DS78AP.04.2014

Sigma A-CP | Conventional Control Panel

Features

- UL864 approved
- Two, four or eight initiating circuits
  Initiating circuits individually configurable as
- Fire, Water flow or Supervisory
  Two 2A notification appliance circuits
  Selectable NAC sync protocols
- Two 2.0A notification appliance circuits
  6.5A power supply
- Alarm verification selectable by zone
  Resettable Aux power output rated at 0.3A
- Aux power configurable to power off on
  Fire condition
- Fire, Trouble and Supervisory relays
  Single person walk test function
- Optional DACT
  Many advanced configuration options
- 72 hour standby with 7Ah batteries
  Compact enclosure
- Fire Drill capability

Product Overview

- The Sigma A-CP range ofconventional fire control panels with optional built in communicator are available with 2, 4 or 8 initiating circuits which may be extensively configured via a simple front panel operated programming method.
- The low standby power requirements and cost effective small batteries allow the panel to be mounted in a small discrete enclosure which is available in standard red or optionally in an attractive grey colour.
- A simple programming method using just 3 front panel buttons allows an extensive list of configuration options to be set and reviewed.
- Single board construction which allows easy removal of all electronic parts by removing just 2 screws and ample provision of cable entry knockouts simplify installation.
- 4 Amp notification appliance power and built in selectable sync protocols provide ample power and control for a wide range of standard notification appliances.
- The built in RS485 communications bus provides the facility to connect 4 wire annunciators or ancillary relay boards to provide further indication and control options throughout a premises.
- The optional DACT allows dual line reporting to central stations and provides a 500 event history buffer.

