



Model FB-3010X Flame Detector, Visual Imaging Based



Overview

The FireBus Model FB-3010X is an imaging based flame detection system which incorporates superior false alarm rejection and live color video imaging direct from a specially designed detection camera.

It is the safest and most advanced flame detector on the market today and its track record on the numerous installations where it is used has proved the system to be robust, even in the harshest of environments.

Application

Each detector operates standalone and incorporates an integrated CCTV system, Digital Signal Processing and sophisticated software algorithms to process the live video image and interpret flame characteristics.

These unique software algorithms are capable of discriminating between genuine fire conditions and other radiant sources that may cause conventional detectors to become desensitized or produce false alarms.

Each unit provides local video data and fire alarm/fault signaling to the control equipment. This equipment can provide the operator with full display and alarm handling facilities. Interfaces to the main installation control facilities can also be configured to the clients' requirements.

The surveillance aspect of the detector eliminates the need to dispatch operators to investigate alarms as the live video images are viewed directly in the control room. This reduces the risk of injury to operators and improves response time.

The video images are recorded onboard or remotely allowing post incident analysis. Un-manned installations can be remotely monitored allowing suitable action to be taken before personnel access the area, thereby minimizing the risk to operators.

Features

- **An Imaging Based Flame Detector**
- **Flame Detection in a CCTV Surveillance Camera saving both maintenance and installation costs.**
- **Superior False Alarm Immunity - The detector is immune to common sources of unwanted alarms such as hot work, hot CO2 emissions and flare reflections.**
- **Enhanced Coverage - Visual based flame detectors offer an extended field of view compared to conventional flame detectors. This can reduce both maintenance and installation costs.**
- **Long Detection Range - Visual flame detectors can detect fires at greater distances than conventional flame detectors allowing fewer units to do the job, again saving installation costs.**
- **Live Video - A live video image is available from each camera. When used this additional information aids the operator in taking corrective action.**
- **Onboard recording via Secure Digital (SD) memory card.**
- **Advanced Optical Verification - The FB-3010X utilizes an optical test facility designed to check the window for contamination. It can also ensure that the detectors field of view is not restricted by an obstruction placed immediately in front of the window.**
- **Functional test lamp operation from distances of 9-26 feet, removing the need for scaffold/ladders.**

<p>Visual Imaging Based Flame Detector Model FB-3010X</p> <p>Environmental Classifications: ATEX Certified: EEx-d, IIC T4 Class I Div 1 Groups B, C, D, T4</p> <p>Ingress Protection: NEMA 4X / IP66</p> <p>Temperature range:</p> <p>Operating: -76°F to + 185°F -60°C to + 85°C</p> <p>Storage: -76°F to + 185°F -60°C to + 85°C</p> <p>Humidity: 0 to 95% RH non condensing</p>	<p>Performance Approvals: FM 3260 (3029978) IEC 61508: SIL 2 (MP 080203 C001)</p> <p>Mounting: Omni directional mounting bracket.</p> <p>Coverage: Horizontal: 90° Vertical: +20°, -45°</p> <p>Response Time: ~7 seconds approx</p> <p>Output(s): Relay contacts alarm and fault</p> <p>4-20 mA current output</p> <p>RS485 bidirectional serial communications link, HART (consult factory)</p> <p>Live Color Video over twisted shielded pair cable (NTSC and PAL)</p>	<p>Flame Sensitivity: 1 square foot gasoline fire @ 144 feet (see table below)</p> <p>Operating Voltage: 18V to 32V, 24VDC Nominal</p> <p>Typical Power Consumption: 6 watts (no heater), 10 watts typical, 15 watts maximum (with heater)</p> <p>Connections</p> <p>Power: 1 Pair</p> <p>Communication: 1 Twisted Shielded Pair</p> <p>Video: 1 Twisted Shielded Pair Cable</p> <p>Available Conduit Entry: 3/4" NPT</p>	<p>Dimensions: 3.9 in x 7.8 in 100 mm x 200 mm</p> <p>Weight: 5.5 lb (2.5 kg) Aluminum 13 lb (6 kg) 316 SS</p> <p>Materials: LM25 Marine grade aluminum, Red Epoxy painted, or, 316L Stainless Steel.</p> <p>Accessories Mounting & alignment bracket (included with each detector) Flame Detector Test Lamp</p>
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Flame Sensitivity Chart

FUEL	FIRE SIZE	DISTANCE
Methane Jet Fire	25L/min	65 feet (20m)
Ethane Jet Fire	28L/min	65 feet (20m)
Propane Jet Fire	20L/min	65 feet (20m)
Butane Jet Fire	15L/min	65 feet (20m)
Diesel	1.0 ft x 1.0 ft pan	130 feet (40m)
Crude Oil (heavy fuel oil)	1.5 ft x 1.5 ft pan	130 feet (40m)
Wax Inhibitor (Clear 10)	1.0 ft x 1.0 ft pan	130 feet (40m)
Anti Foam (Surflo AF-300)	1.0 ft x 1.0 ft pan	130 feet (40m)
Wood Stack	1.0 ft x 1.0 ft pan	130 feet (40m)
n-Heptane	1.0 ft x 1.0 ft pan	144 feet (44m)
Gasoline	1.0 ft x 1.0 ft pan	144 feet (44m)
JP4	2.0 ft x 2.0 ft pan	200 feet (61m)

LED Indications

The detector LED indicator is used to show the current status of the detector, as shown below:

LED Color	Status
Green	Normal Operation
Continuous OFF	No Power / Internal Fail
Continuous Yellow	Fault
Flashing Yellow / Green	Reversed Polarity Terminal 24V / 0V
Red	Alarm

Ordering Information:

2820-FBD-5003 Detector and mounting bracket.

2820-FBD-5001 Functional test lamp

2820-FBD-5009 SD Card for Flame Detector



Note:

The information in this data sheet is given in good faith and considered accurate at the time of printing, however, the company reserves the right to change specifications of products at any time without prior notice.