

TOC-903-X5

Advanced Gas Detector Transmitter

IGD



▶ Unparalleled Versatility

2 Independent 4-20mA outputs.
2-Wire Sentinel+™ digital communication.
1 Fault and 2 alarm relays.

▶ Fully Certified

UKCA, ATEX and IECEX certified.
Built to withstand Zone 1 and 2 hazardous areas.

▶ Easy to Use

Intuitive digital display, concentration, alarms
and fault status.
Plug-and-Play sensors.

▶ Peace of Mind

Designed and manufactured in the UK.
Backed up by more than a century of expertise
and our 10-year guarantee.
All compliance is supported by 3rd party
certification.



Introducing the TOC-903-X5

Advanced Gas Detector Transmitter

This is the TOC-903-X5 – a detector transmitter approved for ATEX Zone 1 and 2 flammable environments and Zone 21 and 22 dust environments, that can be easily integrated into our 2-Wire Addressable system, or used as a standalone 4-20mA transmitter.

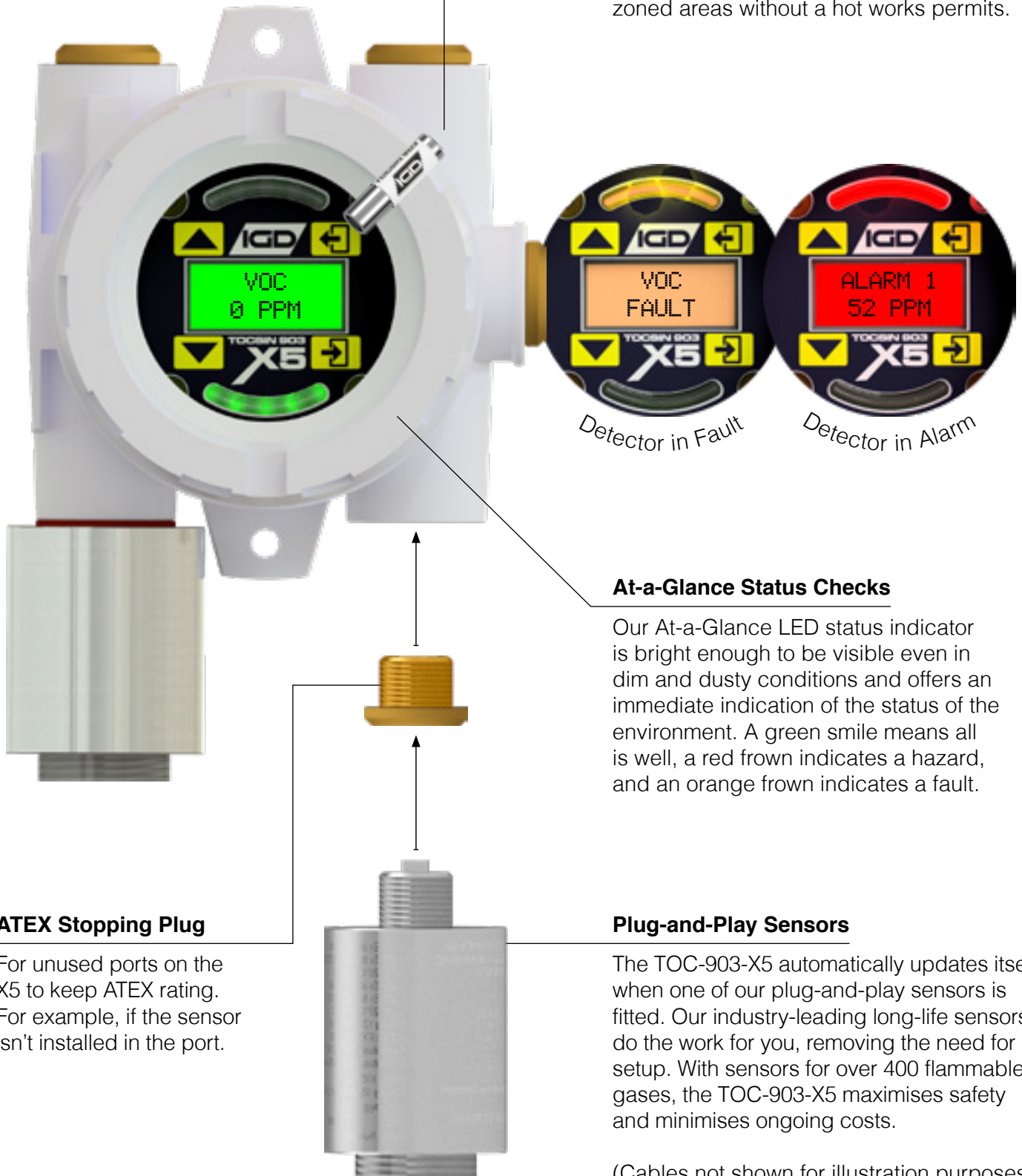
The TOC-903-X5 brings a variety of new tools to the table featuring non-intrusive one-person calibration, and accommodating up to 2 independent sensors, 2 analogue outputs, relays and 2-Wire digital communication. Its ability to monitor for over 400 flammable, toxic or asphyxiant gases ensures suitability for a huge variety of applications cementing the TOC-903-X5 as the most versatile detector on the market. Simple to install, easy to use, and backed by more than a century of innovation.