NOT SUITABLE FOR EU MARKETS

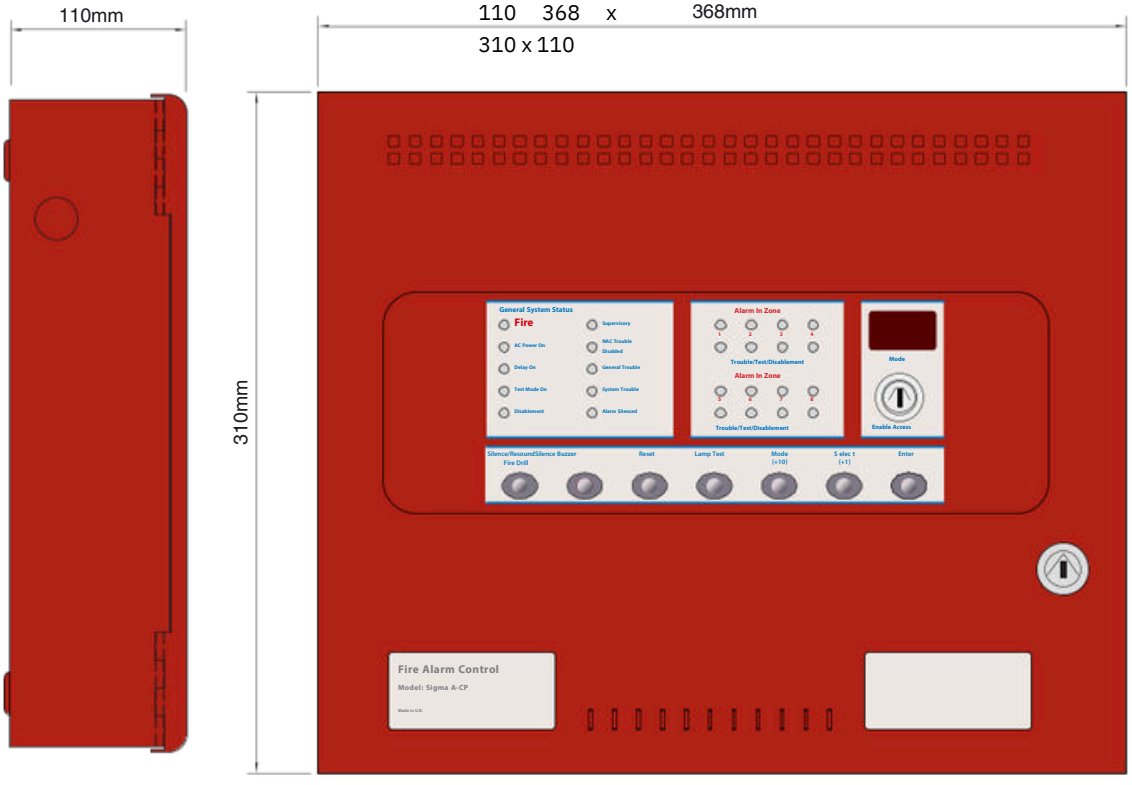
Model No. K1848-11

Technical

Construction		
IP Rating	-	1.2mm mild sheet steel IP30 Epoxy powder coated
F inish	-	Red RAL 3002 (optional grey BS 00 A 05 semi-matt)
Colour - lid & box	-	115V AC or 230V AC 3 Amp 250V 20mm SB 24V 6.5
Supply Voltage	-	Amps 12Ah 12V (2 per panel) 30V DC 1 Amp 30V DC 1
Mains Supply fuse	-	Amp 30V DC 1 Amp 2A per circuit 4A Total 1.6
Power supply DC rating	-	milliamps 6k8 5% 10k 5% 12 AWG -5°C to 50°C
Maximum battery size	-	<95% (non condensing)
Trouble contact rating	-	
Supervisory contact rating	-	
Fire contact rating	-	
NAC rating	-	
Detection zone current	-	
Detection zone EOL resistor	-	
NAC EOL resistor	-	
Cable capacity	-	
Operating temperature	-	
Operating humidity	-	
	-	

Panels

Product Code	Zones	Dialer	Colour	Size (mm)
K1842-11	2	No	Red	368 x 310 x
K1842-41	2	No	Grey	110 368 x
K1852-11	2	Yes	Red	310 x 110
K1852-41	2	Yes	Grey	368 x 310 x
K1 84 4-11	4	No	Red	110 368 x
K1 84 4-41	4	No	Grey	310 x 110
K1854-11	4	Yes	Red	368 x 310 x
K1854-41	4	Yes	Grey	110 368 x
K1848-11	8	No	Red	310 x 110
K1848-41	8	No	Grey	368 x 310 x
K1858-11	8	Yes	Red	110 368 x
K1858-41	8	Yes	Grey	310 x 110
				368 x 310 x
				110 368 x
				310 x 110
				368 x 310 x
				110 368 x
				310 x 110



UL/ FM Approved Panels

Series 65

OpticalSmoke Detector

Product overview

Product	Optical Smoke Detector
Part No.	55000-317
Product	Optical Smoke Detector with flashing LED
Part No.	55000-316
Product	Optical Smoke Detector with magnetic test switch and flashing LED
Part No.	55000-315

Product information

The Series 65 Optical Smoke Detector uses the scattered light principle to 'see' smoke entering the chamber located within the detector housing.

- 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 on selected detectors

Manufacturer's Specification

All data is supplied subject to change without notice. Specifications are typical at 24 V, 23°C and 50% RH unless otherwise stated.

Detection principle	*Photo-electric detection of light scattered in a forward direction by smoke particles*
Chamber configuration	*Horizontal optical bench housing an infrared emitter and sensor arranged radially to detect scattered light*
Sensor	*Silicon PIN photo-diode*
Emitter	*GaAs infra-red light emitting diode*
Sampling frequency	*Once every three seconds*
Confirmation frequency	*Once every two seconds*
Supply Wiring	*Two wire supply, polarity insensitive*
Terminal functions	*L1 IN and L2 — Supply in connections* *L1 OUT and L2 — Supply out connections* *–R — Remote indicator negative connection*
Supply voltage	*9 V to 33 V dc*
Ripple voltage	*2 V peak to peak maximum at 0.1 Hz to 100 kHz 30 - 50 µA at 24 V 115 µA at*
Quiescent current	*24 V 6 V to 28 V 61 mA at 28 V*
Power-up surge current	*52 mA at 24 V*
Alarm voltage	*18 mA at 10 V Clear light emitting diode*
Normal alarm current	*(LED) emitting red light*
	4 mA
Alarm indicator	*Remote is a current sink to the negative line limited to 17 mA Nominal*
Alarm LED current	*alarm threshold of 0.15 dB/m obscuration, measured in accordance with EN 54-7 -20°C to + 60°C 0% to*
Remote output characteristics	*95% RH (no condensation or icing)*
Sensitivity	*Unaffected*
	Unaffected
Operating temperature	*EN 54-7*
Humidity	*100 mm diameter x 42 mm height*
	99 g
Effect of atmospheric pressure	*Housing: White flame-retardant polycarbonate*
Effect of wind speed	*Terminals: Nickel plated stainless steel*
Vibration, impact and shock	
Dimensions	
Weight	
Materials	

