

# GAS DETECTION



International Gas Detectors

CH<sub>4</sub> H<sub>2</sub>S CO<sub>2</sub>  
NO NO<sub>2</sub> SO<sub>2</sub> CO



GAS DETECTORS  
FOR INDUSTRIAL  
ENVIRONMENTS



**TOCSIN 150 SERIES**  
**ADDRESSABLE GAS SAMPLERS**





# International Gas Detectors



4 Sample Ports  
 Filtered Zero Port

In many applications in industry requiring gas detection it is often either not possible or desirable to place a gas detector in a particular location. This could be due to the environmental condition of the location or the nature of the environment. For Example

- |                                 |                          |
|---------------------------------|--------------------------|
| <b>BREWERIES</b>                | <b>SUMPS</b>             |
| <b>BORE HOLES</b>               | <b>SLURRY PITS</b>       |
| <b>CLEAN ROOMS</b>              | <b>FOOD PROCESSING</b>   |
| <b>FOOD PACKAGING</b>           | <b>VENTILATION DUCTS</b> |
| <b>REFRIGERATED COLD STORES</b> | <b>HOSPITAL THEATRES</b> |

Traditionally these applications would use multi point sequential gas sampling systems. Whilst these overcome some of the issues they are a long way from continuous monitoring can be high maintenance and high cost.

## **TOCSIN 150** Series Samplers

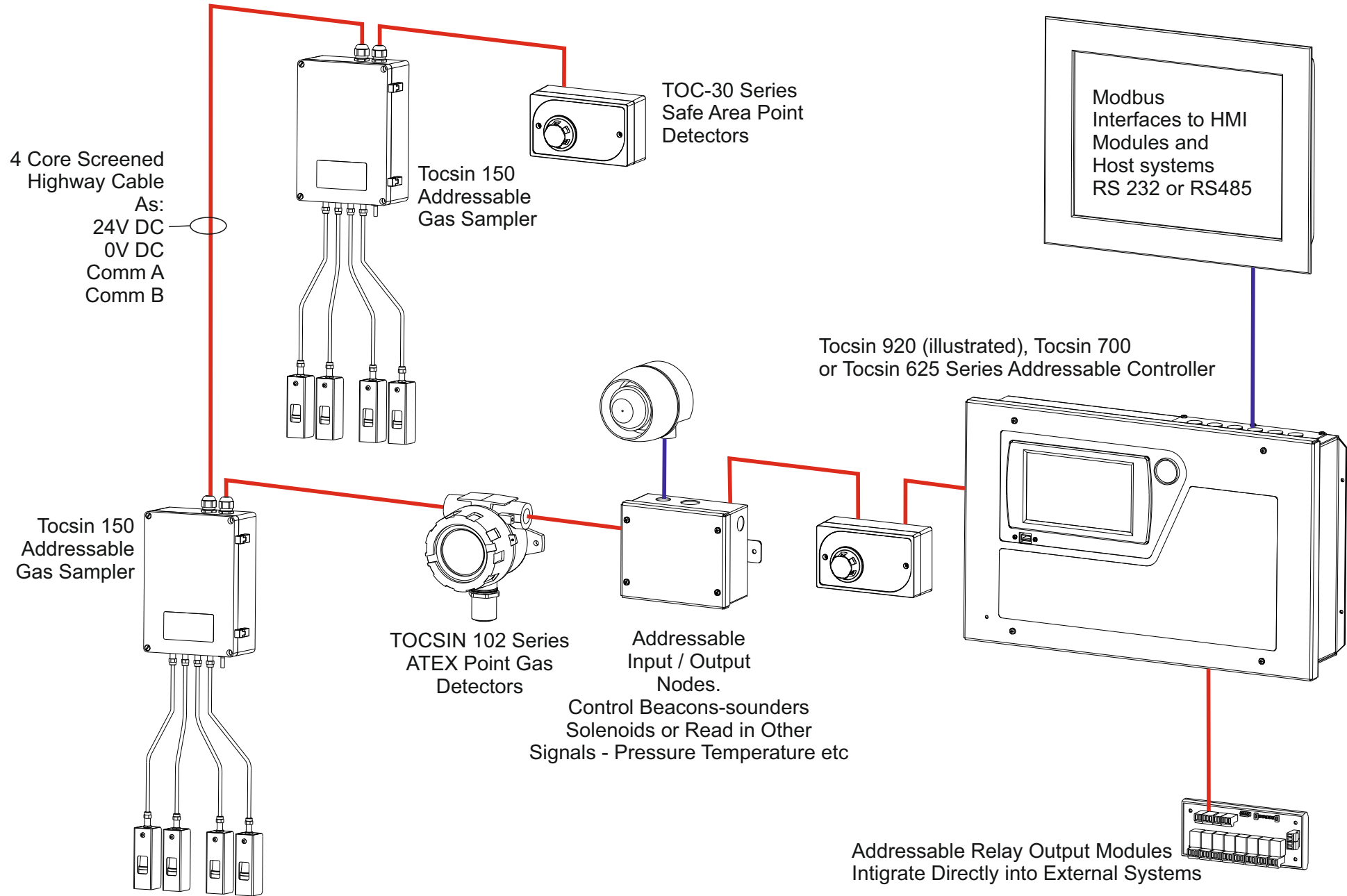
Overcome the concerns raised by sequential samplers. These are addressable modules providing up to 4 sample points. The samplers can be mixed with conventional gas detectors to form a comprehensive monitoring solution for each part of the site.

