

# APPLICATION DATA SHEET

Control Systems

Transmitters

Sensors

Accessories

## TOCSIN 650 SERIES

Advanced Addressable 2-Wire Gas Detection System



**2-Wire**  
Addressable



The latest addressable technology from International Gas Detectors.

Communication over Power

Only uses 2 Core Cable for Power and Communication.

Polarity Independent.

Typical System is 40% Faster to Install with Fewer Connections

Improved Reliability

Improved Connectivity to External systems

Re-use Existing Cabling When Updating ATEX and Safe Area Gas Detectors

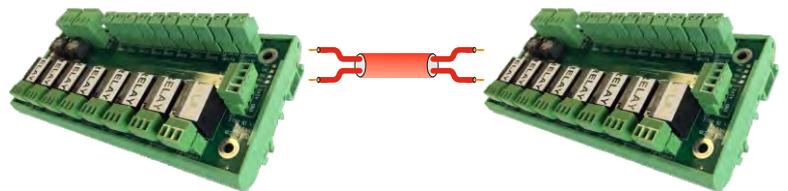
USB For Backup and Data Collection

Ethernet Connectivity

Full Event Monitoring, Time & Date Stamped

Rs485 BMS Connectivity

2-Wire Addressable I/O Cards  
Control Where its Needed



4 Data Highways Each Supporting 32 Gas Detectors/Devices Using 2 Core Cable



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

Document Ref: T650 V5.3



FS646773

EMS696504

# APPLICATION DATA SHEET

Control Systems

Transmitters

Sensors

Accessories

## Standard Specifications

Power	150W PSU @ 110V AC Nominal (88 to 127 V AC 50/60Hz by selection) 150W PSU @ 230VAC Nominal (190 to 260V AC 50/60Hz by selection) 300W PSU (88 to 260V AC 50/60Hz by selection)
Construction	ABS
Display	2 Lines x 8 Digit LCD Display Multi-Colour Backlight (Red-Alarm, Yellow-Fault, Blue-Normal)
User	IGD Jog Wheel Option Select
Outputs	3 off SPCO Relays 4A Non-Inductive User Configurable 1 off Fault Relay SPCO Relays 4A Non-Inductive 1 off Solid State Beacon Sounder Output <i>Additional Digital Inputs/Relay Outputs Can Be Added To Highways if Required</i>
Other I/O	Sounder 80dB @ 100mm (Mutable) 2 off RS485 Ports Modbus Dedicated E-Stop/Slam Switch Input Dedicated Fire System Interlock Ethernet Port USB
Inputs	Up to 128 off Addressable Series Detectors or I/O Modules Over 4 Addressable Highways <i>Additional Highways Possible With Additional Hub Cards</i> <i>Note external Booster PSU may be required</i>
Temperature	-5 to 40 Deg C Full Specification. To 55 Deg C De-Rate PSU by 15%
Humidity	0-95% RH Non-Condensing
Sealing	Ip54
Mounting	Wall Mount
Weight	1.75Kg

## Standard Features

3 Alarms Levels Programmable Per Detector
Alarms Configurable as Rising, Rising Latching, Falling, Falling Latching
Full Interface Capability With Two RS485 Interfaces For Modbus
Full Modbus Memory Map, Read from All Connected Devices to External BMS/SCADA/DCS Systems.
Set up From Control Panel or Android Interface App
Optional Internal Battery Backup or External Battery Backup
If Fitted, Battery Backup status Indicated From On Screen Display
1 Second Update For All Connected Devices
Sensor Check Function Automatically checks For Correct and Timely Calibration and Operation
Continuos Error Checking
Calibration Possible At Sensor or From Controller
Events Logging For up to 1000 Events Time and Date Stamped
Extensive Service and Calibration Features
Meets the Requirements of EN 60079 Series of Standards For Gas Detection.



