

PRODUCT DATA SHEET

Control Systems

Transmitters

Sensors

Accessories



TOCSIN 102 FLAM

EEXd Flammable Gas Detector
0-100% LEL 4-20mA Output

**HYDROGEN
METHANE
PROPANE
BUTANE
AVIATION FUEL
ETHANOL
PENTANE
n-OCTANE
n-HEPTANE
n-HEXANE
AND MORE....**

- 4-20mA Output
- Exd Certified
- ATEX Certified
- Ingress Protection IP66
- Easy System Integration
- Easy Calibration One Man Calibration
- Linear Output For 0-100% LEL
- Extreme Poison Resistance
- Long Life

Based on the IGD MKIII DCP Pellistor the Tocsin 102 Flammable gas detector provides a linear process 4-20mA output for 0-100% LEL of the target gas. The unit can be calibrated to be targeted for a wide range of flammable gases from our data base. The pellistor (catalytic) sensor used is manufactured by Oliver IGD and enjoys an enviable reputation in the oil, gas and process industries. Oliver IGD's pellistor (catalytic) detector technology is amongst the best performing available in the world benefitting from long life and extreme poison resistance. The Combined junction box mounted 4-20mA pre-amp PCB is simple to set up and calibrate for easy system integration and maintenance.

General Specification

Specification	
Power supply	18 to 32V DC
Electrical Outputs	3 Wire 4-20mA (4 Wire Addressable Capability)
Temperature	-10°C to +60°C
Humidity	15 to 90% RH noncondensing
Ingress Protection	IP66
JB Housing Material	Junction Box, Copper Free Aluminium Alloy Epoxy Coated
Sensor Housing Material	Sensor, Stainless Steel 316 S16
Explosion Protection	Junction Box, EExd IIC T6 II 2 D G
Explosion Protection	Sensor Ex d IIC T6 Gb Ta = -20 C to =55 C Ex d IIC T5 Gb Ta = -20 C to +40 C
Dimensions (mm) Exc sensor	110 Diameter x 127 High Plus detector see diagram
Cable Entry	2 x M20
Weight	1.35 Kg



JB3/903

II 2G Ex db IIC T6/T5 Gb
II 2D Ex tb IIIC T85°C/ T100°C Db
Ta = -20°C to +40°C/+55°C
IECEx EXV 16.0002X
ExVeritas 16 ATEX 0140X
ExVeritas 21UKEX0913X
IP66 M20 x 1.5 Entries 12-32V DC
Compliant to IEC 60079-29-1

MK3 Detector

II 2G Ex db IIC T6 Gb
II 2D Ex tb IIIC T85°C Db
Ta = -20°C to +40°C
ExVeritas 16ATEX0142X
ExVeritas 21UKEX0915X
IECEx EXV16.0004x
II 2G Ex db IIC T5 Gb
II 2D Ex tb IIIC T100°C Db
Ta = -20°C to +55°C

MKIII & Type B

SENSORS INFORMATION

MKIII-DCP Pellistor Flammable Gas Sensor

Sensor Data	
Measuring Range	0 to 100% LEL
Resolution	2% FSD
Warm Up Time	<30 Minutes
Response Time T90	<10 Seconds
Repeatability	± 0.1% LEL
Long Term Drift	± 0.05% LEL/Month
Power	<1.1 Watt
Max Air Velocity Without Additional Protection	6M/s
Weight	210gms
Linearity	Sensibly linear up to 3% Vol Methane



