



Northside Sales, Co.  
Safety & Industrial Products  
800-467-9005

# 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

### Infrared Spectrum Flame Detector

The TracXP TXP-FDE IR3 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 model has a high definition camera that 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.

### Key Features

- Extreme sensitivity - up to 262ft.
- Hydrocarbon flame detection using three wavelengths with clear separation
- Ultra-fast detection mode – detection within 40 milliseconds for fireballs or explosions
- High immunity to false alarm
- 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



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

## Response Characteristics

| Fuel   | Size        | Sensitivity | Distance ft. (m) | Average Response Time |
|--|-------------|-------------|------------------|-----------------------|
| n-Heptane  | 1 x 1 ft.   | Extreme     | 230 (70)         | 3.7                   |
| n-Heptane  | 1 x 1 ft.   | High        | 197 (60)         | 2.7                   |
| n-Heptane  | 1 x 1 ft.   | Medium      | 98 (30)          | 2.6                   |
| Gasoline   | 1 x 1 ft.   | Extreme     | 230 (70)         | 2.8                   |
| Gasoline   | 1 x 1 ft.   | Medium      | 98 (30)          | 1.5                   |
| Methane  | 32-in Plume | Extreme     | 148 (45)         | 2.6                   |
| Methane  | 32-in Plume | Medium      | 82 (25)          | 0.6                   |
| LPG  | 32-in Plume | Extreme     | 180 (55)         | 3.7                   |
| LPG  | 32-in Plume | Medium      | 98 (30)          | 1.4                   |
| Diesel   | 1 x 1 ft.   | Extreme     | 164 (50)         | 2.6                   |
| Diesel   | 1 x 1 ft.   | Medium      | 79 (24)          | 3.2                   |
| JP5  | 1 x 1 ft.   | Extreme     | 164 (50)         | 4.5                   |
| JP5  | 1 x 1 ft.   | High        | 148 (45)         | 4.4                   |
| JP5  | 1 x 1 ft.   | Medium      | 79 (24)          | 1.8                   |
| Kerosene   | 1 x 1 ft.   | Extreme     | 164 (50)         | 3.6                   |
| Kerosene   | 1 x 1 ft.   | Medium      | 79 (24)          | 2.7                   |
| Methanol   | 1 x 1 ft.   | High        | 125 (38)         | 4.2                   |
| Methanol   | 1 x 1 ft.   | Medium      | 75 (23)          | 1.5                   |
| Ethanol  | 1 x 1 ft.   | Extreme     | 125 (38)         | 4.7                   |
| Isopropanol (IPA)                                  | 1 x 1 ft.   | Extreme     | 180 (55)         | 3.6                   |
| Isopropanol (IPA)                                  | 1 x 1 ft.   | Medium      | 75 (23)          | 1.8                   |
| Polypropylene                                      | 1 x 1 ft.   | Extreme     | 115 (35)         | 7.8                   |
| Polypropylene                                      | 1 x 1 ft.   | Medium      | 66 (20)          | 2.1                   |
| Syngas (30% CH <sub>4</sub> & 70% H <sub>2</sub> ) | 32-in Plume | Extreme     | 98 (30)          | 3.3                   |
| Syngas (30% CH <sub>4</sub> & 70% H <sub>2</sub> ) | 32-in Plume | Medium      | 49 (15)          | 1.3                   |
| Wood   | 1 x 1 ft.   | Extreme     | 148 (45)         | 4.2                   |
| Wood   | 1 x 1 ft.   | Medium      | 74 (22.5)        | 2.1                   |

### Macurco Gas Detection

1504 W. 51st Street

Sioux Falls, SD 57105

Phone: 1-877-367-7891

Website: [www.macurco.com](http://www.macurco.com)

Email: [info@macurco.com](mailto:info@macurco.com)

# TXP-FDE IR3

## 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 |
| ECar xhausts                                   | 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<br>Ex db IIC T5 Gb or Ex db eb IIC T5 Gb and Ex tb IIIC T95°C Db -55°C<Ta<75°C<br>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<br>Ex db IIC T4 Gb -50°C≤Ta≤85°C  |
| FMus & FMc            | Class I, Div. 1, Groups B, C & D; T4<br>Class I, Zone 1, AEx/Ex db IIC T4 Gb<br>T4 -50°C≤Ta≤85°C<br>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<br>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<br>EN 54-10  |

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# TXP-FDE IR3

## 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<br>Current (Standby): 120 mA<br>Current (Maximum): 180 mA<br>Conduit Entries: 2 x 3/4" NPT or M25x1.5<br>Wiring: 12-20 AWG |
| Outputs                     | Relays: 3 x SPST 2A @ 30 VDC<br>Analog: 4-20 mA stepped (sink or source)<br>Digital: Modbus RS-485 RTU<br>LED: Tri-color (Green, Yellow and Red)        |
| Detection Time and Distance | 40ms for fast burst or explosion<br>For 1 sq. ft. (0.1 sq. m.) n-heptane pan fire:<br>2.6s at 0-100 ft. (0-30 m)<br>7.1s 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  |

## Ordering Information

| Part Number     | Description  |
|-----------------|--|
| 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      |
| 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      |

\*Specifications shown are for TXP-FDE IR3 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                |
| 84-8000-0000-04 | TXP-FDE Weather Cover for Models without Video         |
| 84-8000-0000-08 | TXP-FDE Pole Mount Adapter, SS, 2" & 3"                |
| 84-8000-0000-05 | TXP-FDE USB to RS-485 PC Converter Kit                 |
| 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) |

Represented By:



Flame Simulator



Weather Cover



Pole Mount Adapter



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