Intrinsically Safe Optical Smoke Detector
Part no: 55000-640

XP95 I.S. Optical Smoke Detector

Optical smoke detectors incorporate a pulsing LED located in a labyrinth within the housing of the detector. The labyrinth is designed to exclude light from any external source. At an angle to the LED is a photo-diode which, in clear air conditions, does not receive light directly from the LED. The detector transmits a clear air signal to the control panel. When smoke enters the labyrinth, light is scattered onto the photo-diode and the signal to the panel increases. The signal is processed by the electronic circuitry and transmitted to the control equipment in exactly the same way as in the case of the ionisation smoke detector.

Full details of the principles of operation and the electrical description are published in the XP95 Engineering Product Guide. XP95 I.S. detectors have the same operating characteristics as the standard versions.

Technical Data – XP95 Intrinsically Safe Optical

Specifications are typical and given at 23°C and 50% relative humidity unless otherwise specified.

Technical Data for the I.S. optical detector is identical to that for the standard version, except for the information below.

Detector Part No:
55000-640.

Base Part No:
45681-215.

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. I.S. detectors are polarity sensitive.
2. There is no requirement for series resistance on remote LED lines.
3. The remote LED characteristic differs from XP95, see page 16.

Supply Voltage:
14-22 Volts dc.

Quiescent Current:
340µA.

Operating Temperatures:
–20°C to +40°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:
E Ex ia IIC T5 (T4 at Ta ≤ 60°C)