



Paving the Future

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Optical Flame and  
Open Path Gas Detection





# Spectrex SharpEye 40/40 Next-Generation Series Flame Detectors

## Protect People & Property

# Over 50 years of experience

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.

As the innovator of major industry technology standards, such as UV/IR and IR3 flame detection and the Xenon flash in open path gas detection, Spectrex continues to develop new advanced products and technologies.

Spectrex is also an industry pioneer and a global leader in the design, development and production of Automatic Fire detection and Extinguishing Systems for armored vehicles and navy vessels.

 Global leader in flame and gas detection technology

 Innovator of major industry standards – IR3, UV/IR, Xenon Flash in Open Path Gas Detection (OPGD)

 Focus and fine-tune our breakthrough products, while developing new innovations

 Trusted solutions providing reliable protection of high value property and personnel

The SharpEye™ next-generation 40/40 series is based on proven Spectrex technologies, including IR3 and UV/IR. The SharpEye 40/40 series features QuadSense™ technology, the next level in flame detection, providing the fastest response to fire, increased area coverage and longest distance detection or revolutionary UV/IR technology, coupled with high sensitivity and superior immunity to false alarms, functioning in harsh conditions with unparalleled reliability and durability. With an improved design, the detectors are easy to install and maintain and come with universal wiring options and multiple output options for maximum flexibility and compatibility. Ensuring flawless operation, the next-generation series is suited to meet the challenges of wide range of industrial and commercial applications, providing superior protection of high value property and personnel to keep a SharpEye on your safety.



# 40/40D Series

## The Next Level in The Optical Flame Detection Industry With Superior Performance and Reliability

- 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

Multispectrum Quad-Sense IR3 for an exceptional ultra fast detection of hydrocarbon fires at up to 300 ft. (90 m) in under 50 msec

### SharpEye 40/40D-M

Multispectrum Quad-Sense IR3 for an exceptional ultra fast detection of hydrogen at up to 165 ft. (50 m) and hydrocarbon fires at up to 300 ft. (90 m) in under 50 msec

### SharpEye 40/40D-LB

Integrated UV/IR channels for an ultra fast detection of hydrocarbon-based fuel and gas, hydroxyl, hydrogen, metal, inorganic fires in under 20 msec

### SharpEye 40/40D-L4B

Integrated UV/IR channels for an ultra fast detection of hydrocarbon-based fuel and gas fires in under 20 msec

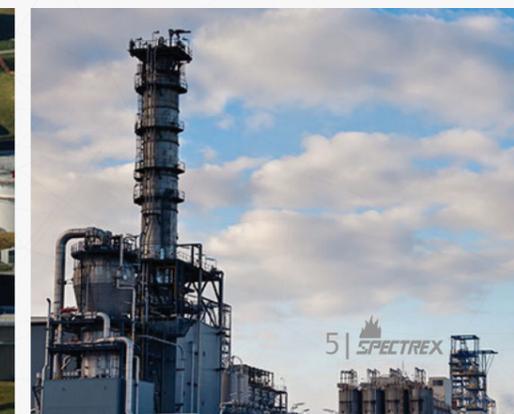


## Key Applications

- Oil & Gas
- Petrochemicals plants
- Pipelines
- Storage Tank farms
- Power
- Generation facilities
- Refinery Hydrogenation
- Hydrogen Fuel Cell Industry
- Chemical plants
- Space Industry hydroxyl propellant
- Explosives & Munitions



# KEEP AN EYE ON YOUR SAFETY



# 40/40C Series

## New Sharpeye Flame Detectors with Enhanced Performance

- 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

Multispectrum Quad-Sense IR3 detection of hydrocarbon-based fuel and gas fires at up to 215 ft. (65 m)

### SharpEye 40/40C-M

Multispectrum Quad-Sense IR3 detection of hydrocarbon fires and hydrogen flames at up to 215 ft. (65 m)

### SharpEye 40/40C-LB

Integrated UV/IR channels for a fast detection of hydrocarbon and hydrogen flames in under five seconds

### SharpEye 40/40C-L4B

Integrated UV/IR channels for a fast detection of hydrocarbon-based fuel and gas, hydroxyl, hydrogen, metal and inorganic fires in under five seconds

## Key Applications

- Waste processing
- Food & Beverage
- Paint Booths
- Aircraft hangars
- Transportation
- Battery charging stations



