



Certificate of Conformity

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Product designation

Spectrex SharpEye™, 40/40L Series, ultraviolet/infrared flame detectors
(Refer to the Schedule/enclosures for further specified details)

Agent/distributor

Fire Protection Technologies Pty Ltd
Unit 1 / 251 Ferntree Gully Road, MT WAVERLEY, VIC, AUSTRALIA, 3149

Registrant

Spectrex Inc.
218 Little Falls Road, CEDAR GROVE, NJ, UNITED STATES, 07009

Producer

Spectrex Inc.
218 Little Falls Road, CEDAR GROVE, NJ, UNITED STATES, 07009

Conformance criteria and evaluation

The Spectrex SharpEye™, 40/40L Series, ultraviolet/infrared flame detectors has been evaluated and verified as conforming with the relevant requirements of the following criteria.

1. European Standard EN 54-10:2002, 'Fire detection and fire alarm systems. Flame detectors. Point detectors'.
2. Loss Prevention Council - Evaluation, surveillance and approval, 'LPC approval'.

Limitations/conditions of conformance

Limitations/conditions of conformance, where identified on this certificate, are derived from qualifications from evaluation(s) for conformity and/or other related technical documentation. All details with respect to design, assembly and installation instructions and restrictions should be checked against the producer's current technical manual/data sheets and the requirements of the Authority having Jurisdiction.

Specified limitations/conditions, determined from the evaluation for conformity, include the following.

- i. Compatibility of this fire detector and with new or existing control and indicating equipment should be verified prior to installation.

This certification is issued within the scope of CSIRO Verification Services – Rules governing ActivFire Scheme and is valid only for the product(s) as submitted for evaluation and verification of conformity, subject to the following conditions.

- Reference to details, limitations and requirements, where documented as a schedule/enclosure with this certificate.
- The Registrant is responsible for their attestation of conformity and ensuring that on-going production complies with the conformance criteria defined in this certificate.
- This certificate will not be valid if any changes or modifications are made to the product which have not been notified and validated by CSIRO Verification Services.
- This certificate is subject to periodical re-validation upon verification that all requirements, as determined by the conformity assessment body, continue to be satisfactorily met by the Registrant.
- This certificate may only be reproduced in its published form, without modification and inclusive of all schedules/enclosures.
- Any changes, errors or omissions, must be submitted in writing and if necessary or requested, substantiated with relevant evidence.
- Any representations, such as advertising or other marketing related activities or articles shall reflect the correct contents of this certificate and conform with all relevant trade practices and consumer protection legislation and regulations.
- Any terms or conditions of use as applicable to content and documentation as published or accessed through web sites administered by the CSIRO Verification Services.

Issued by

David Whittaker
Executive Officer – ActivFire Scheme



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Producer's description

The Spectrex SharpEye™, 40/40L Series, ultraviolet/infrared flame detectors are multi spectrum based.

The Model 40/40LB 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.

The Model 40/40L4B is identical to the 40/40LB except that the IR sensor works at a wavelength of 4.5 μm and is only suitable for hydrocarbon-based fires.

Technical specification

The following details are a representative extract of the technical specification for the Spectrex SharpEye™, 40/40L Series, ultraviolet/infrared flame detectors and may be subject to change. Complete and current details should be determined from the designated producer's technical manual/data sheets.

Model	Description
Model 40/40LB	Ultraviolet/Infrared Flame Detector with BIT
Model 40/40L4B	Ultraviolet/Infrared Flame Detector (IR@4.5μm) with BIT

