Now Available in Stainless Steel

Fixed detectors

For flammable, toxic or oxygen gases

Xgard

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
Xsafe: Safe area flammable gas detector

CROWCON
Gas Detection You Can Trust

Xgard

The Xgard range of gas detectors has 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 three 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, whatever the classification.

Xgard, gas detectors you can trust.

Low cost of ownership

Xgard detectors are designed for easy installation and maintenance to keep costs down.

A universal junction box serves the whole range, which is designed to make replacement of sensors and sinters extremely simple. Spare sensors simply plug-in.

Xgard Types 1 and 2 utilise oxygen sensors with a 2-year life-span, so sensor replacement costs are halved when compared to conventional oxygen detectors.

Many spare parts are common to all Xgard models, which keeps spares holding requirements to a minimum.

Wide range of sensors

Xgard offers an extremely wide range of sensors for all applications.
Poison resistant pellistors, for all flammable detection needs including hydrocarbons, hydrogen, ammonia, jet fuel, leaded petrol and vapours containing halogens.
Electrochemical sensors are used to detect a vast range of toxic gases and oxygen.
Thermal conductivity sensors are available to monitor volume concentrations of gases.

Flexible installation options

Xgard is designed for either wall or ceiling mounting without the need for additional brackets.

Xgard can accommodate M20, M25, ½" NPT or ¾" NPT cable glands to suit all site requirements.

High temperature models are available for hot environments (up to 150°C).

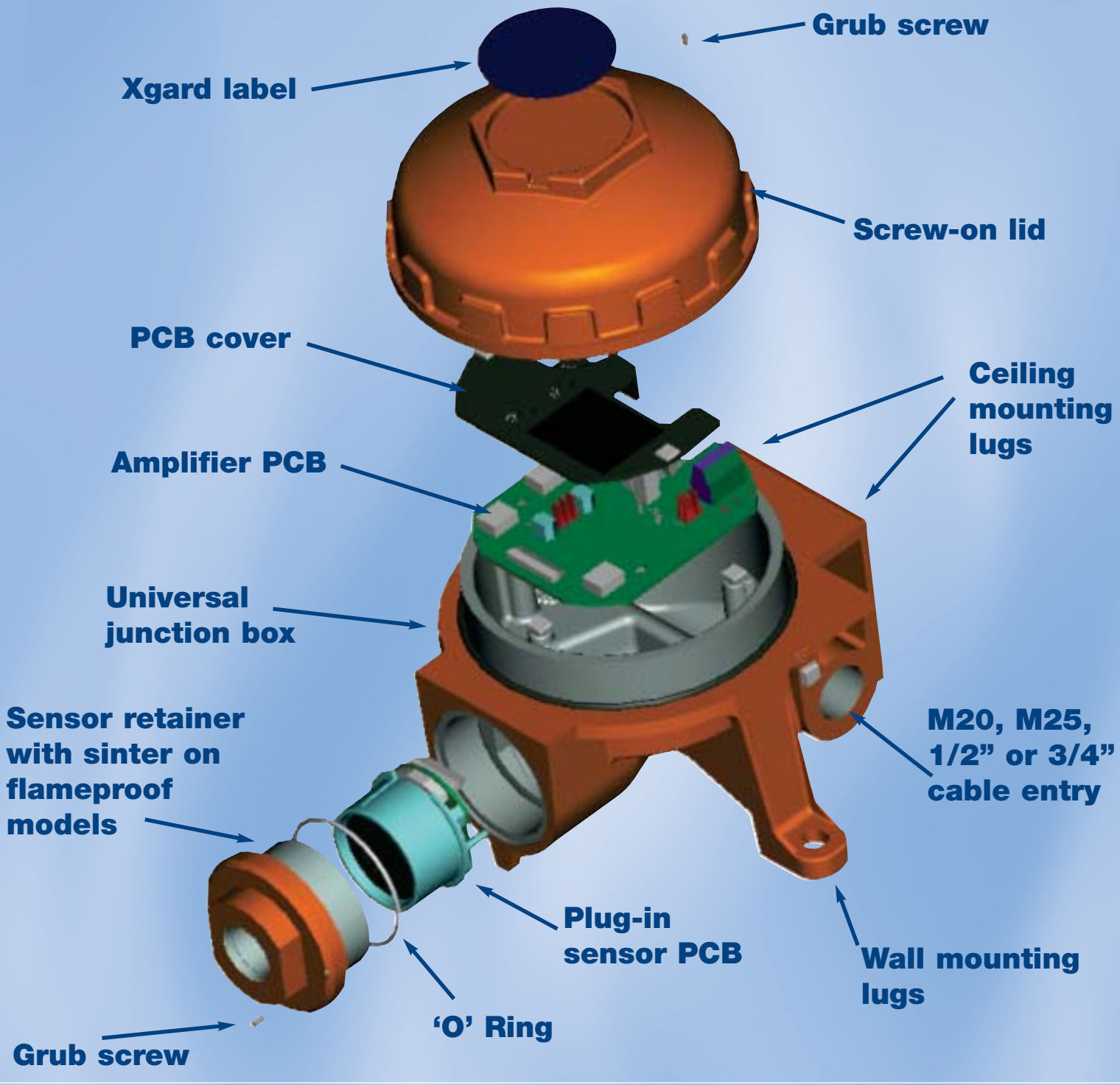
Accessories are available for duct mounting, and sampling applications as well as remote gassing for simple sensor checking.

