SPECTREX INC.

SharpEye™ 20/20MU

Mini UV Flame Detector – 20/20MU

The SharpEye Mini-UV Flame Detector (20/20MU) is designed to meet strict industry performance requirements. The UV sensor has been carefully selected to ensure the greatest degree of spectral matching to the radiant energy emissions of fire. The detector also incorporates a special logic circuit that helps prevent false alarms caused by solar radiation.

This detector is packaged in a compact, lightweight housing for easy installation and where space is at a premium. It is specially designed as a general-purpose flame detector for industrial applications to withstand "harsh" environmental conditions, including extreme temperatures, high humidity, vibrations, etc.

Flame is detected within 3 sec, typically (1ft.^{2} (0.1m^2) pan gasoline fire).

The Mini-UV detector is particularly useful for detection of invisible flames from fuels such as: Hydrogen, Hydrides, Ammonia, Silane and other inorganic fuels.

** It is important to note that this detector must not be exposed to UV radiation sources such as: electrical arcs, sparks and welding, etc.*

Main Features

- UV Spectrum Design
- Typical 3 second Response
- Large Field of View (100° horizontal/vertical)
- User Programmable Functions
- Configurable via software from a PC or handheld device
- Automatic and Manual Built-In Test (BIT)
- Standard 4-wire Connection
- 4-20mA source (3-4 wires) configuration
- RS-485 Modbus Compatible
- MTBF Minimum 100,000 Hours
- 3-Year Warranty
- Functional Test - FM Pending

Applications

- **Aerospace Industry** - Hydroxy, Hydrogen and Hydrazine fuels
- **Automotive** - manufacturing, paint spray booths
- **Chemical Industry** - production, storage, transportation
- **Explosives & Munitions** - handling and storage
- **Paint** - manufacturing facilities
- **Petrochemicals** - production, storage, shipping facilities
- **Pharmaceutical Industry**
- **Polymers, Solvents and Glue** - manufacturing and curing
- **Power Generation Facilities** - pump areas, generator rooms, unmanned stations, gas-fired and coal-fired reactors
- **Printing Industry** - solvent handling, presses, drying processes
- **Warehouses** - storage facilities for flammable materials

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General Specifications

Spectral Response	UV: 0.185 - 0.260 microns.
Detection Range (1 ft² (0.1m²) pan fire)	Gasoline 50 ft (15m); n-Heptane 50 ft (15m); Diesel Fuel 37 ft (11m); JP5 37 ft (11m); Kerosene 37 ft (11m); Alcohol (Ethanol) 37 ft (11m); IPA (Isopropyl Alcohol) 25 ft (7.5m); Methanol 25 ft (7.5m); Methane* 40 ft (12m); LPG (Propane)* 40 ft (12m); Hydrogen* 50 ft (15m); Silane*** 33 ft (10m); Polypropylene Pellets** 20 ft (6m); Office Paper 20 ft (6m) **20" (0.5m) plume fire, **8" (0.2m) Diameter, ***12" (0.3m) plume fire*
Response Time	Typical 3 sec.
Adjustable Time Delay	Up to 30 seconds
Field of View	100˚horizontal, 100˚ vertical
Built-in-Test	Manual and Automatic BIT
Temperature Range	Operating: -40°F (-40°C) to 160°F (70°C) Storage: -65°F (-55°C) to 185°F (85°C)
Humidity	Up to 95%

Electrical Specifications

Power Supply	Operating Voltage: 18-32 VDC
Power Consumption	Max. 40mA in stand-by Max. 70mA in alarm
Electrical Connection	12-wires electrical connector (the suitable connector will be supplied) Optional 12 wires 6 ft. (2m) cable (for junction box connection)
Electrical Input Protection	According to MIL-STD-1275A
Electromagnetic Compatibility	EMI/RFI protected CE Marked

Outputs

Relays	Alarm and Fault SPST volt-free contacts rated 2A at 30 VDC or 0.5A at 250 VAC Fault relay normally closed, Alarm Relay normally open
4-20mA	Source configuration Fault: 0 +0.5mA BIT Fault: 2mA ±10% Normal: 4mA ±5% Warning: 16mA ±5% Alarm: 20mA ±5% Resistance Loop: 100-600 Ω
RS-485	The detector is equipped with an RS-485 communication link that can be used in installation with computerized controllers. The RS-485 is Modbus compatible.

Mechanical Specifications

Dimensions	4" x 4" x 2.5" (100 x 100 x 62 mm)
Weight	St.St 316L 2.5Lb (1.2 Kg) Plastic 0.7Lb (0.3 Kg) Tilt Mount 0.8Lb (0.37 Kg)
Enclosure	1. Stainless Steel 316L with electro polish finish. 2. Plastic housing - glass fiber reinforced polyester.
Environmental Standards	Meets MIL-STD-810C for Humidity, Salt & Fog, Vibration, Mechanical shock, High Temp, Low Temp
Water and Dust	IP66 and IP67 per En60529 NEMA 250 6P

Accessories

Fire Simulator	20/20-311
Tilt Mount	20/20-005 (St. St. 316L)