

APPLICATION DATA SHEET

Control Systems

Transmitters

Sensors

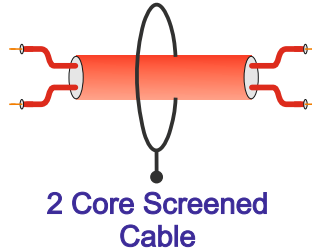
Accessories

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

JB3/903 Approvals

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.



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Document Ref: T750ATX v4.3 Page 1



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EMS696504

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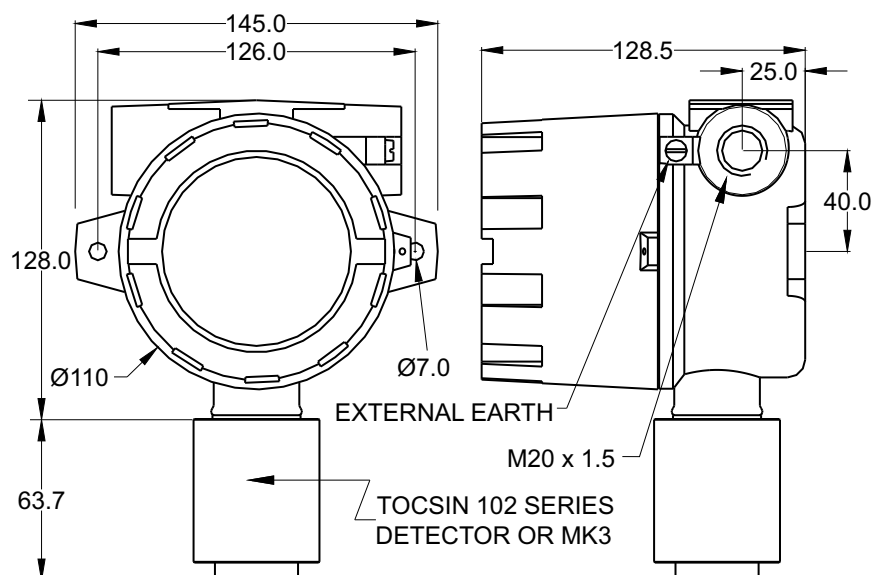
Sensors

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 JB3/903 Series



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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International Gas Detectors

EC Declaration of Conformity

Declares that the product listed as:

TOC-750X

JB3/903

Addressable ATEX Gas Detector

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
2014/35/EU

EMC Directive

Low Voltage Equipment Directive (note not applicable to 24V DC Powered Versions)

Issuers name and address:

Oliver IGD Limited of
Triton House
Crosby St,
Stockport,
SK2 6SH
United Kingdom

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. |
| EN 50270 | Electromagnetic compatibility - Electrical Equipment for the Detection and Measurement of Combustible Gases, toxic Gases or Oxygen |
| IEC 60529 | Degree of Protection to IP65 |
| 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 |

Technical File Reference

T750X-TF9

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

Quality Assurance Certificate Number
16PQAN0014

Quality Assurance Notification Number:
2585



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



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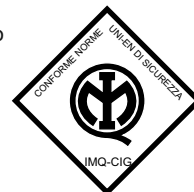
Oliver IGD Limited operate an independently
assessed ISO9001:2015 Quality Management and
ISO14001:2015 Environmental Management System

