

ETA Process Instrumentation

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FALCO

AND FALCO TAC, DIFFUSED MODEL



DESIGNED FOR CONDENSING ATMOSPHERES
AND EXTREME WEATHER.

Pion eering Gas Sensing Technology.





FALCO ELIMINATES FALSE READINGS FOUND WITH OTHER COMPETING TECHNOLOGY, GIVING YOU RELIABILITY, ACCURACY AND RESULTS YOU CAN TRUST

Overview

FALCO and FALCO TAC are part of the latest generation of fixed photoionization detectors (PIDs) from ION Science that continuously detect a wide range of volatile organic compounds (VOCs).

Designed for working in the most extreme conditions, its unique Typhoon Technology safeguards the sensor from condensing humidity while its anti contamination design allows maintenance free operation for extended periods in the harshest environments. FALCO also incorporates ION Science's patented Fence Electrode Technology for the most accurate PID performance over all humidities.

FALCO can operate as a standalone detector with its bright multi-coloured status display and can also be easily integrated into any system via analogue 4-20 mA, Modbus RS-485 and relays.

For ease of maintenance, FALCO can be serviced without the need for removing power or using a hot work permit with no tools. FALCO's easy to navigate, 5 magnetic switch interface with LED confirmation ensures installation, setup and servicing is quick and simple.

FALCO is supplied with a 10.6 eV lamp allowing the instrument to detect a wide range of VOC gases whereas FALCO TAC utilises a 10.0 eV lamp to detect Total Aromatic Compounds (TACs), which helps focus on benzene.

The FALCO and FALCO TAC diffused instruments are ideal for detecting VOCs and TACs in areas such as refineries and petrol chemical facilities.

Extreme Conditions

- Specifically designed for extreme weather
- Built-in Typhoon Technology to stop condensation forming within the PID sensor
- Anti-contamination design
- Ingress protection rating IP65

Ultimate Safety

- Patented fence electrode gives best in class performance over all humidities
- Anti contamination design provides long term accurate results
- Multi-coloured status display visible from 20 metres in direct sunlight
- High visibility OLED display

Ease of maintenance & low cost of ownership

- Easy to navigate unique 5 magnetic button interface
- No pump to replace
- No tools required to field service
- Dual certification allows access to serviceable areas in hazardous zones
- Warranted 10,000 hour lamp life
- Easy to replace electrode stack



Applications

- Safety
- Industrial hygiene
- Fugitive emissions
- Fence line monitoring
- Air quality monitoring
- Fertility labs
- Glove boxes
- Fume cupboards
- Process control
- HVAC
- Plant shut down & turnaround

Dual Certification

Dual IS and ExD certification allows FALCO to be serviced in hazardous environments without using a hot work permit.

Certification	
ATEX	Ex) 2G db ib IIC T4 Gb
UL/CSA	Class 1, Div 1 Groups ABCD T4

Four Detection Ranges

- FALCO and FALCO TAC diffused have four detection ranges.

Range (ppm)	0-10	0-500	0-1000	0-3000
Sensitivity (ppm)	0.001	0.01	0.1	1
FALCO (10.6 eV)	✓	✓	✓	✓
FALCO TAC (10.0 eV)		✓		



Diffused 10.6eV model



Diffused TAC (10.0eV) model



Technical specifications

Sensor

- Photoionization detector

Falco detection ranges and sensitivity with 10.6eV lamp fitted*

- 10.0 ppm, 0.001 ppm
- 50.0 ppm, 0.01 ppm
- 1000 ppm, 0.1 ppm
- 3000 ppm, 1 ppm

Falco TAC detection ranges and sensitivity with 10.0eV lamp fitted*

- 50.0 ppm, 0.01 ppm

Response time (T90)

- Diffused models: <30 seconds**

Accuracy

- $\pm 5\%$ or ± 1 digit

User interface

- OLED high contrast white on black: 128 x 64 pixels
- Screen size: 35 mm (w) x 17.5 mm (h)
- 5 magnetic switches with LED confirmation (up, down, left, right & enter).

Status indicator

- Bright visible status indicator: RED, AMBER, GREEN

Output

- 4 - 20 mA
- 2 programmable relays
- RS 485 Modbus

Falco diffused environmental specification

- Operational temperature: $-40\text{ }^{\circ}\text{C}$ to $50\text{ }^{\circ}\text{C}$ 0-100% RH and condensing humidity
- Storage temperature: $-40\text{ }^{\circ}\text{C}$ to $60\text{ }^{\circ}\text{C}$

Ingress Protection

- Main unit: IP65
- Sensor head: IP65

Power

- Working voltage: 12 to 40 Vdc
- Typical 2 W, Max. 7 watts

Mechanical interface

- 2 x cable entry points with 3/4" NPT threads (left and right)

Mounting points

- 2 x M8

Weight & Dimensions

- 2.9 kg
- 205 (h) x 180 (w) x 125 (d) mm

EMC

- EMC Directive 2014/30/EU

Certification

- II 2G db ib IIC T4 Gb
- Class 1, Div 1 Groups ABCD T4
- ISO9001:2015

* All specifications quoted are at calibration point and under the same ambient conditions. Specifications are based on isobutylene calibration at 20 °C and 1000 mBar.

** When set to continuous measurement

Modbus® is a registered trademark of Schneider Electric

FALCO V1.9 This publication is not intended to form the basis of a contract and specification can change without notice.

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ION Science Inc

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