# KEEP AN EYE ON YOUR SAFETY



# 40/40 Series Specifications

	40/40D-I	40/40D-M	40/40D-LB	40/40D-L4B
<b>Detection Range</b>	300ft (90m)		93ft (28m)	
<b>Coverage area - square meters</b>	6336	5426	641	641
<b>Coverage area - cubic meters</b>	446357	321832	13356	13356
<b>Standard Response Time</b>	Typically <2 sec at 131ft (40m)		Typically 5 sec at 93ft (28m)	
<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 LPG-air mixture explosion at 32.8ft (10m) via analog voltage output	
<b>No. of Sensitivities Options</b>	6		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°	
<b>Built-In-Test</b>	IR		UV & IR	
<b>Temperature Range</b>	-76°F to +185°F (-60°C to +85°C)			
<b>Detects</b>	Hydrocarbon fires	Hydrogen and hydrocarbon fires	Hydrocarbon-based fuel and gas, hydroxyl, hydrogen, metal, inorganic, etc.	Hydrocarbon-based fuel and gas fires

	40/40C-I	40/40C-M	40/40C-LB	40/40C-L4B
	215ft (65m)		50ft (15m)	93ft (28m)
	3456	2837	186	613
	167126	108872	2067	13448
	Typically < 5 sec			
	-			
	-			
	5		2	3
	Horizontal 100°; Vertical 95°	Horizontal 80°; Vertical 80° - for Gasoline Horizontal 90°; Vertical 90° - for Hydrogen	Horizontal 100°; Vertical 95°	
	IR		UV & IR	
	-40°F to +167°F (-40°C to +75°C)			
	Hydrocarbon fires	Hydrogen and hydrocarbon fires	Hydrocarbon-based fuel and gas, hydroxyl, hydrogen, metal, inorganic, etc.	Hydrocarbon-based fuel and gas fires

## HAZARDOUS AREA EX



## RELIABILITY

**SIL3**

## PERFORMANCE

EN54-10 FM3620



## Accessories



Flame Simulator



Air Shield



Duct Mount



USB RS485 Harness Kit



Weather Protector



Tilt Mount



U-Bolt / Pole Mount



Cone Viewer

# 20/20 Mini Series

## Compact, Light Weight, High Performance at Low Cost

- 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



### 20/20MI

High performance featuring lower cost, lower power and more compact design



### 20/20ML

Compact, lightweight and rugged UV/IR detector providing accurate detection of hydrocarbon-based fuel and gas fires, hydrogen and hydroxyl fires



### 20/20MPI

The 20/20MPI is a compact, lightweight, high performance IR3 detector, based on industrially proven IR3 technology. Provides detection up to 140ft (43m)



## Key Applications

- Gas station
- Chemical factory
- Aircraft Hangars
- Waste Handling
- Marine Vessels Engine Rooms
- Unmanned Gas Stations
- Chemical industry
- Burners
- Office Areas and Atrium Areas
- Boilers and heaters
- Automotive parts manufacturing
- Storage areas
- Nuclear power plants
- Power generation
- Car parking towers and garages
- Generators
- Recreational and sports arenas (facilities)

## Accessories



Flame Simulator



Air Shield



Protective Cover included with each new detector



Tilt Mount included with each new detector



Tilt Mount



Rain Cover

# Quasar 900 Series

## The Most Reliable Gas Detector in All Weather Conditions

- Detection of hydrocarbon combustible gases
- High reliability
- Immunity to false alarms
- Performance in all weathers
- Failsafe
- Built-in data logger
- Gas library
- Minimum detectable level – 0.15 LEL m
- Simple to align and commission
- Certified for operation in hazardous locations
- 0-20mA analog output with HART capability
- RS485 Modbus, where up to 256 detectors can be linked

### Quasar 900

The SafEye Quasar 900 is an open path detection system which provides continuous monitoring for combustible hydrocarbon gases. It employs “spectral fingerprint” analysis of the atmosphere using the Differential Optical Absorption Spectroscopy (DOAS) technique.

The Quasar 900 consists of a Xenon Flash infrared transmitter and infrared receiver, separated over a line of sight from 23 ft (7m) up to 660 ft (200m) in extremely harsh environments where dust, fog, rain, snow or vibration can cause a high reduction of signal.



### Key Applications

- Offshore platforms & FPSOs
- Petrochemical plants
- Chemical processing plants
- Gas filling and distribution terminals
- Gas transport and pipelines
- Large storage areas & buildings
- Perimeter monitoring

### Accessories



Stainless steel sunshade  
Tilt Mount Pole Mount



HART Hand-Held  
Diagnostic Unit



Commissioning Kit

#### HAZARDOUS AREA (ZONE 1)



#### PERFORMANCE (3 PARTY)



#### RELIABILITY

**SIL2**

# Quasar 950/60 Series

## Toxic Gas! Detect it Quickly and Safely

- Long Range Toxic Gas Detection up to 200ft (60m)
- Detection of toxic gases:
  - 950 Series detects H<sub>2</sub>S
  - 960 Series detects NH<sub>3</sub>
- 0-20mA
  - HART Protocol for maintenance and asset management
  - RS-485, Modbus Compatible
- Simple, one-person installation, alignment, and calibration
- Multiple output options for maximum flexibility and compatibility
- Programmable configuration via the handheld unit
- Fast connection to I.S. approved handheld diagnostic/calibration unit
- 3mA “maintenance call”
- The first in the world to receive the CSA performance certification for Toxic Open Path detectors!
- Certified performance/Hazardous Area approved (FM, ATEX, IECEx, CSA, and more) for location in Zone 1 areas and 3rd party performance approved (FM, DNV)

### Quasar 950/60

The SafEye Quasar open path UV detection technology includes the 950 and the 960 Series.

