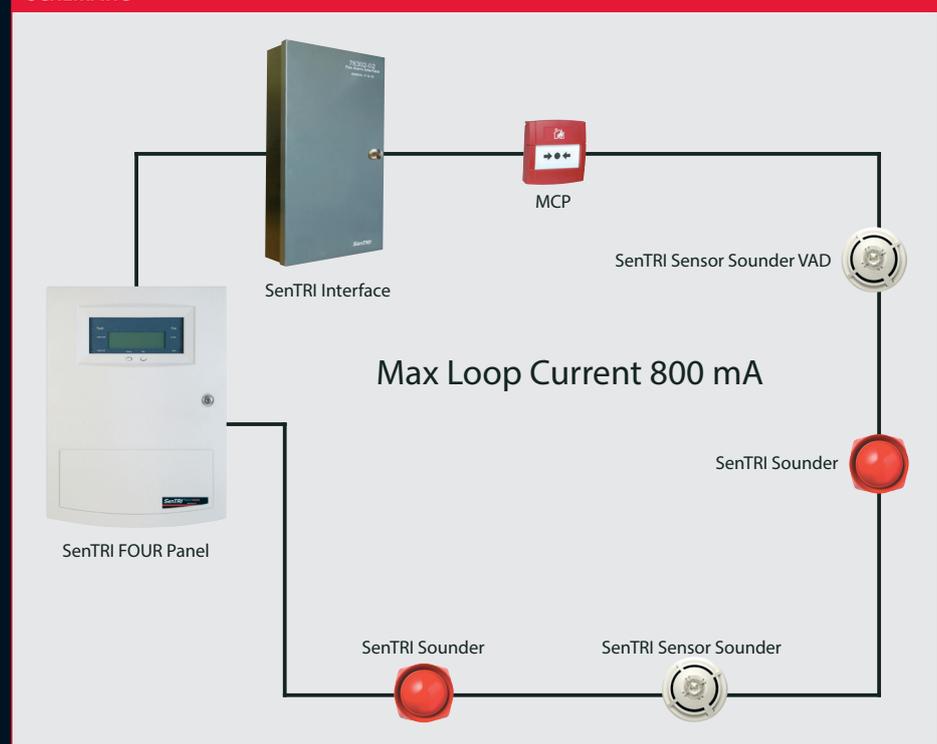
- Sensor and alarm in one device reduces installation time and cost
- Built-in high intensity VAD helps alert occupants in noisy environments as well the hard of hearing
- Meets all the requirements of the Equality Act 2010
- Compatible with the SenTRI wall mounted VAD
- State of the art, high efficiency visual alarm sounder
- Advanced power management that increases loop capacity and integrity
- Range of devices and power settings to suit widest range of building applications
- Light output that allows devices to be sited at standard smoke and heat detector spacings
- Synchronised flash rate across the whole control panel avoiding risk of induced seizures
- VAD can operate independently of the sounder if required
- Class leading VAD performance
- Covering upto 16m diameter @ 6m ceiling height
- Coverage matching smoke sensor spacing

SenTRI's multi-sensor with integrated sounder and VAD combines renowned advanced sensing technology with state of the art visual alarms. The only practical solution meeting the demands of detection and the performance needed to meet the EN54 part 23 standard.

### Colour and Performance variants

- High intensity option with three intensity settings to achieve maximum flexibility for different room coverage, optimising loop coverage
- White VADs use a multi-die LED with a 'Day White' colour
- Red VADs use multiple red LEDs giving a true red colour