36 Brookside Road, Havant
Hampshire, PO9 1JR, UK.
Tel: +44 (0)23 9249 2412
Fax: +44 (0)23 9249 2754
Email: enquiries@apollo-fire.com
Web: www.apollo-fire.co.uk

Operating principles

The Series 65 Optical Smoke Detector has a moulded self-extinguishing white polycarbonate case with wind resistant smoke inlets. Inside the case a printed circuit board has the optical system mounted on one side and the signal processing electronics on the other. The sensing chamber is a moulding configured as a labyrinth which prevents penetration of ambient light. The labyrinth has a fine gauze insect-resistant cover. The chamber houses an infrared light emitting diode (LED) and a photo-diode which has an integral visible-light filter as an extra precaution against ambient light.

Every three seconds the LED emits a burst of collimated light, modulated at 4 kHz. In clear air light from the LED does not fall directly on the diode because the LED is positioned at an obtuse angle to the diode.

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 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 µA to a maximum of 75 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 detectors integral LED.

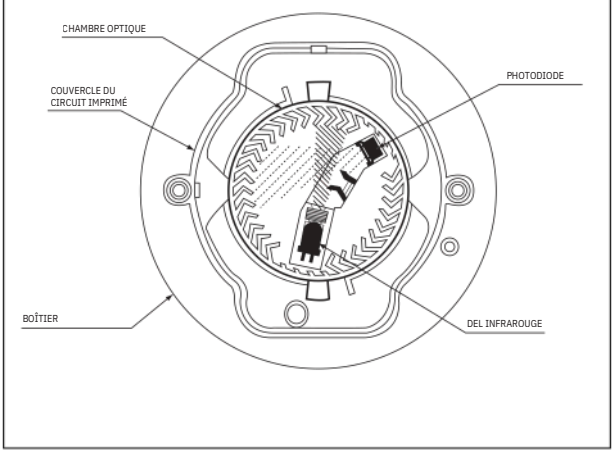
A remote indicator connected between the L1 IN terminal and the -R terminal will have a voltage equal to the supply voltage less one volt across it and so will illuminate.

To ensure correct operation of the detector the control panel must be arranged to supply a maximum of 33 V dc and a minimum of 9 V dc in normal operation. The supply may fall to 6 V dc in alarm conditions if a supply current of at least 10 mA is available at this voltage. To ensure effective illumination of the integral LED and any remote indicator the supply to the detector should exceed 12 V. To restore the detector to quiescent condition it is necessary to expel any smoke and interrupt the electrical supply to the detector for a minimum of one second.

Environmental characteristics

The Optical Smoke Detector is unaffected by wind or atmospheric pressure and operates over the temperature range -20°C to +60°C.

Series 65 Optical Smoke Detector diagram



Response characteristics of Series 65 Optical Smoke Detector

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

EMC Directive 2014/30/EU

The Series 65 Optical Smoke Detector complies with the essential requirements of the EMC Directive 2014/30/EU, provided that it is used as described in this datasheet.

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

Conformity of the Series 65 Optical Smoke detector with the EMC Directive does not confer compliance with the directive on any apparatus or systems connected to it.

Construction Products Regulation (EU) 305/2011

The Series 65 Optical Smoke Detector complies with the essential requirements of the Construction Products Regulation (EU) 305/2011.

A copy of the Declaration of Performance is available from Apollo upon request.

Series 65
Heat Detector

Product overview

Product	Heat Detector A1R standard
Part No.	55000-122
Product	Heat Detector A1R with flashing LED
Part No.	55000-121
Product	Heat Detector BR standard
Part No.	55000-127
Product	Heat Detector BR with flashing LED
Part No.	55000-126
Product	Heat Detector CR standard
Part No.	55000-132
Product	Heat Detector CR with flashing LED
Part No.	55000-131
Product	Heat Detector CS standard
Part No.	55000-137
Product	Heat Detector CS with flashing LED
Part No.	55000-136

Compliance*

Note:* *Not all detectors have all approvals. Refer to the product pages at www.apollo-fire.co.uk*

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24V, 25°C and 50% RH unless otherwise stated.