The Quasar 950 models detect toxic Hydrogen Sulfide gas.

The Quasar 960 models detect toxic Ammonia gas. both with path lengths of up to 200ft (60m).



## Key Applications

- Offshore platforms & FPSOs
- Petrochemical plants
- Chemical processing plants
- Gas filling and distribution terminals
- Gas transport and pipelines
- Perimeter monitoring

## Accessories



Stainless steel sunshade  
Tilt Mount Pole Mount



HART Hand-Held  
Diagnostic Unit



Commissioning Kit

HAZARDOUS AREA (ZONE 1)



PERFORMANCE



RELIABILITY

**SIL2**

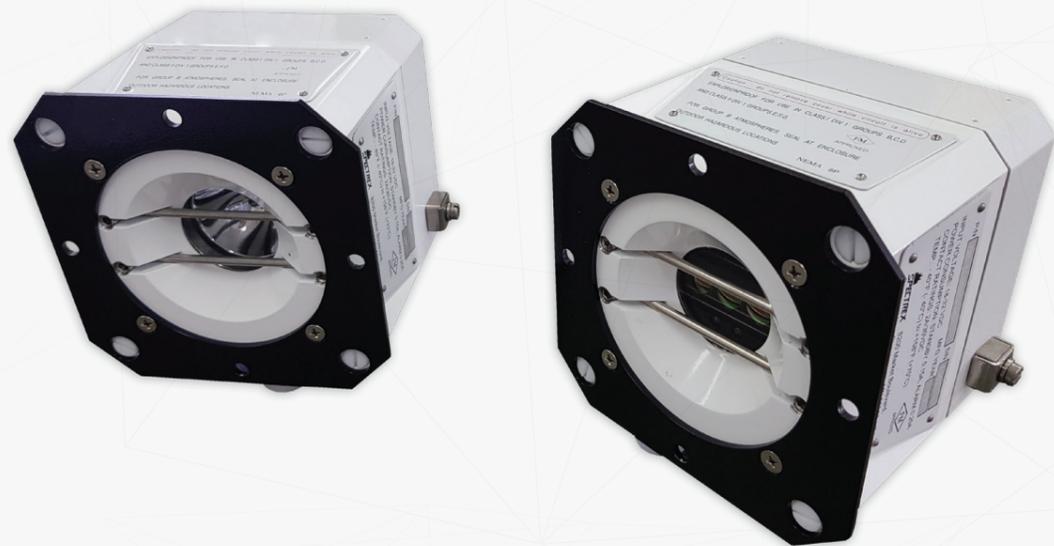
# 300 Series

## Open Path Gas Detection Systems for Air Duct

- High sensitivity
- Fast response
- Low maintenance
- Proven technology
- Specially designed to perform in harsh environments
- Multiple Output Options: 0-20 mA current output; Sink (source option), HART 7.0 protocol, RS485, Modbus compatible Relays x 3 (Fault, Alarm, Accessory)

### AIR DUCT

The Duct SafEye Open Path Detectors monitor ingress of hazardous flammable gas concentrations into air intakes of turbine engines and HVAC air ducts. Duct applications require that the small path across an air inlet responds with a very high sensitivity, full scale of 1 LEL.m for 2-6.6ft (0.6-2m) wide inlet and full scale of 2.5 LEL.m for 6.6-23ft (2-7m) wide inlet.



### Key Applications

- HVAC ducts in accommodations
- Areas
- Air ducts in process areas
- Compressors and generators enclosures
- Curing ovens and drying equipment, printing equipment
- Engine & Turbine air intake and exhaust
- Air intakes of safety enclosures

### Accessories

The following optional accessories designed for the SafEye system are available.

#### Duct Mounting

- Interfaces between the detector and the duct surface
- Enables the detector's alignment up to 3° in all directions

### Commissioning

#### Alignment Kit for standard

- Required for commissioning and future maintenance checks
- One kit required per site
- Included with the kit:
  - Alignment telescope
  - Magnetic mode selector
  - Function check filter for system testing along with socket keys for access to units

HAZARDOUS AREA (ZONE 1)

PERFORMANCE





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