



ION Science Ltd, Cambridge, SG8 7SL, UK
TYPE: EWF I.1
VDC: 4-24 IP: 65
II 2G Ex db II B+H2 T4 Gb
Ex db II B+H2 T4 Gb
Ex db IIB+H2 T4 Gb
Aex db IIB+H2 T4 Gb

0.21

TITAN 2
Benzene Monitor



ionscience.com

MP-ORITANT
Hydrophobic filter MUST be
fitted to this flame arrestor

TITAN 2

Pioneering Gas Sensing Technology.
ionscience.com





TITAN 2

Monitor and sample benzene with world leading benzene detection technology!

Pioneering Technology

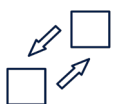
Titan 2 offers a world-leading solution for the detection of benzene, capable of gas speciation and accurately detecting benzene down to as low as 0.02 ppm (20 ppb) and as high as 20 ppm within a span of 60 seconds. Titan 2 is designed to sample airbourne hazards for the safety of your workforce on site. It can also be used to assess the performance of purification or vapour recovery systems/units (VRU).

This device incorporates the NEW MiniPID T2 10.0 eV which offers improved sensitivity, reliability and overall performance. The unique sampling method eliminates interfering gases such as toluene, xylene and methane providing you with accurate benzene concentration readings you can rely on.

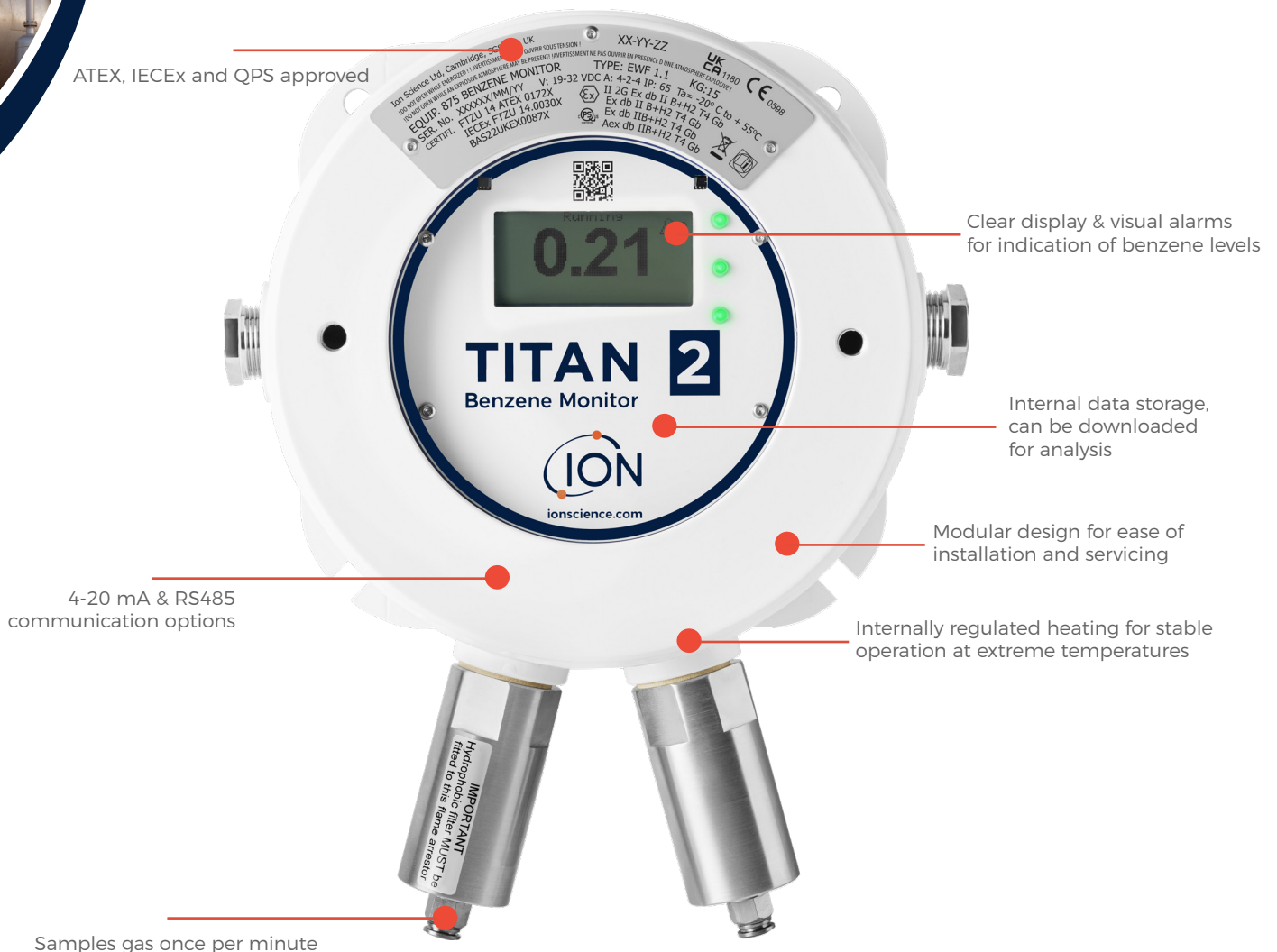
Titan 2 is certified for use in ATEX zoned locations and environments, additionally, the enclosure is IP65 rated which provides protection against dust and water ingress. This allows the detection module to remain operational even in challenging conditions or areas with high levels of dust and humidity.

