

Sigma A-XT

Extinguishant Control Panel



Features

- UL864 and FM listed
- Three initiation circuits as standard
- Any single zone or any combinations of zones can be configured to release
- Configurable first stage NAC delays
- Configurable detection delays
- Zero time delay upon manual release option
- Compatible with I.S. barriers
- Non-latching zone input option to receive signals from other systems such as aspirating equipment
- Configurable releasing delays up to 60 seconds in 5 second steps
- Configurable releasing duration up to 5 minutes in 5 second steps
- Countdown timer shows time remaining until release
- Supports up to seven, four wire status indicators
- Built in Extract Fan control

Programmable Functions

Access Level 2

- Test Zones 1 to 3
- Disable Zones 1 to 3
- Disable 1st Stage Alarms
- Disable Pre-activated 1st Stage Relay
- Disable Pre-activated 2nd Stage Relay
- Disable Extract Fan Output
- Disable Manual Release Input
- Disable Releasing Sub System
- Activate Extract Fan Output
- Activate Alarm Delays

Access Level 3

- Sounder Delay
- Coincidence Detection
- Disable Panel Features
- Zone Alarm Delays (Detectors)
- Zone Alarm Delay (Call stations)
- Configure Zone for I.S. Barrier Use
- Zone Short Circuit Alarm
- Zone Non Latching
- Zone Inputs Delay
- Extinguishant Release Time Delay
- Extinguishant Release Duration Timer
- Extinguishant Reset Delay Timer

NOT
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Product Overview

- Designed and manufactured to the highest standards in a quality controlled environment and with UL and FM approvals, the Sigma A-XT releasing panel offers outstanding value and performance for all small to medium fixed firefighting installations.
- With three initiation circuits as standard, release can be configured to activate from any combination of detection zone inputs to allow (among other combinations) any two from three type activations such as would be required for detection in ceiling void, room and floor void applications.
- The extensive configuration options of the Sigma A-XT allow the functionality of the system to be extensively modified.
- The panel contains a large LED display to enable easy configuration and control which also displays the time remaining until release for added user safety.
- The countdown timer is duplicated on up to seven remote status units to provide local indication of the system status.
- With all of the electronics mounted on a single, easily removable, steel plate Sigma A-XT panels are both robust and easy to install.
- Sigma A-XT is supplied in an enclosure that matches the design and colour of the Elite RS range and is available in standard red or optional grey.

