

REMOTE TOXIC, COMBUSTIBLE, AND OXYGEN GAS SENSORS

XGARD

FEATURES

- Extremely wide range of sensors
- Easy installation and maintenance
- Low cost of ownership
- Replacement of sensors are simple
- Rugged and reliable
- Several Xgard Types For All Applications



Xgard Type 1: Intrinsically safe Toxic and Oxygen gas detector

Xgard Type 2: Flameproof Toxic and Oxygen gas detector

Xgard Type 3: Flameproof Flammable gas detector

Xgard Type 4: Flameproof high temperature Flammable gas detector

Xgard Type 5: Flameproof Flammable gas detector with 4-20mA output

Xgard Type 6: Flameproof Thermal Conductivity type gas detector

Xgard Type 7: Flameproof Sulphistor Hydrogen Sulfide gas detector

Xsafe: Safe area Flammable gas detector



The Xgard range of gas detectors have been specifically designed to meet your requirements. The dangers presented by toxic and flammable gases as well as oxygen deficiency vary with each application.

Xgard offers four different sensor concepts so you can choose exactly what you need for your site. Xgard is available in flameproof, intrinsically safe or safe area formats for use in all environments no matter what the classification.

Xgard can accommodate M20, M25, 1/2" NPT or 3/4" NPT cable glands for all site requirements and was designed for either wall or ceiling mounting without the need for additional brackets. Accessories are available for duct mounting, sampling applications, and remote gassing for simple sensor checking.

Xgard is constructed from highly durable marine-grade aluminum with tough polyester coating designed to operate even in the harshest conditions. Spray deflectors and weatherproof caps are available for use in areas subject to regular wash-downs, or offshore environments.



CEA Instruments, Inc.

"EXPERTS IN TOXIC GAS DETECTION"

XGARD RANGES AVAILABLE

GAS TYPE	LTEL(ppm) LEL(% vol)	STEL(ppm) UEL(% vol)	Type 1	Type 2	Type 3, 4, 5 & Xsafe	Type 6	Type 7
Acetylene (C ₂ H ₂)	2.5	100			0-100% LEL*		
Ammonia (NH ₃)	25 15	35 28	10, 25, 50, 100, 250, 500, 1000 ppm	10, 25, 50, 100, 250, 500, 1000 ppm	0-25% LEL*		
Argon (Ar)	-	-				0-25% vol (in air)	
Arsine (AsH ₃)	0.05	-	1 ppm				
Bromine (Br ₂)	0.1	0.3	3, 5 ppm				
Butane (C ₄ H ₁₀)	1.8	9			0-100% LEL*	0-25% vol (in air)	
Carbon Dioxide (CO ₂)	5000 (0.5% vol)	15000 (1.5% vol)				0-100% vol (in air)	
Carbon Monoxide (CO)	30	200	50, 100, 150, 200, 250, 300, 500, 1000 ppm	50, 100, 150, 200, 250, 300, 500, 1000 ppm			
Chlorine (Cl ₂)	0.5	1	3, 5, 10, 15, 20, 30, 50, 100 ppm				
Chlorine Dioxide (ClO ₂)	0.1	0.3	1 ppm				
Diborane (B ₂ H ₆)	0.1	-	1 ppm				
Ethane (C ₂ H ₆)	3.1	5.5			0-100% LEL*		
Ethylene (C ₂ H ₄)	2.7	36			0-100% LEL*		
Fluorine (F ₂)	1	1	3 ppm				
Germane (GeH ₄)	0.2	0.6	2 ppm				
Helium (He)	-	-				0-5%, 10%, 20%, 50%, 100% vol (in air)	
Hydrogen (H ₂)	4	80	200, 500, 2000 ppm 2%, 4% vol	200, 500, 2000 ppm 2%, 4% vol	0-100% LEL*	0-5%, 10%, 50% vol (in air) 0-20%, 25%, 30% vol (H ₂ in N ₂)	
Hydrogen Chloride (HCl)	-	5 (MEL)	10, 25 ppm				
Hydrogen Cyanide (HCN)	-	10 (MEL)	25, 30 ppm				
Hydrogen Fluoride (HF)	1.8	3	10 ppm				
Hydrogen Sulfide (H ₂ S)	5	10	2, 5, 10, 20, 25, 30, 50, 100, 200, 250, 300, 1000 ppm	2, 5, 10, 20, 25, 30 50, 100, 200 ppm			100 ppm
LPG	2	10			0-100% LEL*		
Methane (CH ₄)	5	15			0-100% LEL	0-10%, 25%, 100% vol (in air) 0-100% vol (CH ₄ in CO ₂)	
Nitric Oxide (NO)	25	-	100 ppm				
Nitrogen Dioxide (NO ₂)	1	1	5, 10, 30, 50, 100 ppm				
Ozone (O ₃)	-	0.1	1 ppm				
Oxygen (O ₂)	-	-	25% vol	25% vol			
Pentane (C ₅ H ₁₂)	1.5	7.8			0-100% LEL		
Petrol	1.3	6			0-100% LEL*		
Phosgene (COCl ₂)	0.02	0.06	1 ppm				
Phosphine (PH ₃)	-	0.3	1, 2 ppm				
Propane (C ₃ H ₈)	2.2	10			0-100% LEL*	0-25% vol (in air)	
Silane (SiH ₄)	0.5	1	1 ppm				
Sulfur Dioxide (SO ₂)	1	1	5, 10, 15, 20, 50, 100, 250 ppm				
Vinyl Chloride (VCM) (CH ₂ =CHCl)	3.6	33			0-100% LEL*		

