

keep a **SharpEye™**  
on your safety



## The 40/40 Series Flame Detectors

### Product Overview

The latest 40/40 series are the highest performance, most cost-effective flame detectors currently on the market. New features include a stainless steel housing with a heated window, to eliminate condensation and icing; HART capabilities for digital communications; lower power requirements; and a compact, lightweight but highly durable and weather resistant design.

The 40/40 flame detector series is highly reliable, with a newly extended 5-year warranty period and compliance with the IEC 61508 Safety Integrity requirements of SIL2.



40/40I



40/40L-LB



40/40R



40/40UFI

## Specification 40/40 Series

	40/40I	40/40L-LB	40/40R	40/40UFI
<b>Detection Range</b>	Three IR Bands	UV: 0.185 - 0.260 µm; IR: 2.5-3.0 µm	Single band IR 4.4-4.6 µm	Three IR Bands
<b>Detect</b> <i>(Highest Sensitivity Setting for 1 ft<sup>2</sup> (0.1m<sup>2</sup>) pan fire)</i>	n-Heptane, Gasoline, Diesel Fuel, JP5, Kerosene, Ethanol 95%, Methanol, IPA	n-Heptane, Gasoline, Diesel Fuel, JP5, Alcohol 95%, Kerosene, Methanol, IPA, Hydrogen*, Methane*, LPG*, Polypropylene Pellets, Office paper	n-Heptane, Gasoline, Diesel Fuel, JP5, Kerosene, Ethanol 95%, Methanol, IPA, Methane*, Polypropylene Pellets, Office Paper	n-Heptane, Gasoline, Diesel Fuel, JP5, Kerosene, Ethanol 95%, Methanol, IPA, Methane*, LPG*, Polypropylene Pellets, Office Paper
<b>Detection Range</b>	25m - 65m *Detail in datasheet	5m - 15m *Detail in datasheet	6m - 15m *Detail in datasheet	34m - 90m *Detail in datasheet
<b>Standard Response Time</b>	Typically 5 seconds	Typically 5 seconds	Typically 5 seconds	Typically 2 sec at 131ft (40m)
<b>Adjustable Time Delay</b>	Up to 30 seconds	Up to 30 seconds	Up to 30 seconds	Up to 30 seconds
<b>Field of View</b>	Horizontal 100° Vertical 95°	Horizontal 100° Vertical 95°	Horizontal 90° Vertical 90°	Horizontal 90°; Vertical 90°
<b>Built-In-Test</b>	Automatic (and Manual)	Automatic (and Manual)	Automatic (and Manual)	Automatic
<b>Temperature Range</b>	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)
<b>Humidity</b>	Up to 95% non-condensing	Up to 95% non-condensing	Up to 95% non-condensing	Up to 95% non-condensing
<b>Approvals</b>	ATEX and IECEx, FM/FMC/CSA, TR CU (EAC), EN54-10 (VdS) FM3260, IEC61508 - SIL2 (TUV), MED 'Wheelmark' approval (DNV)	ATEX and IECEx, FM/FMC/CSA, TR CU (EAC), EN54-10 (VdS) FM3260, IEC61508 - SIL2 (TUV), MED 'Wheelmark' approval (DNV)	ATEX and IECEx, FM/FMC/CSA, TR CU (EAC), EN54-10 (VdS) FM3260, IEC61508 - SIL2 (TUV)	ATEX and IECEx, FM/FMC/CSA, TR CU (EAC), EN54-10 (VdS) FM3260, IEC61508 - SIL2 (TUV)

## Accessories The 40/40 Series Flame Detectors

P/N	Description	Picture	40/40 Series	P/N	Description	Picture	40/40 Series
FS-1100	Long Range Flame Simulators		40/40I, UFI	789260-1	U-Bolt/Pole Mount Pipe 3" & Pipe 2"		All versions
FS-1200			40/40U-UB, L-LB, L4-L4B, UFL	789260-2			All versions
FS-1400			40/40M				
40/40-001	Tilt Mount		All versions	777650	Air Shield		All versions
777670	Duct Mount		All versions	777263	Weather Protector Plastic & Stainless steel		All versions
				777163			All versions
				794079	USB RS485 Harness Kit		All versions