### SCHEMATIC

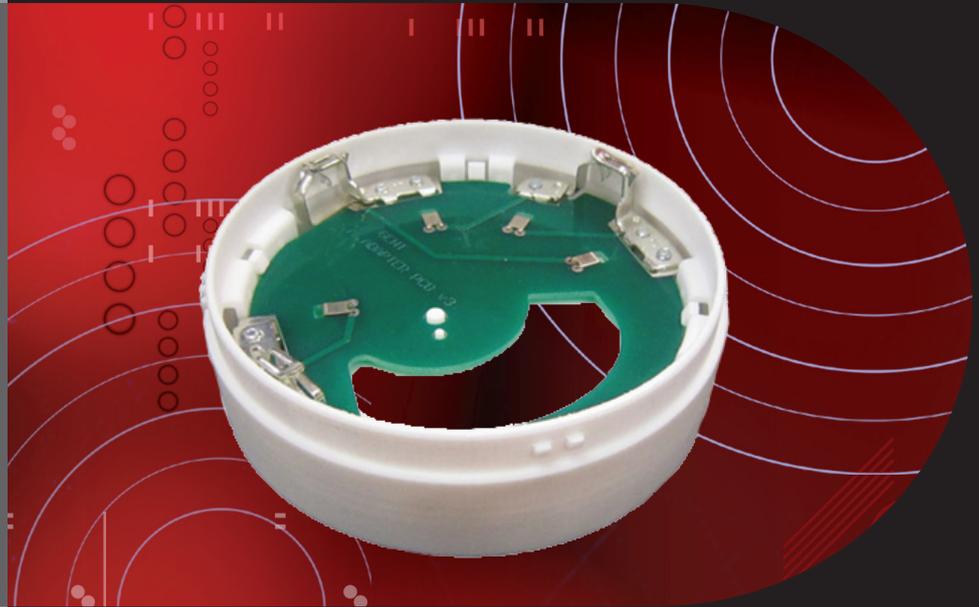




## ANALOGUE ADDRESSABLE FIRE DETECTION

# 34000 Adapter Base

The 34000 adapter base provides a fast, simple solution for the replacement of legacy 34000 range of sensors with current SenTRI Sensors. The adapter base fits neatly onto a SenTRI sensor enabling it to be fitted directly onto an existing 34000 base without the need for removal of the old base and rewiring of a replacement.



### Key Features

- Fast, cost effective solution for replacement of ageing sensors.
- Simple locate/ turn locking mechanism.
- No need for additional SenTRI detector base.
- Avoid the need for working at height.
- Listed as a compatible device for use with the SenTRI range of automatic sensors.

### ASSEMBLY LAYOUT



34000 Terminal Plate

34000 Adapter Base

SenTRI Sensor Head



SenTRI Sensor Head and 34000 Adapter Base Assembly



## ANALOGUE ADDRESSABLE FIRE DETECTION

# 34000 Adapter Base

### TECHNICAL SPECIFICATION

Dimensions	Diameter 112mm, Height 35mm
Weight	82g
Colour	White (RAL 9010)
Material	ABS
Operating Temperature	-20°C to +54°C
Approvals	Listed as a compatible device with the SenTRI range (see below table of Compatible Devices)

### DIMENSIONS (mm)



### DESCRIPTION

34000 Adapter Base

### ORDER CODES

S4-700-34K

### COMPATIBLE DEVICES

#### SENSOR

SEN-715	SenTRI Optical Sensor
SEN-710	SenTRI Optical Heat Sensor
SEN-720	SenTRI Heat Sensor

#### SENSOR SOUNDER

SEN-780-S	SenTRI Heat Sensor Sounder
SEN-770-S	SenTRI Optical Heat Sensor Sounder

#### SENSOR SOUNDER VISUAL ALARM DEVICES (VADS)

SEN-780-VAD-HPR	SenTRI Heat Sensor Sounder High Power Red VAD
SEN-780-VAD-HPW	SenTRI Heat Sensor Sounder High Power White VAD
SEN-770-VAD-HPR	SenTRI Optical Heat Sensor Sounder High Power Red VAD
SEN-770-VAD-HPW	SenTRI Optical Heat Sensor Sounder High Power White VAD
SEN-770-VAD-LPW	SenTRI Optical Heat Sensor Sounder Standard Performance White VAD
SEN-770-VAD-LPR	SenTRI Optical Heat Sensor Sounder Standard Performance Red VAD

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# SenTRI Anti-Ligature Base

The SenTRI Anti-Ligature ceiling mounted base provides additional safety to occupants within secure facilities.