Tocsin 150 Series Addressable Sample Modules:

- Will run from any IGD Addressable Gas Detection Control Panel**
- Can use any IGD Series Gas Detector (Flammable Gases, Toxic Gases, Oxygen)**
- Up to 4 Sample points Per Module**
- Mix With IGD Addressable Point Gas Detectors, ATEX or Safe Area**
- Integrated Zero Check Function During Sampling**
- Each Sample Line Is Monitored For its Running Pressure Allowing Low Flow Reporting**
- Hydrophobic Filters Protect Against Moisture Ingress**
- Latest Piezo Pump Technology, No Pump Seals or wear Parts to Service**
- Simple Servicing**

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End of line filtration is important to ensure dirt, debris or liquids do not enter the gas sample lines where such material will cause blockages and be difficult to remove. The standard EOL (End of Line) Filter comprises a wall mounting high efficiency disposable filter. The filter is housed inside a stainless steel protection cover with a viewing aperture. Should the application demand a custom EOL then IGD can help.

Tocsin 150 Series Samplers can be used with any IGD series Gas Detector

CHLORINE  
OXYGEN  
FLAMMABLE GASES  
SULPHUR DIOXIDE  
AMMONIA  
CL<sub>2</sub>  
O<sub>2</sub>  
H<sub>2</sub>S  
NO  
CO<sub>2</sub>  
VOC's  
HYDROGEN SULPHIDE  
NITRIC OXIDE  
NITROGEN DIOXIDE  
HYDROGEN FLUORIDE  
CARBON DIOXIDE  
CARBON MONOXIDE  
HF



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To the Control Panel The Sampler Appears as Four Standard Gas Detection Channels

- In Operation The Sampler Sequentially Draws From Each Port in Sequence as:
1. Draws Through The Zero Port For The Time Set And Zero's The Detector
  2. Moves to The First Port And Samples To Purge The Line For the Preset time
  3. Updates to the Controller For the Preset Time
  4. Moves to the Next Port

Use Configurator To Setup The Sample

**1** Select T150 Option and Base Address

**2** Select Setup

**FUNCTIONS**

- DIAGNOSTICS (F1)
- SENSOR CHECK (F2)
- FIND SENSORS (F3)
- FIND RELAYS (F4)
- HIGH SPEED TEST (F5)
- BAR GRAPH (F6)
- SETUP (F7)
- EDIT ADDRESS (F8)
- ABOUT