40/40UFL



40/40U-UB



40/40M



40/40L4-L4B

## Specification 40/40 Series

	40/40UFL	40/40U-UB	40/40M	40/40L4-L4B
<b>Detection Range</b>	UV: 0.185 - 0.260 μm; IR: 2.5-3.0 μm	UV 0.185-0.260 μm	Multi IR Bands	UV: 0.185 - 0.260 μm; IR: 4.4-4.6 μm
<b>Detect</b> <i>(Highest Sensitivity Setting for 1 ft2 (0.1m2) pan fire)</i>	n-Heptane, Gasoline, Diesel Fuel, JP5, Kerosene, Ethanol 95%, Methanol, IPA, Hydrogen*, Methane*, LPG*, Ammonia**, Silane**, Polypropylene Pellets, Office Paper	n-Heptane, Gasoline, Diesel Fuel, JP5, Kerosene, Ethanol 95%, Methanol, IPA, Methane*, Hydrogen*, LPG*, Silane**, Polypropylene Pellets, Office Paper	n-Heptane, Gasoline, Diesel Fuel, JP5, Kerosene, Ethanol 95%, Methanol, IPA, Methane*, Hydrogen*, LPG*, Polypropylene Pellets, Office Paper	n-Heptane, Gasoline, Diesel Fuel, JP5, Kerosene, Methanol, IPA, Methane*, Alcohol 95%, LPG*, Polypropylene Pellets, Office Paper
<b>Detection Range</b>	1.8m - 20m *Detail in datasheet	6m - 15m *Detail in datasheet	5m - 65m *Detail in datasheet	7m - 20m *Detail in datasheet
<b>Standard Response Time</b>	Typically 3 seconds	Typically 3 seconds	Typically 5 seconds	Typically 3 seconds
<b>Adjustable Time Delay</b>	Up to 30 seconds	Up to 30 seconds	Up to 30 seconds	Up to 30 seconds
<b>Field of View</b>	Horizontal 100° Vertical 95°	Horizontal 100° Vertical 95°	Horizontal 67°, Vertical 70° for Gasoline Horizontal 80°, Vertical 80° for Hydrogen	Horizontal 100°; Vertical 95°
<b>Built-In-Test</b>	Automatic	Automatic (and Manual)	Automatic (and Manual)	Automatic (and Manual)
<b>Temperature Range</b>	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)	Operating: -67°F to +167°F (-55°C to +75°C) Option: -67°F to +185°F (-55°C to +85°C) Storage: -67°F to +185°F (-55°C to +85°C)
<b>Humidity</b>	Up to 95% non-condensing	Up to 95% non-condensing	Up to 95% non-condensing	Up to 95% non-condensing
<b>Approvals</b>	ATEX and IECEx, FM/FMC/CSA, TR CU (EAC), EN54-10 (VdS) FM3260, IEC61508 - SIL2 (TUV)	ATEX and IECEx, FM/FMC/CSA, TR CU (EAC), EN54-10 (VdS) FM3260, IEC61508 - SIL2 (TUV)	ATEX and IECEx, FM/FMC/CSA, EN54-10 (VdS), FM3260, IEC61508 - SIL2 (TUV)	ATEX and IECEx, FM/FMC/CSA, EN54-10 (VdS), FM3260, MED 'Wheelmark' approval (DNV) IEC61508 - SIL2 (TUV) - model 40/40L4B only

Over 50 years of experience

KEEP AN EYE ON YOUR SAFETY



Spectrex is a global leader in flame and gas detection technology, with over 50 years of experience in developing trusted solutions that provide reliable protection of high value property and personnel.

**RELIABILITY**

**SIL3**

**HAZARDOUS AREA EX**



**PERFORMANCE**



**40/40D Series**

**Product Overview**

The SharpEye next generation 40/40D series features ultra fast fastest detection of hydrocarbon-based fuel and gas fires at the longest distance at up to 300 ft. (90 m) using pioneering QuadSense technology - the next step in the optical flame detection industry with best-in-class performance and reliability.

The series is suited to meet the challenges of any high-risk industrial application with revolutionary UV/IR BIT and smart field of view optical integrity for flawless operation, widest operation temperature range in extreme weather conditions providing trustworthy protection of major value property and personnel to keep a SharpEye on your safety.

