

IGD

HYDROCARBON, TOXIC, OXYGEN & VOC GAS DETECTOR

TOCSIN 903



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



**Infrared
Catalytic Combustion
Electrochemical
VOC**

- ▲ 4-20mA Output
- ▲ Digital Output
- ▲ SMART Sensors
- ▲ Programmable Relays
- ▲ Non-Intrusive Calibration
- ▲ Digital LED Display
- ▲ Fault Status
- ▲ SS Sensor Housing
- ▲ IP66 w/ Splash Guard

The Tocsin 903 is a diffusion based gas detector that provides continuous, fixed monitoring of Hydrocarbon, Toxic and VOC's. Standard device *outputs include a 4-20mA signal.*

Addressable system using IGD's Sentinel protocol, ModBus is available via an IGD Control Panel.

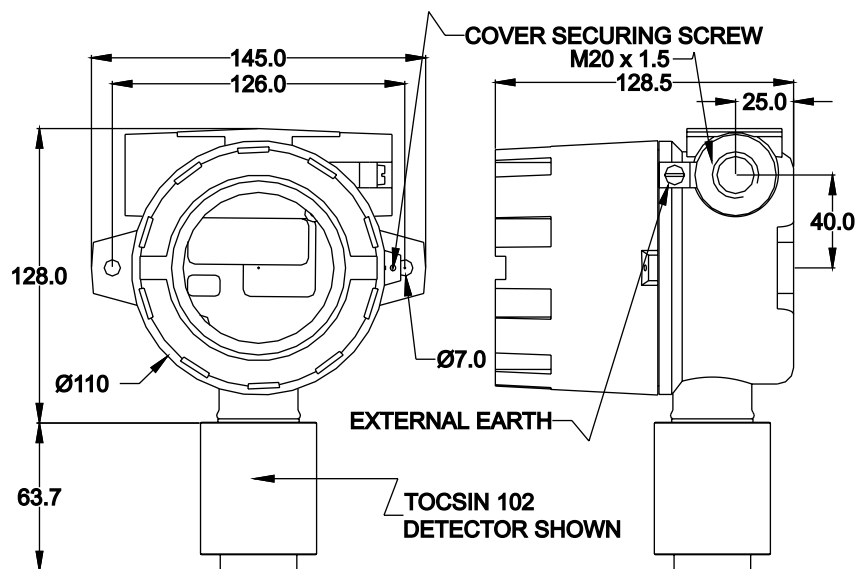
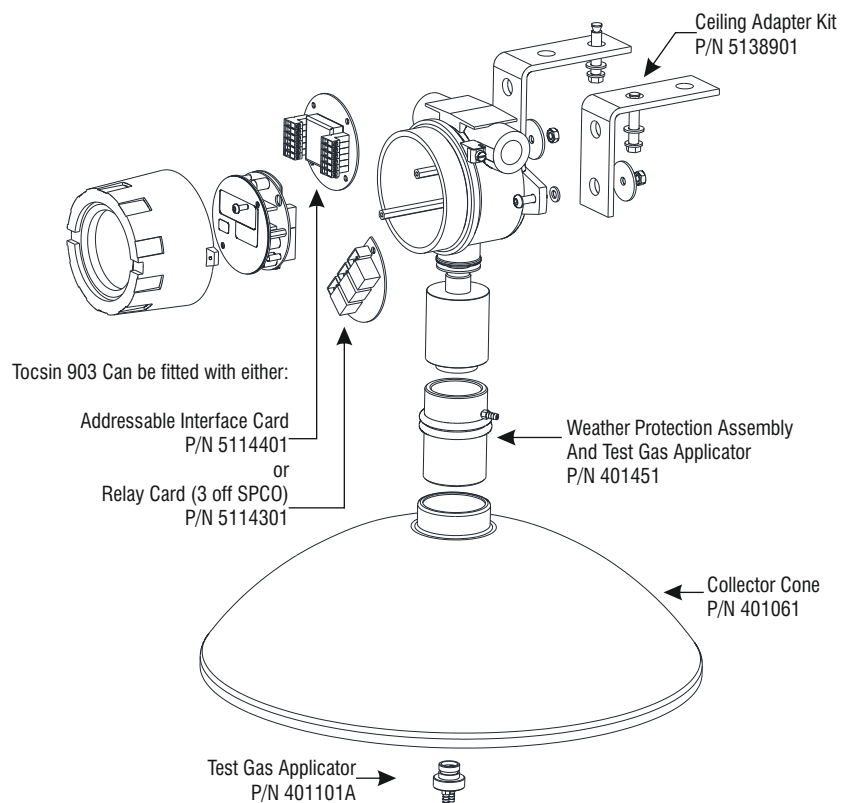
An optional relay output board with two programmable alarm relay outputs and one fault relay output is available.

