#### **FIXED SYSTEMS**

# **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**

Acesylene (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
Semmer   S	Acetylene (C <sub>2</sub> H <sub>2</sub> )	2.3	100	-	-		-
Arspine (Arr) Arspine (Ark) Ar	Ammonia (NH <sub>3</sub> )				-	0-25%* LEL	-
Araine (AeH.) 0.05 - 1 ppm	Argon (Ar)	-	-	- 1000 ppm	-	-	Contact Crowcor
Butane (C,H <sub>10</sub> )	Arsine (AsH <sub>3</sub> )	0.05	-	1 ppm	-	-	-
Carbon dioxide (CO <sub>2</sub> ) 5000 (0.5% Vol.) 5000 (1.5% Vol.) 5000 (1.5% Vol.) 5000 (1.5% Vol.) 50.00 (1.00, 200, 200, 200, 200, 200, 200, 200,	Bromine (Br <sub>2</sub> )	0.1	0.2	3 ppm	-	-	-
Carbon dioxide (CO, J. 5000 (0.5% Vol) 5000 (1.5% Vol) 5000 (1.5% Vol) 5000 (1.5% Vol) 5000 (1.5% Vol) 5000 (1.00 control Crowe Carbon monoxide (CO) 30 200 2000 ppm 250, 500, 1000, 2000 ppm 350, 100 ppm	Butane (C <sub>4</sub> H <sub>10</sub> )	1.4	9.3	-	-	0-100%* LEL*	-
Carbon monoxide (CO)   30   200   250, 500, 1000, 200 ppm   2000	Carbon dioxide (CO <sub>2</sub> )	5000 (0.5% Vol)	5000 (1.5% Vol)	-	-	-	Contact Crowco
Chlorine (CL)	Carbon monoxide (CO)	30	200	250, 500, 1000,	250, 500, 1000,	-	-
Chlorine Dioxide (CIO <sub>2</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 <sub>2</sub> )	0.1	0.3	• •	-	-	_
Ethor (C,H <sub>1</sub> ) 2.4 15.5 -	Diborane (B <sub>2</sub> H <sub>6</sub> )		-			-	-
Ethylene (C,H <sub>0</sub> )         2.3         36         -         10, 50, 100 ppm         -         0-100%* LEL         -           Fluorine (F, Q)         1         1         1 ppm         -         -         -           Germane (GeH <sub>2</sub> )         0.2         0.6         2 ppm         -         -         -           Helium (He)         -         -         -         -         -         Contact Crowce           Hydrogen (H <sub>2</sub> )         4         77         200, 2000 ppm         200, 2000 ppm         0-100%* LEL         0-5%* LDL         0-5%* LDL         0-5%* LDW* Contact Crowce         0-5%* LDW* Contact Crowce         0-5%* LDW* Contact Crowce         0-5%* LDW* Contact Crowce         0-100%* LEL         0-5%* LDW* Contact Crowce         0-5%* LDW* Contact Crowce         0-100%* LEL         0-5%* LDW* Contact Crowce         0-100%* LEL         0-5%* LDW* Contact Crowce         0-5%* LDW* Contact Crowce         0-100%* LEL         0-5%* LDW* Contact Crowce         0-5%* LDW* Contact Crowce         0-100%* LEL         0-5%* LDW* Contact Crowce         0-100%* LEL         0-5%* LDW* Contact Crowce         0-100%* LEL         0-100%* LDW* Contact Crowce	Ethane (C <sub>2</sub> H <sub>6</sub> )		15.5	-	-	0-100%* LEL	-
Ethylene oxide (C, H, O) 5 - 10, 50, 100 ppm	2 0	2.3	36	-		0-100%* LEL	-
Fluorine (F <sub>2</sub> ) 1 1 1 1 1 ppm	2 7	5	_	10, 50, 100 ppm	-	_	-
Germane (GeH <sub>2</sub> ) 0.2 0.6 2 ppm Contact Crowdellium (He) Contact Crowdellium (He)	2 4	1	1	1 ppm	-	-	-
Helium (He) Hydrogen (H <sub>2</sub> ) Hydrogen (H <sub>2</sub> ) Hydrogen (H <sub>2</sub> ) Hydrogen chloride (HCl) Hydrogen chloride (HCl) Hydrogen chloride (HCl) Hydrogen cyanide (HCN) Hydrogen sulphide (H <sub>2</sub> ) Hydrogen sulphid	. 2	0.2	0.6		-	_	_
Hydrogen (H <sub>+</sub> )  4 77  200, 2000 ppm 200, 2000 ppm 100% LEL 50% LEL, 50% LEL, 100% LEL 100% LEL 20%, 30%, 50% 20% (H air) 0-20 20% (H <sub>+</sub> in N <sub>+</sub> )  Hydrogen chloride (HCl)  1 5  10, 25 ppm					-	-	Contact Crowco
Hydrogen cyanide (HCN) - 10 25 ppm	Hydrogen (H <sub>2</sub> )	4	77	200, 2000 ppm	200, 2000 ppm 100% LEL	50% LEL,	0-5%, 10%, 50° vv (in air) 0-20°, 25%, 30%, 50°, vv (H <sub>2</sub> in N <sub>2</sub> )
