

APPLICATION DATA SHEET

Control Systems

Transmitters

Sensors

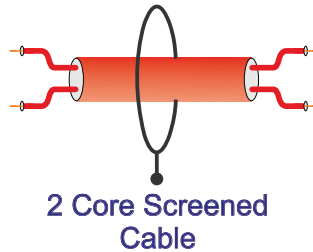
Accessories

TOCSIN 750 SERIES ATEX GAS DETECTORS 2-Wire Addressable Systems



Addressable Interface to
Controller.

Network up to 32
Annunciators or other
Addressable Devices per
Highway. Each device
has 7 I/O points.



2 Core Screened
Cable

Flammables
Toxic
Oxygen
VOC's

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



Ex db IIC T6 Gb Ta = -20° to +40°C
Ex tb IIIC T85°C Db IP66
Ex db IIC T5 Gb Ta = -20° to +55°C
Ex tb IIIC T100°C Db IP66
IECEX EXV16.0003X Rating 2W
ExVeritas 16ATEX 0141X



Pellistors
PID
Electrochemical
Infra-Red

Building on IGD's existing 102 Series Gas Detectors, the 750 Series add 2-Wire addressable technology. Using IGD's Sentinel+ 2-Wire protocol the 750 Series communicate over the detector power cables. This reduces cabling and terminations whilst improving reliability. Sentinel+ protocol continuously monitors data between connected detectors and the system controller ensuring maximum system availability. With only two wires for power and communication existing systems can be easily upgraded using existing cables with the option to easily add more detectors where required.



Triton House
Crosby Street
Stockport
SK2 6SH
England

Tel: +44 (0)161 483 1415
Fax: +44 (0) 161 484 2345
Email: sales@internationalgasdetectors.co.uk
Website: www.internationalgasdetectors.co.uk

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Transmitters

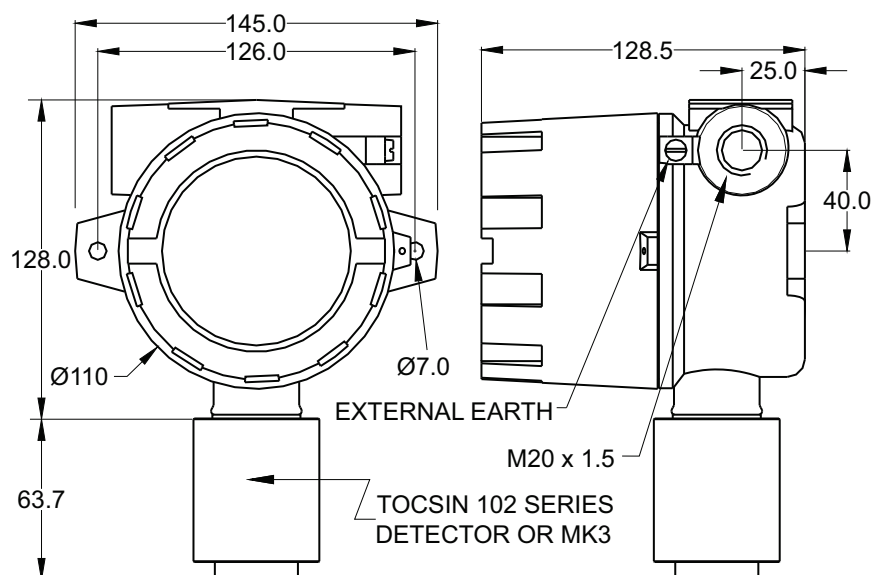
Sensors

Standard Specifications

Power	12 to 26V DC
Construction	Junction Box: Aluminium Alloy, Stainless Steel Option Detector: 316 Stainless Steel
Communication	IGD Sentinel+ Protocol, 2-Wire Connection A,B
Temperature	-20 to 55 Deg C**
Humidity	0-95% RH Non-Condensing
Sealing	Junction Box: IP68 Sensor: IP65
Mounting	Wall Mount
Weight	1.75Kg

** Temperature performance for transmitter, see separate sensor data. IGD advise use of EMS sample adaptor for applications below zero degrees Centigrade for best detection performance. In all cases where detectors may be subject to condensation fit splash guards.