Features

TOC-903-X5

Magnetic Wand

Our Magnetic Wand operates as a stylus allowing you to access the controls without removing the ATEX housing. With the Magnetic Wand, personnel can perform a one-person calibration in ATEX-zoned areas without a hot works permits.



At-a-Glance Status Checks

Our At-a-Glance LED status indicator is bright enough to be visible even in dim and dusty conditions and offers an immediate indication of the status of the environment. A green smile means all is well, a red frown indicates a hazard, and an orange frown indicates a fault.

ATEX Stopping Plug

For unused ports on the X5 to keep ATEX rating. For example, if the sensor isn't installed in the port.

Plug-and-Play Sensors

The TOC-903-X5 automatically updates itself when one of our plug-and-play sensors is fitted. Our industry-leading long-life sensors do the work for you, removing the need for setup. With sensors for over 400 flammable gases, the TOC-903-X5 maximises safety and minimises ongoing costs.

(Cables not shown for illustration purposes)

Configurations

TOC-903-X5

The TOC-903-X5 is provided with:



- 1x TOC-903-X5
- 1x Magnetic Wand
- 1x ATEX Cable Gland
- 3x ATEX Stopping Plugs

A) 1 or, 2 Directly-Connected Sensors



- You will need:**
- 1x TOC-903-X5
 - 1x or 2x TOC-102-XXX
(Replaced XXX with required sensor - see page 6 for list)

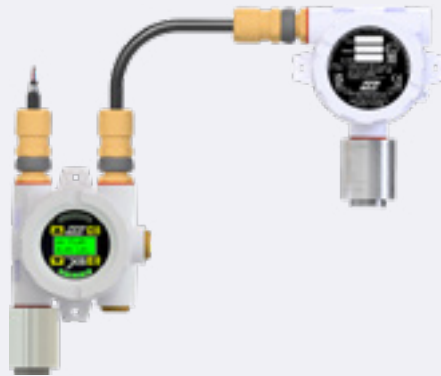
B) TOC-903-X5 on an Addressable System



- You will need:**
- 1x TOC-903-X5
 - 1x or 2x TOC-102-XXX
 - 1x TOC-X5-TERM**
 - 1x Cable Gland [5922701]

The example shown here is connected to the TOC-635 PLUS (sold separate). See SL-003 for more information.