## Description

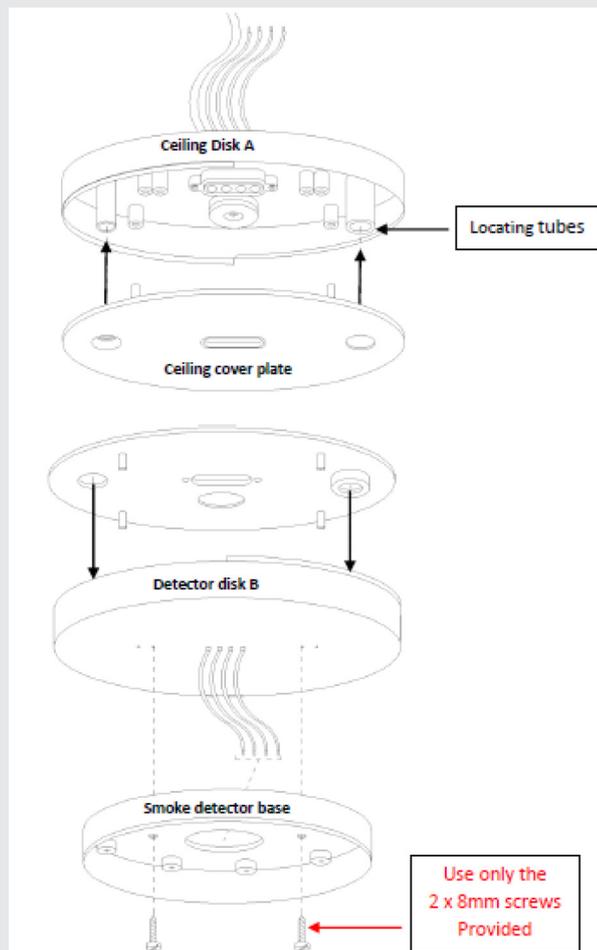
This base has been designed to provide additional safety within buildings that accommodate people who are at risk.

## Key Features

- Built in magnetic switch provides loop continuity when multiple items are removed.
- Anti tamper lip to prevent storage of contraband between base and detector.
- Simple design and easy to install.
- Certified to 6.4 kg release load.
- Easy to reinstate the device if removed.
- Approved for in-cell detection by National Offender Management Services (NOMS) in England.
- Labour saving installation as no need for a T-Breaker to maintain loop continuity.



## Assembly Layout





ANALOGUE ADDRESSABLE FIRE DETECTION

# SenTRI Anti-Ligature Base



## TECHNICAL SPECIFICATION

Release load	6.4 kg
Weight of device	0.16kg
Dimensions	138mm diameter by 30mm height

## DESCRIPTION

Anti-Ligature Base

## ORDER CODES

ALD-302

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# MAINS SWITCHING INTERFACE

- Flexible input / output
- Controlling outputs and monitoring inputs simultaneously
- Configurable delay to filter noise and spurious signals
- Outputs can be individually sectored



The new SenTRI Mains Switching Interface units connect directly to the loop of SenTRI 2 and 4 loop systems. The interface units are designed to provide heavy duty relay switching for both 24V and 230V applications with contacts rated at 13A. This interface is particularly suitable for switching damper control units and other building controls requiring a high contact rating for mains shutdown.

The new single channel variant is a direct replacement for the existing 78315-01NM Mains Switching Interface.

A new addition to the Mains Switching Interface range is the 4 channel variant which offers extended functionality.

Inputs can be configured as fire, fault, supervisory or confirmation input. An input and an output of an interface unit can be paired to operate in a confirmation mode. External equipment can send an acknowledgement upon receiving a signal from the interface unit, this is called 'confirmation input'. External equipment can also receive an acknowledgement from the Interface unit upon sending it a signal, this is called 'confirmation output'.

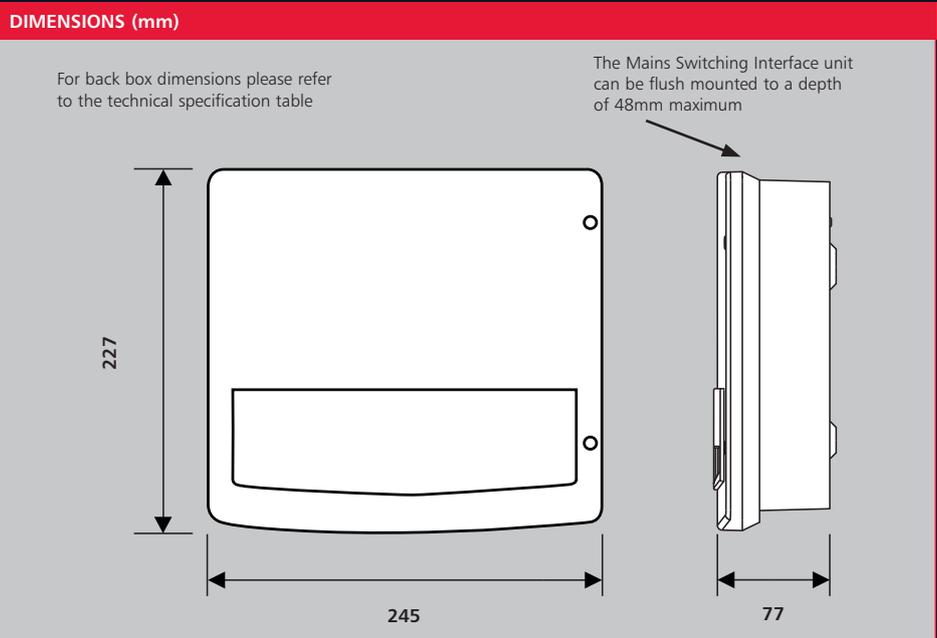
## ORDER CODES

Single channel	
Mains Switching Interface	SEN-INT-IOAC
4 channel	
Mains Switching Interface	SEN-INT-4IOAC