Tocsin 750 Detector System Shown With 102 Series Detector and JB3 Exd Junction Box



Standard Features

Full ATEX Flameproof Approval
2-Wire Addressable Technology
Detector Technology to Suit the Application
Available as:
Infra red (Flammables and CO2)
Pellistor (Flammables)
Electrochemical (Toxic's and Oxygen)
PID (VOC's, CWA's, Toxic's)
Thermal Conductivity (Binary Gas Mixtures)
Uses Existing 102 Series Detectors Ensuring Maximum Compatibility.
Accessories for Duct Mounting, Sampling, bulkhead Mounting etc
Excellent Stability and Repeatability.
Compensated for Temperature and Drift

Sensor Accuracies & Response Times

Sensor Response times and accuracies are determined by the type of sensor used. The following table provides general guidance for tests carried out by IGD at standard conditions.

Type	T90 Response	Accuracy
Pellistors	<10s	+/-2% LEL
Infra Red	<15s	+/-2% of Range
Electrochemical as CO,H2S,SO2	<30s	+/-2% of Range
as O2	<15s	
as NO2,CL,NH3	<50s	



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EC Declaration of Conformity



Issuers name and address:

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

Declares that the product listed as:

TOCSIN 750 SERIES ATEX GAS DETECTOR

Addressable 2-Wire Gas Detector System Using Tocsin 102 Series
Detector and JB3 Series Junction Box

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 also known as 'ATEX 95' or 'the ATEX Equipment Directive'

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

EN 60079-29-1:2016	Explosive atmospheres. Gas detectors. Performance Requirements Of Detectors For Flammable Gases. **Conforms to**
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. Excluding requirements for SIL
EN 60079-0:2012	Equipment for use in explosive atmospheres. General requirements
EN 60079-1:2014	Equipment for use in explosive atmospheres. Flameproof enclosures 'd'
EN 60079-31:2014	Explosive Atmospheres. Equipment dust ignition protection by enclosure "t".
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 Reference T750DET-TF9

Product Markings
ATEX Approved
IECEX Approved
Serial Number- xxxxxx

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



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



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



Mehr Sicherheit.
Mehr Wert.

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

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 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: 1.June 2015

Declaration Ref: T750DET-DEC-1



Triton House
Crosby Street
Stockport
SK2 6SH
England

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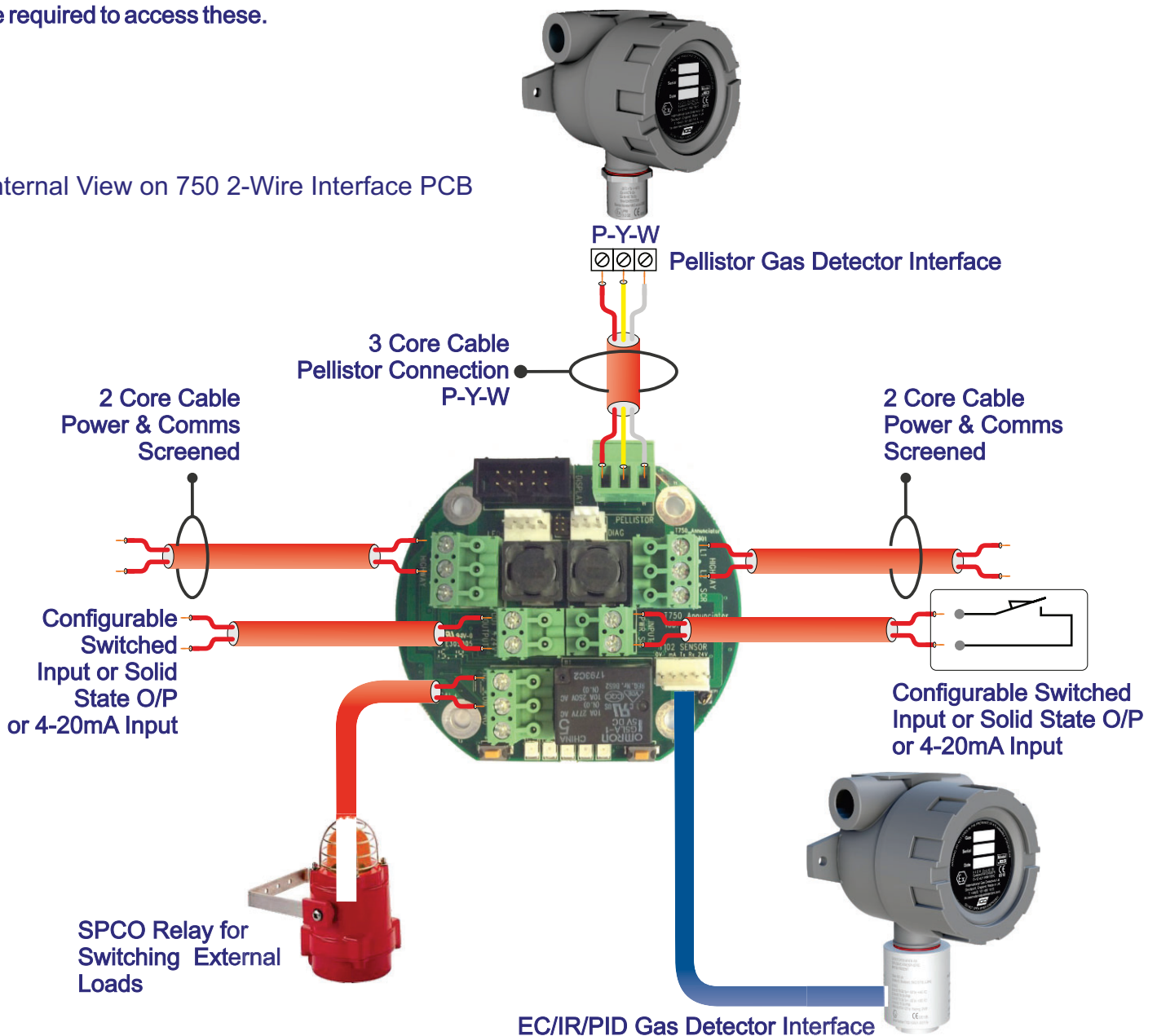
Sensors