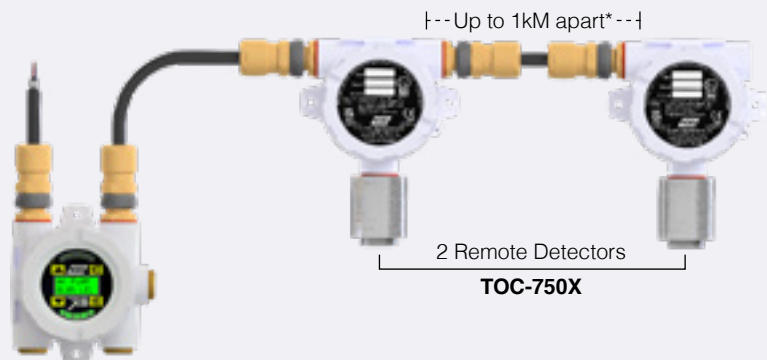
C) 1 Directly-Connected Sensor & 1 Remote Detector



- You will need:**
- 1x TOC-903-X5
 - 1x TOC-102-XXX Sensor
 - 1x TOC-750X-XXX
 - 1x TOC-X5-PWR
 - 2x Cable Gland [5922701]

For TOC-750X order codes, replace XXX with required gas - see SL-006 for full list

D) TOC-903-X5 with 2 Remote Detectors



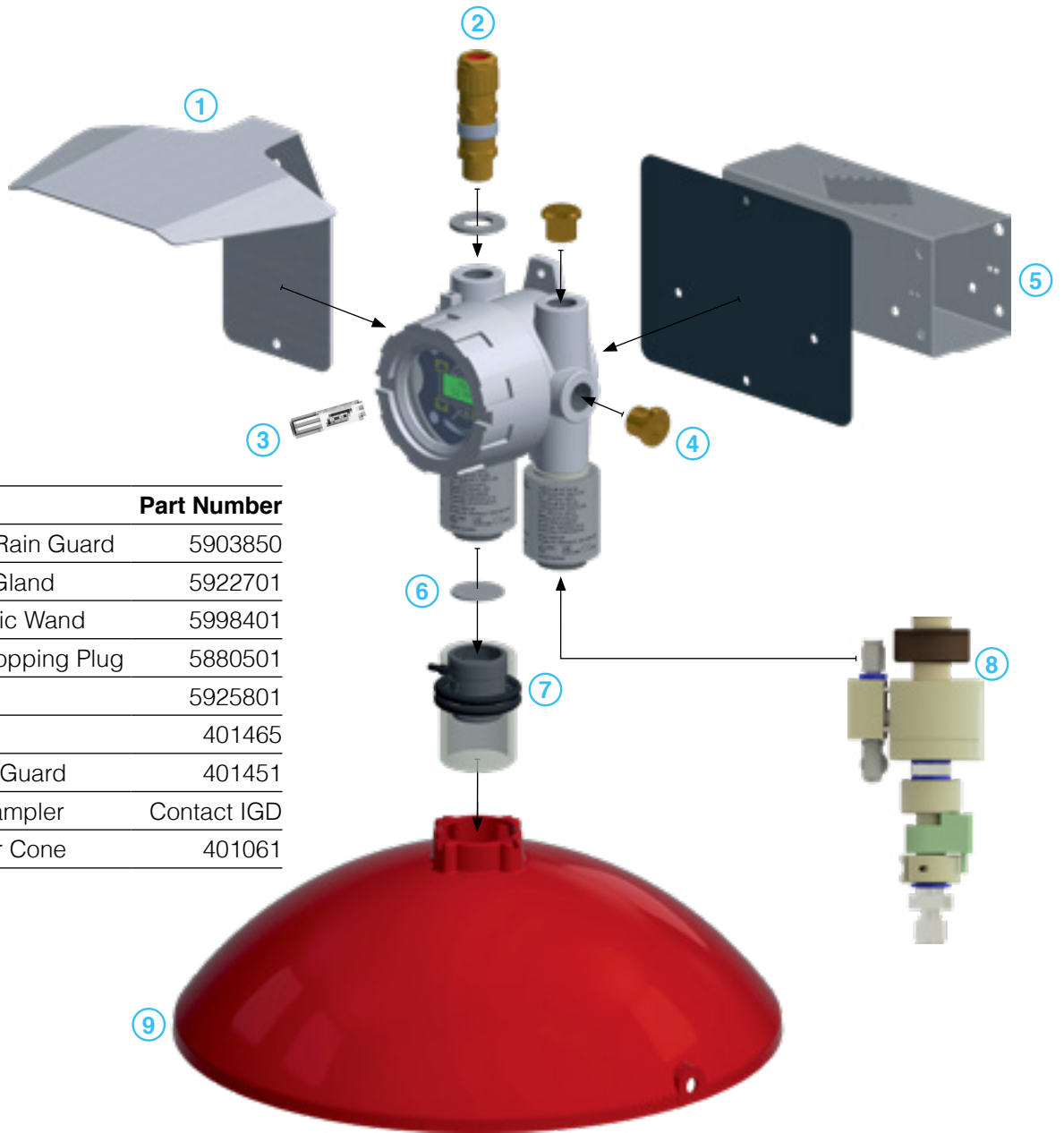
- You will need:**
- 1x TOC-903-X5
 - 2x TOC-750-XXX
 - 1x TOC-X5-PWR
 - 4x Cable Glands [5922701]*
 - 1x Stopping Plug [5880501]