# MAINS SWITCHING INTERFACE

TECHNICAL SPECIFICATION	
Overall dimensions	227mm x 245mm x 77mm (H x W x D)
Back box (Aperture)	233mm x 210mm x 48mm (H x W x D)
Assembled weight (approximate)	1.1Kg
Enclosure	ABS V-O rated
Colour	Back box – Dark Grey Lid – Light Grey
Storage temperature	-20 to 70 C
Ambient operating temperature	-10 to 45°C
Relative Humidity (Non condensing)	Up to 95% Temperature 5°C to 45°C
Ingress Protection (estimated)	IP31
Output(s) Relay contact rating	Resistive load: Single pole change over contacts rated 13A 230V ac. Inductive load: 1hp @ 240V ac, 1/2hp 120V ac
Input(s)	Input can be normally open or normally closed switch
Modes of operation	Input Output Input and Output Input with confirmation Output Output with confirmation Input
Maximum number per loop	100 units per loop (of which only 8 can be individually programmed)
Standards	Designed to meet EN54:part 17 and EN54:part 18





## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# MAINS POWERED INTERFACE

- It has a configurable auxiliary powered output that is derived from its self contained EN54 part 4 compliant mains powered supply unit
- A cost effective solution as all elements are included within the enclosure therefore reducing your installation and maintenance costs
- Four channels can be individually programmed to provide various configuration modes to control external equipment



The SenTRI Mains Powered Interface allows you to connect to ancillary units which can not be integrated directly onto the SenTRI loop.

The highly flexible interfacing capability of the unit offers superior functionality and a powerful solution to meet the fundamental requirements of applications requiring compliance to BS7273 part 4. This unit also offers a practical and cost effective solution for Intrinsically Safe applications.

### BS7273 FUNCTIONALITY

BS7273 part 4 2007 is the code of practice governing door holders and door release mechanisms. With the latest software, SenTRI offers a compliant solution with a mains powered interface. No further equipment is necessary as Interface outputs can be configured to be both Category A or B door release outputs. BS7273 functionality is only available in EN versions of SenTRI. It is possible to turn off any of the outputs under mains fail conditions to preserve battery capacity.

### INTRINSICALLY SAFE APPLICATIONS

Integration of Intrinsically Safe devices with the SenTRI product range is now far simpler with the new Mains Powered Interface. The Intrinsically Safe devices can be connected directly into the isolation barriers housed within the unit thus ensuring that Intrinsically Safe applications are cost effective and no longer require external enclosures and power supplies.

#### ORDER CODES

Mains Powered Interface	78302-02NM
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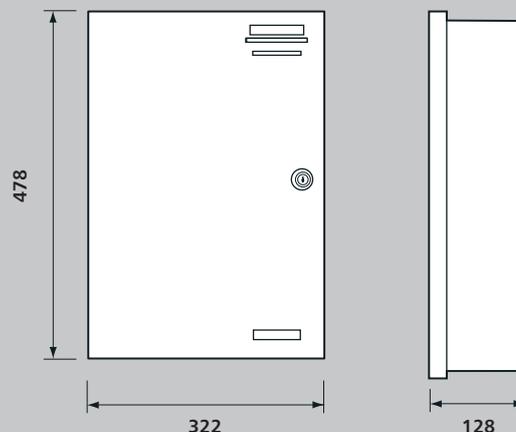
## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# MAINS POWERED INTERFACE

