

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)

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.

40/40U-UB UV Flame Detector

Data Sheet

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FIRE SYSTEMS
by Honeywell

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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

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

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 100°; Vertical 95°
Built-in-Test (BIT): Automatic (and Manual)
Temperature Range:
Operating: -55°C to +75°C
Option: -55°C to +85°C
Storage: -55°C to +85°C

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)

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

references

Approvals

Hazardous Area:

ATEX and
IECEX:

Ex II 2 GD,
Ex de IIB+H2 T5 (-55°C to + 75°C)
Ex de IIB+H2 T4 (-55°C to + 85°C)
Ex tD A21 IP66/X7 T 95°C
Ex tD A21 IP66/X7 T 105°C

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

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)

local distributor

Every care has been taken in the preparation of this data sheet but no liability can be accepted for the use of the information therein. Design features may be changed or amended without prior notice.

