

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
- Exd Certified
- ATEX Certified
- Ingress Protection IP66
- Stainless Steel Housing

Available as:

- 2 Wire Toxic Gas Detector
- 2 Wire Oxygen Sensor
- 3 Wire 'Pellistor' Flammable Gas Detector.
- 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 IGD's own MKIII and Type B Pellistors, Infra red and Electrochemical devices.

General Specification

Power supply	18 to 32V DC
Electrical Outputs	2 and 3 Wire 4-20mA
Temperature	-10°C to +55°C (Pellistors to -30°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	550 grams

EEx d IIC T6

CE 0518

Ex II 2 D G

Sira 02ATEX1271X



International Gas Detectors

CH₄ H₂S CO₂
NO₂ SO₂ NO₂ O₂



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Ref ROS65A

TOCSIN 102

Toxic, Flammable & Oxygen Gas Detectors

Sensor type	Basic Part Number	Suffix 'A' For Addressable Sensor	Min Range	Max Range
Flammable Gas MK3 Sensor 4-20mA All Flammable Gases Typically: Methane Propane n-Butane n-Pentane n-Hexane N-Heptane n-Octane Hydrogen Methanol Ethanol Iso Propyl Alcohol Acetone Methyl Ethyl Ketone Benzene Toluene Di-ethyl Ether Cyclohexane Ammonia	5131401	A		0-100%LEL
Flammable Gases Infra-Red Point Methane Propane n-Butane n-Pentane n-Hexane	5107901	A		0-100%LEL 0-100%Vol
Carbon Dioxide Infra-Red Point	5112701	A	0-3000ppm	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



IGD Manufactured Pellistors

MKIII MKIV & Type B

Poison Resistant

High Reliability

Field Proven



Infra Red Gas Detectors



Electrochemical Gas Detectors

TOCSIN 102

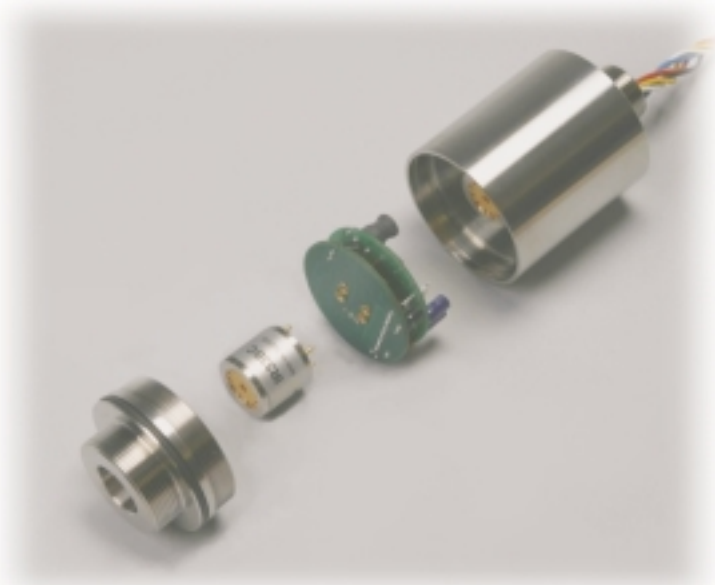
Infra Red Point Gas Detectors

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	< 3 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 RS232
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



EEx d IIC T6

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Ex II 2 D G

Sira 02ATEX1271X

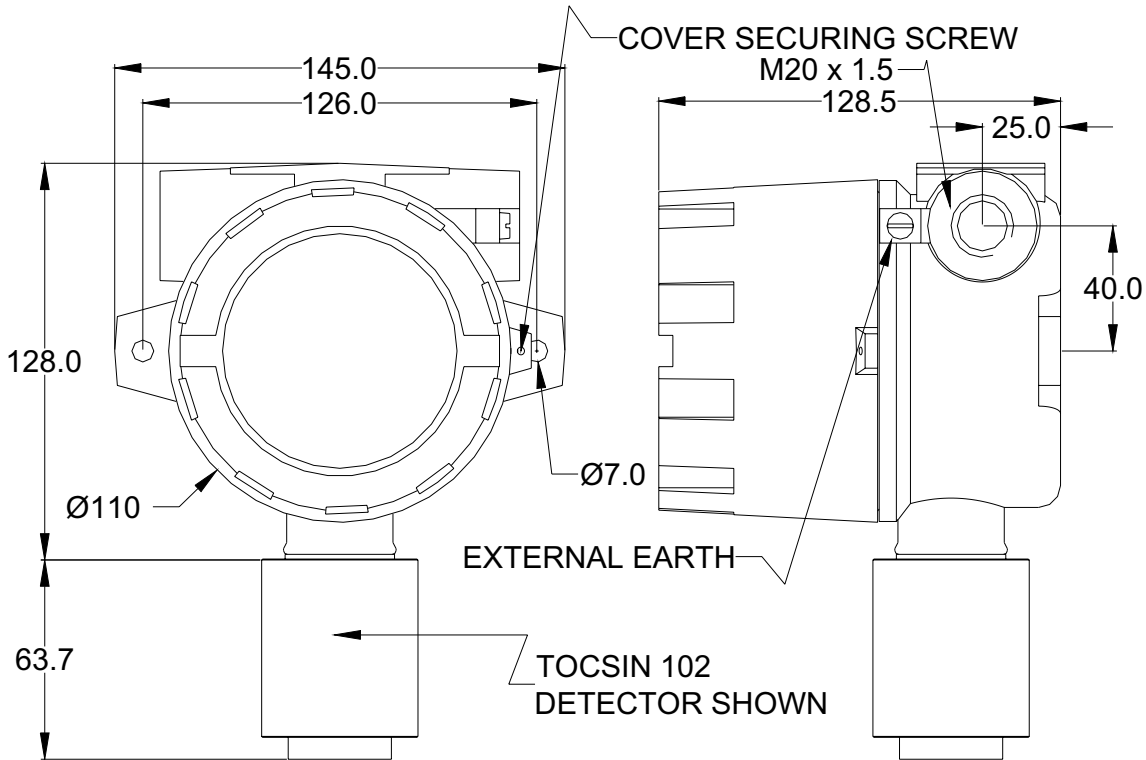
METHANE
PROPANE
BUTANE
ACETYLENE
HEXANE
ETHYLENE
BENZENE

AIRCRAFT FUEL JP-4
PETROL VAPOURS

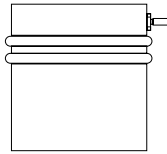
TOCSIN 102

SENSOR OPTIONS & ACCESSORIES

TOCSIN 102 SHOWN WITH EEXd JUNCTION BOX

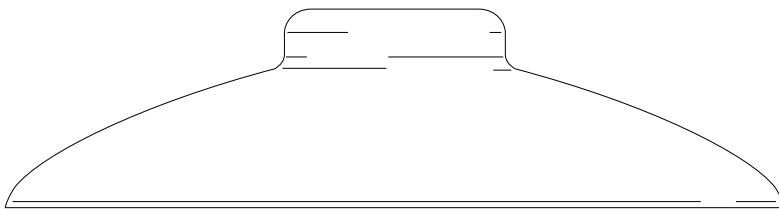


Standard Junction Box P/N 5045802
As Above Diagram



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 Sixteen Channel Controller
The Tocsin 900 Addressable System Controller
The Tocsin 903 EEx Single Channel Controller
The Tocsin 800/850 19" Rack System