# **XGARD**

Versatile Fixed Gas Detector with Flexible Installation Options.

A comprehensive selection of fixed-point gas detectors, meeting global industry needs for flammable, toxic gas, and oxygen detection.



Xgard offers three distinct sensor concepts, so you can choose exactly what you need for your site. Available in flameproof, intrinsically safe, or safe area formats, Xgard is designed for use in any environment, regardless of classification.

## **FEATURES**

#### **Low Cost of Ownership**

- Xgard detectors are designed for easy installation and maintenance to reduce costs.
- Three junction box options simplify sensor and sinter replacement.
- Spare sensors plug in easily for quick replacements.
- Many spare parts are compatible across all Xgard models, minimising spare holding requirements.

### Wide Range of Sensors

- Poison-resistant pellistors cater to all flammable detection needs, including hydrocarbons, hydrogen, ammonia, jet fuel, leaded petrol, and halogencontaining vapors.
- Electrochemical sensors detect a wide range of toxic gases and oxygen.
- Thermal conductivity sensors monitor % volume concentrations of gases.

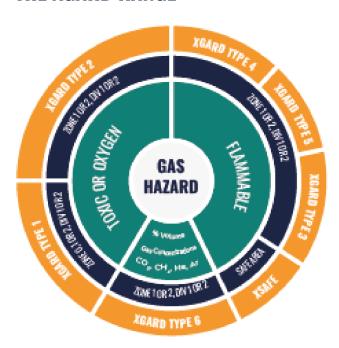
### Flexible Installation Options

- Xgard is designed for easy wall or ceiling mounting without additional brackets.
- Accommodates M20, 1/2" NPT, or 3/4" NPT cable glands to meet all site requirements.
- High-temperature models are available for environments up to 150°C.
- Accessories are offered for duct mounting, sampling applications, and remote gassing for simple sensor checking.

#### Rugged and Reliable

- Xgard is manufactured from three material options: glass reinforced nylon, durable aluminum with a tough polyester coating, or 316 stainless steel for superior corrosion resistance.
- All versions are designed to perform reliably in the harshest conditions.
- Spray deflectors and weatherproof caps are available for use in wash-down or offshore environments
- All models are validated to the functional safety standard IEC 61508 (SIL 1 to SIL 3).