*Cable glands don't come with the TOC-750X, example shown is for 2 detectors

**TOC-X5-TERM (Terminator) one is required per end of line

Accessories

TOC-903-X5



#	Description	Part Number
①	Sun Screen/ Rain Guard	5903850
②	ATEX Cable Gland	5922701
③	Extra Magnetic Wand	5998401
④	ATEX M20 Stopping Plug	5880501
⑤	Pole Clamp	5925801
⑥	Disk Filter	401465
⑦	ATEX Splash Guard	401451
⑧	EMS ATEX Sampler	Contact IGD
⑨	Gas Collector Cone	401061

Response Times

Sensors

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
Semiconductor	<15s	+/-5% of Range
Infrared	<15s	+/-2% of Range
Electrochemical as O ₂	<15s	+/-2% of Range
as CO, H ₂ S, SO ₂	<30s	
as NO ₂ , CL ₂ , NH ₃	<50s	

Specifications

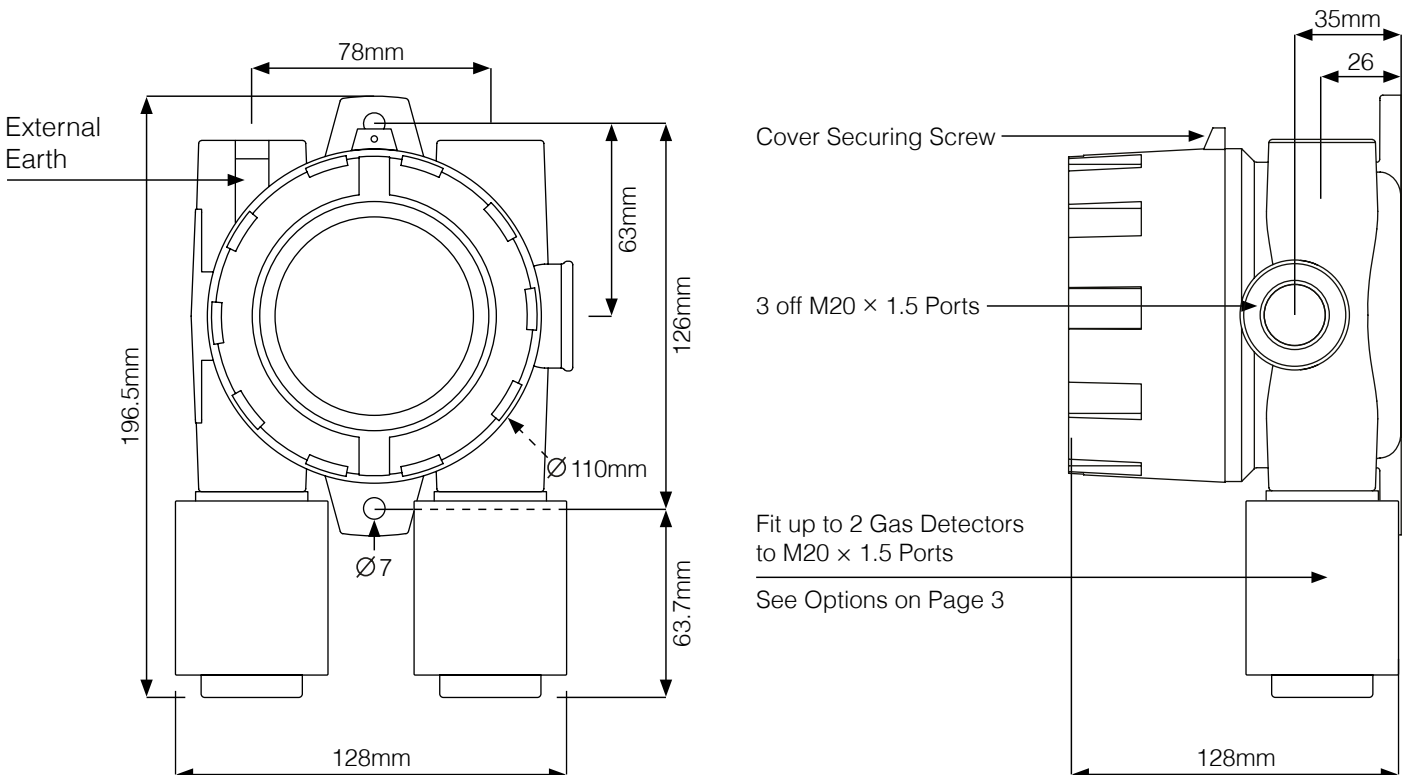
TOC-903-X5

***if using on a 2-Wire addressable network
cannot be used on the TOC-635-MICRO***

<p>Power</p> <p>18 to 30V DC</p>	<p>Temperature Range</p> <p>-20° to +55°C (-4° to +131°F)</p>	<p>Humidity</p> <p>0% to 95% RH Non-Condensing</p>	<p>Mounting</p> <p>Wall Mount</p>