Supply Wiring	*Two wire monitored supply, polarity insensitive*
Terminal functions	*L1 IN and L2* — *Supply in connections* *L1 OUT and L2* — *Supply out connections* *–R* — *Remote indicator negative connection*
Supply voltage	*9 V to 33 V*
Ripple voltage	*2 V peak to peak maximum at 0.1 Hz to 100 kHz*
Quiescent current	*See Table 1*
Power-up surge current	*as per Quiescent current*
Alarm voltage	*6 V to 28 V dc*
Alarm current	*See Table1*
Alarm indicator	*Red light emitting diode*
Design alarm load	*420 Ω in series with a 2 V drop*
Holding voltage	*6 V*
Holding current	*10 mA*
Minimum voltage required to light alarm indicator	*12 V*
Remote output characteristics	*Remote is a current sink to the negative line limited to 17 mA*
Storage temperature	*-30°C to +80°C*
Operating temperature	*A1R: -20°C to +50°C* *BR: -20°C to +65°C* *CS/CR: -20°C to +80°C*
Humidity (no condensation or icing)	*0% to 95% RH*
Effect of atmospheric pressure	*None*
Designed to IP Rating	*IP54*
Standards and approvals	*CPR, LPCB, VdS, VNIIPO, SBSC, FG, BOMBA*
Dimensions	*100mm diameter x 42 mm height*
Weight	*80 g*
Materials	*Housing: White flame retardant polycarbonate* *Terminals: Nickel platedstainlesssteel*

Product information

The Series 65 Heat Detectors monitor temperature by using either a dual thermistor network or a single thermistor network (CS versions) which provides a voltage output proportional to the external air temperature.

- Ideal for environments that are dirty or smoky under normal circumstances
- Can be used for applications where smoke detectors are unsuitable
- Wide operating voltage

36 Brookside Road, Havant
Hampshire, PO9 1JR, UK.
Tel: +44 (0)23 9249 2412
Fax: +44 (0)23 9249 2754
Email: enquiries@apollo-fire.com
Web: www.apollo-fire.co.uk

Operation

The Series 65 Heat Detector has a moulded self-extinguishing white polycarbonate case. Inside the case a printed circuit board (PCB) holds the signal processing electronics.

In the A1R, BR and CR variants a pair of matched negative temperature co-efficient (NTC) thermistors are mounted on the PCB in such a way that one thermistor is exposed to give good thermal contact with the surrounding air while the other thermistor is thermally insulated. Under stable conditions both thermistors are in thermal 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 a factory pre-set level. This feature determines the 'rate of rise' response of the detector.

CS variants use a single NTC thermistor network which as in dual versions provides a voltage output proportional to the external air temperature.

EMC Directive 2014/30/EU

The Series 65 Heat Detector complies with the essential requirements of the EMC Directive 2014/30/EU, provided that it is used as described in this data sheet.

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

Conformity of the Series 65 Heat Detector with the EMC Directive, does not confer compliance with the directive on any apparatus or systems connected to them.

Construction Products Regulation 305/2011/EU

The Series 65 Heat Detector complies with the essential requirements of the Construction Products Regulation 305/2011/EU.

A copy of the Declaration of Performance is available from Apollo upon request.

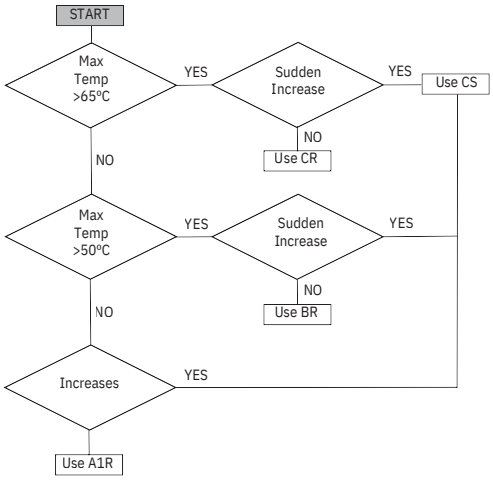
Table 1: Series 65 Heat Detector typical current against voltage characteristics for quiescent and alarm state

