

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

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

TXP-FDE UV/IR

Ultraviolet and Infrared Spectrum Flame Detector

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
- 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

Response Characteristics

Fuel	Size	Sensitivity	Distance ft. (m)	Average Response Time
N-Heptane	1 x 1 ft.	Extreme	98 (30)	2.0
N-Heptane	1 x 1 ft.	High	75 (23)	1.7
Gasoline	2 x 2 ft.	Extreme	197 (60)	3.3
Gasoline	1 x 1 ft.	Extreme	98 (30)	1.8
Gasoline	1 x 1 ft.	Medium	49 (15)	1.3
Methane	32 in. Plume	Extreme	59 (18)	1.4
Methane	32 in. Plume	Medium	30 (9)	0.9
LPG	32 in. Plume	Extreme	75 (23)	1.2
LPG	32 in. Plume	High	56 (17)	1.6
Diesel	1 x 1 ft.	Extreme	75 (23)	2.6
Diesel	1 x 1 ft.	Medium	36 (11)	1.2
JP5	1 x 1 ft.	Extreme	75 (23)	3.3
JP5	1 x 1 ft.	High	56 (17)	1.8
Kerosene	1 x 1 ft.	Extreme	75 (23)	1.8
Kerosene	1 x 1 ft.	Medium	36 (11)	0.9
Methanol	1 x 1 ft.	Extreme	52 (16)	0.8
Methanol	1 x 1 ft.	High	43 (13)	3.2
Ethanol	1 x 1 ft.	Extreme	62 (19)	4.1
Ethanol	1 x 1 ft.	Medium	31 (9.5)	2.9
Isopropanol	1 x 1 ft.	Extreme	75 (23)	2.2
Isopropanol	1 x 1 ft.	Medium	36 (11)	0.8
Polypropylene	1 x 1 ft.	Extreme	49 (15)	1.4
Polypropylene	1 x 1 ft.	Medium	23 (7)	0.9
Hydrogen	32 in. Plume	Extreme	66 (20)	6.4
Hydrogen	32 in. Plume	Medium	33 (10)	1.0
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

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	10.0 (3.0)	No Alarm	10.0 (3.0)	No Alarm
Radiation heater, 2000W	2.0 (0.5)	No Alarm	2.0 (0.5)	No Alarm
Halogen lamp (500W) non-shielded	7.0 (2.0)	No Alarm	7.0 (2.0)	No Alarm
Halogen lamp (1000W)	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, INMETRO & PESO	Ex db IIC T5 Gb -50°C≤Ta≤75°C Ex db IIC T4 Gb -50°C≤Ta≤85°C
FMus & FMc	Class I, Div. 1, Groups B, C & D; T4 Class I, Zone 1, AEx/Ex db IIC T4 Gb T4 -50°C≤Ta≤85°C T5 -50°C≤Ta≤75°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

TXP-FDE UV/IR

Specifications

Flame Detector Specifications

Dimensions	5.51" (L) x 3.54" (W) x 3.54" (H)
Shipping Weight	9.9 lbs. (4.5 kg.)
Power & Electrical	Operating Voltage: 18-32 VDC Current (Standby): 120 mA Current (Maximum): 180 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: 1s at 0-50 ft. (0-15 m) <2s 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

Ordering Information

Part Number Description

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
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

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

Accessories

Part Number Description

84-3000-0000-08	TXP-FDE UV/IR, SS, Flame Simulator Kit
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"
84-8000-0000-01	TXP-FDE HD Weather Cover
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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