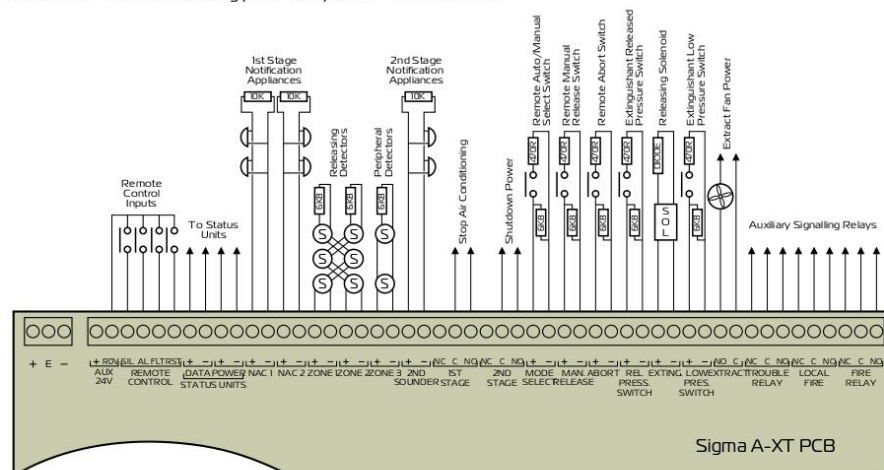


Technical

Construction	- 1.2mm mild sheet steel
IP Rating	- IP30
Finish	- Epoxy powder coated
Colour - lid & box	- Red RAL 3002 (optional grey BS 00 A 05 semi-matt)
Mains supply	- 230V AC or 115V AC
Mains supply fuse	- 1.6 Amp (F1.6A L250V)
Power supply rating	- 3 Amps total including battery charge 28V +/- 2V
Maximum ripple current	- 200 millivolts
Battery type (Yuasa NP)	- Two 12 Volt 7Ah sealed lead acid in series
Battery charge voltage	- 27.6V/DC nominal (temperature compensated)
Battery charge current	- 0.7A maximum
Battery fuse	- 20mm, 3.15A glass
Maximum current draw from batteries	- 3 Amps
Quiescent current of panel in mains fail	- 0.095A
R0V output	- Fused at 500mA with electronic fuse
Sounder outputs	- 24V Fused at 500mA with electronic fuse
Fault relay contact rating	- 30VDC 1A Amp maximum
Fire relay contact rating	- 30VDC 1A Amp maximum
Local fire relay contact rating	- 30VDC 1A Amp maximum
First stage contact rating	- 30VDC 1A Amp maximum
Second stage contact rating	- 30VDC 1A Amp maximum
Extract contact rating	- 30VDC 1A Amp maximum
Zone quiescent current	- 2mA maximum
Terminal capacity	- 12 AWG
Number of detectors per zone	- Dependent on type (maximum 32)
NAC rating	- 0.5A per circuit
Detection circuit end of line	- 6K8 5% ½ Watt resistor
Monitored input end of line	- 6K8 5% ½ Watt resistor
Sounder circuit end of line	- 10K 5% ¼ Watt resistor
Extinguishant output EOL	- 1N4004 Diode
No. of initiating circuits	- 3
No. of NAC circuits	- 2 x 1st Stage, 1 x 2nd Stage
Extinguishant release output	- Fused at 1 Amp
Extinguishant release delay	- Adjustable 0 to 60 seconds (in 5 second steps)
Extinguishant release duration	- Adjustable 60 to 300 seconds (in 5 second steps)
SIL, AL, FLT, RST inputs	- Switched -ve, max resistance 100 Ohms
Zone normal threshold	- 8K ohms to 1K ohm
Detector alarm threshold	- 999 ohms to 400 ohms
Call point alarm threshold	- 399 ohms to 100 ohms
Short circuit threshold	- 99 ohms to 0 ohms
Monitored inputs normal threshold	- 8K ohms to 1K ohm
Monitored inputs alarm threshold	- 999 ohms to 100 ohms
Monitored inputs Short circuit threshold	- 99 ohms to 0 ohms
Status unit/Ancillary board connection	- Two wire RS485 connection
Status unit power output	- Fused at 500mA with electronic fuse

Panels

Product Code	Description	Size (mm)
K1810-12	Surface mounting panel - Red 115V	368 x 310 x 90
K1810-44	Surface mounting panel - Grey 115V	368 x 310 x 90
K1810-13	Surface mounting panel - Red 230V	368 x 310 x 90
K1810-43	Surface mounting panel - Grey 230V	368 x 310 x 90



Series 65A

Heat Detector



Product overview

Part No	Detector type
55000-140USA ¹	Heat Detector - 135°F
55000-139APO ²	Heat Detector - 135°F with flashing LED
55000-138APO ³	Heat Detector - 135°F with flashing LED and magnetic test
55000-143APO ⁴	Heat Detector - 170°F
55000-142USA ²	Heat Detector - 170°F with flashing LED
55000-141APO ³	Heat Detector - 170°F with flashing LED and magnetic test
55000-146APO ²	Heat Detector - 200°F
55000-145APO ²	Heat Detector - 200°F with flashing LED
55000-144APO ³	Heat Detector - 200°F with flashing LED and magnetic test

Compliance



Product information

The Series 65A Heat Detector monitors temperature by using a dual thermistor network providing a voltage output proportional to the external air temperature. The nine detectors in the Series 65A range are designed to suit a wide variety of operating conditions.