**T150 SETUP**

**SETTINGS**

	PORT ZERO (4101)	PORT1 (4101)	PORT2 (4102)	PORT3 (4103)	PORT4 (4104)
Enabled	YES	YES	YES	YES	YES
Purge Time (Secs)	1	60	40	40	40
Sample Time (Secs)	30	20	20	20	20
Low Flow (mB)	20				
Protect Max Conc (ppm)	750		Range (ppm) 1000		
Protect ROC Min Conc (ppm)	250		Serial NO: 0		
Protect ROC Rate (ppm/sec)	2576		Prod Date 7/12/6		

Buttons: SETUP (F1), REPROGRAM (F2), CANCEL (ESC)

Decide How Many Ports To Enable

Set the Purge Time

Set the Sample Time

Note the Control Panel is Only Updated During the Sample Time Period

Set the Allowable Pressure Drop at Which Point The Channel Goes Into Fault to Indicate Low Flow

SETTING	PORT ZERO (4101)	PORT1 (4101)	PORT2 (4102)	PORT3 (4103)	PORT4 (4104)
Enabled	YES	YES	YES	YES	YES
Purge Time (Secs)	1	60	40	40	40
Sample Time (Secs)	30	20	20	20	20
Low Flow (mB)	20				
Protect Max Conc (ppm)	750		Range (ppm) 1000		
Protect ROC Min Conc (ppm)	250		Serial NO: 0		
Protect ROC Rate (ppm/sec)	2576		Prod Date 7/12/6		

The Protect Max Conc Sets The Point at Which the Channel is 'Skipped' a 5 Cycles

Protect ROC Min Conc Sets the Point at Which the Channel Rate of Rise Starts to be Checked

Protect ROC Rate Sets the Rate of Rise which will Cause the Channel to be 'Skipped'

The Protect Functions are Designed to Protect an Electrochemical Cell From Damage That Would Occur if the Cell Sampled a High Gas Level For a Long Period. The Trip Points Need to be Considered in Conjunction With the Channel Alarm Levels to Ensure the Channel Alarms Properly and the Cell is Protected. When the Port is in 'Skipping' Mode the Port is Briefly Sampled to Test For Gas. If the Rate of Rise Indicates a High Level is Still Present then The Channel is Skipped. Note the Channel Will Still be in Alarm if Latching Alarms are Set.

Select Diagnostics to View a Particular Port (Address) on the Sampler.

Note if you Calibrate any one Port (Address) Then Since All Ports Share the Same Sensor, All Four Ports (Addresses) Are Calibrated.

LIVE DATA ?		SENSOR ADDRESS = 4101		UPDATE (F1)	
CONC (ppm) = 0	VOLTS = 0.97	(Zero T.Comp) = 0.00 ?	(Cal T.Comp) = 0.00 ?	SAVE SETUP (F2)	
OUTPUT (mA) = 4.00	TEMP (oC) = 27.8	(Zero Drift) = 0.00 ?		SET 4mA (F3)	
CALIBRATION DATA ?		ZERO VOLTS = 0.97	CAL VOLTS = 1.75	SET 20mA (F4)	
ZERO TEMP = 27.8	ZERO DATE = 7/12/15	CAL TEMP = 23.1	CAL DATE = 5/16/230	ZERO (F6)	
SETTINGS ?		ZERO POT 91	CAL POT 200	CAL (F7)	
BIAS POT 128 (0mV)	4-20mA ZERO 181	GAIN2 POT 170	4-20mA CAL 1000	MORE (F10)	
BOTTLE (ppm) 2687672				ADD -1 (F8) ADD +1 (F9)	
SETUP ?		ZERO T.COEFF (%/oC) = 0.00	RANGE (ppm) = 1000	INHIBIT (F10)	
CAL T.COEFF (%/oC) = 0.00	MAX ZERO DRIFT (Volts) = 38.87	CELL (Normal) = NH3	SERIAL NUMBER = 1001	RETURN (ESC)	
		PROD DATE = 3/12/15			