**Features**

- Extended detection range increases the detection coverage by > 2 times
- Longest distance detection with revolutionary optics in extreme environments
- Fastest – Ultra fast response to fire
- Widest operation temperature range -76 to +185°F (-60 to +85°C)
- Flawless operation with optical integrity - Smart Field-of-View & IR/UV BIT
- Proprietary algorithm to eliminate false alarms



SharpEye 40/40D-I



SharpEye 40/40D-L4B



SharpEye 40/40D-M



SharpEye 40/40D-LB

**40/40C Series**

**Product Overview**

New Sharpeye Flame Detectors with Enhanced Performance

**Features**

- Based on proven SPX Triple-IR (IR3)
- Long distance detection with superior immunity to false alarms
- Fast detection with strengthened reliability and durability
- Ease of use & installation with Universal wiring option
- Globally certified, for use in the most demanding applications



SharpEye 40/40C-I



SharpEye 40/40C-L4B



SharpEye 40/40C-LB



SharpEye 40/40C-M

## 40/40 Series Specifications

	40/40D-I	40/40D-M	40/40D-LB	40/40D-L4B	40/40C-I	40/40C-M	40/40C-LB	40/40C-L4B
<b>Detection Range</b>	300ft (90m)		93ft (28m)		215ft (65m)		3456	93ft (28m)
<b>Coverage area - square meters</b>	6336	5426	641	641	3456	2837	186	613
<b>Coverage area - cubic meters</b>	446357	321832	13356	13356	167126	108872	2067	13448
<b>Standard Response Time</b>	Typically <2 sec at 131ft (40m) Typically < 5 sec							
<b>Ultra Fast Response Time</b>	Typically <1 sec at 100ft (30m)		20 msec for flash fire pan fire from 10ft (3m) distance via analog voltage output	20 msec for flash fire pan fire from 3m distance				
<b>High Speed Response Time (explosion)</b>	50 msec for 1ft diameter sphere LPG-air mixture explosion at 66ft (20m) via analog voltage output		50 msec for 1ft diameter sphere LPGair LPGair mixture explosion at 32.8ft (10m)					
<b>No. of Sensitivities Options</b>	6		3	5	2	3		
<b>Field of View</b>	Horizontal 100°; Vertical 95°	Horizontal 80°; Vertical 80° - for Gasoline; Horizontal 90°; Vertical 90° - for Hydrogen	Horizontal 100°; Vertical 95°	Horizontal 80°; Vertical 80° - for Gasoline; Horizontal 90°; Vertical 90° - for Hydrogen	Horizontal 100°; Vertical 95°	Horizontal 100°; Vertical 95°		
<b>Built-In-Test Temperature Range</b>	IR		UV & IR		IR		UV & IR	
<b>Detects</b>	Hydrocarbon fires	Hydrogen and hydrocarbon fires	Hydrocarbon based fuel and gas, hydroxy, hydrogen, metal, inorganic, etc.	Hydrocarbon based fuel and gas fires	Hydrocarbon fires	Hydrogen and hydrocarbon fires	Hydrocarbon-based fuel and gas, hydroxy, hydrogen, metal, inorganic, etc.	Hydrocarbon-based fuel and gas fires

## Accessories 40/40 Series

Part Number	Part Number	Picture	40/40D Series	40/40C Series
FS-1100	Flame simulator (ex proof)		40/40D-I	40/40C-I
FS-1200			40/40D-L4B 40/40D-LB	40/40C-LB 40/40C-L4B
FS-1400			40/40D-M	40/40C-M
877090	Tilt mount		40/40D-I 40/40D-L4B 40/40D-LB 40/40D-M	40/40C-I 40/40C-LB 40/40C-L4B 40/40C-M
877670	Duct mount (ex proof)		40/40D-I 40/40D-L4B 40/40D-LB 40/40D-M	40/40C-I 40/40C-LB 40/40C-L4B 40/40C-M
789260-1	U-bolt/pole mount 3-in		40/40D-I 40/40D-L4B 40/40D-LB 40/40D-M	40/40C-I 40/40C-LB 40/40C-L4B 40/40C-M
789260-2	U-bolt/pole mount 2-in		40/40D-I 40/40D-L4B 40/40D-LB 40/40D-M	40/40C-I 40/40C-LB 40/40C-L4B 40/40C-M
794079	USB RS-485 harness kit		40/40D-I 40/40D-L4B 40/40D-LB 40/40D-M	40/40C-I 40/40C-LB 40/40C-L4B 40/40C-M
877650	Air shield		40/40D-I 40/40D-L4B 40/40D-LB 40/40D-M	40/40C-I 40/40C-LB 40/40C-L4B 40/40C-M
877163	Protective cover (Stainless steel)		40/40D-I 40/40D-L4B 40/40D-LB 40/40D-M	40/40C-I 40/40C-LB 40/40C-L4B 40/40C-M
877263	Protective cover (Plastic). Supplied free of charge with the detector.		40/40D-I 40/40D-L4B 40/40D-LB 40/40D-M	40/40C-I 40/40C-LB 40/40C-L4B 40/40C-M