- Ideal in environments that are dirty or smoky under normal conditions
- Wide operating voltage
- Flashing LED option
- Flashing LED and magnetic test switch option

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24V, 73°F and 50% RH unless otherwise stated.

Detection principle	Two matched NTC thermistors
Sampling frequency	Continuous
Supply voltage	9 - 33 V dc
Supervisory current (dependent on model)	40 µA to 50 µA at 9 V 45 µA to 55 µA at 24 V
Surge current	0 mA
Alarm current	17 mA at 9 V, 52 mA at 24 V
Installation temperature	Min 32 °F, Max at least 20 °F below rating
Humidity	0% to 95% RH (no condensation or icing)
Standards and approvals	UL, FM, CSFM
Dimensions	3.93 in. dia. x 1.65 in. height
Weight	2.80 oz
Materials	Housing: White flame-retardant polycarbonate Terminals: Nickel plated stainless steel
Test method	Magnet or hair dryer
Spacing	Smooth ceiling 50 ft to wall or partition 25 ft

Part Numbers and Approvals

1. CSFM only
2. UL, FM and CSFM only
3. UL and CSFM only
4. UL, FM, CSFM

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Function

The Series 65A Heat Detector works by monitoring heat using a dual thermistor network which provides a voltage output proportional to the external air temperature.

Operation

The Heat Detector has a common profile with the Series 65A ionization and photoelectric detectors but has a low air flow resistance case made of white self-extinguishing polycarbonate.

A pair of matched negative temperature co-efficient (NTC) thermistors are mounted on the internal PCB in such a way that one thermistor is exposed to give good heat contact with the surrounding air while the other thermistor is heat insulated.

Under normal conditions both thermistors are in heat equilibrium and have the same value of resistance. If air temperature increases rapidly the resistance of the exposed thermistor becomes less than that of the insulated thermistor. The ratio of the resistance of the thermistors is monitored electronically and an alarm is initiated if the ratio exceeds the factory pre-set level. This determines the 'rate-of-rise' response of the detector.

Environmental characteristics

The Series 65A Heat Detector is unaffected by wind or atmospheric pressure and operates over the temperature range -4°F to +140°F.

Electrical description

The Series 65A Heat Detector is designed to be connected to a two wire loop circuit carrying both data and a 9 V to 33 V dc supply. The detector is connected to the incoming and outgoing supply via terminals L1 and L2 in the mounting base. A remote LED indicator requiring not more than 4 mA at 5 V may be connected between the +L1 IN and -R terminals. An earth connection terminal is also provided.

Response characteristics of Series 65A Heat Detectors

Type of fire	Heat Detector
OverHeating/Heat combustion	Very poor
Smouldering/glowing combustion	Very poor
Flaming combustion	Poor
Flaming with high Heat output	Moderate/Good
Flaming - clean burning	Moderate/Good

Compatible bases for the Series 65A Heat Detector

Part No.	Description
45681-200	Series 65A mounting base
45681-220	4" Series 65A standard mounting base
45681-232	6" Low profile base
45681-251	6" E-Z fit base
45681-255	4" Standard relay base
45681-256	4" Auxiliary relay base
45681-257	4" 12 V End-of-Line relay base
45681-258	4" 24 V End-of-Line relay base

Series 65A

Photoelectric Smoke Detector



Product overview

Product	Photoelectric Smoke Detector
Part No.	55000-327
Part No.	Photoelectric Smoke Detector with flashing LED
Part No.	55000-326
Product	Photoelectric Smoke Detector with flashing LED and magnetic test
Part No.	55000-325
Product	Photoelectric Smoke Detector - high sensitivity
Part No.	55000-328

Compliance



Product information

The Series 65A Photoelectric Smoke Detector works on the light scatter principle and is ideal for applications where slow burning or smouldering fires are likely.