* Ranges not available for Xsafe
(Specifications subject to change without notice.)



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XGARD SPECIFICATIONS

Xgard	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Type 7	Xsafe
Junction Box Material	A356 marine grade alloy with polyester coating	A356 marine grade alloy with polyester coating	A356 marine grade alloy with polyester coating	A356 marine grade alloy with polyester coating	A356 marine grade alloy with polyester coating	A356 marine grade alloy with polyester coating	A356 marine grade alloy with polyester coating	A356 marine grade alloy with polyester coating
Dimensions	156 x 166 x 111 mm (6.1 x 6.5 x 4.3 in)	156 x 166 x 111 mm (6.1 x 6.5 x 4.3 in)	156 x 166 x 111 mm (6.1 x 6.5 x 4.3 in)	195 x 166 x 111 mm (7.6 x 6.5 x 4.3 in)	156 x 166 x 111 mm (6.1 x 6.5 x 4.3 in)	156 x 166 x 111 mm (6.1 x 6.5 x 4.3 in)	156 x 166 x 111 mm (6.1 x 6.5 x 4.3 in)	156 x 166 x 111 mm (6.1 x 6.5 x 4.3 in)
Weight	1 Kg (2.2 lbs)	1 Kg (2.2 lbs)	1 Kg (2.2 lbs)	1.5 Kg (3.3 lbs)	1 Kg (2.2 lbs)	1 Kg (2.2 lbs)	1 Kg (2.2 lbs)	1 Kg (2.2 lbs)
Ingress Protection	IP65, IP66 with weatherproof cap	IP65, IP66 with weatherproof cap	IP65, IP66 with weatherproof cap	IP54	IP65, IP66 with weatherproof cap	IP65, IP66 with weatherproof cap	IP65, IP66 with weatherproof cap	IP65, IP66 with weatherproof cap
Cable Entries	1 x M20, M25, 1/2" or 3/4" NPT on right-side	1 x M20, M25, 1/2" or 3/4" NPT on right-side	1 x M20, M25, 1/2" or 3/4" NPT on right-side	1 x M20, M25, 1/2" or 3/4" NPT on right-side	1 x M20, M25, 1/2" or 3/4" NPT on right-side	1 x M20, M25, 1/2" or 3/4" NPT on right-side	1 x M20, M25, 1/2" or 3/4" NPT on right-side	1 x M20, M25, 1/2" or 3/4" NPT on right-side
Terminations	0.5 to 2.5 mm ² (20 to 13 awg)	0.5 to 2.5 mm ² (20 to 13 awg)	0.5 to 2.5 mm ² (20 to 13 awg)	0.5 to 2.5 mm ² (20 to 13 awg)	0.5 to 2.5 mm ² (20 to 13 awg)	0.5 to 2.5 mm ² (20 to 13 awg)	0.5 to 2.5 mm ² (20 to 13 awg)	0.5 to 2.5 mm ² (20 to 13 awg)
Sensor Type	Electrochemical	Electrochemical	Catalytic Bead	316 s/s Sensor Housing with Catalytic Beads	Catalytic Bead	Thermal Conductivity	Sulphistor	Catalytic Bead
Operating Temperature	-20 to 50°C (-4 to 122°F) (typical) (to 55°C intermittent)	-20 to 50°C (-4 to 122°F) (typical) (to 55°C intermittent)	-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 131°F)	-20 to 65°C (-4 to 149°F) (mV version) -20 to 55°C (-4 to 131°F) (mA version)	-40 to 80°C (-40 to 176°F) (mV version) -40 to 55°C (-40 to 131°F) (mA version)
