

# XP95 ANALOGUE ADDRESSABLE FIRE DETECTORS

- Alarm flag for fast alarm reporting
- Alarm address for fast location of alarm
- Automatic addressing using XPERT card
- Electronics-free base
- Ease of installation
- Aesthetically pleasing design
- Designed to meet worldwide approvals
- LPCB approved
- Complies with EMC directive 89/336/EEC (CE marked)



The Kidde XP95 range of fire detectors comprises ionisation and optical smoke monitors, temperature monitors, a multisensor and a compatible manual callpoint. XP95 detectors are advanced in design and performance and offer benefits to the installer and end user. The use of a sophisticated communications chip within the detector

virtually doubles the amount of information which can be relayed to the control panel, compared to earlier protocols. Additionally, a unique address coding mechanism, the "XPERT Card", ensures that the address data is stored in the base whilst keeping the base free of electronic components that could be damaged during installation.

**XP95 Ionisation Smoke Detector**

Air in the dual sensing chambers is irradiated to produce ions that travel to the positive and negative electrodes, creating a current flow. As smoke enters the outer chamber the flow drops and voltage increases. The voltage is measured and an analogue signal is converted to digital for transmission to control equipment. Pre-alarm or fire alarm is instigated by the microprocessor when smoke density increases to pre-set levels.

**Part No: 23900 K040 (Standard)**  
**23900-K046 (Intrinsically Safe)**

**XP95 Optical Smoke Detector**

The XP95 optical smoke detector has an internal pulsing LED and a photo-diode at an obtuse angle. In clear air conditions the photodiode receives no light from the LED and produces a corresponding analogue signal. When smoke enters the chamber it scatters light onto the photodiode, increasing the signal transmitted to control equipment. The clear LED emits red light when the detector is in alarm.

**Part No: 23900-K041 (Standard)**  
**23900-K045 (Intrinsically Safe)**

**XP95 Multisensor Detector**

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 mouldings 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 detector's microcontroller processes the two signals. The temperature signal processing extracts only rate of rise information for combination 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 also incorporate drift compensation.

**Part no: 23900-K096**

**XP95 Temperature Detector**

The XP95 temperature detector has a low air-flow resistant case for good contact between the sensing thermistor and the surrounding air. Temperature is measured by a single thermistor network which provides a voltage output proportional to the external air temperature. The signal is processed and transmitted to the control equipment.

**Part No: 23900-K042 (Standard)**  
**23900-K047 (intrinsically Safe)**

**XP95 Isolator**

Designed to protect the XP95 loop from short circuit fault, preventing the whole loop becoming inoperable.

**Part no: 23900-K044 (Standard)**  
**23900-H09 (Isolator base)**

**Bases**

XP95 standard base  
(inc XPERT card)

**Part no. 23900 H05 XP95**

XP95 Intrinsically safe base

**Part no: 23900-K022**

**Air Sampling Unit**

XP95 Air Sampling Unit allows an XP95 detector to be used to monitor ventilation ducts.

**Part no: 23900-H26 (inc XP95 base) - detector must be ordered separately**

## TECHNICAL SPECIFICATION

TYPICAL AT 23°C AND 24 VDC UNLESS OTHERWISE STATED	XP95 IONISATION	XP95 OPTICAL	XP95 MULTISENSOR	XP95 TEMPERATURE	XP95 ISOLATOR
Device Part No.	23900-K040	23900-K041	23900-K096	23900-K042	23900-K044
Base Part No.	23900-H05	23900-H05	23900-H05	23900-H05	23900-H09
Size of Device in Base					
Height x Diameter (mm)	50 x 100	50 x 100	50 x 100	50 x 100	32 x 100
Supply Voltage	17-28 VDC	17-28 VDC	17-28VDC	17-28 VDC	17-28 VDC
Quiescent Current	280 µA	340µA	500µA (750 µA Peak)	250µA	non-isolating 100µA isolating 8mA
Normal Surge Current (Synchronised to ADC Operation)					
	500 µA	600µA	1mA	310 µA	–
Alarm Indication					
	Red LED Red in Alarm	Clear LED	Clear LED Red in Alarm	Red LED	Yellow LED lit in isolate mode
Alarm LED Current	2mA	4mA	3.5mA	2mA	45±5mA pulsed
Normal Operating Temperature (no icing)					
	-20° to +60°C	-20° to +60°C	-20° to +70°C	-20° to 70°C	-20° to +70°C
Humidity (no condensation)					
	0-95%	0-95%	0-95%	0-95%	unaffected
Max wind (continuous)					
	10m/s	unaffected	unaffected	unaffected in fixed temperature use	unaffected