Certificate Numbers
FS0646773 & EMS696504

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



IMQ S.p.A con Socio Unico
Via Quintiliano 43
Italia 20138 Milano
www.imq.it



[Ex Gb] IIC

Report Ref AT19-0039060-01

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: 17 Feb 2020

Declaration Ref: T750X-DEC-6



INVESTORS
IN PEOPLE



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Control Systems

Transmitters

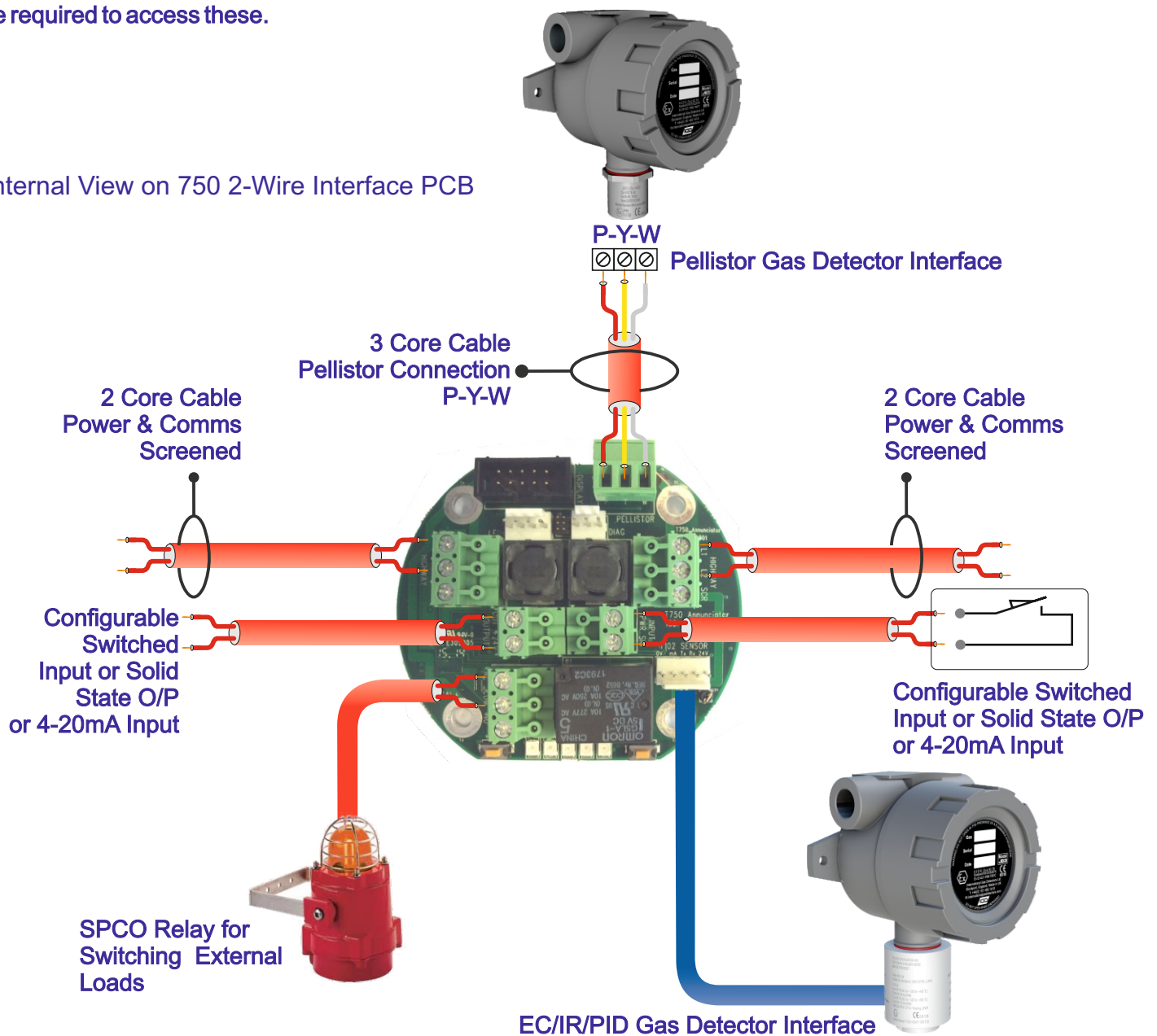
Sensors

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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Document Ref: T750ATX v4.2 Page 4



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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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Document Ref: T750ATX v4.2 Page 5



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Control Systems

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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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Document Ref: T750ATX v4.2 Page 6



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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

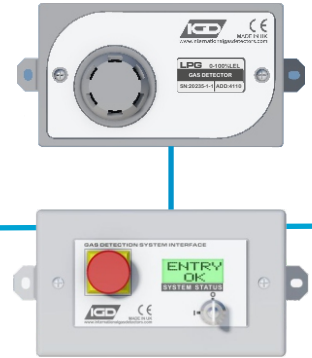


Mix Annunciators With Other **ATEX Zoned Area** Addressable Devices Such as TOC-750 Series Detectors. Use ATEX Rated detectors where required

Use Room Status Indicators For Door Entry Control.



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

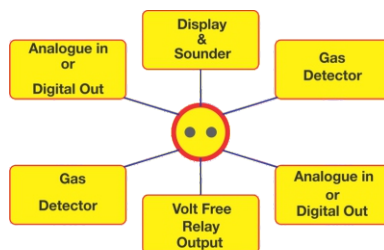


Gas Bottle Store



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



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Document Ref: T750ATX v4.2 Page 7



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