Data Sheet

NOTIFIER® by Honeywell

40/40U-UB UV Flame Detector

Features

- **UV spectrum design**
- **3 seconds response**
- **Automatic and Manual Built-In-Test (BIT) (option) - to assure continued reliable operation**
- **Heated window - for operation in harsh weather conditions (snow, ice, condensation)**
- **Multiple output options for maximum flexibility and compatibility:**
  - Relays (3) for Alarm, Fault and Auxiliary
  - 0-20mA (stepped)
  - HART Protocol for maintenance and asset management
  - RS-485, Modbus Compatible
- **High Reliability - MTBF - minimum 150,000 hours**
- **Approved to Safety Integrity Level 2 (SIL2 – TUV)**
- **5-Year Warranty**
- **User Programmable via HART or RS-485**
- **Ex approved for Zone 1 hazardous area location:**
  - ATEX
  - IECEx
  - FM
  - CSA
- **3rd party Performance Tested:**
  - EN54-10 (LPCB)
  - FM3260 (FM)

General

The new 40/40 UV Flame Detector detects hydrocarbon-based fuel and gas fires, invisible hydrogen flames, and fires from hydrides, ammonia, silane and other organics. The new design is the most durable and weather resistant UV flame detector currently on the market. Its new features include a heated window, to eliminate condensation and icing; HART capabilities, for digital communications; lower power requirements; and a compact, lighter design.

Due to increased reliability, the 40/40 Series warranty period has been extended to 5 years and is approved to IEC 61508 Safety Integrity requirements of SIL2.

The model 40/40UB includes a Built-in-Test (BIT) feature, whereas the 40/40U model does not.

Note: This type of detector should not be exposed to UV radiation sources such as welding, sparks, and electric arcs as it will cause false alarms.

Applications

Chemical plants
Petrochemicals plants
Power Generation facilities
Pharmaceutical Industry
Printing Industry
Warehouses
Automotive Industry
Aerospace

Explosives & Munitions
Waste Disposal facilities
Paint and solvent processes

Specifications

General

Spectral Response: UV 0.185-0.260 µm
Detection Range: (at highest Sensitivity Setting for 0.1m² pan fire)

Fuel	m
n-Heptane	15
Ethanol 95%	11
LPG *	12
Gasoline	15
Methanol	11
Polypropylene Pellets**	5
Diesel Fuel	11
IPA (Isopropyl Alcohol)	11
Office Paper	6
JP5	11
Hydrogen	10
Kerosene	11
Methane*	12

* 0.5m high, 0.2m width plume fire

Response Time: Typically 3 seconds
Adjustable Time Delay: Up to 30 seconds
Sensitivity Ranges: 0.1m² n-heptane pan fire from 15m
Field of View: Horizontal 100º; Vertical 95º
Built-in-Test (BIT): Automatic (and Manual)
Temperature Range:
- Operating: -55ºC to +75ºC
- Option: -55ºC to +85ºC
- Storage: -55ºC to +85ºC

Humidity: Up to 95% non-condensing (withstands up to 100% RH for short periods)
Heated Optics: To eliminate condensation and icing on the window

Electric

Operating Voltage: 24 VDC nominal (18-32 VDC)
Power Consumption:
- Standby: Max. 100mA (150mA with heated window)
- Alarm: Max. 150mA (200mA with heated window)

Cable Entries 2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5 mm ISO
Wiring: 12 - 22AWG (2.5mm² - 0.3mm²)
Electrical Input Protection: According to MIL-STD-1275B
Electromagnetic Compatibility: EMI/RFI protected to EN50130-4
Electrical Interface The detector includes 12 terminals with 5 wiring options (factory set)

Outputs

Relays: Alarm, Fault and Auxiliary
SPST volt-free contacts rated 5A at 30 VDC or 250 VAC.
0-20mA (stepped): Sink (source option) configuration
- Fault: 0 +1mA
- Warning: 16mA ± 5%
- BIT Fault: 2mA ± 10%
- Alarm: 20mA ± 5%
- Normal: 4mA ± 10%
- Resistance Loop: 100-600 Ω

HART Protocol: HART communication on the 0-20mA analog current (FSK) - used for maintenance, configuration changes and asset management
RS-485: RS-485 Modbus compatible communication link that can be used in computer controlled installations

Mechanical

Materials: - Stainless Steel 316L with electro polish finish
Enclosure options: - Heavy duty copper free aluminum (less than 1%), red epoxy enamel finish
Mounting: Stainless Steel 316L with electro polish finish
Dimensions: Detector 90 x 114 x 156 mm
Weight: Detector (St.St.) 2.5 kg
Detector, aluminum 1.2 kg
Tilt mount 1.0 kg
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

Approvals

Hazardous Area:
- ATEX and IECEx: Ex II 2 GD,
  Ex de IIB+H2 T5 (-55ºC to + 75ºC)
  Ex de IIB+H2 T4 (-55ºC to + 85ºC)
  Ex tD A21 IP66/X7 T 95ºC
  Ex tD A21 IP66/X7 T 105ºC
- FM / CSA: Class I Div. 1, Groups B, C & D
  Class II/III Div. 1, Groups E, F & G

Performance EN54-10 (LPCB)
FM-3260 (FM)
Reliability: IEC61508 - SIL2 (TUV)

Certification

40-40U: 0832-CPD-0979
40-40UB: 0832-CPD-0980

Product references

40/40U	UV flame detector
40/40UB	UV flame detector with BIT
40/40-ADD-ST	Supplement for stainless steel housing
40/40-ADD-85	Supplement for calibration to 85°C

Accessories

40/40-001	Tilt mount
40/40-777161	Air Shield (Detector area coverage)
40/40-777163	Weather Protector
40/40-777166	Laser Pointer
20/20-310	Fire Simulator
40/40-789260-2	Pole mount (U-BOLT) - 2”
40/40-789260-1	Pole mount (U-BOLT) - 3”
40/40-777820	Handheld Pocket PC diagnostics kit
40/40-794079-5	USB connection cable for PC (includes software)

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