Key Features

- >> **NEW MiniPID T2 10.0 eV Sensor**
Unique to Titan 2, MiniPID T2 10.0 eV delivers the results that you can rely on.
- >> **Low Detection Limit**
Can detect benzene down to 0.02 parts per million (20 parts per billion).
- >> **IP65 Ingress Protection**
Protection against a range of atmospheric conditions.
- >> **Interchangeable Service Module**
The service module can be removed and replaced as a remotely serviceable plug and play cartridge.
- >> **4-20 mA and RS485 Modbus (ASCII or RTU) Communication Options**
4-20 mA and RS485 capabilities allow you to connect to your own control system.
- >> **Piezo Electric Micro Pump**
The piezo electric micro pump combines silent operation with millisecond response and high precision.



Titan 2 Features



ATEX, IECEx and QPS approved

Clear display & visual alarms for indication of benzene levels

Internal data storage, can be downloaded for analysis

Modular design for ease of installation and servicing

Internally regulated heating for stable operation at extreme temperatures

4-20 mA & RS485 communication options

Samples gas once per minute

Impressive Modular Design

Titan 2 is designed to be easily installed and serviced. Its modular design allows the Ex d case to be installed well in advance of commissioning. The service module can be removed and replaced as a remotely serviceable plug-and-play cartridge minimising instrument downtime.

Industrial Environments

Benzene is a highly toxic and carcinogenic chemical that can cause both short-term and long-term effects on workers who are exposed to it. The most significant health risks associated with long-term benzene exposure is the development of leukemia, specifically acute myeloid leukemia (AML). Titan 2 delivers unrivalled accuracy and sensitivity in benzene detection and is ideal for use in a variety of sectors such as oil and gas, bulk storage facilities, chemical manufacturing and processing and asphalt production.

2 Year Extended Warranty Available

Titan 2 monitors can be registered online which extends the warranty of your instrument up to 2 years.



Technical Specifications

Sensor Type

MiniPID T2 10.0 eV Sensor

Selectivity

Benzene specific within typical petrochemical matrix

Detectable Range

0.02 ppm - 20 ppm

Measuring Frequency

One minute

Lower Limit of Detection

0.02 ppm (20 ppb) (10 ppb resolution)

Accuracy

± 50 ppb or $\pm 10\%$, whichever is greater*

Temperature Stability

Internally heated

Flow Rate

Sample flow rate ≥ 100 ml/min

Display

- Graphical BW LCD 64 x 128 pixels with back light Bright LEDs for normal operation, fault and alarm
- Two magnetic switches for menu operation

Operating Temperature

Recommended operating range of -20 °C to $+50$ °C (-4 °F to $+122$ °F) for optimum performance**

Approvals

FTZU 14 ATEX 0172X
II 2G Ex db IIB+H2 T4 Gb

Tamb. = -20 °C to $+55$ °C

IECEX FTZU 14.0030X

Ex db IIB+H2 T4 Gb

Tamb. = -20 °C to $+55$ °C

QPS LR1621-1

Ex db IIB+H2 T4 Gb

AEx db IIB+H2 T4 Gb

Ta= -20 °C to $+55$ °C

Ingress Protection Rating

IP65

Humidity

0 - 99 % RH

Minimum Service Period

- 6 months – PID lamp, electrode stack, inline filter, VRV restrictor, hydrophobic & carbon filter
- 12 months – PID lamp, electrode stack, inline filter, VRV restrictor, hydrophobic & carbon filter and AirSep filter

Cable Entry

Two 3/4 NPT gland threads

Power Requirements

- Vin (nom) 24 V DC @ 3.2 A (recommended)
- Vin (max) 32 V DC @ 2.4 A
- Vin (min) 19 V DC @ 4.0 A

Communication

- Isolated 4-20 mA output
- Isolated RS 485 Modbus connection via ASCII or RTU (simplex/half duplex or fully duplex)
- Micro USB (PC Software)

Data Storage

On board MMC, minimum of six months (2GB)

Relay Output

Two isolated outputs, voltage free, 24 V DC @ 1.25 A

Weight and Dimensions

- 15 kg (33 lbs)
- 219 x 219 x 172 mm (8.6 x 8.6 x 6.8" approx.)

Gas Sample Line

10 m max length, PTFE, 6 mm OD, 4 mm ID

* ± 10 ppb for readings ≤ 0.1 ppm ** $+55$ °C = $\pm 20\%$ accuracy

Titan 2 V1.0 This publication is not intended to form the basis of a contract and specifications can change without notice.

Manufactured by:

ION Science Ltd
The Hive, Butts Lane,
Fowlmere,
Cambridgeshire,
SG8 7SL, UK

T +44 (0) 1763 208503