

APPLICATION DATA SHEET

WWW.OLIVER-IGD.CO.UK



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

Junction Box

II 2 D G Ex db IIC T6 Gb
 IECEx EXV16.0002X
 ExVeritas 16ATEX0140X
 Ex tb IIIC Db. M20 Entries

Sensor

IP66
 II 2 GD
 -20°C ≤ Ta ≤ +55°C
 Ex db IIC T5 Gb
 Ex tb IIIC T100°C Db
 -20°C ≤ Ta ≤ +40°C
 Ex db IIC T6 Gb
 Ex tb IIIC T85°C Db
 ExVeritas 16ATEX0142X
 IECEx EXV16.0004x



International Gas Detectors

CH₄ H₂S CO₂
 NH₃ SO₂ NO₂ CO



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Email: sales@internationalgasdetectors.com

Website: www.internationalgasdetectors.com



FS646773
 Ref ROS448

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

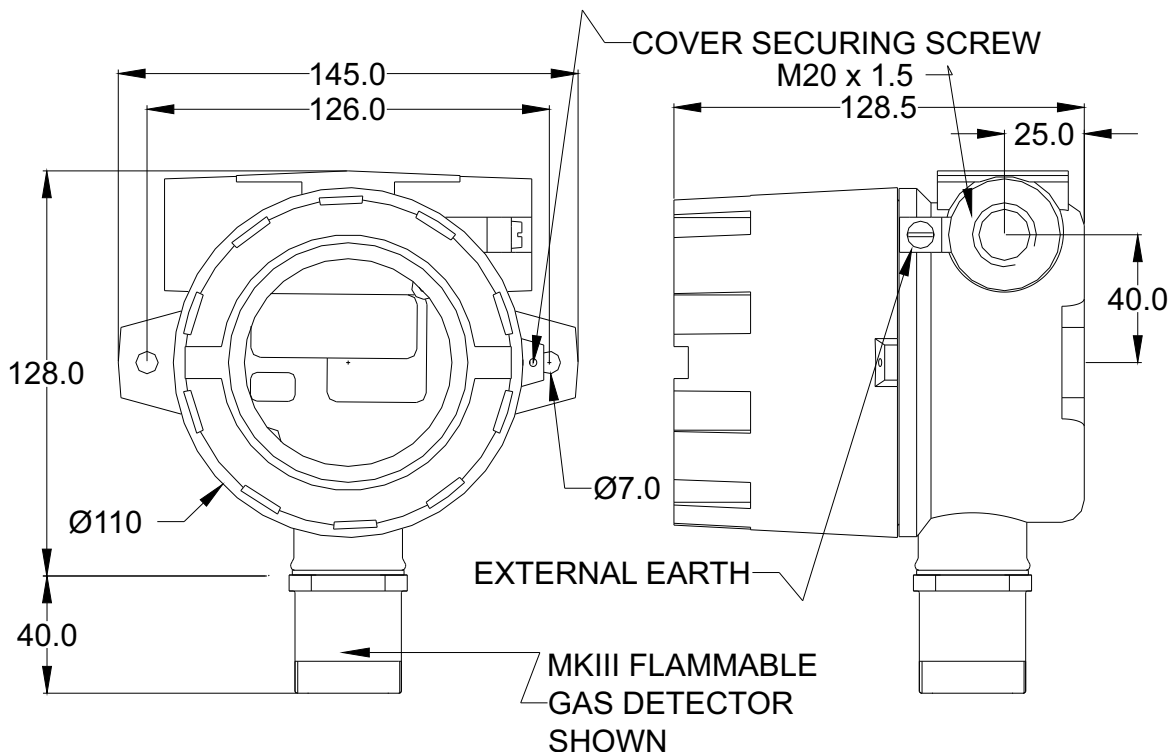
Gas / Vapour	Relative Sensitivity	With 1% Methane In Air Adjust Calibration to Display (in LEL)
Methane	1.00	20
Propane	0.63	35
n-Butane	0.59	35
n-Pentane	0.53	40
n-Hexane	0.42	50
N-Heptane	0.42	50
n-Octane	0.39	55
Hydrogen	0.69	30
Methanol	0.70	30
Ethanol	0.48	40
Iso Propyl Alcohol	0.38	55
Acetone	0.41	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

