

Spectrex™ SharpEye™ Flame Simulators

FS-1100, FS-1200, and FS-1400



Features and benefits

- Used for maintenance and testing of flame detectors
- Includes rechargeable battery
- Operates at least 100 tests before the battery must be recharged
- Long-range flame detector activation – at a range up to 40 ft. (12 m)
- Reduced maintenance costs with easy access for testing detectors in hard-to-reach places from floor/deck level without the need for scaffolding or ladders
- Highly portable – for handheld operation by a single operator
- Easy aiming using a laser diode
- ATEX/IECEX/UKCA approved for use in Zones 1 and 2, Zones 21 and 22 hazardous areas

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Introduction

To comply with local standards and jurisdictional authorities, perform an end-to-end loop testing of fire protection alarm systems, including detectors, periodically. Many safety authorities and plant managers of high value/high risk assets and facilities insist on quarterly end-to-end testing of their entire fire protection systems using an external flame simulator.

Spectrex Flame Simulators emit electromagnetic radiation in a unique sequential pattern corresponding to and recognizable as fire by the specific Spectrex Flame Detector. This allows the detector to be tested under real fire conditions without the associated risk of an open flame.

Spectrex Flame Simulators are ATEX-certified EExd for use in Zone 1 and Zone 2 hazardous areas, and are powered by rechargeable lithium-ion batteries. When fully charged, the Flame Simulator will operate for at least 100 tests without recharging.

The Spectrex Flame Simulator is the only non-hazardous and safe method to test the flame detector's sensors, internal electronics, alarm activation software, cleanliness of the viewing window/lens, wiring integrity, actual relay activation, and proper functionality of any other output used (mA, RS-485, or HART®).

Ordering information

The simulator is supplied as a standard kit, which includes:

- Protective suitcase
- Battery nut removal tool
- 1.5 mm Allen hex key
- Battery charger

Model

Code	Description
FS-1100	Triple IR (IR3)
FS-1200	Ultraviolet and Ultraviolet Infrared (UV and UV/IR)
FS-1400	Multi IR

Product certifications

Code	Description
-N	USA and Canada Explosion-Proof
-K	Technical Regulations Customs Union (EAC) Kazakhstan Flameproof
-R	Technical Regulations Customs Union (TRCU)/EAC Flameproof

Accessories

Part number	Description
380004	SPX Spare battery kit
380151	16.8 V Lithium-ion charger

Specifications

Detection ranges per detector/flame simulator

Model	Detector types	Detector sensitivity settings	Testing distance
FS-1100	40/40D-I, C-I	50 ft. (15 m)	5 ft. (1.5 m)
		100 ft. (30 m)	13 ft. (4 m)
		150 ft. (45 m)	20 ft. (6 m)
		215 ft. (65 m)	30 ft. (9 m)
		300 ft. (90 m)	36 ft. (11 m)
	40/40I Legacy	50 ft. (15 m)	6.6 ft. (2 m)
		100 ft. (30 m)	19.6 ft. (6 m)
		150 ft. (45 m)	29.5 ft. (9 m)
		215 ft. (65 m)	39.3 ft. (12 m)
	40/40 UFI Legacy	66 ft. (20 m)	13 ft. (4 m)
		133 ft. (40 m)	26 ft. (8 m)
		200 ft. (60 m)	40 ft. (12 m)
		300 ft (90 m)	50 ft. (15 m)
	20/20MPI, 20/20MI-1	33 ft. (10 m)	6.6 ft. (2 m)
		65 ft. (20 m)	8.2 ft. (2.5 m)
		100 ft. (30 m)	19.6 ft. (6 m)
		132 ft. (40 m)	26.2 ft (8 m)
	20/20Q	9.8 ft. (3 m)	N/A
		32.8 ft. (10 m)	6.6 ft. (2 m)
		65.6 ft. (20 m)	16.4 ft. (5 m)
98.4 ft. (30 m)		24.6 ft. (7.5 m)	
147.6 ft. (45 m)		29.5 ft. (9 m)	

Model	Detector types	Detector sensitivity settings	Testing distance
FS-1200	40/40L4, L4B (Legacy)	93 ft. (28 m)	8 ft. (2.5 m)
	40/40U, UB, L, LB	50 ft. (15 m)	20 ft. (6 m)
	20/20ML (Legacy)	50 ft. (15 m)	20 ft. (6 m)
	40/40UFL (Legacy)	60 ft. (20 m)	23 ft. (7 m)
	40/40D-L4B	93 ft. (28 m)	6 ft. (2 m)
	40/40D, C-LB	10 ft. (3 m)	3 ft. (1 m)
		50 ft. (15 m)	11 ft. (7 m)
93 ft. (28 m) ⁽¹⁾		46 ft. (14 m) ⁽¹⁾	
FS-1400	40/40M (Legacy)	50 ft. (15 m)	6.6 ft. (2 m)
		100 ft. (30 m)	19.6 ft. (6 m)
		150 ft. (45 m)	29.5 ft. (9 m)
		215 ft. (65 m)	39.3 ft. (12 m)
	40/40D, C-M	50 ft. (15 m)	2 ft. (0.6 m)
		100 ft. (30 m)	6 ft. (2 m)
		150 ft. (45 m)	8 ft. (2.5 m)
		215 ft. (65 m)	16 ft. (5 m)
		300 ft. (90 m)	26 ft. (8 m)

(1) 40/40D-LB only.

General specifications

- Temperature range: -4 °F to +122 °F (-20 °C to +50 °C)
- Vibration protection: 1 g (10 to 50 Hz)

Electrical specifications

- Rechargeable 4-cell lithium-ion battery:
 - Power: 14.8 V (4 x 3.7 V), maximum current: 0.2 A
 - Charging: 16.8 V (4 x 4.2 V), maximum current: 2 A
- Battery capacity: 2.6 Ah
- Charging time: Two hours at 2 A
- Samsung: INR18650-35E

Physical specifications

- Dimensions: 9 in. x 7.3 in. x 5.35 in. (230 mm x 185 mm x 136 mm)
- Weight: 5.5 lb. (2.5 kg)
- Enclosure: aluminum, heavy-duty copper-free, black zinc coating
- Explosion-proof enclosure:

FS-1100, FS-1400	FS-1200
ATEX, IECEx Ex II 2 G D Ex db ib op is IIB + H ₂ T ₄ Gb Ex ib op is tb IIIC T135 °C Db -4 °F to +122 °F (-20 °C to +50 °C) Water and dust-tight: IP65	ATEX, IECEx Ex II 2 G D Ex db ib IIB + H ₂ T ₄ Gb Ex ib tb IIIC T135 °C Db -4 °F to +122 °F (-20 °C to +50 °C) Water and dust-tight IP65

Approvals

For approvals information, see [Reference Manual: Spectrex™ SharpEye™ Flame Simulators](#).

For more information: [Spectrex.net](https://www.spectrex.net)

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