

XP95 I.S. Heat Detector



Product overview

Product	XP95 I.S. Heat Detector
Part No.	55000-440APO
Digital communication	XP95 native, compatible with Discovery

Product information

The XP95 Intrinsically Safe (I.S.) Heat Detector monitors temperature by using a single thermistor which provides a count output proportional to the external air temperature.

The safety barrier is a mandatory part of an I.S. system, but the high series impedance limits the number of I.S. detectors that may be fitted to the circuit. Typically, an I.S. circuit will have a maximum load of 20 detectors (restricted to 12 optical detectors in an IIC environment) depending on the barrier type, the type of devices fitted and the number of detector LEDs allowed to illuminate concurrently by the CIE.

- Ideal for environments that are dirty or smoky under normal circumstances
- Unaffected by wind or atmospheric pressure

Manufacturer's Specification

All data is supplied subject to change without notice. Specifications are typical at 22 V, 25°C and 50% RH unless otherwise stated.

Detection principle	Linear approximation over temperature range 25°C to 90°C
Sensor	Single NTC thermistor
Sampling frequency	Continuous
Sensitivity	25°C to 90°C: 1°C/count -20°C returns 8 counts
Supply Wiring	Two wire supply, polarity sensitive
Terminal functions	L1 Positive supply L2 Negative supply and remote LED negative +R Remote LED positive
Supply voltage	14 V - 22 V dc
Quiescent current	150 µA
Power-up surge current	1mA
Duration of power-up surge current	0.3 seconds
Max power-up time	4 seconds
Analogue value at 25°C	25 ± 5 counts
Alarm indicator	Red light emitting diode (LED)
Alarm LED current	700 µA
Remote LED current	500 µA (internally limited)
Input Capacitance	3.3 nF
Storage temperature	-30°C to +80°C
Operating temperature	-20°C to +45°C (T5) -20°C to +60°C (T4)
Guaranteed temperature range	-20°C to +60°C
Humidity	0% to 95% RH
Vibration, impact & shock	To EN 54 - 5
IP Rating	IP 44
BASEEFA Certificate No.	BAS02ATEX1289X
IECEx Certificate No.	IECExBAS12.0091X
Classification (max ambient)	Ex ia IIC T4 GA (≤ +60°C) Ex ia IIC T5 GA (≤ +60°C)
Dimensions	100mm diameter x 42 mm height
Weight	105 g
Material	Housing: White flame retardant polycarbonate Terminals: Nickel plated stainless steel

Operation

The XP95 I.S. Heat Detector has a common profile with the optical smoke detector but has a low air flow resistance case made of white polycarbonate.

The device monitors heat using a single thermistor network which provides a voltage output proportional to the external air temperature.

Electrical description

The Heat Detector is designed to be connected to a two wire loop circuit carrying both data and a 14 V to 22 V dc supply. The detector is connected to the incoming and outgoing supply via terminals L1 and L2 in the mounting base.

Remote LED connection

A drive point is provided on the XP95 I.S. Optical Smoke Detector for a remote LED indicator. The indicator must be a standard high-efficiency RED LED and does not require a series limiting resistor since current is limited within the detector to approximately 500 μ A. Unlike the standard XP95 range, the remote LED cannot be controlled independently from the integral LED since it is effectively connected in series with the integral LED. The benefit of this configuration is that the illumination of the LED does not increase the current drawn from the loop.

System certification allows for the use of any LED indicator having a suitable surface area between 20 mm² and 10 cm² which covers all commonly used case styles from T1 (3 mm) upwards but would exclude some miniature and surface mounted types. Additional requirements of the certification are that the LED and its terminations must be afforded a degree of protection of at least IP20 and must be segregated from other circuits and conductors as defined in BS EN 60079-14.

The Apollo MiniDisc Remote Indicator, Part No. 53832-070, is suitable using terms X + Y.

EMC Directive 2014/30/EU

The XP95 I.S. Heat 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 XP95 I.S. Heat 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 XP95 I.S. Heat 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.

Marine Equipment Directive 2014/90/EU

The XP95 I.S. Heat Detector complies with the essential requirements of the Marine Equipment Directive 2014/90/EU.

ATEX Directive 2014/34/EU

The XP95 I.S. Heat Detector complies with the essential requirements of the ATEX Directive 2014/34/EU.

XP95 I.S. Heat Detector sectional diagram

