

PRODUCT DATA SHEET

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 28V 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)







102 Series Detector

II 2G Ex db IIC T6 Gb
II 2D Ex tb IIIC T85°C Db
Ta = -20°C to +40°C
II 2G Ex db IIC T5 Gb
II 2D Ex tb IIIC T100°C Db
Ta = -20°C to +55°C
Rating 12-32VDC 2W
IECEx EXV16.0003X
ExVeritas 16ATEX0141X
ExVeritas 21UKEX0914X

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Stockport
SK2 6SH

* Terms and Conditions Apply

Always use latest version data sheets from IGD website

EC Declaration of Conformity

Issuers name and address:

Oliver IGD Limited of
Triton House
Crosby St,
Stockport,
United Kingdom



TOCSIN 102

Infra Red point flammable hydrocarbon gas detector
certified for use in potentially explosive atmospheres

Are in conformity with the provisions of the following European Directive(s) when installed, operated, serviced and maintained in accordance with the installation and operating instructions contained in the product documentation.

2004/108/EC **EMC Directive**
2014/34/EU **ATEX Directive**

And that the standards and/or technical specifications referenced below have been applied or considered.

IEC 60079-0:2017 7th Ed	Explosive Atmospheres Equipment General Requirements
IEC 60079-29-1:2016 2nd Ed	Explosive Atmospheres. Gas Detectors. Performance Requirements of Defectors for Flammable Gases.
IEC 60079-1	Equipment protection by flameproof enclosures 'd'
EN 50270	Electromagnetic compatibility - Electrical Equipment for the Detection and Measurement of Combustible Gases, toxic Gases or Oxygen
IEC 60529	Degree of Protection to IP66
EN 60068-2-6	Vibration
EN 50271	Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen. Requirements and tests for apparatus using software and/or digital technologies
EN 60335:2012+A11:2014	Electrical Safety
IEC 61010-1:2010 +A1:2016	Safety requirements for electrical equipment for measurement, control, and laboratory use
EN 61010-1: 2010 +A1:2019	

Technical File Reference T102A-TF9 and AD197 ATEX/IECEx Approval Document File

Product Markings



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Rating 12-32VDC 2W
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ExVeritas 16ATEX0141X
ExVeritas 21UKEX0914X



Serial Number- XXXXXXXX



Quality Assurance Certificate Number
16PQAN0014
Quality Assurance Notification Number:
2585



Oliver IGD Limited operate an independently assessed ISO9001:2015 Quality Management and ISO14001:2015 Environmental Management System

Certificate Numbers
FS0646773 & EMS696504

EMC Tested by:

TUV - SUD
Octagon House
Concorde Way
PO 15 5RL Fareham



Certificate Number
E8N 15 02 91327 002



Units 16-18 Abenbury Way,
Wrexham Industrial Estate,
Wrexham, LL13 9UZ
United Kingdom

BSI Assurance UK LTD,
London, W4 4AL
United Kingdom

TUV Certificates and reports can be checked on-line at
https://www.tuev-sued.de/industry_and_consumer_products/certificates
Select Oliver IGD when prompted on the website to view certificates

Issued by: Oliver IGD Limited, Stockport, SK2 6SH, United Kingdom

Signature:

Declaration of Conformity in accordance with EN ISO/IEC 17050-1:2010

Name

Andrew J Collier M.I.O.D

Position:

Managing Director

Date: 15 June 2021

Declaration Ref: 102IRCE-6

Document Ref: ROS165 V7 Page 2



**INVESTORS
IN PEOPLE**



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Triton House

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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	0-10ppm	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	5106702	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

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



102 Series Detector

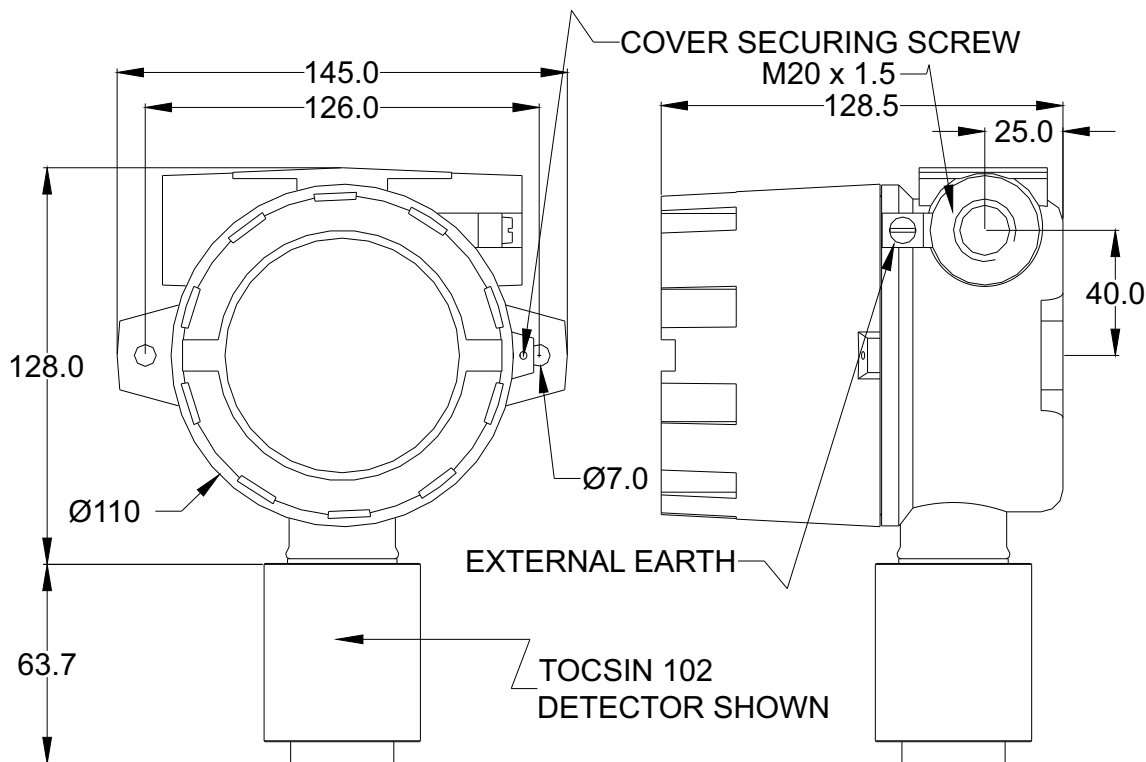
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METHANE
 PROPANE
 BUTANE
 ACETYLENE
 HEXANE
 ETHYLENE
 BENZENE
 AIRCRAFT FUEL JP-4
 PETROL VAPOURS

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 625 Small Format Controller
The Tocsin 700 One to 64 Channel Controller
The Tocsin 920 Addressable System Controller
The Tocsin 903 EEx Single Channel Controller
The Tocsin 920 19" Rack System

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