## 20/20 Mini Series

### Features

- Long distance Flame Detection: up to 140ft / 43m
- Highest immunity to false alarms
- Output options:
  - Alarm and Fault relay outputs (4 wire)
  - Stepped mA output (3 wire source)
- High-Speed Response
- Large Field of View (100° horizontal / 90° vertical)
- Standard 4-Wire Connection
- 4-20mA Sink or Source (3-4 wires) configuration
- RS-485 Modbus Compatible

### Product Overview

The 20/20 range also includes Mini IR3 and Mini UV/IR detectors which offer a lower cost, lower power, compact design in a general purpose (non-Ex approved) format.



20/20MI



20/20ML



20/20MPI

	20/20MI	20/20ML	20/20MPI
<b>Spectral Response</b>	Three IR Bands	UV: 0.185 - 0.260 microns. IR: 2.5 - 3 microns	Three IR Bands
<b>Detect</b> <i>(Highest Sensitivity Setting for 1 ft2 (0.1m2) pan fire)</i>	Gasoline, n-Heptane, Diesel Fuel, JP5, Kerosene, Alcohol (Ethanol), Methanol, Methane*, IPA, LPG Propane*, Polypropylene Pellets, Office Paper.	Gasoline, n-Heptane, Diesel Fuel, JP5, Kerosene, Methanol, Methane*, LPG Propane*, Hydrogen*, Silane*, Polypropylene Pellets, Office Paper.	Gasoline, n-Heptane, Diesel Fuel, JP5, Kerosene, Alcohol (Ethanol), Methanol, Methane*, IPA, LPG Propane*, Polypropylene Pellets, Office Paper.
<b>Detection Range</b>	5m - 40m *Detail in datasheet	4m - 15m *Detail in datasheet	12m - 43m *Detail in datasheet
<b>Standard Response Time</b>	Typical 5 sec.	Typical 5 sec.	Typically 5 seconds
<b>Adjustable Time Delay</b>	Up to 30 sec.	Up to 30 sec.	Up to 30 seconds
<b>Field of View</b>	100° horizontal, 100° vertical	100° horizontal, 100° vertical	100° horizontal, 90° vertical
<b>Built-In-Test</b>	Manual and Automatic BIT	Manual and Automatic BIT	Manual and Automatic BIT
<b>Temperature Range</b>	Operating: -40°F (-40°C) to 160°F (70°C) Storage: -65°F (-55°C) to 185°F (85°C)	Operating: -40°F (-40°C) to 160°F (70°C) Storage: -65°F (-55°C) to 185°F (85°C)	Operating: -40°F (-40°C) to +160°F (+70°C) Storage: -40°F (-40°C) to +160°F (+70°C)
<b>Humidity</b>	Up to 95%	Up to 95%	Up to 95%
<b>Approvals</b>	FM (Functionality) EN54-10 (VdS) - 20/20MI-1 Only	FM (Functionality)	FM3260 EN54-10 (VdS)

## Accessories 20/20 Mini Series

Part Number	Description	Picture	20/20 Series
FS-1100	Flame Simulator		20/20MI 20/20MPI
FS-1200			20/20ML
20/20-005	Tilt Mount		20/20MI 20/20ML
768004 (included with each new detector)	Tilt Mount		20/20MI 20/20MPI
768005 (included with each new detector)	Protective Cover		20/20MPI

Part Number	Description	Picture	20/20 Series
20/20-787	Air Shield		20/20MI 20/20ML
787980	Rain Shield		20/20MI 20/20ML
787969	Laser Pointer		20/20MI
777820	Hand Held Pocket PC		20/20MI