**XP95 Mounting base  
and XPERT card**

The XP95 base enables detectors to be plugged in easily without the need for force and to have a "one way fit". By means of the XPERT card the address information is held in the base without any need for electronic components. The coded plastic card is inserted into the base on commissioning, so that the address remains the same, even if the detector is replaced by similar devices for servicing purposes.

Depending on the combination of pips removed, switches in the detector head are operated to give the correct address when the detector is inserted.



KIDDE

**XP95 Interface Range**

A full range of interface devices is available to complement the XP95 Detector Range, allowing fire detection systems to be engineered simply and effectively without the need for custom-designed equipment.

**Switch Monitor Unit**

Monitors the state of a switch (single-pole vfc) and reports status to control equipment.

125 x 125 x 75mm

Part No: 23900-H24

**Control Unit Monitor**

Monitors voltage-free fire and fault contacts of a control unit, reporting their status to the control equipment.

175 x 125 x 75mm

Part No: 23900-H19

**Zone Monitor Unit**

Powers and controls the operation of a zone of up to 20 conventional fire detectors from a loop of XP95 or Series 90 devices.

175 x 125 x 75mm

Part No: 23900-H17

**Call Point Monitor**

Enables XP95 or Series 90 control equipment to monitor a single zone of conventional manual callpoints.

175 x 125 x 75mm

Part No: 23900-H18

**Single Channel I/O Unit**

Provides a fully floating relay changeover contact which is switchable by the control equipment and a logic input for reporting the status of a field device.

175 x 125 x 75mm

Part No: 23900-H23

**Sounder Circuit Controller**

Enables XP95 or Series 90 control equipment to operate a circuit of sounders from any point on the loop.

175 x 125 x 75mm

Part No: 23900-H20

**Service Tools**

- Smoke detector test pole  
Part no. 23900-K049
- Telescopic pole  
Part no. 23900-K014
- XP95/Series 60 removal tool  
Part no. 23900-K012
- Heat detector test pole  
Part no. 23900-K016
- Single extension pole  
Part no. 23900-K0132
- Solo carrying bag  
Part no. 23900-K015
- Aerosol Test Gas  
Part no. 23900-K017
- 1.5mm hex driver (Allen key)  
Part no. 23900-K018



Kidde Fire Protection

**UK Sales Office – Head Office**

Thame Park Road, Thame, Oxfordshire OX9 3RT, UK  
Tel: +44 (0)1844 265003. Fax: +44 (0)1844 256156  
E-mail: info@kfp.co.uk Web: www.kfp.co.uk

**UK Sales Office**

Unit 12, Atley Way, North Nelson Industrial Estate, Cramlington,  
Northumberland NE23 1WA UK  
Tel: +44 (0)1670 713455. Fax: +44 (0)1670 735553

**International Offices**

Dubai: Tel: +971 4 337 2498. Fax: +971 4 337 5088  
Hong Kong: Tel: +852 2195 3688. Fax: +852 2743 7477  
Singapore: Tel: +65 424 7979. Fax: +65 424 7978  
Australia: Tel: +61 3 9765 3850. Fax: +61 3 9765 3800