# THE XGARD RANGE





# **GASES & RANGES**

Acetylene (C,H <sub>2</sub> )	GAS	LTEL (PPM) LEL (% VOL)	STEL UEL (% VOL)	RANGE: TYPE 1	RANGE: TYPE 2	RANGE: TYPE 3, 4, 5 & XSAFE	RANGE: TYPE 6
Armmonia   Fig.   15   33.6   500, 1000 ppm   -   -   -   Contact Crowces   Araine (Ashl.)   -   -   -   -     Contact Crowces   Araine (Ashl.)   -   -     -     Contact Crowces   Col.   C	Acetylene (C <sub>2</sub> H <sub>2</sub> )	2.3	100	-	-		
Argon (Ar)         -         -         1 ppm         -         -         Contact Crowce           Arnine (AcH-)         0.05         -         1 ppm         -         -         -         -           Bromine (βr.)         0.1         0.2         3 ppm         -         -         -         -           Carbon dioxide (CO.)         5000 (0.5% Vol)         5000 (0.5% Vol)         500.00, 200.         20.000 ppm         -         Contact Crowce           Carbon monoxide (CO.)         3         0.5         50, 100, 200.         200.500, 1000.         2000 ppm         -         -         Contact Crowce           Chlorine (CL)         -         0.5         30.00 ppm         -<	Ammonia (NH <sub>2</sub> )				-	0-25%* LEL	
Araine (Ast-l.)  Bromine (Br.)  O. 1.  O. 1.  Bromine (Br.)  O. 1.  O. 1	Argon (Ar)	-	-	- 1000 ppm	_	_	Contact Crowco
Bromine (Br.)         0.1         0.2         3 ppm		0.05	-	1 ppm	-	-	-
Butane (C,H <sub>m</sub> )         1.4         9.3         -         -         0-100%* LEL*         -         Contact Crowce           Carbon dioxide (CO.)         5000 (0.5% Vol)         5000 (1.5% Vol)         50.100,000.         250,500,1000.         250,500,1000.         250,500,1000.         250,500,1000.         250,500,1000.         250,500,1000.         250,500,1000.         2000 ppm         -	Bromine (Br <sub>2</sub> )		0.2		-	-	-
Carbon dioxide (CO <sub>2</sub> )         5000 (0.5% Vol)         5000 (1.5% Vol)         -         -         Contact Crowce           Carbon minoxide (CO <sub>2</sub> )         30         200         50,100,2000,2000,2000,2000,2000,2000,200	Butane (C,H,o)	1.4	9.3	-	-	0-100%* LEL*	-
Solition	4 10			-	-	-	Contact Crowco
Chlorine (CL)	. 2.	30	200	250, 500, 1000,	250, 500, 1000,	-	-
Chlorine Dixide (CtO <sub>3</sub> ) 0.1 0.3 1 ppm	Chlorine (Cl <sub>2</sub> )	-	0.5	3, 5, 10, 20,	-	-	
Diborane (B, H <sub>0</sub> )	Chlorine Dioxide (ClO.)	0.1	0.3	• •	_	_	_
Ethne (C,H,)	, 2		-		-	_	-
Ethylene (C,H <sub>3</sub> ) 2.3 36	. 2 0		15.5		-	0-100%* LEL	_
Ethylene oxide (C, H, O) 5 - 10.50.100 ppm	2 0			_	_		_
Fluorine (F <sub>2</sub> )   1	2 7			10 50 100 ppm	_	-	_
Germane (GH <sub>1</sub> )         0.2         0.6         2 ppm         -	2 4		1				
Helium (He)  Hydrogen (H <sub>2</sub> )  Hydrogen (H <sub>2</sub> )  Hydrogen chloride (HCl)  Hydrogen chloride (HCl)  Hydrogen chloride (HCl)  1  5  10, 25 ppm  -  10  20 ppm  -  100, 200, 250, 300, 1000 ppm  100, 200 ppm  -  10	. 2				_	_	
Hydrogen (H <sub>2</sub> )  4 77  200, 2000 ppm  200, 2000 ppm  100% LEL 50% LEL 50% LEL 50% LEL 100% LE			-	- ppm			Contact Crowco
Hydrogen cyanide (HCN) - 10 25 ppm			77	200, 2000 ppm		50% LEL,	0-5%, 10%, 50% vv (in air) 0-20% 25%, 30%, 50%
Hydrogen fluoride (HF)	Hydrogen chloride (HCl)	1	5	10, 25 ppm	-	-	-
Hydrogen sulphide (H <sub>2</sub> S) 5 10 10 5, 10, 20, 25, 50, 100, 200 ppm	Hydrogen cyanide (HCN)	-	10	25 ppm	-	-	-
Hydrogen sulphide (H <sub>2</sub> S) 5 10 100, 200, 250, 300, 1000, 200 ppm 10000, 200 ppm 10000, 200 ppm 10000 ppm 100000 ppm 10000 ppm 10000 ppm 10000 ppm 10000 ppm 10000 ppm 100000 ppm 10000 ppm 10000 ppm 10000 ppm 10000 ppm 10000 ppm 10000 ppm 1	Hydrogen fluoride (HF)	1.8	3	10 ppm	-	-	-
Methane (CH <sub>4</sub> )       4.4       17       -       -       0- 100% LEL       -         Nitric Oxide (NO) $5^{*1}$ $5^{*1}$ $25, 50, 100  \text{ppm}$ -       -       -         Nitrogen dioxide (NO <sub>2</sub> ) $1^{*1}$ $1^{*1}$ $10, 50, 100  \text{ppm}$ -       -       -         Ozone (O <sub>3</sub> )       - $0.2$ $1  \text{ppm}$ -       -       -       -         Oxygen (O <sub>2</sub> )       -       - $25\%  \text{Vol}$ $25\%  \text{Vol}$ -       -         Pentane (C <sub>5</sub> H <sub>12</sub> ) $\frac{1.1}{600  \text{ppm}}$ $\frac{8.7}{1800  \text{ppm}}$ -       - $0-1000\%  \text{LEL}$ -         Petrol vapour $1.4$ $6$ -       - $0-100\%  \text{LEL}$ -         Phosgene (COCL <sub>2</sub> ) $0.02$ $0.06$ $1  \text{ppm}$ -       - $0-100\%  \text{LEL}$ -         Propane (C <sub>3</sub> H <sub>8</sub> ) $1.7$ $10.9$ -       - $0-100\%  \text{LEL}$ -         Silane (SiH <sub>4</sub> ) $0.5$ $1$ $1  \text{ppm}$ - $0-100\%  \text{LEL}$ -         Sulphur Dioxide (SO <sub>2</sub> ) $1^{**1}$ $1^{**1}$ $10.20, 50, 100, 20, 50, 100, 20, 20, 20, 20, 20, 20, 20$	Hydrogen sulphide (H <sub>2</sub> S)	5	10	100, 200, 250,	-, -, -, -, -, -,	-	-
