

APPLICATION DATA SHEET

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OLIVER IGD

Control Systems

Transmitters

Sensors

Accessories

TOCSIN 102 Series Gas Detectors

4-20mA Device 2 and 3 Wire

- Addressable Versions
- Compact Size
- EExd Certified
- ATEX Certified
- Ingress Protection IP66

Available as:

- 2 Wire Toxic Gas Detector
- 2 Wire Oxygen Sensor
- 3 Wire 'Infra Red' Flammable Gas Detector
- 3 Wire 'Infra Red' CO2 Gas Detector

The Tocsin 102 series of gas detectors are ATEX approved sensors which incorporate micro processor technology to give a stable 4-20mA process signal output. The addressable option allows extensive reductions in cost of installation through material and labour savings. The in built processor can be used to pre-calibrate the sensor prior to installation. A range of sensing technologies can be incorporated into the housing to provide the most appropriate detection method. Available sensor types include Infra red and Electrochemical and PID devices.

General Specification

| | |
|--------------------|---|
| Power supply | 18 to 32V DC |
| Electrical Outputs | 2 and 3 Wire 4-20mA |
| Temperature | -10°C to +55°C |
| Humidity | 15 to 90% RH non-condensing |
| Ingress Protection | IP66 |
| Housing Material | Stainless Steel 316 S16 |
| Protection Concept | Flameproof |
| Dimensions (mm) | 50 Diameter x 80 Length |
| Mounting Thread | M20 x 1.75 |
| Weight | 514 grams (Toxic Gases, Oxygen, PID) 550 grams (Infra Red) |

EEx d IIC T6 Gb Ta = 20 C to +55 C

Ex tb IIIC T6 Db IP66

Ex d IIC T5 Gb Ta = -20 C to +40 C

Ex tb IIIC T5 Db IP66

CE 0518

Ex II 2 G D

Sira 02ATEX1271X



International Gas Detectors

CH₄ H₂S CO₂
NH₃ SO₂ NO₂ O₂



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02M174
Ref ROS65E

TOCSIN 102

Toxic, Flammable & Oxygen Gas Detectors

| Sensor type | Basic Part Number | Suffix 'A' For Addressable Sensor | Min Range | Max Range |
|--|-------------------|-----------------------------------|-----------|--|
| Flammable Gases Infra-Red Point Methane Propane n-Butane n-Pentane n-Hexane | 5107901 | A | | 0-100%LEL 0-100%Vol 0-3000ppm 0-5000ppm |
| Carbon Dioxide Infra-Red Point | 5112701 | A | | 0-2% 0-5% 0-100% |
| Carbon Monoxide | 5107101 | A | 0-100ppm | 0-4000ppm |
| Nitric Oxide | 5106801 | A | 0-50ppm | 0-250ppm |
| Nitrogen Dioxide | 5106301 | A | 0-20ppm | 0-50ppm |
| Hydrogen Cyanide | 5107201 | A | 0-5ppm | 0-200ppm |
| Chlorine (safe area only non ATEX) | 5106601 | A | 0-5ppm | 0-50ppm |
| Hydrogen Sulphide | 5105501 | A | 0-10ppm | 0-5000ppm |
| Ammonia | 5107001 | A | 0-100ppm | 0-500ppm |
| Oxygen | 5106701 | A | 0-5% | 0-25% |
| Sulphur Dioxide | 5106401 | A | 0-5ppm | 0-50ppm |
| Hydrogen Chloride | 5106101 | A | 0-5ppm | 0-50ppm |
| Hydrogen | 5106901 | A | 0-200ppm | 0-2000ppm |
| Methanol | 5112801 | A | 0-200ppm | 0-200ppm |



