

# APPLICATION DATA SHEET



Control Systems

Transmitters

Sensors

Accessories



## T10-CH4-23RP TOC-10 Series Gas Detector For Methane

TOC-10 Series gas detectors were designed by our clients after their in-field experiences using conventional domestic gas detectors. Our clients wanted IGD's reputation for quality and reliability in industrial environments but in a detector built for a domestic environment. Building on the deficiencies our clients encountered TOC-10 sets the standard for this class of gas detector. TOC-10 finds applications in domestic gas safety but also in marine applications, commercial kitchens, schools, colleges and many more. All models have their own internal alarm sounders and clear visual alarm LED's. Models are then available depending on power source and required output interfaces. A pre-wired version is also available allowing you to plug and go straight out of the box.



**UK Design and Manufacture**

Front mounted detector has unique splash guard and dust filter

IP Rated seals fitted between the front and rear housing

Can be surface mounted using external mounting feet Possible to first fit during building work

Clear Visual Alarms

Sensor housing is sealed from the electronics housing blocking flammable gas

20mm Cable Entry Knockouts Centred to Allow Easy Drilling For Smaller

Loud audible Alarms

Standard 2 Gang Fixing Allowing Flush Mounting Using Standard Patress During Building



All Models have a 'link' function. Once linked if one TOC-10 goes into alarm then all linked units go into alarm



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Website: www.internationalgasdetectors.com



CERTIFICATE NO 023827

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## EC Declaration of Conformity

Issuers name and address:

Oliver IGD Limited of  
4a Pepper Rd  
Stockport, SK7 5BW  
United Kingdom



Declares that the product listed as:

**TOC-10**

Flammable point gas detector for use in 'safe' non-zoned areas only, stand alone operation.

Is 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**

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

EN 50194-1:2009	Electrical apparatus for the detection of combustible gases in domestic premises. Test Methods and performance requirements.
EN 50270:2006	Electromagnetic compatibility. Electrical apparatus for the detection and measurement of combustible gases, toxic gases or Oxygen.
EN 60335-1:2002	Household and similar electrical appliances. Safety. General Requirements
EN 60529	Ingress Protection Rating
Technical File	T10-TF9 Technical construction File

Product Markings **CE** **TOC-10** *SI*-serial number

Notified Body For ATEX and/or QAN:

Sira Test & Certification Ltd  
Hazardous Area Centre,  
Rake Lane  
Eccleston,  
Chester,  
CH4 9JN.  
United Kingdom

Oliver IGD Limited operate an independently assessed ISO9001:2008 Quality Assurance System and ATEX QAN.

Quality Assurance Certificate Number

**023827**

Quality Assurance Notification Number

**SIRA 02ATEX M174**

Testing Agency:

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



Issued on: 15 Feb 2014 At Oliver IGD Limited, Stockport, SK7 5BW , United Kingdom

Signature:

Declaration of Conformity in accordance with EN ISO/IEC 17050-1:2004

Name

Andrew J Collier M.I.O.D

Position:

Managing Director

Date: 5.January 2014

Declaration Ref: TOC-10-DEC-1



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Control Systems

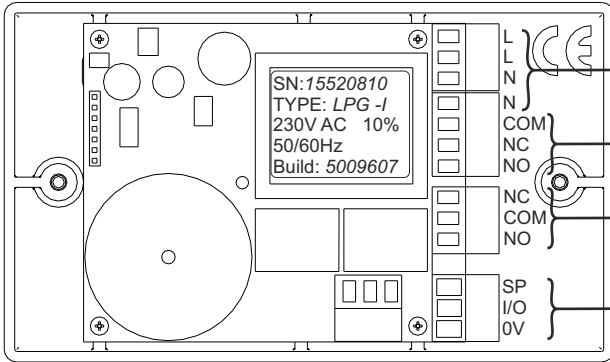
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## Installation requirements