<p>Sensor Housing Material</p> <p>Sensor, Stainless Steel 316 S16</p>	<p>Cable Entry</p> <p>5 × M20 × 1.5 See Drawing</p>	<p>Weight</p> <p>TOC-903-X5 Transmitter = 1.45kg TOC-102 Detector Head = 450g Cable Gland = 145g Stopping Plug = 36g</p>	
<p>Junction Box Housing Material</p> <p>Copper Free Aluminium Alloy</p> <p>Epoxy Coated Option for Marine Paint Finishes</p>	<p>Explosion Protection</p> <p>II 2G Ex db IIC T6/ T5 Gb II 2D Ex tb IIIC T85° / T100°C Db Ta = -20°C to +40°C/+55°C</p>	<p>Ingress Protection</p> <p>IP66</p>	<p>Electrical Outputs</p> <p>2 off independent 4-20mA outputs auto ranged to suit fitted detector(s) 2-Wire Sentinel+™ Addressable input/output(s) 1 Single Pole Fault Relay 2 SPCO Alarm Relays Relays 4A at 24V DC Non Inductive Aux Power Connection 0.5A Max</p>

Dimensions

TOC-903-X5



Order Codes

TOC-903-X5

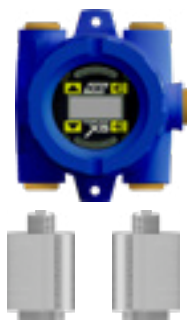
Order Code: TOC-903-X5

Transmitter Module with Display with Copper Free Aluminium Alloy Housing



Order Code: TOC-903-X5-M

Transmitter Module with Display with Marine Blue Epoxy Coated Housing



Choose directly-connected sensor codes below, contact IGD for remote detector (page 3) configurations.