Accessories

Interfaces Available

Tocsin 750 Series detector systems have a number of standard interfaces available on-board each unit. The standard PCB set allows interface to 102 or MK3 Series Detectors. Communication to the system controller uses IGD's latest Sentinel+ 2-Wire protocol for speed of installation and increased reliability. Existing analogue systems can be quickly updated to 2-Wire addressable systems. In addition each module has a flexible range of additional interfaces to easily add slam switches, beacon-sounders and other readings to the system. Note that additional ATEX junction boxes may be required to access these.

Internal View on 750 2-Wire Interface PCB



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Order Codes TOC-750 Series ATEX Gas Detectors

Sensor type	Part Number	Min Range	Max Range
Flammable Gases Pellistor	TOC-750X-PHC	0-100%LEL	
Flammable Gases Infra-Red Point	TOC-750X-IRF TOC-750X-HIRF	0-100%LEL	0-100%Vol
Carbon Dioxide Infra-Red Point	TOC-750X-CO2 TOC-750X-HCO2	0-3000ppm 0-5000ppm 0-2% 0-5%	0-100%
Carbon Monoxide (EC)	TOC-750X-CO TOC-750X-HCO	0-100ppm 0-2000ppm	0-1000ppm 0-4000ppm
Nitric Oxide (EC)	TOC-750X-NO	0-100ppm	0-250ppm
Silane (EC)	TOC-750X-SIH4	0-10ppm	
Nitrogen Dioxide (EC)	TOC-750X-NO2	0-20ppm	0-50ppm
Hydrogen Cyanide (EC)	TOC-750X-HCN	0-10ppm	0-200ppm
Hydrogen Sulphide (EC)	TOC-750X-H2S TOC-750X-HH2S TOC-750X-VH2S	0-50ppm 0-500ppm 0-5000ppm	0-100ppm 0-1000ppm 0-10000ppm
Ammonia (EC)	TOC-750X-NH3 TOC-750X-HNH3 TOC-750X-HNH3	0-500ppm 0-1000ppm 0-5000ppm	0-200ppm 0-2000ppm 0-7000ppm
Oxygen (EC)	TOC-750X-O2	0-25%	
Sulphur Dioxide (EC)	TOC-750X-SO2	0-5ppm	0-50ppm
Hydrogen Chloride (EC)	TOC-750X-HCL	0-5ppm	0-50ppm
Hydrogen (EC)	TOC-750X-H2	0-200ppm	0-2000ppm
Boron Trichloride (EC)	TOC-750X-BCL3	0-20ppm	0-50ppm
VOC's (PID Sensor) ppm Range Quoted as IsoButylene	TOC-750X-LVOC TOC-750X-HVOC	0-50ppm 0-3000ppm	
Chlorine (EC) This Sensor is NOT ATEX But is Supplied in 102 Series Format	TOC-750X-CL2	0-20ppm	