### Terminal Functions



Power Supply With Auxiliary Output Terminals

Alarm Level 1 Relay Terminals Active at Nominally 10% LEL

Alarm Level 2 Relay Terminals Active at Nominally 25% LEL

Data interconnect between Toc-10 units for linked operation

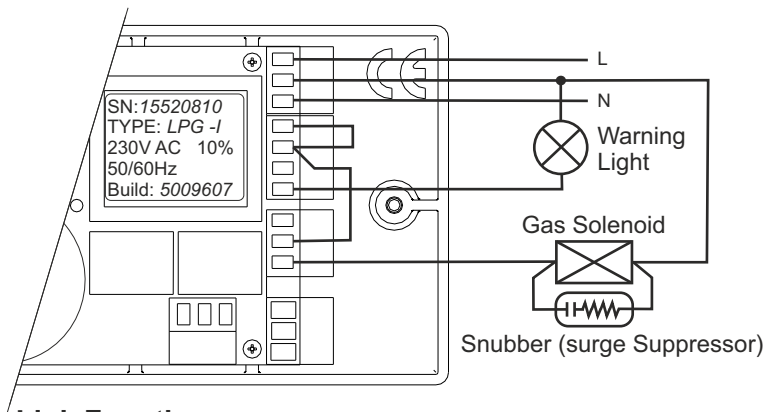
### ! Warning !

Installation of this device to the mains power supply should only be made by a competent person. The unit is supplied pre-calibrated but should be checked regularly, at least monthly using the test feature. Clean only with a damp cloth do not use any cleaning products



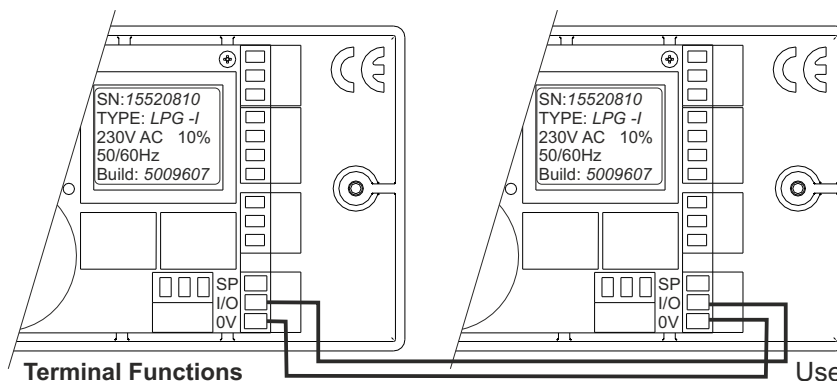
Do not tamper with this equipment to do so may risk electric shock or incorrect operation

## Typical Operation



Example shows a Toc-10 © Wired to a gas supply solenoid valve and warning light. The warning light is active in this example when the first alarm level is reached (10%) and the gas solenoid is de-activated when the second alarm level is reached (25%). Note in this example a surge suppressor is fitted to the gas solenoid to extend the life of the relay. For DC solenoids a diode could be fitted. Any such installation must comply with the national regulations in force in the country EN1775 refers

## Link Function



Up to 8 Toc-10 © units can be linked together using the I/O and 0V terminals. When linked the Toc-10 © units have common alarm and common reset function.

Use minimum 0.75mm<sup>2</sup> Cable

## Other Models Available

### LPG Models

T10-LPG-12RP	Marine 12V DC Version with 2 Alarm Relays
T10-LPG-23	Basic LPG Version No Relay Outputs
T10-LPG-23R	Single Relay Version
T10-LPG-23R2W	Fitted With 3M UK Mains Lead and 2 Alarm Relays

### Methane (Natural Gas) Models

T10-CH4-23	Basic CH4 Version No Relay Outputs
T10-CH4-23R	Single Relay Version
T10-CH4-23RP	Full Version With 2 Alarm Relays
T10-CH4-23R2W	Fitted With 2M UK Mains Lead and 2 Alarm Relays



