HEAT & SMOKE DETECTORS – INTELLIGENT
XP95 INTRINSICALLY SAFE (IS) DETECTORS

GENERAL DESCRIPTION

There are many places where an explosive mixture of air and gas or vapour may be present continuously, intermittently or as a result of an accident. These are defined as hazardous areas by BS EN 60079, the code of practice for installation and maintenance of electrical apparatus in potentially explosive atmospheres.

Hazardous areas are common in petroleum and chemical engineering plants and in factories processing and storing gases, solvents, paints and other volatile substances.

Electrical equipment for use in these areas needs to be designed so that it cannot ignite an explosive mixture, not only in normal operation but also in fault conditions.

There are a number of methods available to achieve this but one of the most common is intrinsic safety.

Apollo's IS ranges comply with MED 94/9/EC.

XP95 IS OPTICAL SMOKE DETECTOR

The XP95 IS optical smoke detector has an internal pulsing IR LED and a photo-diode, which, in clean air conditions, receives no light from the IR LED and produces a corresponding analogue signal. When smoke enters the chamber, it scatters light onto the photo-diode, increasing the signal transmitted to control equipment.

XP95 IS IONISATION SMOKE DETECTOR

In this type of detector the voltage developed by current flowing in the sensing chamber is measured and transmitted, in digital form, to the control equipment which instigates a pre-alarm or fire alarm when smoke density reaches pre-set levels.

XP95 IS HEAT DETECTOR

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

XP95 IS BASE

The mounting base for IS detectors has been designed to accept only IS products, but the XPERT address card is identical with standard XPERT cards.

Note: standard bases will not accept IS detectors and any attempt to use standard bases will invalidate the approval.

XPERT ADDRESS CARD

XP95 Intrinsically Safe (IS) detectors are a development of the well-established analogue addressable range of detectors from Apollo. The addresses of XP95 detectors are set by means of the patented XPERT card. By using this card, all the address data is held in the base without using electronic parts that might be damaged before commissioning.

FEATURES

- Alarm Flag for fast alarm reporting
- Alarm Address for fast location of alarm
- Automatic addressing with the patented XPERT card
- Electronics free base
- Slide-easy base
- Ease of installation
- Elegant design

APPROVALS

- BS EN 60079-0:2004
- BS EN 50284:1999
- BS EN 50020:2002
- BS EN 60079-26:2004
- All types are certified to EEx ia IIC T5 at ambient temperatures up to 40 °C, or T4 at ambient temperatures up to 60 °C.

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XP95 IS MANUAL CALL POINT

The IS manual call point is based on a weatherproof version of a commercially available device. It features an "interrupt" facility to provide fast response to an alarm.

XP95 PROTOCOL TRANSLATOR

The protocol translator is installed in the safe area immediately adjacent to the safety barrier and ensures integrity of communication between control equipment and field devices within the limits of BASEEFA approvals.

The translator is available in single-channel or dual-channel versions. Each channel should only be connected to a single intrinsically safe circuit through an appropriate safety barrier. Each channel is thus capable of supplying up to twenty XP95 IS devices.

TECHNICAL SPECIFICATIONS

	XP95 IS Ionisation Detector AP-XPIS-I	XP95 IS Optical Detector AP-XPIS-O	XP95 IS Heat Detector AP-XPIS-H
Supply Wiring	Two-wire supply, polarity sensitive	Two-wire supply, polarity sensitive	Two-wire supply, polarity sensitive
Terminal Functions	**L1**: positive supply **L2**: negative supply & remote LED negative **+R**: remote LED positive	**L1**: positive supply **L2**: negative supply & remote LED negative **+R**: remote LED positive	**L1**: positive supply **L2**: negative supply & remote LED negative **+R**: remote LED positive
	Note 1. IS detectors are polarity sensitive *Note 2. There is no requirement for series resistance on remote LED lines.* *Note 3. The remote LED characteristic differs from XP95.*		
Supply Voltage	14 – 22 V DC	14 – 22 V DC	14 – 22 V DC
Quiescent Current	300 µA	340 µA	300 µA
Operating Temperature	-20°C to +40°C (T5) -20°C to +60°C (T4)	-20°C to +40°C (T5) -20°C to +60°C (T4)	-20°C to +40°C (T5) -20°C to +60°C (T4)
Remote LED Current	1 mA (internally limited)	1 mA (internally limited)	1 mA (internally limited)
Guaranteed Temperature Range (No condensation or icing):	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C
BASEEFA Certificate No	BAS02ATEX1289	BAS02ATEX1289	BAS02ATEX1289
Classification	E Ex ia IIC T5 (T4 at Ta ≤ 60°C)	E Ex ia IIC T5 (T4 at Ta ≤ 60°C)	E Ex ia IIC T5 (T4 at Ta ≤ 60°C)

ORDERING INFORMATION

Product Code	Product Description
AP-XPIS-H	XP95 IS Fixed Temperature Heat Detector; Class A2/S (55°C)
AP-XPIS-I	XP95 IS Ionisation Smoke Detector
AP-XPIS-O	XP95 IS Optical Smoke Detector
AP-XPIS-B	XP95 IS Mounting Base

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