XP95 I.S.

Optical Smoke Detector

Product overview

Product	**XP95 I.S. Optical Smoke Detector**
Part No.	**55000-640APO**
Digital communication	**XP95 native. Compatible with Discovery and CoreProtocol®**

Product information

The XP95 Intrinsically Safe (I.S.) Optical Smoke Detector works on the light scatter principle and is ideal for applications where slow burning or smouldering fires are likely.

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.

- Well suited to escape routes
- 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	*Photo-electric detection of light scattered in a forward direction by smoke particles*
Supply voltage	*14 V - 22 V*
Modulation voltage	*5 V - 6 V*
Quiescent current	*160 µA*
Power-up surge current	*1 mA*
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 +60°C (T5)* *-20°C to + 60°C (T4)*
Guaranteed temperature range	*-20°C to + 60°C*
Humidity	*0% to 95% RH (no condensation or icing)*
Vibration, impact & shock	*To EN 54-7*
IP Rating	*IP 44*
Sensitivity	*0.15 dB/m (3.395 %/m)*
BASEEFA Certificate No.	*BAS02ATEX1289X*
IECEx Certificate No.	*IECEx BAS 12.0091X*
Classification (max ambient)	*Ex ia IIC T4 GA (≤ +60°C)* *Ex ia IIC T5 GA (≤ +60°C)*
Dimensions	*100 mm diameter x 42 mm height*
Weight	*105 g*
Materials	*Housing: White flame-retardant polycarbonate* *Terminals: Nickel plated stainless steel*

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Electrical description

The I.S. Optical Smoke 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. The detector is calibrated to give an analogue value of 25±7 counts in clean air. This value increases with smoke density. A count of 55 corresponds to the EN 54 alarm sensitivity level.

Environmental characteristics

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

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 dœs not require a series limiting resistor since current is limited within the detector to approximately 1 mA. 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 dœs 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 terminals B and C.

EMC Directive 2014/30/EU

The XP95 I.S Optical Smoke Detector complies with the essential requirements of the EMC Directive 2014/30/EU.

A copy of the Declaration of Conformity is available from our website - www.apollo-fire.co.uk

Construction Products Regulation (EU) 305/2011

The XP95 I.S. 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 our website - www.apollo-fire.co.uk

Conformity of the XP95 I.S. Optical Smoke Detector with the EMC Directive, does not confer compliance with the directive on any apparatus or systems connected to them.

Marine Equipment Directive 2014/90/EU

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

ATEX Directive 2014/34/EU

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