750 Series Gas Detectors ATEX Gas

Detectors provide the ultimate in safety for gas detection in hazardous areas. Approved to the latest ATEX standards and utilising IGD's 2-Wire Sentinel+ technology this range is simple to install, robust in operation with peace of mind that plant and personnel are effectively protected. IGD's comprehensive range provides protection for all your gas hazards



Pellistor Type Detector



IR/EC/PID Style Detector



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Stockport
SK2 6SH
England

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Accessories

TOCSIN 750 Series 2-Wire Addressable ATEX/IECEX Specific Accessories

5903801 Sun Screen-Rain Guard

5138901 Ceiling Adaptor

5925801 Pole Clamp

5880501 ATEX M20
Stopping Plug

5922701 ATEX Cable Gland

401465 Disk Filter

401451 ATEX Splash Guard

401061 Gas Collector Cone



5138901	Ceiling adaptor for JB3 ATEX Junction boxes. fits 102 & 750 series detector JB's
401061	Collector Cone Assembly. MK3 102 & 750 Series ATEX Series Gas Detectors. Requires 401051 To Fit
401101A	Test Gas Applicator. IGD ATEX Gas Detectors MK3, 102 & 750 Series. Fits 6 x 4mm ID Tube
401101D	Gas Applicator Lock Ring. For Use With TOCSIN 102 Series Gas Detectors
5880501	M20 Stopping plug EEXD. M20 x 1.5mm EEXD IIC T6
5922701	Cable Gland EXd II C. II 2 G D size A 8.4-14.3mm OD Cable with PU sheath.
5925801	Pole Clamp
401451	ATEX Splash Guard
401465	Disk Filter For Enhanced Condensation/Dirt Protection
5903801	Sun Screen-Rain Guard

EMS Sample Modules

EMS ATEX Samplers are an add on accessory to IGD 102 Series ATEX Gas Detectors. The system has no moving parts, using compressed air to induce a gas flow across a standard detector. The module is typically used where locating the detector in an area is undesirable either due to space limitation, access or environment. The unit can also be fitted with a flow monitor Flow monitoring is available. see separate data sheet

Adaptors

5133701	Type 4 Duct Adaptor, For Use With IGD ATEX, Gas Detectors, 102, MK3 and 750 Series
5133801	Type 3 Duct Adaptor, For Use With IGD ATEX, Gas Detectors, 102, MK3 and 750 Series
5133901	Type 6 Duct Adaptor, For Use With IGD ATEX, Gas Detectors, 102, MK3 and 750 Series
5139001	Tocsin 103 Duct Sample Kit. For Use With All 103/750 Series Safe Area Detectors, Pitot Type
5139002	Duct Mount Pitot Kit, Use With IGD ATEX Gas Detectors; 102, MK3 and 750 Series.
5799101	Eductor Modular Sampler, Base Unit EMS1. Use With IGD ATEX Gas Detectors; 102 & 750
5799301	EMS1 Flow Alarm. 1-3L/Min Flow Rate, 6mm OD Tubing
5999201	Dynamic Duct Adapter. For Use with T102 ATEX Detectors. Includes Calibration Port

See separate data sheet for adaptors and fittings



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ISO
9001
Quality
Management

ISO
14001
Environmental
Management

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System Example



Controller in Supervisors Office

Where Required For Longer Cable Runs or Where Device and Accessory Density is High add Power Boosters or Cascade Hubs to Increase Distance Capability to up to 3KM



Mix Annunciators With Other Addressable Devices Such as TOC-750 Series Detectors. Use ATEX Rated detectors where required

ATEX Zoned Area

Use Room Status Indicators For Door Entry Control.



Use Room Status Indicators with Gas Detector Interfaces to Detect & Alarm in Specific Areas
Laboratory

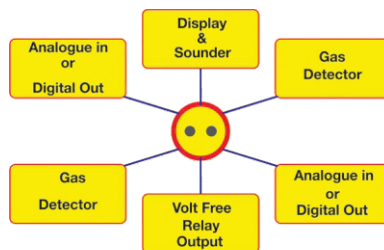


Gas Bottle Store



Use the Detector or Annunciator I/O Capability to Control Gas Supply Valves, Beacon-Sounders or other devices

2 Core Highway as:
24V L1,L2
Typically 1.5mmSQ
screened Cable



Each Detector Node Has Multiple I/O



Triton House
Crosby Street
Stockport
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England

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