Kidde Fire Protection

XP95

Analogue Addressable Fire Detectors

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.

- 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 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.

Item	Part No.
Standard	23900 K040
Intrinsically Safe	23900-K046

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.

Item	Part No.
Standard	23900 K041
Intrinsically Safe	23900-K045

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 simular 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 alogorithms in the multisensor also incorporate drift compensation.

Item	Part No.
Multisensor Detector	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.

Item	Part No.
Standard	23900 K042

Intrinsically Safe	23900-K047

XP95 Isolator

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

Item	Part No.
Standard	23900-K044
Isolator Base	23900-HO9

Bases

Item	Part No.
XP95 Standard Base (inc XPERT card)	23900-H05
XP95 Intrinsically Safe Base	23900-K022

Air Sampling Unit

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

Item	Part No.
Air Sampling Unit (inc XP95 base)	23900-H26

NB: Detector must be ordered separately

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-KO42	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	280µA	340µA	500µA (750µA Peak)	250µA	non-isolating 100µA isolating 8mA
Normal Surge Current (Synchronised to ADC Operation)	500 µA	600 µA	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°
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

Kidde Fire Protection

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.

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

Item	Part No.
Switch Monitor Unit	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

Item	Part No.
Control Unit Monitor	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

Item	Part No.
Zone Monitor	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

Item	Part No.
Call Point Monitor	23900-H18

Single Channel I/O Unit
Provides a fully floating relay changeover contact which is switchable by the control equipment an a logic input for reporting the status of a field device.
175 x 125 x 75mm

Item	Part No.
Single Channel I/O Unit	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

Item	Part No.
Sounder Circuit Controller	23900-H20

Service Tools

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