- Responds well to slow burning, smouldering fires
- Well suited to bedrooms and escape routes
- Unaffected by wind or atmospheric pressure
- Wide operating voltage
- High-sensitivity option
- Flashing LED option
- Flashing LED, and magnetic test option

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24V, 73°F and 50% RH unless otherwise stated.

Sensitivity	3.0 + 1.0 - 1.98 %/ft
Working voltage	9 V to 33 V dc
Supervisory current	40 - 50 µA at 9 V 45 - 55 µA at 24 V
Surge current	0 mA
Alarm current	17 mA at 9 V 52 mA at 24 V
Operating temperature range	32 °F to 140 °F
Air velocity	0 - 300 fpm
Standards and approvals	UL, ULC, CSFM, FM, MSFM
Dimensions	3.93" diameter x 1.65" height
Weight	3.50 oz
Materials	Housing: White flame-retardant polycarbonate Terminals: Nickel plated stainless steel
Test	Magnet or Gemini 501

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Function

The Series 65A Photoelectric Smoke Detector works on the light scatter principle and is ideal for applications where slow burning or smouldering fires are likely.

Operation

The Series 65A Photoelectric Smoke Detector uses the same outer case as the ionization smoke detector and is distinguished by the indicator LED which is clear in standby and red in alarm. Within the case is a printed circuit board which on one side has the light proof labyrinth chamber with integral gauze surrounding the optical measuring system and on the other the address capture, signal processing and communications electronics.

An infrared light emitting diode within its collimator is arranged at an obtuse angle to the photo-diode. The photo-diode has an integral daylight blocking filter.

The infrared LED emits a burst of collimated light every three seconds. In clear air the photo-diode receives no light directly from the infrared LED because of the angular arrangement and the dual mask. When smoke enters the chamber a fraction of the collimated light is scattered onto the photo-diode. If the resulting signal from the photo-diode is above a pre-set threshold the LED emits two more bursts of light, this time at two-second intervals. If light is scattered onto the photo-diode by both these pulses- due to the presence of smoke - the detector signals an alarm state by switching the alarm latch on, increasing the current drawn from the supply from about 40 μ A to a maximum of 52 mA. This fall in the impedance of the detector is recognised by the control panel as an alarm signal. The alarm current also illuminates the detector integral LED.

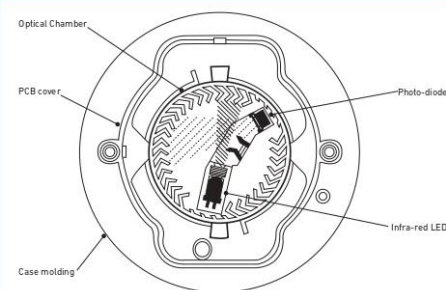
Environmental characteristics

The Series 65A Photoelectric Smoke Detector is unaffected by wind or atmospheric pressure and operates over the temperature range 32°F to 140°F.

Electrical description

The Series 65A Photoelectric Smoke Detector is designed to be connected to a two wire loop circuit carrying both data and a 9V to 33V dc supply. The detector is connected to the incoming and outgoing supply via terminals L1 and L2 in the mounting base. A remote LED indicator requiring not more than 4 mA at 5 V may be connected between the +L1IN and -R terminals. An earth connection terminal is also provided.

Series 65A Photoelectric Smoke Detector top section



Response characteristics of Series 65A Photoelectric Smoke Detector

Type of fire	Optical Smoke Detector
Overheating/thermal combustion	Very Good
Smouldering/glowing combustion	Moderate/Good
Flaming combustion	Very Good
Flaming with high heat output	Very Good
Flaming - clean burning	Poor

Compatible bases for the Series 65A Photoelectric Smoke Detector

Part No.	Description
45681-200	Series 65A mounting base
45681-220	4" Series 65A standard mounting base
45681-232	6" Low profile base
45681-251	6" E-Z fit base
45681-255	4" Standard relay base
45681-256	4" Auxiliary relay base
45681-257	4" 12 V End-of-Line relay base
45681-258	4" 24 V End-of-Line relay base