Nitric Oxide (NO) $5^{*1}$ $5^{*1}$ $5^{*1}$ $25, 50, 100  ppm$ Nitrogen dioxide (NO <sub>2</sub> ) $1^{*1}$ $1^{*1}$ $1^{*1}$ $10, 50, 100  ppm$	LPG	2	10	-	-	0- 100% LEL	-
Nitrogen dioxide (NO $_2$ ) 1*1 1*1 10, 50, 100 ppm	Methane (CH <sub>4</sub> )	4.4	17	-	-	0- 100% LEL	-
Ozone $(O_3)$ -       0.2       1 ppm       -       -       -         Oxygen $(O_2)$ -       -       25% Vol       25% Vol       -       -         Pentane $(C_5H_{12})$ $\frac{1.1}{600 \text{ ppm}}$ 8.7 \\ 1800 \text{ ppm}       -       0-100%* LEL       -         Petrol vapour       1.4       6       -       -       0-100%* LEL       -         Phosgene (COCL2)       0.02       0.06       1 ppm       -       -       -         Phosphine (PH3)       0.1       0.2       1 ppm       -       -       -         Propane $(C_3H_8)$ 1.7       10.9       -       -       0-100%* LEL       -         Silane $(SiH_4)$ 0.5       1       1 ppm       -       -       -         Sulphur Dioxide $(SO_2)$ 1*1       1*1       10, 20, 50, 100, 250 ppm       -       -       -         Vinyl chloride $(VCM)$ $(CH_2= CHCl)$ 3.6       33       -       -       -       0-100%* LEL       -	Nitric Oxide (NO)	5*¹	5*1	25, 50, 100 ppm	-	-	-
Oxygen (O2)       -       -       25% Vol       25% Vol       -       -       -         Pentane ( $C_5H_{12}$ )       1.1 600 ppm       8.7 1800 ppm       -       -       0- 100%* LEL       -         Petrol vapour       1.4       6       -       -       0- 100%* LEL       -         Phospene (COCL2)       0.02       0.06       1 ppm       -       -       -         Phosphine (PH3)       0.1       0.2       1 ppm       -       -       -       -         Propane ( $C_3H_9$ )       1.7       10.9       -       -       0- 100%* LEL       -         Silane (SiH4)       0.5       1       1 ppm       -       -       -       -         Sulphur Dioxide (SO2) $1^{*1}$ $1^{*1}$ $1^{*0}$ $2^{*0}$	Nitrogen dioxide (NO <sub>2</sub> )	1*1	1*1	10, 50, 100 ppm	-	-	-
Pentane ( $C_5H_{12}$ )       1.1 $_{600 \text{ ppm}}$ 8.7 $_{1800 \text{ ppm}}$ -       -       0- 100%* LEL       -         Petrol vapour       1.4       6       -       -       0- 100%* LEL       -         Phosgene (COCL <sub>2</sub> )       0.02       0.06       1 ppm       -       -       -         Phosphine (PH <sub>3</sub> )       0.1       0.2       1 ppm       -       -       -       -         Propane ( $C_3H_8$ )       1.7       10.9       -       -       0- 100%* LEL       -         Silane (SiH <sub>4</sub> )       0.5       1       1 ppm       -       -       -       -         Sulphur Dioxide (SO <sub>2</sub> )       1*1       1*1       10, 20, 50, 100, 250 ppm       -       -       -       -         Vinyl chloride (VCM) (CH <sub>2</sub> = CHCl)       3.6       33       -       -       -       0- 100%* LEL       -	Ozone (O <sub>3</sub> )	-	0.2	1 ppm	-	-	-
Pertol vapour 1.4 600 ppm 1800 ppm 0-100%* LEL - Phosgene (COCL <sub>2</sub> ) 0.02 0.06 1 ppm	Oxygen (O <sub>2</sub> )	-	-	25% Vol	25% Vol	-	-
Petrol vapour       1.4       6       -       -       0- 100%* LEL       -         Phosgene (COCl <sub>2</sub> )       0.02       0.06       1 ppm       -       -       -         Phosphine (PH <sub>3</sub> )       0.1       0.2       1 ppm       -       -       -       -         Propane ( $C_3H_8$ )       1.7       10.9       -       -       0- 100%* LEL       -         Silane (SiH <sub>4</sub> )       0.5       1       1 ppm       -       -       -       -         Sulphur Dioxide (SO <sub>2</sub> ) $1^{*1}$ $1^{*1}$ $1^{*0}$ , 20, 50, 100, 250 ppm       -       -       -       -         Vinyl chloride (VCM) (CH <sub>2</sub> = CHCl) $3.6$ $3.6$ $3.3$ -       -       -       0- 100%* LEL       -	Pentane (C <sub>5</sub> H <sub>12</sub> )			-	-	0- 100%* LEL	-
Phosgene (COCl <sub>2</sub> ) 0.02 0.06 1 ppm	Petrol vapour			-	-	0- 100%* LEL	-
Phosphine (PH $_3$ ) 0.1 0.2 1 ppm	Phosgene (COCl <sub>2</sub> )			1 ppm	-	-	-
Propane (C <sub>3</sub> H <sub>8</sub> ) 1.7 10.9 0- 100%* LEL - Silane (SiH <sub>4</sub> ) 0.5 1 1 ppm	-	0.1	0.2		-	-	-
Silane (SiH <sub>4</sub> ) 0.5 1 1 ppm				-	-	0- 100%* LEL	-
Sulphur Dioxide (SO <sub>2</sub> ) 1*1 1*1 10, 20, 50, 100, 250 ppm	5 0		1	1 ppm	-	-	_
Vinyl chloride (VCM) 3.6 33 0-100%* LEL -	*			10, 20, 50, 100,	-	_	_
	Vinyl chloride (VCM)	3.6		250 ppm -	-	0- 100%* LEL	-
	Volatile organics (VO)*2	-	-	0-100 ppm *2	-	-	-