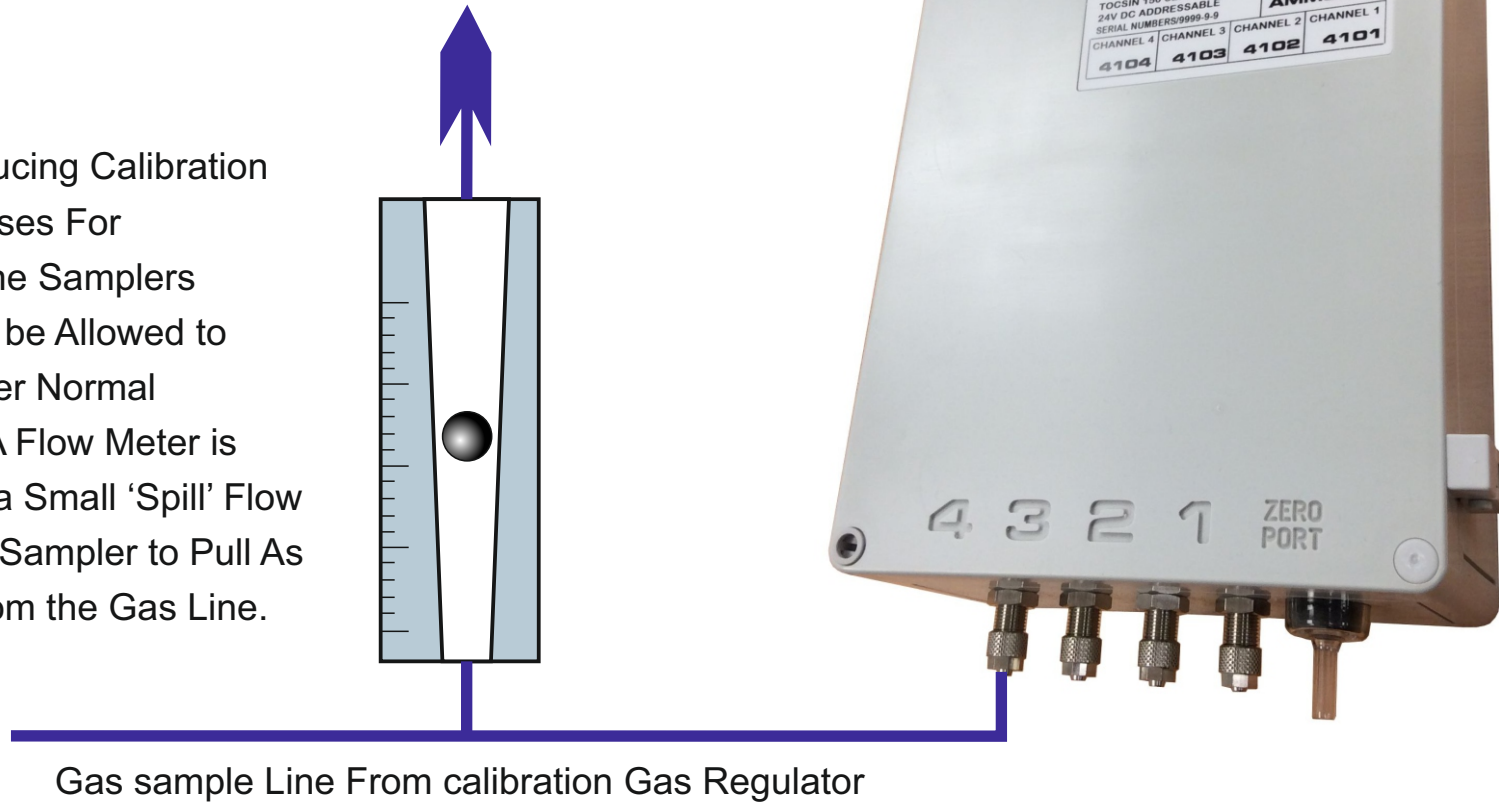


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SO<sub>2</sub>

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When Introducing Calibration and Zero Gases For Calibration the Samplers Pumps Must be Allowed to Sample Under Normal Conditions. A Flow Meter is Used to Set a Small 'Spill' Flow Allowing the Sampler to Pull As Required From the Gas Line.



Gas sample Line From calibration Gas Regulator