

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 UV/IR-HD

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

TXP-FDE UV/IR-HD

Ultraviolet and Infrared Spectrum Flame Detector with HD Video

The TXP-FDE UV/IR flame detector provides ultra-fast response, high performance and reliable detection of a large variety of fires including hydrocarbon fires (visible and non-visible), H_2 and CH_4/H_2 mixed fires. The detector addresses slow growing fires and fast eruptions of fire using improved UV & IR technology operating in all weather and light conditions. The HD model provides high-definition color video of the monitored area with clear imaging of fire events and personnel at distances up to 100 ft. Video and event data are stored to non-volatile memory. Recordings start one minute before detection and continue for up to four minutes to assist with post incident investigation.

Key Features

- Hydrocarbon and non-hydrocarbon flames
- High immunity to false alarm
- Ultra-fast detection within 5 ms for explosions
- Three relay contacts (two alarm and a fault)
- 4-20mA and Modbus RS-485 RTU outputs
- Color High Definition or composite video
- Automatic video recording of fire events
- Videos and data logs of alarms and events are stored in non-volatile memory
- Internal tests for window clarity and operation
- Window heater to avoid icing and condensation
- Tilt mount included for two-axis adjustments

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 UV/IR-HD

Response Characteristics

Fuel	Size	Sensitivity	Distance ft. (m)	Average Response Time
N-Heptane	1 x 1 ft.	Extreme	98 (30)	3.0
N-Heptane	1 x 1 ft.	Medium	49 (15)	1.5
Gasoline	2 x 2 ft.	Extreme	164 (50)	8.1
Gasoline	1 x 1 ft.	Extreme	98 (30)	2.9
Methane	32 in. Plume	Extreme	59 (18)	4.8
LPG	32 in. Plume	Extreme	75 (23)	3.2
LPG	32 in. Plume	Medium	33 (10)	0.6
Diesel	1 x 1 ft.	Extreme	75 (23)	3.1
JP5	1 x 1 ft.	Extreme	75 (23)	3.1
JP5	1 x 1 ft.	Medium	33 (10)	2.1
Kerosene	1 x 1 ft.	Extreme	75 (23)	2.5
Methanol	1 x 1 ft.	Extreme	59 (18)	3.8
Methanol	1 x 1 ft.	Medium	26 (8)	2.2
Ethanol	1 x 1 ft.	Extreme	72 (22)	3.8
Isopropanol	1 x 1 ft.	Extreme	75 (23)	3.0
Polypropylene	1 x 1 ft.	Extreme	49 (15)	3.1
Paper	1 x 1 ft.	Extreme	33 (10)	3.9
Hydrogen	32 in. Plume	Extreme	66 (20)	3.6
Syngas (30%CH ₄ ,70%H ₂)	32 in. Plume	Extreme	59 (18)	3.2
Syngas (30%CH ₄ ,70%H ₂)	32 in. Plume	Medium	33 (10)	1.2

Macurco Gas Detection

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Immunity to False Alarm

False Alarm Source	Modulated		Unmodulated	
	Distance ft. (m)	Response	Distance ft. (m)	Response
Sunlight, Direct, Reflected		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	7.0 (2.0)	No Alarm	7.0 (2.0)	No Alarm
Radiation heater, 2000W	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Quartz lamp (500W) non-shielded	10.0 (3.0)	No Alarm	3.0 (1.0)	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: II2GD 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, INMETRO & PESO	Ex db IIC T5 Gb or Ex db eb IIC T5 Gb and Ex tb IIIC T95°C Db -50°C<Ta<75°C Ex db IIC T4 Gb or Ex db eb IIC T4 Gb and Ex tb IIIC T105°C Db -50°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)
HART	HART® 7 for configuration & maintenance
Detection Time and Distance	5ms for fast burst of explosion For 1 sq. ft. (0.1 sq. m.) n-heptane pan fire: 1.5s at 0-50 ft. (0-15 m) <3s at 50-100 ft. (15-30 m)
Sensitivity Options	Extreme, High, Medium and Low
Field of View	90° Horizontal and 80° Vertical
Time Delay	0-30 seconds
Built-in-Test (BIT)	Automatic (Upon startup and in 20 minute intervals) Manual (PC software or wire terminal short)
Temperature Range	-67°F to +185°F (-55°C to +85°C)
Humidity	Up to 99% (RH), non-condensing
Ingress Protection	IP66 & 68 (2m, 24hr); 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:

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Ordering Information

Part Number	Description
84-3112-1200-10	TXP-FDE UV/IR-HD, Video, SS, 3/4" NPT, Tilt Mount
84-3112-1100-20	TXP-FDE UV/IR-HD, Video, SS, M25, Tilt Mount
84-4112-1200-10	TXP-FDE UV/IR-F-HD, Video, SS, 3/4" NPT, Tilt Mount
84-4112-1100-20	TXP-FDE UV/IR-F-HD, Video, SS, M25, Tilt Mount
84-3211-1100-20	TXP-FDE UV/IR, No Video, SS, 3/4" NPT, Tilt Mount
84-3211-1200-10	TXP-FDE UV/IR, No Video, SS, M25, Tilt Mount
84-4211-1200-10	TXP-FDE UV/IR-F, No Video, SS, 3/4" NPT, Tilt Mount
84-4211-1100-20	TXP-FDE UV/IR-F, No Video, SS, M25, Tilt Mount

*Specifications shown are for TXP-FDE UV/IR-HD models only

Accessories

Part Number	Description
84-3000-0000-08	TXP-FDE UV/IR, 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