Sigma A-Si & Abort Switch

Extinguishant Status Indicators



Sigma A-Si Features

- ☐ UL864 and FM listed
- ☐ High brightness LEDs
- ☐ Detailed indication of the status of the control panel
- ☐ Supervised data connection
- ☐ Countdown timer shows time remaining until release
- ☐ Manual only and Automatic & Manual mode select keyswitch option
- ☐ Four wire connection (data and power)
- ☐ Protected dual action manual release switch option
- ☐ Option for zonal fire and trouble indication with buzzer
- ☐ Robust, high quality enclosure
- ☐ Easy access to terminals
- ☐ Remote Auto/Manual door interlock input (supervised)
- ☐ Remote Abort input (supervised)
- ☐ Internal trouble diagnosis indicators

Disablement Switch Features

- ☐ Key removable in either position
- ☐ Both sides of solenoid circuit are mechanically disabled during activation
- ☐ Disablement illuminated at panel when active

Sigma A-Si Product Overview

- ☐ The Sigma A-Si range of status indicators provide detailed status information for Sigma A-XT releasing control equipment.
- ☐ All models provide high brightness, LED indication of Manual Only, Automatic and Manual, Abort operated, Disabled, Imminent and Released conditions. Models are also available with zonal fire indicators and a common trouble indicator.
- ☐ For systems where local control of the Automatic/Manual mode and or a Manual extinguishant release control are required, units are available with these controls fitted.
- ☐ All models have supervised inputs for the remote connection of Automatic/ Manual mode and abort switches.
- ☐ All units contain a large, LED display which shows a countdown of the time remaining until release in seconds.

Abort Switch Product Overview

- ☐ The Sigma A-XT Abort switch connects to the Abort terminals of the Sigma A-XT releasing panel. Any number of Sigma A-XT Abort switches may be connected to the circuit.
- ☐ The last switch must have the end of line device from the Abort circuit terminals of the Sigma A-XT releasing panel fitted across its connections to provide open and short circuit supervision.
- ☐ The unit is supplied mounted to a rugged steel enclosure but may also be flush mounted to a single gang electrical box.



Part No. K1832-10



Model No. K1823-10



Model No. K1821-19



Model No. K1821-11



Model No. K1821-15



Model No. K1821-13



Model No. K1821-17

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Manual Only	☐
Auto/Manual	☐
Abort Activated	☐
Disabled	☐
Imminent	☐
Released	☐
Fire Zone 1	☐
Fire Zone 2	☐
Fire Zone 3	☐
Trouble	☐

Equipment

Product Code	Description	Size (mm)
K1821-11	6 lamp status unit surface mount - red	186 x 132 x 50
K1821-41	6 lamp status unit surface mount - grey	186 x 132 x 50
K1821-12	6 lamp status unit flush mount - red	186 x 132 x 55
K1821-42	6 lamp status unit flush mount - grey	186 x 132 x 55
K1821-13	6 lamp status unit with mode select keyswitch surface mount - red	186 x 132 x 50
K1821-43	6 lamp status unit with mode select keyswitch surface mount - grey	186 x 132 x 50
K1821-14	6 lamp status unit with mode select keyswitch flush mount - red	186 x 132 x 55
K1821-44	6 lamp status unit with mode select keyswitch flush mount - grey	186 x 132 x 55
K1821-15*	6 lamp status unit with manual release surface mount - red	186 x 132 x 50
K1821-45*	6 lamp status unit with manual release surface mount - grey	186 x 132 x 50
K1821-16*	6 lamp status unit with manual release flush mount - red	186 x 132 x 55
K1821-46*	6 lamp status unit with manual release flush mount - grey	186 x 132 x 55
K1821-17*	6 lamp status unit with mode select keyswitch & manual release surface mount - red	186 x 132 x 50
K1821-47*	6 lamp status unit with mode select keyswitch & manual release surface mount - grey	186 x 132 x 50
K1821-18*	6 lamp status unit with mode select keyswitch & manual release flush mount - red	186 x 132 x 55
K1821-48*	6 lamp status unit with mode select keyswitch & manual release flush mount - grey	186 x 132 x 55
K1821-19*	10 lamp status unit with mode select keyswitch & manual release surface mount - red	186 x 132 x 50
K1821-49*	10 lamp status unit with mode select keyswitch & manual release surface mount - grey	186 x 132 x 50
K1821-20*	10 lamp status unit with mode select keyswitch & manual release flush mount - red	186 x 132 x 55
K1821-50*	10 lamp status unit with mode select keyswitch & manual release flush mount - grey	186 x 132 x 55
K1823-10	Elite Extinguishing Abort switch surface mount - red	98 x 98 x 59
K1823-40	Elite Extinguishing Abort switch surface mount - grey	98 x 98 x 59
K1832-10	Elite Disablement switch surface mount - red	98 x 98 x 59
K1832-40	Elite Disablement switch surface mount - grey	98 x 98 x 59

