

# **Multisensor Detector**



| Product overview      |                                              |
|-----------------------|----------------------------------------------|
| Product               | Multisensor Detector                         |
| Part No.              | 55000-885                                    |
| Digital Communication | XP95, Discovery and CoreProtocol® compatible |



# **Product information**

The XP95 Multisensor Detector combines optical smoke and temperature sensors whose outputs are combined to give the final analogue value.

The signals from the optical smoke sensing element and the temperature sensor are independent, and represent the smoke level and the air temperature respectively in the vicinity of the detector.

- · Sensitive to a wide range of fires
- Well suited to environments such as hotel bedrooms
- · Unaffected by wind or atmospheric pressure

# 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.

Smoke: Photo-electric detection of Detection principle

light scattered by smoke particles Heat: Temperature-sensitive

resistance

Chamber configuration smoke element only

Horizontal optical bench housing an infrared emitter and sensor arranged radially to detect scattered light

Sensor - smoke element only Silicon PIN photo-diode

Emitter- smoke element only GaAs infra-red light emitting diode

Sampling frequency smoke Once per second

element only Supply Wiring Two wire supply, polarity insensitive

Terminal functions L1 & L2 Loop in & out

Remote indicator positive

connection (internal 2.2  $k\Omega$ resistance to supply +ve)

resistance to supply -ve)

Remote indicator negative connection (internal 2.2  $k\Omega$ 

Operating voltage 17 V to 28 V dc

Digital communication XP95, Discovery and CoreProtocol

compatible

Modulation voltage 5-9V peak to peak

Quiescent current 500 μA average, 750 μA peak

Power-up surge current 1 mA Max power-up time

Alarm indicator Two colourless light emitting diode (LED) emitting red light in alarm

Alarm LED current

Remote LED current 4 mA at 5 V (measured across remote

load)

Clean air analogue value 23 + 4/-055 Alarm level analogue value

Storage temperature -30°C to +80°C -20°C to + 60°C Operating temperature Humidity (no condensation 0% to 95% RH or icing)

Effect of atmospheric pressure on optical sensor

None

Effect of wind speed on optical sensor

None

Vibration, impact and shock To EN 54-5. EN54-7

Designed to IP Rating

IP23D EN 54-5, EN 54-7, CPR, LPCB, VdS,

Standards and approvals

VNIIPO, BOSEC, SBSC, CCMG

100 mm diameter x 50 mm height Dimensions

(58 mm height with mounting base)

Weight 105 g

160 g with base

Materials Housing: White flame-retardant

polycarbonate

Terminals: Nickel plated stainless

steel

All information in this document is given in good faith but Apollo Tel: +44 (0)23 9249 2412 Fmail: sales@apollo-fire.com 36 Brookside Road, Havant Fire Detectors Ltd cannot be held responsible for any omissions or errors. The company reserves the right to change the specifications Hampshire, PO9 1JR, UK. Fax: +44 (0)23 9249 2754 Web: www.apollo-fire.co.uk of products at any time and without prior notice.











# Operation

The XP95 Multisensor Detector contains an optical smoke sensor and a thermistor temperature sensor whose outputs are combined to give the final analogue value.

The Multisensor construction is similar to that of the optical detector but uses a different lid and optical moulding to accommodate the thermistor temperature sensor.

The signals from the optical smoke sensing element and the temperature sensor are independent and represent the smoke level and the air temperature respectively in the vicinity of the detector.

The detectors micro-controller processes the two signals. The temperature signal processing extracts only rate of rise information for combining with the optical signal. The detector will not respond to a slow temperature increase even if the temperature reaches a high level. A large sudden change in temperature can however, cause an alarm without the presence of smoke if sustained for 20 seconds.

The processing algorithms in the multisensor incorporate drift compensation. The control panel must not have a drift compensation algorithm enabled.

The sensitivity of the detector is considered the optimum for most general applications since it offers good response to both smouldering and flaming fires.

#### **Environmental characteristics**

The XP95 Multisensor Detector is unaffected by wind or atmospheric pressure and operates over the temperature range -20°C to +60°C.

#### **Electrical description**

The XP95 Multisensor Detector is designed to be connected to a two wire loop circuit carrying both data and a 17 V to 28 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 +R and -R terminals. An earth connection terminal is also provided. The detector is calibrated to give an analog value of 23 +4/-0 counts in clean air. This value increases with smoke density. A count of 55 corresponds to the EN 54 alarm sensitivity level.

#### EMC Directive 2014/30/EU

The XP95 Multisensor 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 XP95 Multisensor 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 XP95 Multisensor 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.



