Data Sheet

NOTIFIER® by Honeywell

40/40-L(4) UV/IR Flame Detectors

Features

- **UV/IR Dual-Sensor**
- **High-Speed Response - 150 msec Response to Saturated Signal**
- **Solar blind**
- **Automatic Built-In-Test (BIT) (option) and Manual - 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

Model 40/40L (& LB) provides a combination of UV and IR sensors, where the IR sensor operates at a wavelength of 2.5-3.0 µm, and can detect hydrocarbon-based fuel and gas fires, hydroxyl and hydrogen fires, as well as metal and inorganic fires.

Model 40/40L4 (& L4B) is identical to the 40/40L except that the IR sensor works at a wavelength of 4.5 µm and is only suitable for hydrocarbon-based fires. The UV/IR flame detector senses radiant energy in the short wave section of both the ultraviolet and infrared portions of the electromagnetic spectrum. The signals from both sensors are analyzed for frequency, intensity and duration.

Simultaneous detection of radiant energy in both the UV and IR sensors triggers an alarm signal. The UV sensor incorporates a special logic circuit that helps prevent false alarms caused by solar radiation

Applications (model dependent)

Offshore Oil & Gas installations
Onshore Oil & Gas installations and pipelines
Chemical plants
Petrochemicals plants
Storage Tank farms
Aircraft hangars
Power Generation facilities
Pharmaceutical Industry

Printing Industry
Warehouses
Automotive Industry
Explosives & Munitions
Waste Disposal facilities
Aerospace Industry
Paint, Polymer and Glue Processes

Specifications

General

Spectral Response:

40/40L–LB:	UV: 0.185 - 0.260 µm IR: 2.5-3.0 µm
40/40L4–L4B:	UV: 0.185 - 0.260 µm IR: 4.4-4.6 µm

Detection Range: (at highest Sensitivity Setting for 0.1m² pan fire)

Fuel	**m**
n-Heptane	15
Ethanol 95%	7.5
LPG *	5
Gasoline	15
Methanol	7.5
Polypropylene Pellets	4
Diesel Fuel	11
IPA (Isopropyl Alcohol)	7.5
Office Paper	5
JP5	11
Hydrogen**	5
Kerosene	11
Methane*	5

* 0.5m high, 0.2m width plume fire
** 40/40L/LB only

Response Time:	Typically 5 seconds. High speed 150 msec response to saturated signal
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
IR:	8mA +/-5%
Alarm:	20mA +/-5%
BIT Fault:	2mA +/-10%
UV:	12mA +/-5%
Resistance Loop:	100-600 Ω
Normal:	4mA +/-10%
Warning:	16mA +/-5%
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

40-40L	0832-CPD-0973
40-40L4	0832-CPD-0974
40-40L4B	0832-CPD-0975
40-40LB	0832-CPD-0976

Product references

40/40L	UV/IR flame detector (IR sensor 2.5-3.0µm)
40/40LB	UV/IR flame detector with BIT (IR sensor 2.5-3.0µm)
40/40L4	UV/IR flame detector (IR sensor 4.5µm)
40/40L4B	UV/IR flame detector with BIT (IR sensor 4.5µm)

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)

HONEYWELL LIFE SAFETY SA

Belgium Office:
Avenue de l’Expansion 16 D
B-4432 Alleur
Belgium
T: +32 (0)4 247.03.00
F: +32 (0)4 247.02.20
W: www.notifier.be
info@notifier.be

The Netherlands Office:
Rietveldenweg, 32 a
5222 AR’s-Hertogenbosch
The Netherlands
T:+31 (0)73 627.32.73
F:+31 (0)73 627.32.95
W: www.notifier.nl
info@notifier.nl

NOTIFIER® by Honeywell

Doc.Number:DSUK_NOT_4040L_0710