* Not UL/FM Listed

Sigma A-Si Technical

Construction	- 1.2mm mild sheet steel
IP Rating	- IP30
Colour - lid & box	- Red (optional grey)
Power supply	- 21 to 30 V DC
Maximum current draw	- 0.07A
Max. number of status units	- 7
Quiescent current	- 0.033A
Cable capacity	- 2.5mm ² per terminal
Monitored inputs end of line resistor	- 6K8 0.5W Resistor
Monitored inputs normal threshold	- 8K ohm to 1K ohm
Monitored inputs trigger threshold	- 700 ohms to 100 ohms
Monitored inputs	- 99 ohms to 0 ohms
Short circuit threshold	
Data connection	- Two wire RS485 connection (max 1200 metres)

Abort Switch Technical

Construction	- 1.2mm mild sheet steel
IP Rating	- IP30
Colour	- Red (optional grey)
Switch rating	- 1A at 30V DC
Trigger resist	- 470R 1W
End of line resistor	- 6K8 1/2 W



Conventional Manual Call Point

FUNCTION

The Conventional Manual Call Point has been designed to operate on conventional fire detection systems.

The Manual Call Point is available in two versions, indoor and outdoor in either red or yellow.

FEATURES

The Manual Call Point has an easily resettable element rather than a break glass. The call point is supplied with a backbox for surface mounting.

It also features a unique 'Plug and Play' installation concept designed specifically to reduce installation time. The call point utilises a terminal block, where all installation cabling is terminated.

The red Manual Call Point is approved to EN54-11 standard.

MECHANICAL CONSTRUCTION

The component parts of the call point are moulded in polycarbonate or ABS, depending on their function.

DIMENSIONS AND WEIGHT

Indoor	93mm x 89mm x 59.5mm	180g
Outdoor	93mm x 97.5mm x 71mm	350g

OPERATING PRINCIPLES

The Manual Call Point consists of a 470Ω resistor in series with a normally open switch contact.



Part numbers: 55100-001 (Indoor - Red)
55100-002 (Indoor - Yellow)
55100-003 (Outdoor - Red)
55100-004 (Outdoor - Yellow)

The Manual Call Point helps reduce installation time as all the initial installation cabling is wired to a terminal block which connects neatly to the call point.

Once activated, the manual call point can be reset by inserting the test key into the bottom of the unit until the key clicks into position. Remove the test key and push the front cover up until it clicks home.

EMC DIRECTIVE 2004/108/EC

The Manual Call Point complies with the essential requirements of the EMC Directive 2004/108/EC, provided that it is used as described in this PIN sheet.



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A copy of the Declaration of Conformity is available from Apollo on request.