Correction Factors & Calibration Constants

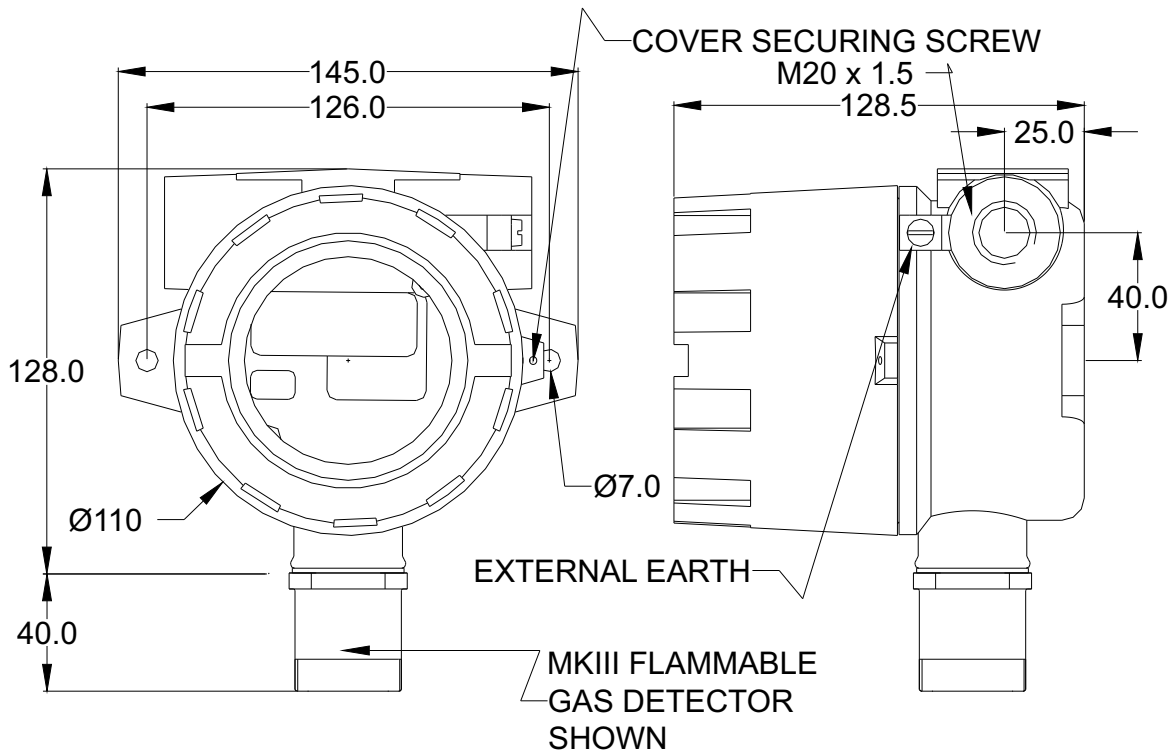
Gas / Vapour	Relative Sensitivity	With 1% Methane In Air Adjust Calibration to Display (in LEL)
Methane	1.00	20
Propane	0.63	35
n-Butane	0.59	35
n-Pentane	0.53	40
n-Hexane	0.42	50
N-Heptane	0.42	50
n-Octane	0.39	55
Hydrogen	0.69	30
Methanol	0.70	30
Ethanol	0.48	40
Iso Propyl Alcohol	0.38	55
Acetone	0.41	50
Methyl Ethyl Ketone	0.41	50
Benzene	0.39	55
Toluene	0.34	60
Di-ethyl Ether	0.52	10
Cyclohexane	0.43	50
Ammonia	1.24	15

Oliver IGD Ltd have a large Library of calibration factors for different flammable target gases relating to the MKIII and Type B Detectors. If the target gas of interest is not indicated in the table, contact Oliver IGD Ltd for further information

TOCSIN 102 FLAM

OUTLINE DRAWINGS

MOUNTING DETAILS AND DIMENSIONS FOR COMBINED TOCSIN 903 AND MKIII DETECTOR

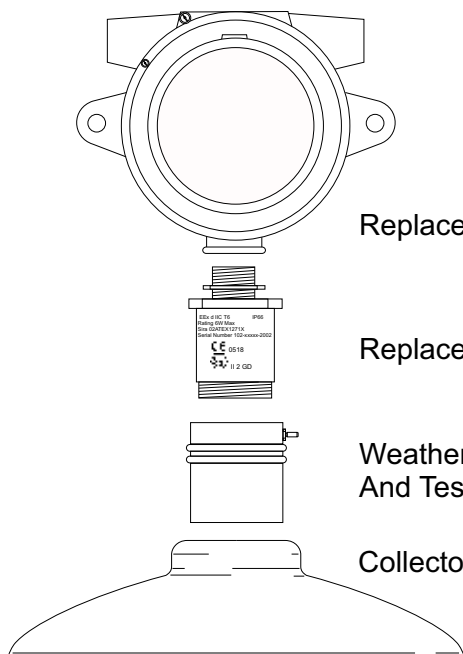


TOCSIN 102 FLAM

ACCESSORIES

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



Replacement Junction Box P/N 5045802

Replacement Pellistors P/N 501001

Weather Protection Assembly And Test Gas Applicator P/N 401451

Collector Cone P/N 401061



EC Declaration of Conformity

Issuers name and address:

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



TOCSIN 102 FLAM

Catalytic (Pellistor) Based Flammable Gas Detector With
Outputs For Both, 4-20mA signal or Addressable.

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

JB3/903

II 2G Ex db IIC T6/T5 Gb
II 2D Ex tb IIIC T85°C/ T100°C Db
Ta = -20°C to +40°C/+55°C
IECEX EXV 16.0002X
ExVeritas 16 ATEX 0140X
ExVeritas 21UKEX0913X
IP66 M20 x 1.5 Entries 12-32V DC
Compliant to IEC 60079-29-1



T102

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

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: 102F-DEC-9

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**INVESTORS
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