IR-11.1ex & IR-13.1ex

INFRARED FLAME AND SPARK DETECTOR

IEP TECHNOLOGIES
HOERBIGER Safety Solutions

PRODUCT INFORMATION SHEET

Description

The IR-11.1ex and IR-13.1ex infrared flame detectors provide reliable detection in applications where pressure detection alone may not be the best option, such as when ignition may occur close to a duct entrance or a less energetic deflagration may occur inside a vessel.

The IR detector consists of up to three fiberoptic light guides, a photo sensor, and an amplifier. The light guides conduct the infrared radiation, emitted by flames or sparks, to the photo sensor. The detector detects the changes of the infrared radiation and activates an alarm signal to the system control unit.

The detector can be adjusted to various sensitivity levels depending on the application and can be used with two and four-wire systems. Form C dry-contact relays are provided for signaling both faults and alarm conditions.

IR-11.1ex & IR-13.1ex

Features

Reduced explosion isolation distances due to ultra-fast detection of flames, sparks, and glowing embers.

- Provides reliable detection in applications where pressure detection is slower, such as when ignition occurs close to duct entrance or a less energetic deflagration occurs inside a vessel.
- Adjustable detector sensitivity to minimize false actuations and to provide operational flexibility.
- Non-intrusive flush-mounted installation does not obstruct material flow.
- Air purge connectors to reduce window contamination
- Remotely installed electronics and temperature resistant light guides allow monitoring of ducts with process temperatures of up to 200º C.
- IP 65 aluminum die-cast enclosure as standard for outstanding dust contamination, water and weather resistance.
- ATEX Approved, CE Marked, and CSA Approved diodes and text indicators, allowing easy correlation

Application

The IEP Technologies IR flame and spark detector is used for the detection of flames in closed systems such as ducts, pneumatic transport pipes and conveying lines. The detector has maximum sensitivity at a wavelength of about 830 nm, and is designed to detect flames with a temperature of approximately 800°C and upwards. The detector is suited for installation in process locations in which it is dark and where there is no incidence of extraneous light. By means of one to three light guides installed around the perimeter, the detector can monitor the whole cross-section of the duct/pipe.

Specifications

- Operating Voltage: 18 to 30 VDC
- Operating Current: 5 mA (normal operation), 50 mA (alarm)
- Alarm Resistance: Two-Wire System - 560 Ohm, Three & Four-Wire System – 390 Ohm
- Response Time Without Relay Outputs< 1.0 ms
- Response Time With Relay Outputs < 1.5 ms
- Spectral Sensitivity: Approx. 830 nm for spark detection from approximately 800ºC
- Sensitivity: 100%, 50%, 20%, 10%
- View Angle of Each Light-Guide Arm: 80º
- Alarm & Fault Relay Output (Contact): 30 VDC/0.5A
- Max. Permissible Contact Relay Rating: 30W/60 VA at Umax = 60V
- Enclosure Rating: IP 65
- Approvals: EX5 12 02 79487 001, CE Marked, CSA C22.2 No. 25, 61010-1 and 60529

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