**IGD Manufactured Pellistors
MKIII MKIV & Type B
Poison Resistant
High Reliability
Field Proven**



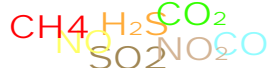
Infra Red Gas Detectors



Electrochemical Gas Detectors



International Gas Detectors



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TOCSIN 102

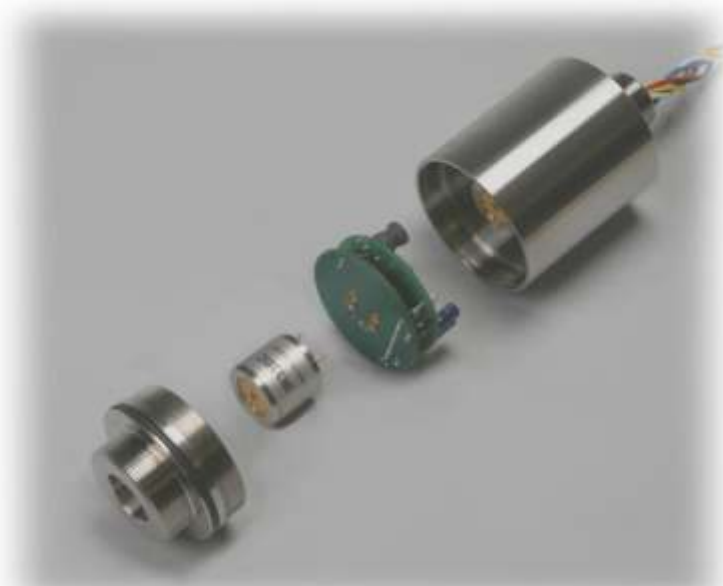
Infra Red Point Gas Detectors

The Tocsin 102IR series of gas detectors uses the proven Non-Dispersive (NDIR) principle to detect and monitor the presence of gases.

The detectors are supplied as pre-calibrated units with linear 4-20mA outputs. If necessary the detector head can be field calibrated or re-configured for different gases or ranges using its inbuilt serial port and separate data terminal. The infra red detectors employed have been field proven over many years use resulting in a series of detector heads with excellent stability and reliability in the most arduous conditions. The detector heads have their own control software which continually monitors the head performance. This ensures that in the unlikely event that a fault occurs it is detected and reported immediately. Using the inbuilt serial port this series of detector heads can be integrated onto addressable systems such as the Tocsin 700 or 900 control panels allowing sensors to be 'daisy' chained for ease of installation and operation.

- **LONG MTBF**
- **EXTENDED CALIBRATION PERIODS**
- **ALL STAINLESS STEEL CONSTRUCTION**
- **ADDRESSABLE SERIAL PORT**
- **CAN BE FIELD CALIBRATED**
- **LINEAR 4-20mA OUTPUT**
- **AVAILABLE FOR A WIDE RANGE OF FLAMMABLE GASES AND CO2**

| | |
|--|-------------------------|
| Performance | |
| Operation | Continuous |
| Resolution | 2%FSD |
| Warm up time to final zero | < 20 s |
| Warm up time to specification | < 30 minutes |
| Response time to target gas T90 | < 20 s |
| MTBF | > 5 years |
| Long Term Zero Drift Per Month | +/-0.05% |
| Zero Repeatability During Operation | +/-0.1% |
| Span (5%) Repeatability During Operation | +/-0.1% |
| Environmental: | |
| Operating Temperature | -10 to +55 Deg C |
| Storage Temperature | -20 to +60 Deg C |
| Relative humidity (non-condensing) | 0 to 100% |
| Connections | |
| Outputs | 3 Wire 4-20mA |
| Power Input | 18 to 32V DC |
| Power Consumption | 90mW |
| Physical | |
| Ingress Protection | IP66 |
| Housing Material | Stainless Steel 316 S16 |
| Protection Concept | Flameproof |
| Dimensions (mm) | 50 Diameter x 80 Length |
| Mounting Thread | M20 x 1.75 |
| Weight | 550 grams |