The unit is fully compatible with Tocsin 700 and Tocsin 920 Control Panels which offer both addressable and analogue inputs as well as ModBus serial outputs.

More conventionally the Tocsin 903 can be interfaced directly into DCS/PLC systems using its 4-20mA process output.

The Tocsin 903 uses SMART Sensors which has built in processor that can be used to pre-calibrate the sensor prior to installation. A range of sensing technologies can be incorporated into the sensor housing to provide the most appropriate detection method. Available sensor types includes Infra Red, Catalytic Combustion, Electrochemical and PID devices.





SPECIFICATIONS

Sensors	Combustible Gases: Catalytic, Infra Red Toxic/Oxygen: Electrochemical CO2: Infra Red
Sensor Life from the date of Shipment	5+ Years on Infra Red Sensors (CO2 and LEL) 4+ Years on Catalytic (LEL) 5+ Years on CO and H2S Sensors 5+ Years O2 sensors 3+ Years on other sensors
Detecting Gases	Please refer to page 3
Material	Epoxy Coated Aluminium or 316 Stainless Steel
Display	4 Digit, 7 Segment LED Display
Input Voltage	18-32VDC operating range (24VDC typical)
Power Consumption	230mA @ 24VDC (Electrochemical Sensor) 250mA @ 24VDC (Catalytic Combustion Sensor) 230mA @ 24VDC (Infra Red Sensor)
Ingress Protection	15-90% RH (non-condensing), typical
Temperature Range	(Sensor Specific) -10oC to +55oC (-14oF to +131oF)
Dimensions	W 145mm X H 191.7mm X D 128.5mm
Cable	3-wire or 4-wire
Maximum Cable Loop	15 (3 wire configs) 10 (4 wire configs)
Output Signal	Standard 4-20mA (Source) Optional: Addressable using IGD's Sentinel protocol, ModBus available via an IGD Controller
Warmup Time	± 2% of Range
Response Time	T90 < 10s Catalytic Combustion T90 < 15s Infra Red T90 < 30s Electrochemical T90 < 15s O2 90 < 50s Others
Repeatability	Sensor Dependent
Conduit Entry Options	Two entries, 3/4 inch NPT or 25 mm
Alarm Relays (Optional)	3 Alarm Relays (5 amps @ 30VDC) 2 User-Programmable Relays SPST, NO 1 Fault Relay SPST, NC
Approvals	II 2 D G Ex db IIC T6 Gb IECEx EXV16.0002X ExVeritas 16ATEX0140X Ex tb IIIC Db. M20 Entries