Gas	Range	Order Code
Long-Life Pellistor (Refer to Data Sheet SL-034)		
General Flammables	0-100% LEL	TOC-102-MK8
Infrared		
Carbon Dioxide (CO ₂)	0-5,000ppm	TOC-102-CO2-05
Carbon Dioxide (CO ₂)	0-5% VOL	TOC-102-CO2-5
Flammables	0-100% LEL	TOC-102-IRF
Methane (CH ₄)	0-100% VOL	TOC-102-HIRF
Solvent Detector	0-100% LEL	TOC-102-SLV
Sulphur Hexafluoride (SF ₆)	0-1,000ppm	TOC-102-SF6
Long-Life Oxygen		
Oxygen (O ₂) (Lead-Free)	0-25% VOL	TOC-102-O2
Electrochemical (Refer to Data Sheet SL-029)		
Acetylene (C ₂ H ₂)	0-200ppm	TOC-102-C2H2
Carbon Disulphide (CS ₂)	0-100ppm	TOC-102-CS2
Carbon Monoxide (CO)	0-100ppm	TOC-102-CO
Ethylene (C ₂ H ₄)	0-200ppm	TOC-102-C2H4

Gas	Range	Order Code
Ethylene Oxide (C ₂ H ₄ O)	0-10ppm	TOC-102-ETO
Ethylene Oxide (C ₂ H ₄ O)	0-100ppm	TOC-102-ETO-10
Formaldehyde (CH ₂ O)	0-5ppm	TOC-102-CH2O
Hydrogen (H ₂)	0-1,000ppm	TOC-102-H2
Hydrogen (H ₂)	0-2,000ppm	TOC-102-HH2
Hydrogen (H ₂)	0-40,000ppm	TOC-102-VHH2
Hydrogen Cyanide (HCN)	0-10ppm	TOC-102-HCN
Hydrogen Sulphide (H ₂ S)	0-50ppm	TOC-102-H2S-5
Hydrogen Sulphide (H ₂ S)	0-100ppm	TOC-102-H2S-10
Hydrogen Sulphide (H ₂ S)	0-5,000ppm	TOC-102-H2S-50
Nitrogen Dioxide (NO ₂)	0-5ppm	TOC-102-NO2
Nitrogen Monoxide (NO)	0-5ppm	TOC-102-NO
Silane (SiH ₄)	0-20ppm	TOC-102-SIH4
Sulphur Dioxide (SO ₂)	0-5ppm	TOC-102-SO2

Photolonisation (Refer to Data Sheet SL-029)		
VOCs	0-10ppm	TOC-102-PID01
VOCs	0-100ppm	TOC-102-PID1
VOCs	0-200ppm	TOC-102-PID2
VOCs	0-1,000ppm	TOC-102-PID10
VOCs	0-2,000ppm	TOC-102-PID20
VOCs	0-5,000ppm	TOC-102-PID50

Ionic Ammonia (Refer to Data Sheet SL-029)		
Ammonia (NH ₃)	0-100ppm	TOC-102-NH3-1
Ammonia (NH ₃)	0-500ppm	TOC-102-NH3-5
Ammonia (NH ₃)	0-1,000ppm	TOC-102-NH3-10
Ammonia (NH ₃)	0-5,000ppm	TOC-102-NH3-50

Refrigerant Gas Detectors (Contact IGD for full list)		
IR Based Refrigerants	0-2,000ppm	TOC-102-IRR
R1 Group Refrigerants	0-1,000ppm	TOC-102-R1
R2 Group Refrigerants	1,000 to 10,000ppm	TOC-102-R2

EC Declaration of Conformity

Declares the product listed as:
TOCSIN 903-X5

Single/dual channel gas detector controller with display certified for use in potentially explosive atmospheres Can be combined with 102 series detectors. Interfaces for alarm relay outputs, 4-20mA signal, Sentinel+ Addressable.

Issuers name and address:
Oliver IGD Limited of
Triton House
Crosby St
Stockport, SK2 6SH
United Kingdom

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.

2004/30/EC
2014/34/EU
2011/65/EU

EMC Directive
ATEX Directive
RoHS Directive

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

IEC/EN 60079-0:2017

Explosive Atmospheres Equipment General Requirements

IEC/EN 60079-29-1:2016 2nd Ed

Explosive Atmospheres. Gas Detectors. Performance Requirements of Defectors for Flammable Gases.

IEC/EN 60079-1:2014

Equipment protection by flameproof enclosures 'd'

IEC/EN 60079-31:20

Equipment dust ignition protection

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
Electrical Safety

Technical File Reference

T903-X5-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

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



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: 21 August 2024
Declaration Ref: DEC-14