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](mailto:sales@internationalgasdetectors.co.uk)  
Website: [www.internationalgasdetectors.co.uk](http://www.internationalgasdetectors.co.uk)

Document Ref: T650 V5.3



FS646773

EMS696504

# APPLICATION DATA SHEET

Control Systems

Transmitters

Sensors

Accessories

## EC Declaration of Conformity



Issuers name and address:

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

Declares that the product listed as:

**TOCSIN 650**

Addressable Gas Detection Control Panel

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

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

EN 60079-29-1:2007      *Explosive Atmospheres. Gas detectors. Performance Requirements Of Detectors For Flammable Gases.\*\*Conforms to\*\**

EN 61000-6-2: 2005      EMC Generic standards. Immunity for industrial environments  
EN 61000-6-4/A1: 2011      EMC Generic standards. Emission standard for industrial environments  
EN 61000-3-2: 2014      EMC Limits. Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)  
EN 61000-3-3: 2013      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      T650-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



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

EMC Tested by:

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



Certificate Number  
**E8N 15 05 91327 004**

TUV Certificates and reports can be checked on-line at  
[https://www.tuev-sued.de/industry\\_and\\_consumer\\_products/certificates](https://www.tuev-sued.de/industry_and_consumer_products/certificates)  
Select Oliver IGD when prompted on the website to view 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:      15 May 2019

Declaration Ref: T650-DEC-3



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](mailto:sales@internationalgasdetectors.co.uk)  
Website: [www.internationalgasdetectors.co.uk](http://www.internationalgasdetectors.co.uk)