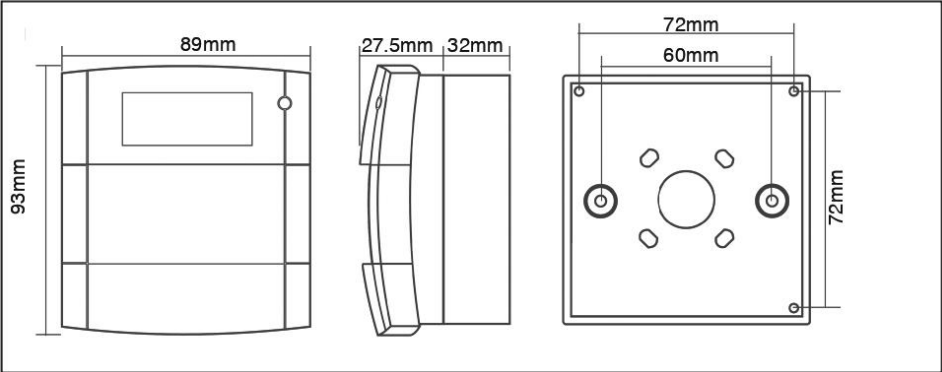
Conformity of the Manual Call Point with the EMC Directive does not confer compliance with the directive on any apparatus or systems connected to it.

TECHNICAL DATA

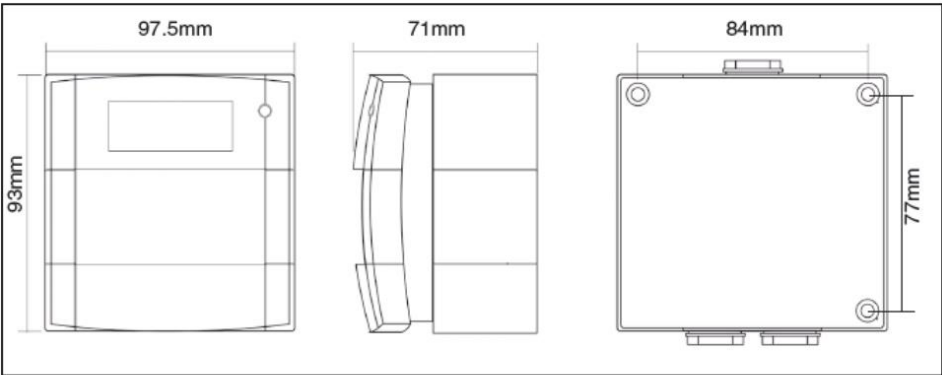
Maximum Supply voltage	30VDC
Switch Rating	2A
Operating temperature	
Indoor	-10°C to +55°C
Outdoor	-25°C to +70°C
Humidity (no condensation)	0-93 ±3%(Ind/Out)
IP rating	
Indoor	24D
Outdoor	67
Complies with EMC Directive 2004/108/EC	
Red version complies with EN54-11:2001	

DIMENSIONAL DRAWING

INDOOR



OUTDOOR



AH-03127



AH-03127-S



AH-03127-BS

Electronic Sounder and Beacon

Electronic Sounder and Beacon

General

This electronic sounder is designed for use with fire alarm systems, security systems and industrial signaling systems. Combined sounder and beacon provides an audio-visual warning which is suitable for places where high sound output and visual indication is required.

Characteristics

- 32 signal tones selectable by Dip switch.
- High sound output with low current consumption.
- High efficiency lens for maximum light output.
- Volume Control as standard.
- Two sets of IN and OUT terminals, easy for installation.

Approvals: EN54



Specifications

Model	AH-03127-S	AH-03127-BS
Voltage	24V DC	
Current Consumption 24V DC (tone 3)	14.5mA	
Sound Output 24V DC dB (A) at 1 meter	Max, 114	
Volume Control	0 to -20dB adjustment	
Ingress Protection	IP44	
Ambient Temperature	-25°C ~ +80°C	
Material	ABS plastic	
Dimensions	92.5mm(Dia.) x 94mm(H)	92.5mm(Dia.) x 110mm(H)
Weight	254g	278g

Order information

AH-03127-S	Electronic Sounder
AH-03127-BS	Electronic Sounder and Beacon