TracXP™

Industrial Gas Solutions

by Macurco

TracXP is the industrial products division of Macurco Gas Detection, who has been providing gas detection solutions for over 50 years. The TracXP line addresses special hazard applications including harsh industrial environments and hazardous locations with a comprehensive line of wired and wireless gas detection solutions.



TXP-FDE IR3-HD

Infrared Spectrum Flame Detector with HD Video



TXP-FDE IR3-HD

The TracXP TXP-FDE IR3-HD triple IR flame detector ensures the highest immunity to false alarms and provides an ultra-fast response, high performance, and reliable detection of all types of hydrocarbon fires (visible and non-visible). The detector addresses slow-growing fires as well as the fast eruption of fire using improved triple IR (IR3) technology. Integral event recording provides the ultimate safety tool to protect your personnel, plant, and processes. The IR3-HD's high definition camera allows clear imaging of fire and personnel at 100ft (30m). Video recording of one-minute pre-event and up to three minutes post-event provides visual documentation of the event.

The TXP-FDE IR3-HD detects fires and explosions extremely quickly allowing mitigation steps to be initiated more rapidly and limit event escalation.

Key Features

- Extreme sensitivity - up to 260ft.
- 1.3 seconds detection time for 1ft^2
- Ultra-fast detection mode – detection within 40 milliseconds for fireballs or explosions
- High immunity to false alarm
- HD video output with automatic HD video recording of fire events
- Data / event logger - alarms, faults, etc
- Built-in-test (BIT) automatic & manual self test of window cleanliness & operation
- Window heater to avoid condensation & icing
- Tilt mounting bracket can be connected above or below detector

Applications

- Oil & Gas
- Fuel storage & pump stations
- Arc welding workshops
- Petrochemical
- Pipeline compression
- Aircraft hangars
- Maintenance facilities
- Pulp & paper
- Power generation
- Warehousing
- General industry

TXP-FDE IR3-HD

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Response Characteristics

Fuel	Size	Sensitivity	Distance ft. (m)	Average Response Time
n-Heptane	1 x 1 ft.	Extreme	230 (70)	4.1
n-Heptane	1 x 1 ft.	High	197 (60)	3.2
n-Heptane	1 x 1 ft.	Medium	98 (30)	2.2
Gasoline	1 x 1 ft.	Extreme	230 (70)	3.6
Gasoline	1 x 1 ft.	Medium	98 (30)	1.5
Methane	32-in Plume	Extreme	148 (45)	3.3
Methane	32-in Plume	Medium	82 (25)	0.8
LPG	32-in Plume	Extreme	180 (55)	4.8
LPG	32-in Plume	Medium	98 (30)	1.4
Diesel	1 x 1 ft.	Extreme	164 (50)	2.9
Diesel	1 x 1 ft.	Medium	79 (24)	3.9
JP5	1 x 1 ft.	Extreme	164 (50)	4.1
JP5	1 x 1 ft.	High	148 (45)	4.9
JP5	1 x 1 ft.	Medium	79 (24)	1.9
Kerosene	1 x 1 ft.	Extreme	164 (50)	4.1
Kerosene	1 x 1 ft.	Medium	79 (24)	2.5
Methanol	1 x 1 ft.	High	125 (38)	5.5
Methanol	1 x 1 ft.	Medium	75 (23)	1.2
Ethanol	1 x 1 ft.	Extreme	125 (38)	4.2
Isopropanol (IPA)	1 x 1 ft.	Extreme	180 (55)	3.5
Isopropanol (IPA)	1 x 1 ft.	Medium	75 (23)	1.0
Polypropylene	1 x 1 ft.	Extreme	115 (35)	10.1
Polypropylene	1 x 1 ft.	Medium	66 (20)	2.6
Syngas (30% CH_4 & 70% H_2)	32-in Plume	Extreme	98 (30)	3.3
Syngas (30% CH_4 & 70% H_2)	32-in Plume	Medium	49 (15)	0.8
Wood	1 x 1 ft.	Extreme	148 (45)	3.8
Wood	1 x 1 ft.	Medium	74 (22.5)	2.1

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Immunity to False Alarm

False Alarm Source	Modulated		Unmodulated	
	Distance ft. (m)	Response	Distance ft. (m)	Response
Sunlight, Direct, Reflected with/without water		No Alarm		No Alarm
Incandescent frosted glass light, 300W	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Fluorescent, 70W (3x23.3W)	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Electric arc	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Arc welding	12.0 (3.5)	No Alarm	12.0 (3.5)	No Alarm
Radiation heater, 1850W	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Quartz lamp (500W) non-shielded	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Mercury vapor lamp 160Wx3	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Exhausts	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Projector LED	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Solenoid bell	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Soldering iron	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Electric drill	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm

Approvals and Performance

ATEX	ATEX: II 2 G D Ex db IIC T5 Gb or Ex db eb IIC T5 Gb and Ex tb IIIC T95°C Db -55°C<Ta<75°C Ex db IIC T4 Gb or Ex db eb IIC T4 Gb and Ex tb IIIC T105°C Db -55°C<Ta<85°C
IECEx & PESO	Ex db IIC T5 Gb or Ex db eb IIC T5 Gb and Ex tb IIIC T95°C Db -55°C<Ta<75°C Ex db IIC T4 Gb or Ex db eb IIC T4 Gb and Ex tb IIIC T105°C Db -55°C<Ta<85°C
FMus & FMc	Class I, Div. 1, Groups B, C & D; T4 -50°C≤Ta≤85°C or T5 -50° C≤Ta≤75°C Class II/III, Div. 1, Groups E, F, G; T4 -50°C≤Ta≤85°C or T5 -50°C≤Ta≤75°C Class I, Zone 1, AEx/Ex db IIC T4 Gb or Class I, Zone 1, AEx/Ex db eb IIC T4 Gb -50°C≤Ta≤85°C Class I, Zone 1, AEx/Ex db IIC T5 Gb or Class I, Zone 1, AEx/Ex db eb IIC T5 Gb -50°C≤Ta≤75°C Zone 21, AEx/Ex tb IIIC T95°C Db -50°C≤Ta≤75°C or Zone 21, AEx/Ex tb IIIC T105°C Db -50°C≤Ta≤85°C
EAC CU TR	1Ex d IIC T5 Gb or 1Ex de IIC T5 Gb and Ex tb IIIC T95°C Db -55°C≤Ta≤75°C 1Ex d IIC T4 Gb or 1Ex de IIC T4 Gb and Ex tb IIIC T105°C Db -55°C≤Ta≤85°C
Performance	ANSI FM 3260 EN 54-10

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Specifications

Flame Detector Specifications

Dimensions	7.87" (L) x 5.12" (W) x 5.12" (H)
Shipping Weight	15.2 lbs. (6.9 kg.)
Power & Electrical	Operating Voltage: 18-32 VDC Current (Standby): 180 mA Current (Maximum): 300 mA Conduit Entries: 2 x 3/4" NPT or M25x1.5 Wiring: 12-20 AWG
Outputs	Relays: 3 x SPST 2A @ 30 VDC Analog: 4-20 mA stepped (sink or source) Digital: Modbus RS-485 RTU LED: Tri-color (Green, Yellow and Red)
Detection Time and Distance	40ms for fast burst or explosion For 1 sq. ft. (0.1 sq. m.) n-heptane pan fire: 1.5s at 0–100 ft. (0–30 m) 9s at 100-262 ft. (30-80 m)
Sensitivity Options	Extreme, High, Medium, Low and Very Low
Field of View	90° Horizontal and 75° Vertical
Time Delay	0-30 seconds
Built in Test	Automatic and Manual
Temperature Range	-67°F to +185°F (-55°C to +85°C)
Humidity	Up to 99% (RH), non-condensing
Ingress Protection	IP66 & 68; NEMA 4X & 6P
Approvals	Refer to Table on Page 3

Video Specifications

HD Video	Color HD as standard
Alarm Recording	1-minute pre- and up to 3 minutes post-event
Integration Protocol	ONVIF (Open Network Video Interface Forum)
Digital Video	IP network IEEE 802.3 100Base-T
Composite Video	NTSC or PAL

Represented By:

Ordering Information

Part Number	Description
84-1112-1200-10	TXP-FDE IR3-HD, Video, SS, 3/4" NPT, Tilt Mount
84-1112-1100-20	TXP-FDE IR3-HD, Video, SS, M25, Tilt Mount
84-2112-1200-10	TXP-FDE IR3-H2-HD, Video, SS, 3/4" NPT, Tilt Mount
84-2112-1100-20	TXP-FDE IR3-H2-HD, Video, SS, M25, Tilt Mount
84-1211-1200-10	TXP-FDE IR3, No Video, SS, 3/4" NPT, Tilt Mount
84-1211-1100-20	TXP-FDE IR3, No Video, SS, M25, Tilt Mount
84-2211-1100-20	TXP-FDE IR3-H2, No Video, SS, 3/4" NPT, Tilt Mount
84-2211-1200-10	TXP-FDE IR3-H2, No Video, SS, M25, Tilt Mount

*Specifications shown are for TXP-FDE IR3-HD models only

Accessories

Part Number	Description
84-1000-0000-08	TXP-FDE IR3, SS, Flame Simulator Kit
84-2000-0000-08	TXP-FDE IR3-H2, SS, Flame Simulator Kit
84-8000-0000-01	TXP-FDE HD Weather Cover
84-8000-0000-04	TXP-FDE Weather Cover for Models without Video
84-8000-0000-05	TXP-FDE USB to RS-485 PC Converter Kit
84-8000-0000-08	TXP-FDE Pole Mount Adapter, SS, 2" & 3"
84-8000-0000-10	TXP-FDE HD Duct Mount Kit without Sapphire Window
84-8000-0000-11	TXP-FDE HD Duct Mount Kit with Sapphire Window
84-8000-0000-12	TXP-FDE HD Airshield for Dust and Snow Protection
84-8000-0000-13	TXP-FDE HD Paint and Dust Shield Adapter Ring Kit
84-8000-0000-14	TXP-FDE HD Disposable Paint and Dust Shields (Qty. 10)



Flame Simulator



Weather Cover



Pole Mount Adapter

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