Property/characteristic	Value(s)			
	Fuel	40/40LB		40/40L4B
Detection Range (at highest sensitivity setting for 0.1m ² (1ft ²) pan fire) <small>* 0.5m (20") high, 0.2m (8") width plume fire</small>	n-Heptane	15 m	50 ft	15 m 50 ft
	Ethanol 95%	7.5 m	25 ft	7.5 m 25 ft
	LPG*	5 m	16 ft	5 m 16 ft
	Gasoline	15 m	50 ft	15 m 50 ft
	Methanol	7.5 m	25 ft	7.5 m 25 ft
	Polypropylene Pellets	4 m	13 ft	4 m 13 ft
	Diesel Fuel	11 m	37 ft	11 m 37 ft
	IPA (Isopropyl Alcohol)	7.5 m	25 ft	7.5 m 25 ft
	Office Paper	5 m	16 ft	5 m 16 ft
	JP5	11 m	37 ft	11 m 37 ft
	Hydrogen	5 m	16 ft	Not suitable
	Kerosene	11 m	37 ft	11 m 37 ft
Methane*	5 m	16 ft	5 m 16 ft	
Spectral Response	UV: 0.185 - 0.260 μm IR: 2.5-3.0 μm		UV: 0.185 - 0.260 μm IR: 4.4-4.6 μm	
Response Time	Typically 5 seconds. High speed 150 msec response to saturated signal			
Adjustable Time Delay	Up to 30 seconds			
Sensitivity Ranges	0.1m ² (1 ft ²) n-heptane pan fire from 15m (50 ft)			
Field of View	Horizontal 100°; Vertical 95°			
Built-in-Test (BIT)	Automatic (and Manual)			
Temperature Range	Operating: -55°C to +75°C (-67°F to +167°F) Option: -55°C to +85°C (-67°F to +185°F) Storage: -55°C to +85°C (-67°F to +185°F)			
Humidity	Up to 95% non-condensing (withstands up to 100% RH for short periods) Heated Optics To eliminate condensation and icing on the window			
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 +1 mA IR: 8 mA ±5% Alarm: 20 mA ±5% BIT Fault: 2mA ±10% UV: 12mA ±5% Resistance Loop: 100-600 Ω Normal: 4mA ±10% Warning: 16mA ±5%			
HART Protocol	Optional HART communications on the 0-20mA analog current (FSK) - used for maintenance, configuration changes and asset management, available in mA source output wiring options			
RS-485	RS-485 Modbus compatible communication link that can be used in computer controlled installations			
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 101.6 x 117 x 157 mm (4" x 4.6" x 6.18")			
Weight	Detector (St.St.) 2.8 kg (6.1 lb) Tilt mount 1.0 kg (2.2 lb) Detector, aluminum 1.3 kg (2.8 lb)			
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			
Operating Voltage	24 Vdc nominal (18-32 Vdc)			
Power Consumption	Standby: Max. 90 mA (110 mA with heated window) Alarm: Max. 130 mA (160 mA with heated window)			

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Property/characteristic	Value(s)
Cable Entries	2 x 3/4" - 14NPT conduits or 2 x M25 x 1.5 mm ISO
Wiring	12 - 22AWG (2.5 mm ² - 0.3 mm ²)
Electrical Input Protection	According to MIL-STD-1275B
Electromagnetic Compatibility	EMI/RFI protected to EN61326-3 and EN61000-6-3
Electrical Interface	The detector includes twelve (12) terminals with five (5) wiring options (factory set)

Supplementary information

Schedule of relevant articles

The following schedule is an extract of articles significant and/or related as evidence of conformity.

Reference		Title / description	Date issued (or date validated)	Source
Ident. type	Ident.			
Certificate No.	911a-(cl-1)	Flame Detectors EN 54-10: 2011 + A1: 2005 SharpEye 40/40LB LPCB Ref. No.: 911a/06 SharpEye 40/40L4B LPCB Ref. No.: 911a/04 (lpcb_w3_Cert_911a-(cl-1)_v_2013-04-26.pdf)	26-Apr-2013	LPCB, UK
EC-Certificate of Conformity	0832 – CPD – 0976 Issue num. 1	40/40LB Conventional Class 2 UV/IR flame detector for use in fire detection and alarm systems EN 54-10:2002, 'Fire detection and fire alarm systems. Flame detectors. Point detectors'	24-Apr-2009	BRE Global & LPCB, UK
	0832 – CPD – 0975 Issue num. 1	40/40L4B Conventional Class 2 UV/IR flame detector for use in fire detection and alarm systems EN 54-10:2002, 'Fire detection and fire alarm systems. Flame detectors. Point detectors'		
Datasheet	DS-F-40/40 UV/IR	40/40 UV/IR Flame Detector Series	Mar-2012	Spectrex Inc., NJ, US