XP95 IS

Ionisation Smoke Detector

55000-540
XP95 IS Ionisation Smoke Detector

Operating principles

The sensing part of the detector consists of two chambers – an open, outer chamber and a reference chamber within.

Mounted in the reference chamber is a low-activity radioactive foil of Americium 241 which enables current to flow across the inner and outer chambers when the detector is powered up.

As smoke enters the detector, it causes a reduction of the current flow in the outer chamber and hence an increase in the voltage measured at the junction between the two chambers. This analogue voltage signal is converted to a digital signal by the electronic circuitry and transmitted to the control panel on interrogation. The micro-processor in the control equipment then compares the signal with stored data and initiates a pre-alarm or fire alarm as smoke density increases. When a fire condition exists, the panel instructs the detector to switch on its indicator LED.

Full details of the principles of operation and electrical description are published in the XP95 Engineering Product Guide. Information on the performance of XP95 in adverse environmental conditions is also given in this guide. XP95 IS detectors have the same operating characteristics as the standard versions.

Safety note

In the United Kingdom, ionisation smoke detectors are subject to the requirements of the Environmental Permitting Regulations and to the Ionising Radiations Regulations 1999 made under the provisions of the Health and Safety at Work Act 1974.

The detectors, independently tested by the Health Protection Agency (HPA), conform to all the requirements specified in the 'Recommendations for ionisation smoke detectors in implementation of radiation standards' published by the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development (OECD) 1977.

There is no limit to the number of ionisation smoke detectors which may be installed in any fire protection system.

Storage regulations depend on local standards and legislation, but, in the UK, up to 500 detectors may be stored in any premises, although there are stipulations on storage facilities if more than 100 ionisation detectors are stored in one building.

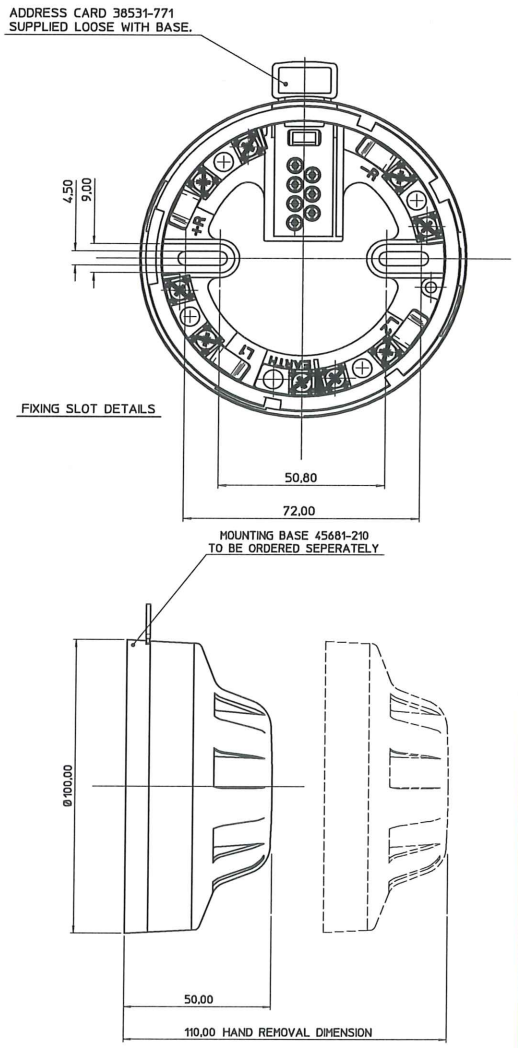
At the end of their recommended working life of ten years, ionisation smoke detectors should be returned to Apollo for safe disposal or disposed of in an otherwise locally approved and environmentally safe manner. Please see "A guide to the care, maintenance and servicing of Apollo products", PP2055.

Guidance on storage and handling can be given by Apollo Fire Detectors and full details can be requested from:

Radioactive Substances Regulation Function
Environmental Agency
Swift House
Frimley Business Park
GU16 7SQ

Outside the UK, please contact the relevant national agency.

Dimensional Drawings



Technical Data

Specifications are typical at 24V, 23°C and 50% relative humidity unless otherwise stated. Technical data for the IS ionisation detector is identical to that for the standard version, except for the information below.

Supply wiring:	Two wire supply, polarity sensitive	
Terminal functions:	L1	Positive supply
	L2	Negative supply and remote LED negative
	+R	Remote LED positive

Notes:
1. IS detectors are polarity sensitive.
2. There is no requirement for series resistance on remote LED lines.
3. The remote LED characteristic differs from XP95.

Supply voltage:	14-22 DC
Quiescent current:	300µA
Alarm LED on:	1.3mA
Operating temperatures (ambient):	–20°C to +70°C –20°C to +45°C (T5) –20°C to +60°C (T4)
Remote LED current:	1mA (internally limited)
Guaranteed temperature range:	(No condensation or icing) –20°C to +60°C
BASEEFA Certificate No:	BAS02ATEX1289
Classification:	Ex ia IIC T5 –20°C≤Ta 45°C (T4≤60°C)Ga