Humidity	0-90% RH non-condensing	0-90% RH non-condensing	0-99% RH non-condensing	0-99% RH non-condensing	0-99% RH non-condensing	0-90% RH non-condensing	0-99% RH non-condensing	0-99% RH non-condensing
Repeatability	<2% FSD (Typ)	<2% FSD (Typ)	<2% FSD (Typ)	<2% FSD (Typ)	<2% FSD (Typ)	<2% FSD (Typ)	<2% FSD (Typ)	<2% FSD (Typ)
Zero drift	<2% FSD/month	<2% FSD/month	<2% FSD/month	<2% FSD/month	<2% FSD/month	<2% FSD/month	<2% FSD/month	<2% FSD/month
Response Time	T90 <10s Oxygen T90 <30s Toxic	T90 <10s Oxygen T90 <30s Toxic	T90 <15s (Typ)	T90 <15s (Typ)	T90 <15s (Typ)	T90 <15s (Typ)	T90 <15s (Typ)	T90 <15s (Typ)
Operating Voltage	8 – 30 VDC	8 – 30 VDC	2.0 VDC +/-0.1V (Typ)	2.0 VDC +/-0.1V (Typ)	10 – 30 VDC	10 – 30 VDC	10 – 30 VDC (mA version) 6.5 VDC (mV version)	10 – 30 VDC (mA version) 2.0 VDC (mV version)
Power Requirements	24 mA max.	24 mA max.	300 mA (Typ)	300 mA (Typ)	50 mA @ 24V DC 1.2 W	50 mA @ 24V DC 1.2 W	150 mA @ 24V DC 3.6 W	mA version: 50 mA @ 24V DC 1.2 W mV version: 300 mA (Typ)
Electrical Output	2-wire 4-20 mA (current sink)	2-wire 4-20 mA (current sink)	3-wire mV bridge Typical signal 12-15mV %LEL CH4	3-wire mV bridge Typical signal >10mV %LEL CH4	3-wire 4-20 mA (current sink or source)	3-wire 4-20 mA (current sink or source)	mA version: 3-wire 4-20 mA (current sink or source) mV version: 3-wire mV bridge 200mV@ 10ppm 400mV@100ppm Log. scale	mA version: 3-wire 4-20 mA (current sink or source) mV version: 3-wire mV bridge Typical signal 12-15mV %LEL CH4
Approvals	ATEX: II 1 G EExia IIC T4 (Tamb -40 to 50°C) UL Class 1 Div 1 Groups A,B,C,D* CSA: Pending	ATEX: II 2 G EExd IIC T6 (Tamb -40 to 50°C) UL Class 1 Div 1 Groups B,C,D* CSA: Pending	ATEX: II 2 G EExd IIC T4 (Tamb -40 to 80°C) EExd IIC T6 (Tamb -40 to 50°C) UL Class 1 Div 1 Groups B,C,D* CSA: Pending	ATEX: II 2 G EExd IIC T3 (Tamb -20 to 150°C) UL Class 1, Div 1 Groups B,C,D* CSA: Pending	ATEX: II 2 G EExd IIC T6 (Tamb -40 to 50°C) EExd IIC T4 (Tamb -40 to 80°C) UL Class 1 Div 1 Groups B,C,D* CSA: Pending	ATEX: II 2 G EExd IIC T6 (Tamb -40 to 50°C) EExd IIC T4 (Tamb -40 to 80°C) UL Class 1 Div 1 Groups B,C,D* CSA: Pending	ATEX: II 2 G EExd IIC T4 (Tamb -40 to 80°C) EExd IIC T6 (Tamb -40 to 50°C) UL Class 1 Div 1 Groups B,C,D* CSA: Pending	Not certified for use in a hazardous environment.
EMC Compliance	EN 50270	EN 50270	EN 50270	EN 50270	EN 50270	EN 50270	EN 50270	EN 50270 *Pending

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