Hydrogen fluoride (HF)	Hydrogen chloride (HCl)	1	5	10, 25 ppm	-	-	-
Hydrogen sulphide (H <sub>2</sub> S) 5 10 5, 10, 20, 25, 50, 100, 200, 250, 300, 1000 ppm 100, 200 ppm 100,	Hydrogen cyanide (HCN)	-	10	25 ppm	-	-	-
Hydrogen sulphide (H <sub>2</sub> S) 5 10 100, 200, 250, 300, 1000, 200 ppm 1000 ppm	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> ) $1^{*1}$ $1^{*1}$ $1^{*1}$ $10, 50, 100  \text{ppm}$	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> ) $1^{*1}$ $1^{*1}$ $1^{*1}$ $10, 50, 100  ppm$ $   -$ Oxygen (O <sub>3</sub> ) $ 0.2$ $1  ppm$ $   -$ Oxygen (O <sub>2</sub> ) $   25\%  Vol$ $25\%  Vol$ $  -$ Oxygen (C <sub>5</sub> H <sub>12</sub> ) $\frac{1.1}{600}  ppm$ $\frac{8.7}{1800}  ppm$ $  0-100\%*  LEL$ $-$ Pertol vapour $ 1.4$ $6$ $   0-100\%*  LEL$ $-$ Phospene (COCl <sub>2</sub> ) $0.02$ $0.06$ $1  ppm$ $   -$ One of the contraction	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       -       -         Pentane $(C_5H_{12})$ $\frac{1.1}{600}$ ppm       8.7 1800 ppm       -       -       0-100%* LEL       -         Petrol vapour       1.4       6       -       -       0-100%* LEL       -         Phosgene $(COCl_2)$ 0.02       0.06       1 ppm       -       -       -         Phosphine $(PH_3)$ 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 $(SO_2)$ $1^{*1}$ $1^{*1}$ $1^{*0}$ $1^{*0}$ -       -       -         Vinyl chloride $(VCM)$ $(CH_2^- CHCl)$ $3^{*0}$ $3^{*0}$ -       -       0-100%* LEL       -	Nitric Oxide (NO)	5*1	5* <sup>1</sup>	25, 50, 100 ppm	-	-	-
Oxygen (O2)       -       -       25% Vol       25% Vol       -       -         Pentane ( $C_5H_{12}$ ) $\frac{1.1}{600}$ ppm $\frac{8.7}{1800}$ 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       10, 20, 50, 100, 250 ppm       -       -       -       -         Vinyl chloride (VCM) (CH2= CHCl)       3.6       33       -       -       -       0- 100%* LEL       -	Nitrogen dioxide (NO <sub>2</sub> )	1*1	1*1	10, 50, 100 ppm	-	-	-
Pentane ( $C_5H_{12}$ ) $\begin{array}{cccccccccccccccccccccccccccccccccccc$	Ozone (O <sub>3</sub> )	-	0.2	1 ppm	-	-	-
Petrol vapour 1.4 6 - 0- 100%* LEL - Phosgene (COCL) 0.02 0.06 1 ppm 0- 100%* LEL - Phosphine (PH $_3$ ) 0.1 0.2 1 ppm 0- 100%* LEL - Propane (C $_3$ H $_8$ ) 1.7 10.9 0- 100%* LEL - Silane (SiH $_4$ ) 0.5 1 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       -       0- 100%* LEL       -         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       -       -       -       -         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       -	Pentane (C <sub>5</sub> H <sub>12</sub> )			-	-	0- 100%* LEL	-
Phosphine (PH $_3$ ) 0.1 0.2 1 ppm	Petrol vapour			-	-	0- 100%* LEL	-
Propane (C <sub>3</sub> H <sub>g</sub> ) 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*1 10, 20, 50, 100, 250 ppm Vinyl chloride (VCM) 3.6 33 0-100%* LEL -	Phosgene (COCl <sub>2</sub> )	0.02	0.06	1 ppm	-	-	-
Silane (SiH <sub>4</sub> ) 0.5 1 1 ppm	Phosphine (PH <sub>3</sub> )	0.1	0.2	1 ppm	-	-	-
Silane (SiH <sub>4</sub> ) 0.5 1 1 ppm	Propane (C <sub>3</sub> H <sub>8</sub> )	1.7	10.9	-	-	0- 100%* LEL	-
Vinyl chloride (VCM) 3.6 33 0-100%* LEL -	Silane (SiH <sub>4</sub> )	0.5	1	1 ppm	-	-	-
Vinyl chloride (VCM) 3.6 33 0- 100%* LEL -	Sulphur Dioxide (SO <sub>2</sub> )	1*1	1*1		-	-	-
	Vinyl chloride (VCM) (CH <sub>2</sub> = CHCl)	3.6	33	- -	-	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 apoly in countries outside of the UK
LEL figures derived from EN60079-20-1: 2010