Supply voltage (V)	A1R Standard		A1R flashing LED		A1R flashing LED/magnetic test switch	
	Quiescent	Alarm	Quiescent	Alarm	Quiescent	Alarm
24	45 µA	52 mA	55 µA	52 mA	55 µA	52 mA
9	40 µA	17 mA	50 µA	17 mA	50 µA	17 mA

Series 65 Heat Detector temperatures and part numbers

Class	Max application temperature OC	Max static response temperature OC	Part Number	
			Standard	Flashing LED
A1R	50	65	55000-122	55000-121
BR	65	85	55000-127	55000-126
CR	80	100	55000-132	55000-131
CS	80	100	55000-137	55000-136

Choosing the correct heat detector



Conventional
Manual Call Point

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24 V, 25°C and 50% RH unless otherwise stated.

Supply Voltage	*18 V - 30 V dc*
Switch Contact Type	*Dry contact only*
Switch Contact Rating	*2 A*
Operating temperature	*-40 °C to +70 °C*
Humidity (no condensation or icing)	*0% to 95% RH*
IP Rating	*IP44*
Approvals and standards	*EN 54-11, CPR & TUV-Mark*
Dimensions	*90 mm height x 90 mm width x 63 mm depth*
Weight	*150 g*
Material	*Red flame-retardant polycarbonate*

Product overview

Product	Conventional Manual Call Point
Part No.	SC2900-001

Product information

The Conventional Manual Call Point has been designed to operate on a zone of conventional fire detection devices. An alarm is initiated by pressing the resettable element. An activation status is indicated through the rotation of the resettable element displaying yellow and black indication bars and an illuminated solid red LED. The manual call point can be easily reset from the front using the supplied reset key.

The Conventional Manual Call Point is supplied with both 470Ω resistor and normally open clean contact electrical options. LED illuminated red only when the manual call point is operated in 470Ω mode.

- Resettable operating element
- Easy access, front reset mechanism
- Ergonomic reset key
- EN 54-11 certified
- 170° viewable LED
- Suitable for flush or surface mounting
- Optional hinged cover

Electrical Consideration

The Conventional Manual Call Point has a contact rating of 30 V DC at 2A.

Mechanical Construction

The component parts of the Conventional Manual Call Point are moulded in a robust fire-retardant polycarbonate or ABS.

EMC Directive 2014/30/EU

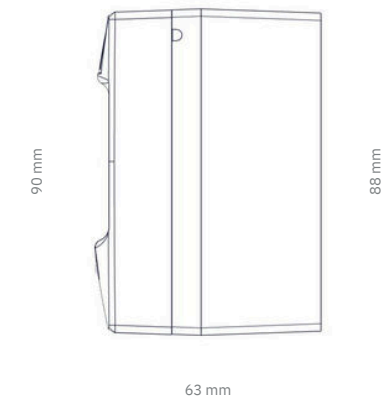
The Conventional Manual Call Point complies with the essential requirements of the EMC Directive 2014/30/EU, provided, that it is used as described in this datasheet.

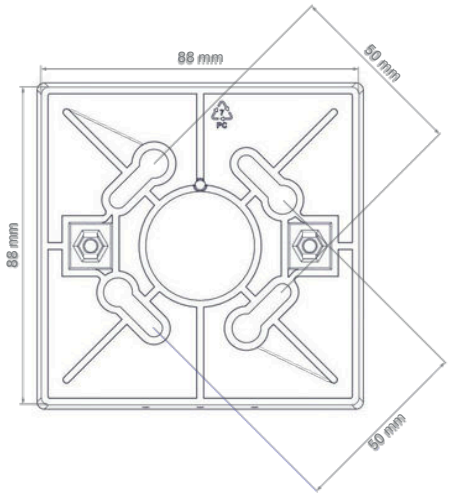
A copy of the Declaration of Conformity is available form Apollo on request.

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

36 Brookside Road, Havant
Hampshire, PO9 1JR, UK.
Tel: +44 (0)23 9249 2412
Fax: +44 (0)23 9249 2754
Email: sales@apollo-fire.com
Web: www.apollo-fire.co.uk

Conventional Manual Call Point with LED Dimensiona Drawing





AH-03127

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

- 32signaltonesselectable 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.

EN54 LPCB 506e/02/03 CE 2831

Specifications

Model	AH-03127-S	AH-03127-BS
Voltage	24V DC	
Current Consumption 24V DC (MAX)	35mA	40mA
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	Fire-proof 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