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Ex II 2 G D

Sira 02ATEX1271X

METHANE

PROPANE

BUTANE

ACETYLENE

HEXANE

ETHYLENE

BENZENE

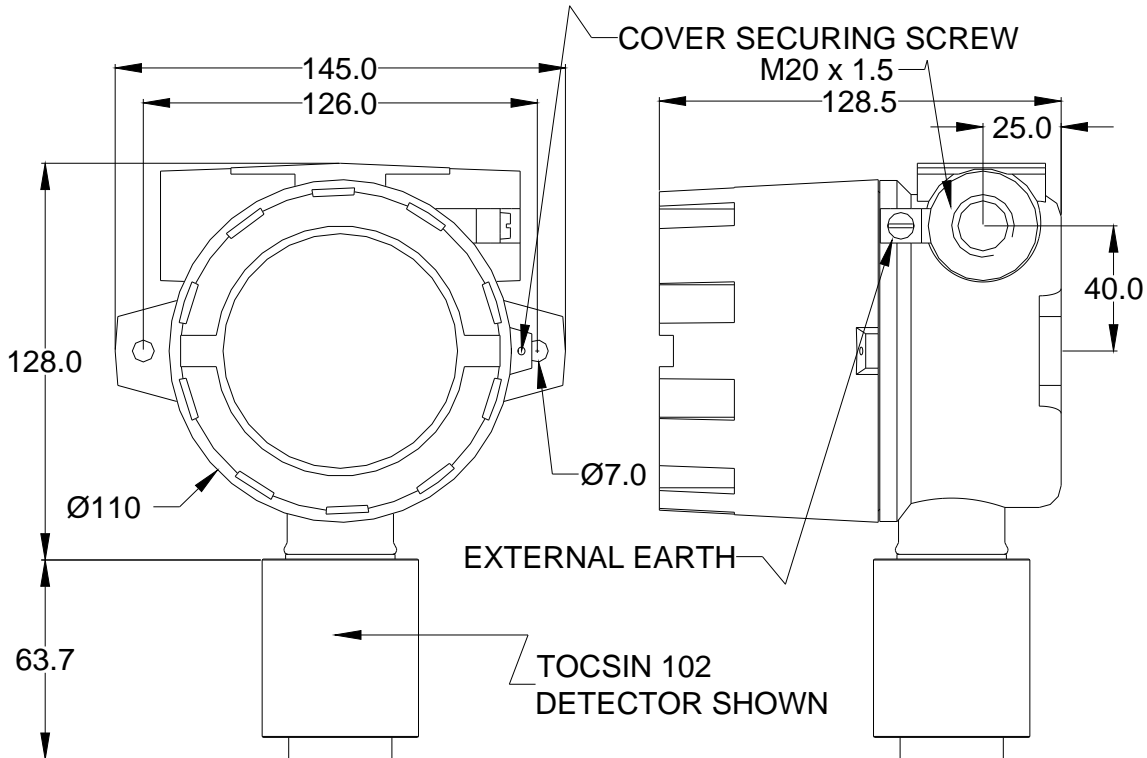
AIRCRAFT FUEL JP-4

PETROL VAPOURS

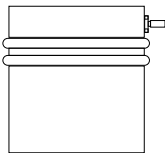
TOCSIN 102

SENSOR OPTIONS & ACCESSORIES

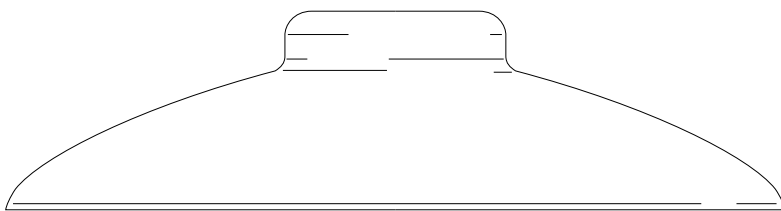
TOCSIN 102 SHOWN WITH EExd JUNCTION BOX



Standard Junction Box P/N 5045802
As Above Diagram



Weather Protection Assembly
Incorporating Test Gas Applicator P/N 401451



Collector Cone P/N 401061



Engineers Test Gas
Applicator For Tocsin 102 P/N 401101A

For Compatible Oliver IGD Control Panels See:

The Tocsin 601 Single Channel controller
The Tocsin 700 One to 64 Channel Controller
The Tocsin 920 Addressable System Controller
The Tocsin 903 EEx Single Channel Controller
The Tocsin 816 19" Rack System



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NG SO₂ NO₂ O₂



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