<sup>\*1</sup> Current limits advised in the UI \*2 Nominal 0-100ppm range with

<sup>\*2</sup> 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 111mm 6.1 x 6.5 x 4.3 inches)			156 x 166 x 1111 (6.1 x 6.5 x 4.3 in			
WEIGHT	Nylon: 0.5kg (1.1 lbs) Alloy: 1kg (2.2 lbs) 316 S/S: 3.1kg (6.8 lbs)	Aluminium: 1kg (7 Stainless steel: 3.		1.5kg (3.3 lbs)	Aluminium: 1kg ( Stainless steel: 3		1kg (2.2 lbs)	
ENCLOSURE Material	ATEX certified: Glass reinforced nylon or 316 S/S UL Certified: Aluminium or 316 S/S	Aluminium or 316	Stainless Steel	Aluminium	Aluminium or 31	6 Stainless Steel	Aluminium	
INGRESS	IP65			IP54	IP65			
PROTECTION	1 - M20 1/ #NDT 3/ NDT*							
CABLE ENTRIES	1 x M20, <sup>1</sup> / <sub>2</sub> "NPT or <sup>3</sup> / <sub>4</sub> NPT* on right-side							
TERMINATIONS	0.5 to 2.5mm <sup>2</sup>		0.11.11.1	24.0.0/0		T1 1		
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-co	ondensing	0-99 <mark>% RH</mark> non-c	ondensing		0-90% RH	0-99% RH	
REPEATABILITY ZERO DRIFT	<2% FSD (Typical <2% FSD per Mor							
RESPONSE TIME	T90 <30s to 120s	T90 <15s Oxyg <mark>en</mark> 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	



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