<sup>\*</sup> Ranges not available for Xsafe or Xgard Type 4 LTEL & STEL figures are derived from the UK HSE document: EH40 2011 Alternative thresholds may apply in countries outside of the UK LEL figures derived from EN60079-20-1: 2010



<sup>\*1</sup> Current limits advised in the UK
\*2 Nominal 0-100ppm range with Carbon Monoxide (CO),
Other sensors and ranges may be available, please contact Crowcon.

# **SPECIFICATIONS**

	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	XSAFE		
SIZE	156 x 166 x 111n (6.1 x 6.5 x 4.3 inc		195 x 166 x 111mm (7.6 x 6.5 x 4.3 inches)		156 x 166 x 111mm (6.1 x 6.5 x 4.3 inches)				
WEIGHT	Nylon: 0.5kg Aluminium: 1kg (2 (1.1 lbs) Stainless steel: 3.1 lbs) 316 S/S: 3.1kg (6.8 lbs)		,	1.5kg (3.3 lbs)	Aluminium: 1kg (2.2 lbs) Stainless steel: 3.1kg (6.8lbs)		1kg (2.2 lbs)		
ENCLOSURE Material	ATEX certified: Aluminium or 316 Glass reinforced nylon or 316 S/S UL Certified: Aluminium or 316 S/S		Stainless Steel	tainless Steel Aluminium		Aluminium or 316 Stainless Steel			
INGRESS Protection	IP65			IP54	IP65				
CABLE ENTRIES	$1 \times M20$ , $\frac{1}{2}$ "NPT or $\frac{3}{4}$ NPT* on right-side								
TERMINATIONS	0.5 to 2.5mm <sup>2</sup>								
SENSOR TYPES	Electrochemical		Catalytic bead	316 S/S sensor housing with catalytic beads	Catalytic bead	Thermal conductivity	Catalytic bead		
OPERATING Temperature	-20 to +50°C (-40 to 122°F) (Sensor dependant)	-20 to +50°C (-4 to 122°F) (Sensor dependant)	-40 to +80°C (-40 to 176°F)	-20 to +150°C (-4 to 302°F)	-40 to +55°C (-40 to 131°F)	+10 to +55°C (50 to 301°F)	mV: -40 to +80°C (-40 to 176°F) mA: -40 to +55°C (-40 to 131°F)		
HUMIDITY	0-90% RH non-condensing		0-99% RH non-condensing			0-90% RH	0-99% RH		
REPEATABILITY ZERO DRIFT	<2% FSD (Typical) <2% FSD per Month (Typical)								
RESPONSE TIME	T90 <30s to 120s	T90 <15s Oxygen T90 <30s to 120s Toxic (sensor dependant)		T90 <15s (Typical)					
OPERATING Voltage	8- 30V dc		2.0V dc +/- 0.1V (Typical)		10-30V dc		mA: 10- 30V dc mV: 2.0Vdc		
POWER REQUIREMENTS	24mA maximum		300mA (Typical)		50mA at 24V dc 1.2W		mA: 50mA at 24V dc 1.2W mV: 300mA (Typical)		
ELECTRICAL OUTPUT	2-wire 4-20mA (current sink)		3- wire mV bridge Typical signal: 12-15 mV/ %LEL CH4	3- wire mV bridge Typical signal: >10 mV/ %LEL CH4	3- wire 4-20mA (current sink or source)		mA: 3- wire 4-20mA (current sink or source) mV: 3- wire mV bridge Typical signal: 12-15mV/ %LEL CH4		

Due to ongoing research and product improvement, specifications are subject to change without notice. While every effort has been made to ensure accuracy in this document, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards, and guidelines. This document is not intended to form the basis of a contract.

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