GAS	RANGE	OUTPUT
Acetylene C ₂ H ₂	0-5PPM	4-20mA OUTPUT
Acetylene C ₂ H ₂	0-5PPM	ADDRESSABLE
Ammonia NH ₃	0-100PPM	4-20mA OUTPUT
Ammonia NH ₃	0-100PPM	ADDRESSABLE
Ammonia NH ₃	0-1000PPM	4-20mA OUTPUT
Ammonia NH ₃	0-1000PPM	ADDRESSABLE
Ammonia NH ₃	0-5000PPM	4-20mA OUTPUT
Ammonia NH ₃	0-5000PPM	ADDRESSABLE
Boron Trichloride BCL ₃	0-10PPM	4-20mA OUTPUT
Carbon dioxide CO ₂	0-5% VOL.	4-20mA OUTPUT
Carbon dioxide CO ₂	0-5% VOL.	ADDRESSABLE
Carbon dioxide CO ₂	0-100% VOL.	4-20mA OUTPUT
Carbon monoxide CO	0-20PPM	4-20mA OUTPUT
Carbon monoxide CO	0-20PPM	ADDRESSABLE
Carbon monoxide CO	0-100PPM	4-20mA OUTPUT
Carbon monoxide CO	0-100PPM	ADDRESSABLE
Carbon monoxide CO	0-2000PPM	4-20mA OUTPUT
Carbon monoxide CO	0-4000PPM	4-20mA OUTPUT
Carbon monoxide CO	0-4000PPM	ADDRESSABLE
Chlorine CL ₂	0-5PPM	4-20mA OUTPUT
Chlorine CL ₂	0-5PPM	ADDRESSABLE
Ethylene oxide ETO	0-20PPM	4-20mA OUTPUT
Ethylene oxide ETO	0-20PPM	ADDRESSABLE
Flammable (IR)	0-100 % LEL	4-20mA OUTPUT
Flammable (PEL)	0-100% LEL	4-20mA OUTPUT
Hydrogen chloride HCL	0-5PPM	4-20mA OUTPUT
Hydrogen chloride HCL	0-5PPM	ADDRESSABLE
Hydrogen chloride HCL	0-10PPM	4-20mA OUTPUT
Hydrogen cyanide HCN	0-10PPM	4-20mA OUTPUT
Hydrogen cyanide HCN	0-10PPM	ADDRESSABLE
Hydrogen fluoride HF	0-10PPM	4-20mA OUTPUT
Hydrogen fluoride HF	0-10PPM	ADDRESSABLE
Hydrogen H ₂	0-1000PPM	4-20mA OUTPUT
Hydrogen H ₂	0-2000PPM	4-20mA OUTPUT
Hydrogen H ₂	0-2% VOL.	ADDRESSABLE

GAS	RANGE	OUTPUT
Hydrogen sulfide H ₂ S	0-50PPM	4-20mA OUTPUT
Hydrogen sulfide H ₂ S	0-50PPM	ADDRESSABLE
Hydrogen sulfide H ₂ S	0-500PPM	4-20mA OUTPUT
Hydrogen sulfide H ₂ S	0-500PPM	ADDRESSABLE
Hydrogen sulfide H ₂ S	0-5000PPM	4-20mA OUTPUT
Infra red CH ₄	0 -100 % VOL	4-20mA OUTPUT
Infra red CO ₂	0-5% V/V	4-20mA OUTPUT
Infra red CO ₂	0-100% VOLUME	4-20mA OUTPUT
Infra red C _x H _x	0-100% LEL	4-20mA OUTPUT
Infra red C _x H _x	0-100% LEL	ADDRESSABLE
Infra red N ₂ O	0-1000PPM	4-20mA OUTPUT
Methane CH ₄	0-100%VOL.	4-20mA OUTPUT
Methanol CH ₃ OH	0-200PPM	4-20mA OUTPUT
Nitric oxide NO	0-50PPM	4-20mA OUTPUT
Nitric oxide NO	0-50PPM	ADDRESSABLE
Nitric oxide NO	0-100PPM	4-20mA OUTPUT
Nitrogen dioxide NO ₂	0-1000PPM	ADDRESSABLE
Nitrogen dioxide NO ₂	0-20PPM	4-20mA OUTPUT
Nitrogen dioxide NO ₂	0-20PPM	ADDRESSABLE
Oxygen O ₂	0-25% VOL.	4-20mA OUTPUT
Oxygen O ₂ (SPE)	0-25% V/V	4-20mA OUTPUT
Oxygen O ₂ (SPE)	0-25% V/V	ADDRESSABLE
Ozone O ₃	0-2PPM	4-20mA OUTPUT
Ozone O ₃	0-2PPM	ADDRESSABLE
Silane SiH ₄	0-10PPM	4-20mA OUTPUT
Silane SiH ₄	0-20PPM	ADDRESSABLE
Silane SiH ₄	0-20PPM	4-20mA OUTPUT
Sulfur dioxide SO ₂	0-5PPM	4-20mA OUTPUT
Sulfur dioxide SO ₂	0-5PPM	ADDRESSABLE
THERMAL Conductivity	0-100% V/V	4-20mA OUTPUT
THERMAL Conductivity	0-100% V/V	ADDRESSABLE
VOC PID	0-50PPM	4-20mA OUTPUT
VOC PID	0-6000	PPM4-20mA OUTPUT
VOC PID	5PPB- 50PPM	ADDRESSABLE
VOC PID	100PPB - 6000PPM	ADDRESSABLE

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