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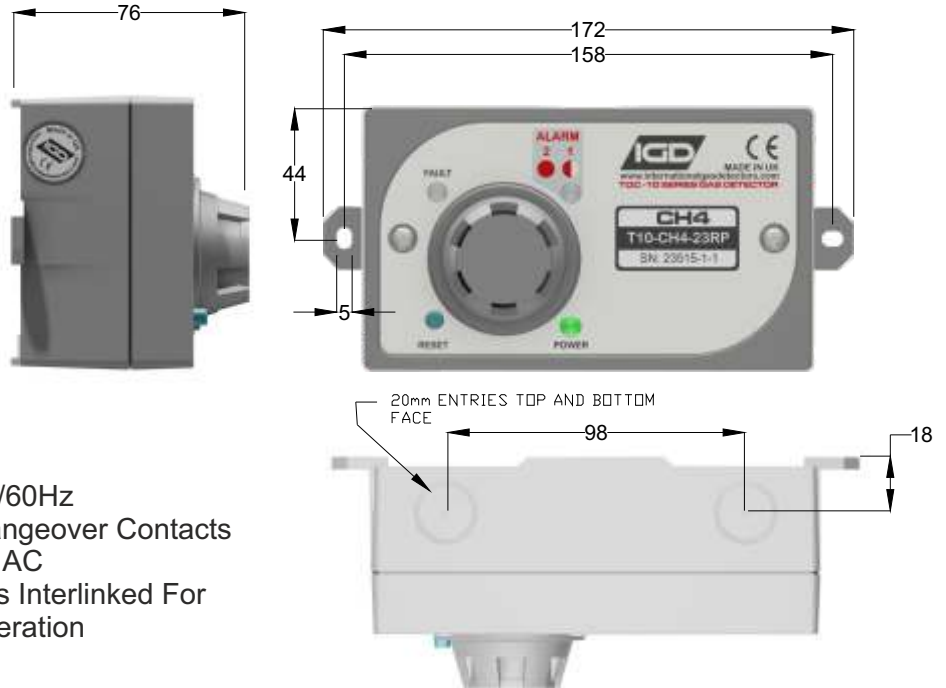
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## Physical Details



## Standard Specifications

Supply Voltage	230V AC 50/60Hz
Control Relay	2 Relay Changeover Contacts 4 A @ 230V AC
Interfacing	Up to 6 Units Interlinked For Network Operation
<b>Protection Category</b>	IP55
Insulation	Class II <input checked="" type="checkbox"/>
Installation	Wall Mounting Twin Gang Patress Box
Environment of Application	Residential/Light Commercial
Operating Temperature	0 - 55 Deg C
Operating Humidity	0-90% RH Non Condensing
Types of Gas Detected	Methane (Natural Gas) (options for LPG)
Alarm Level	Warning 10%, Alarm 20% LEL
Sensor Warm up Time	Typically 1 Minute
Reference Standards	LVD EN 60335-1 EMC EN 50270 Gas Alarms EN 50194 Ingress Protection EN 60529

## Alarm Indications

	Alarm Level 1 relay	Sounder	Power LED	Fault LED	Alarm LED
<b>FOLLOW EMERGENCY ACTIONS</b>	Alarm 1 ~10% LEL	✓	☀		☀
	Alarm 2 ~25% LEL	✓	☀		☀
	Normal		☀		
	Fault		☀	☀	

No Power LED

**CALL FOR SERVICE**

Note that the power LED will flash during warm up for 1 minute.

## General Information

The TOC-10 © is pre-calibrated for its indicated target gas, usually LPG or Methane. The TOC-10 © will respond to any flammable gas to a greater or lesser degree. The following list indicates typical materials that may be commonly present which the unit may respond to in operation:

- Aerosol Propellants (Butane)
- Paint Solvents (VOC's)
- Hot Cooking Oils
- Nail Varnish
- Solvent Based Adhesives (VOC's)

Some commonly occurring substances may cause long term detector damage, typically:

- Silicones (furniture polishes)
- Hair sprays (Silicones, VOC's etc)
- Chlorinated Cleaning Agents



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