FS646773

EMS696504

Document Ref: T650 V5.3

# APPLICATION DATA SHEET

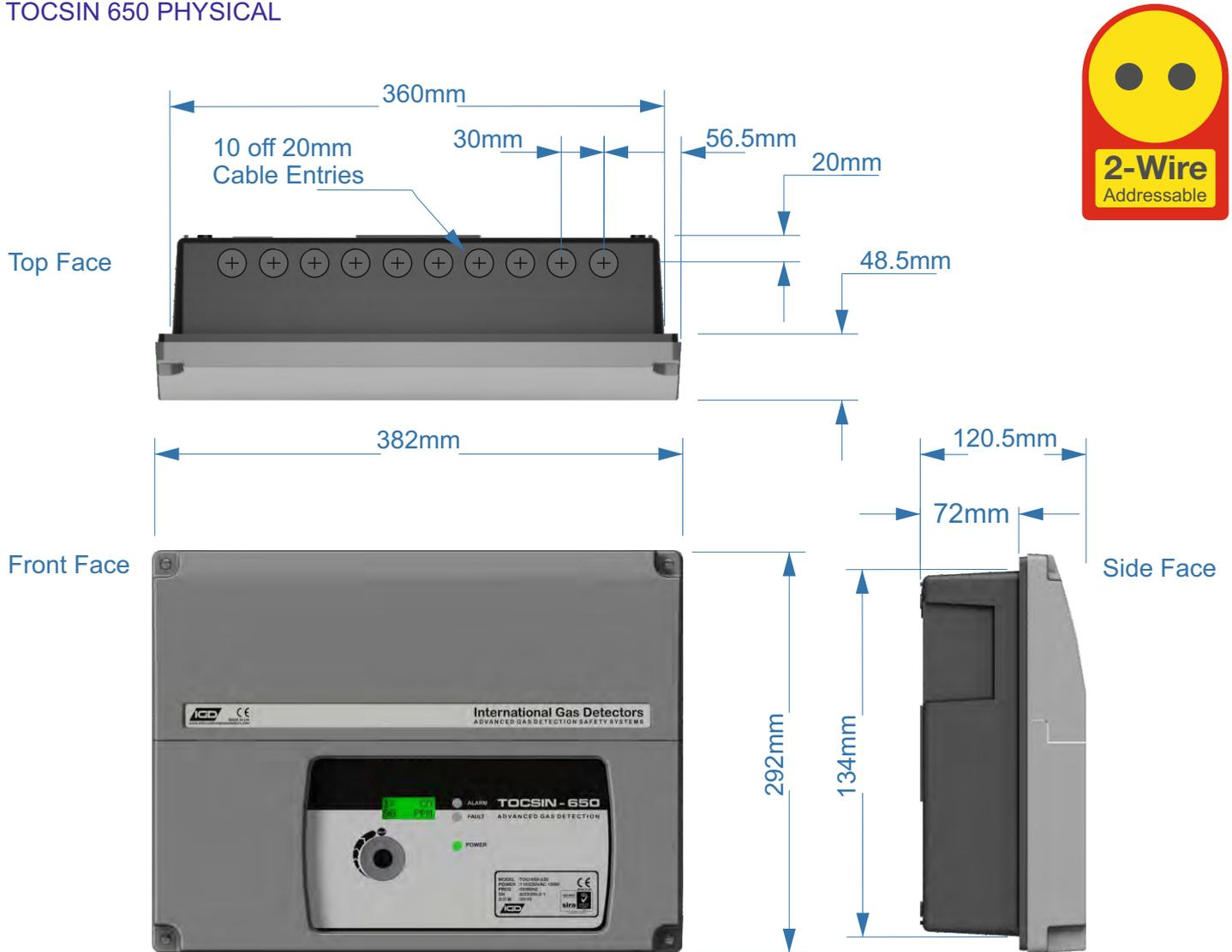
Control Systems

Transmitters

Sensors

Accessories

## TOCSIN 650 PHYSICAL



## Installation Cables

Supported Installation Cables 2 Core 1.5mmSQ or 2.5mmSQ See IGD Cable System Calculator

Typically SWA, MICC, FP200, SY, CY, Screened Cables.



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](mailto:sales@internationalgasdetectors.co.uk)  
Website: [www.internationalgasdetectors.co.uk](http://www.internationalgasdetectors.co.uk)

Document Ref: T650 V5.3



FS646773

EMS696504

# APPLICATION DATA SHEET

Control Systems

Transmitters

Sensors

Accessories

## Order Codes

Part Number	Description
TOC-650-24	24V DC Control Panel No Internal PSU Standard Features including 2 x 8 RGB Display and Jog Wheel 4 Relays, 4 Highways
TOC-650-150	110/230V AC Control Panel 150W PSU Standard Features including 2 x 8 RGB Display and Jog Wheel 4 Relays, 4 Highways
TOC-650-150BB	110/230V AC Control Panel 150W PSU Standard Features including 2 x 8 RGB Display and Jog Wheel 4 Relays, 4 Highways Built in 1.2AH Battery Backup
TOC-650-150B1	110/230V AC Control Panel 150W PSU Standard Features including 2 x 8 RGB Display and Jog Wheel 4 Relays, 4 Highways Built in 5AH Battery Backup
TOC-650-300	110/230V AC Control Panel 300W PSU Standard Features including 2 x 8 RGB Display and Jog Wheel 4 Relays, 4 Highways
TOC-650-300B1	110/230V AC Control Panel 300W PSU Standard Features including 2 x 8 RGB Display and Jog Wheel 4 Relays, 4 Highways Built in 5AH Battery Backup
TOC-750-BAT1	110/230V AC Power Module 300W PSU 5AH Battery Backup NOTE: Use with 24V DC Version Tocsin 650/750
TOC-750-BAT2	110/230V AC Power Module 300W PSU 17AH Battery Backup NOTE: Use with 24V DC Version Tocsin 650/750
TOC-750-BAT3	Booster Module With Battery Backup 5AH Battery Capacity 24V DC PSU at 150W
TOC-750-BAT4	Booster Module 24V DC PSU at 150W



TOCSIN 750 Series Controller



TOCSIN 750 Series *Room Status Indicator*  
Options With:  
Display, Relay Output, Digital or  
Analogue Input, Flammable Gas Detector



TOCSIN 750 Series Detectors  
Flammable Gases, Toxic Gases  
Oxygen



TOCSIN 102 Series Detectors 2-WIRE  
Flammable Gases, Toxic Gases  
Oxygen For ATEX Applications



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

Document Ref: T650 V5.3



FS646773

EMS696504

# APPLICATION DATA SHEET

Control Systems

Transmitters

Sensors

Accessories

## System Example



**2-Wire**  
Addressable



### 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**

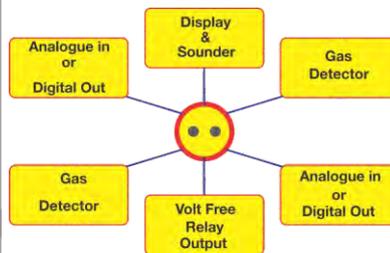


### Gas Bottle Store



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  
Refer to Installers Guide



Each Detector Node Has Multiple I/O



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



ISO 9001  
Quality Management

ISO 14001  
Environmental Management

FS646773

EMS696504

Document Ref: T650 V5.3