### TECHNICAL SPECIFICATION

Maximum Number per loop	100 units per loop (only 8 with fully sectored outputs)
Overall dimensions	478mm x 322mm x 128mm
Assembled weight (approximate)	7Kg (excluding batteries and optional components fitted)
Enclosure	Steel
Colour	RAL7024 Graphite Grey (fine textured)
Storage temperature	20°C to 70°C
Ambient operating temperature	10°C to 45°C
Relative Humidity (Non condensing)	Up to 95% Temperature 5°C to 45°C
Ingress Protection (estimated)	IP31
Operating voltage	230V +10% -6% 50Hz
Rated current	0.7A
Input modes	Input can be fault monitored, voltage free contacts OR conventional detection
Zone circuit	Refer to the commissioning information for more details
Quiescent current	20mA per zone (default) Zone short circuit current limited to < 30mA EN54 compliance limitation: 32 devices OR Maximum of 20 diode bases per zone
Output modes	Outputs are monitored 24V (nominal) 0.5A OR LED drive. Refer to the commissioning information for more details
Confirmation modes	It is possible to configure all Inputs and Outputs as confirmation channels Sector and Auxiliary Outputs - Sector and Auxiliary Outputs 0.5A max each @ 24V +/-3V
Maximum total output current	1.5A
Auxiliary power output	24V +/- 3V
Batteries	2 x 12V 2.1Ahr (1Kg each) for 78302-02NM
Minimum Software Requirement	MCC 4.43, LPC 4.41, Commissioning Tool 1.27
Standards	Designed to meet EN54:part 4, EN54:part 17 and EN54:part 18
Approvals	LPCB Pending Approval

### DIMENSIONS (mm)





## ANALOGUE ADDRESSABLE FIRE SYSTEMS

# INTRINSICALLY SAFE RANGE



To support the introduction of the new Mains Powered Interface, SMS now offers a range of Intrinsically Safe sensors and sounders which provide a cost effective solution for installations specifically in hazardous areas.

Applications such as Nuclear Power, pharmaceutical and chemical industries are particularly suitable for the solution. Flammable gases, mist and vapours from flammable liquids as well as clouds of flammable dusts can form a dangerous explosive atmosphere, resources such as electrical and mechanical devices can represent a very huge risk to the fire industry. Areas that can be ignited by spot combustable surroundings ie grain and yeast stores, clean and boiler rooms are also ideal applications for this solution.

### ORDER CODES

Galvanic Isolator (1 - Channel) for use in Mains Powered Interface	17740-30
Alarm Driver (Max of 4 Sounders Per Driver)	02518-10
Intrinsically Safe Heat Detector (Rate of Rise)	803271.EX
Intrinsically Safe Optical Smoke Detector	803371.EX
MCP IP66 Explosion Proof C/O Surface Mounted	04106-01
Type IS28 Banshee Sounder L.F/V.C 24V dc 10mA	02518-92



# ANALOGUE ADDRESSABLE FIRE SYSTEMS

## INTRINSICALLY SAFE RANGE

### GENERAL SPECIFICATION

Operating voltage	8 V DC to 42 V DC
Type of sensor	Rate of Rise Heat Detector and Optical Smoke Detector (see table below for specifications)
Monitored area	max. 30 m <sup>2</sup> max. 110 m <sup>2</sup>
Mounting height	max. 7.5 m max. 12 m
Alarm indicator	red LED, flashing
Air velocity range	0 to 5.000 ft/min.
Temperature, storage	-25°C to +75°C
Ambient humidity	95% relative, (non-condensing)
IP rating	IP 43 (with base + optional base gasket)
Housing	ABS
Colour	white (similar to RAL 9010)
Weight	approx. 110 g
Dimensions (with base)	Ø 117 mm, H = 62 mm

### GENERAL SPECIFICATION - DETECTORS

#### Rate-of-rise heat detector

Quiescent current @ 19 V DC	40 µA
Ambient temperature	-20°C to +50°C
Specification	EN 54-5A1R : 2000 / A1 : 2002
VdS approval	G 204059
CE certificate	0786 - CPD - 20103

#### Optical smoke detector

Quiescent current @ 19 V DC	50 µA
Ambient temperature	-20°C to +70°C
Specification	EN 54-7 : 2006
VdS approval	G 204060
CE certificate	0786 - CPD - 20104

### TECHNICAL SPECIFICATION

#### General detector data according to ATEX

Max. Input voltage (Ui)	21 V DC
Max. Input current (Ii)	252 mA
Max. Output current (Io)	10 mA
Max. internal Capacity (Ci)	1 nF
Ambient temperature (Ta)	20°C to + 70°C
Examination Certificate No.	TÜV 09 ATEX 554910
Category	II 2G (with safety barrier Part No. 764744) (Part number 17740-30)
Ex-protection	Ex ib IIC T4