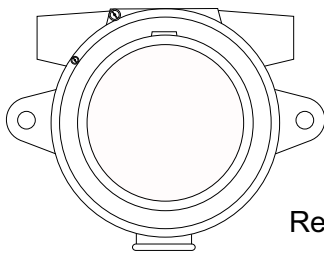
MOUNTING DETAILS AND DIMENSIONS FOR COMBINED TOCSIN 903 AND MKIII DETECTOR



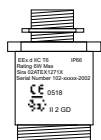
TOCSIN 102 FLAM

ACCESSORIES

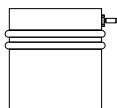
For Compatible Oliver IGD Control Panels See:
 The Tocsin 640 1 to 24 Channel Controller
 The Tocsin 700 1 to 64 Channel Controller
 The Tocsin 920 Addressable System Controller
 The Tocsin 920 19" Rack System



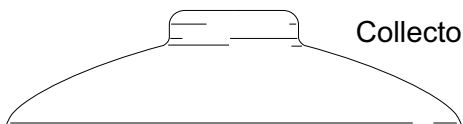
Replacement Junction Box P/N 5045802



Replacement Pellistors P/N 501001



Weather Protection Assembly
 And Test Gas Applicator P/N 401451



Collector Cone P/N 401061



International Gas Detectors
 CH_4 H_2S CO_2
 NH_3 SO_2 NO_2 CO



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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**
94/9/EC **ATEX Directive**

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

EN 60079-0:2012	Equipment for use in explosive atmospheres. General requirements
EN 60079-1:202014	Equipment for use in explosive atmospheres. Flameproof enclosures 'd'
EN 60079-31:2014	Equipment for use in explosive atmospheres. Housing Markings
EN 61241-0:2006	Electrical apparatus for use in the presence of combustible dust. General Requirements
EN 61241-1:2004	Electrical apparatus for use in the presence of combustible dust. Protection by enclosures "d"
EN 61779-1:2000	Electrical apparatus for the detection and measurement of flammable gases
EN 50271:2010	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. <i>Excluding requirements for SIL</i>
EN 61000-6-2: 2005	EMC Generic standards. Immunity for industrial environments
EN 61000-6-4: 2007	EMC Generic standards. Emission standard for industrial environments
EN 61000-3-2/A2: 2009	EMC Limits. Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
EN 61000-3-3: 2008	EMC Limits. Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase
Technical File references	T903-TF9 Technical construction File AD199 ATEX Approval Document File

Product Markings	IP66	-20°C ≤ Ta ≤ +40°C		II 2 D G	Ex db IIC T6 Gb
ATEX Approved	II 2 GD	Ex db IIC T6 Gb		IECEX EXV16.0002X	
IECEX Approved	-20°C ≤ Ta ≤ +55°C	Ex tb IIIC T85°C Db		ExVeritas 16ATEX0140X	
Serial Number- xxxxxxYear	Ex db IIC T5 Gb	ExVeritas 16ATEX0142X		Ex tb IIIC Db. M20 Entries	
	Ex tb IIIC T100°C Db	IECEX EXV16.0004x	2585		

Oliver IGD Limited Operate and Independently assessed ATEX/IECEX QAN.

Oliver IGD Limited operate an independently assessed ISO9001:2008 Quality Management System.

Testing Agency:

Quality Assurance Certificate Number
ExVeritas 16PQAN0014

Quality Management Certificate Number
FS 646773

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



Quality Assurance Notification Number:
2585

ExVeritas,
Units 16-18,
Abenbury Way,
Wrexham Industrial Estate,
Wrexham, UK, LL13 9UZ

BSI Assurance UK LTD,
Chiswick High Road,
London
W4 4AL
UK

Mehr Sicherheit.
Mehr Wert.

IECEX Certificate can be checked on-line at

<http://iecex.iec.ch/iecex/iecexweb.nsf/421ce8815c53a3afc1257a1e00576486/d4ff3ce4ea691cc1c1257f480051b574?OpenDocument>

<http://iecex.iec.ch/iecex/iecexweb.nsf/421ce8815c53a3afc1257a1e00576486/edf48860d8d8c16fc1257f480050cb78?OpenDocument>

TUV Certificates and reports can be checked on-line at https://www.tuev-sued.de/industry_and_consumer_products/certificates

Issued by: Oliver IGD Limited, Stockport, SK2 6TS, 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: 10.June 2016

Declaration Ref: 102F-DEC-8



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