Rugged and reliable

Xgard is manufactured using a choice of two materials: highly durable marine-grade aluminium with a tough polyester coating, or 316 stainless steel for ultimate corrosion resistance. Both versions are 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.

Xgard



Accessories (all accessories require an Accessory Adaptor to be fitted to the Xgard junction box)

Spray Deflector
For outdoor use and protection against wash-down operations.

Weatherproof Cap
For use in very wet conditions, such as offshore installations and ships.

Collector Cone
For aiding detection of gases which are lighter than air, such as Hydrogen and Methane.

Flow Adaptor
For use in sampling applications.

Accessory Adaptor
For fitting accessories to Xgard.

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Gas Detection You Can Trust

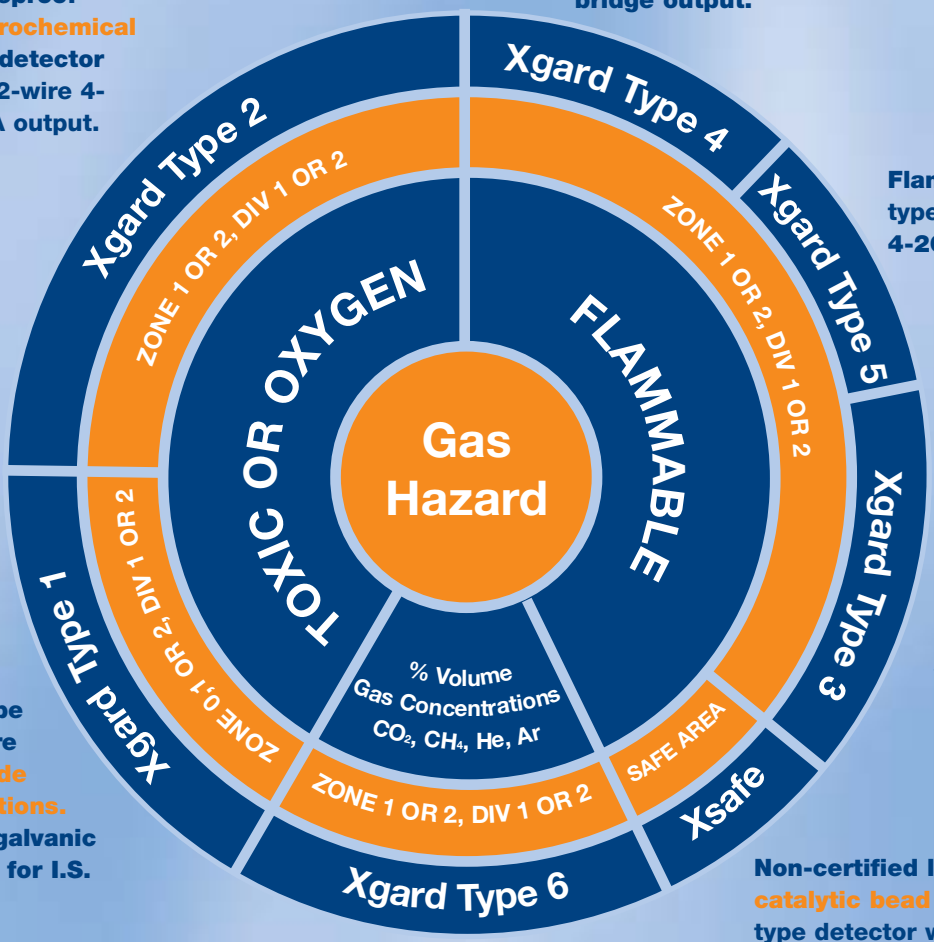
Detector Selector

The Xgard range offers a comprehensive selection of fixed point gas detectors that meet the diverse requirements for flammable and toxic gas detection and oxygen monitoring in industries throughout the world.

This diagram is designed to help you choose the correct Xgard detector to suit your needs.

Flameproof high temperature (up to 150°C) catalytic bead type detector with mV bridge output.

Flameproof electrochemical type detector with 2-wire 4-20mA output.



Flameproof catalytic bead type detector with 3-wire 4-20mA output.

Flameproof catalytic bead type detector with 3-wire mV bridge output.

Intrinsically Safe electrochemical type detector with 2-wire 4-20mA output. Wide range of sensor options. A zener barrier or galvanic isolator is required for I.S. operation.

Non-certified low cost catalytic bead type detector with 3-wire 4-20mA or mV bridge output.

Flameproof thermal conductivity type detector with 3-wire 4-20mA output.

Ordering Requirements

The following code is designed to help in the selection of the correct detector. The product reference number should be compiled by inserting the appropriate integer in each box.

Detector	Type No.	Code	Output	Junction Box	Code	Cable Entry	Code	Certification	Code	Gas Type	Range
XGARD	Type 1	1		Aluminium	A	M20	M20	ATEX	AT	Abbreviated up	From selection
XSAFE	Type 2	2		Stainless Steel	S*	M25	M25	UL	UL	to 8 characters	shown on table
	Type 3	3				½"NPT	½	CSA*	CS		
	Type 4	4				¾"NPT	¾				
	Type 5	5									
	Type 6	6									
	XSAFE	XS	mV or mA								

*Stainless steel is available for Xgard models only, not Xsafe. CSA certification pending

For example, the product reference for an intrinsically safe 0-25ppm H2S detector with ATEX certification and M20 cable entry in an aluminium junction box would be: XGARD/1/A/M20/AT/H2S/25.

Gas type	LTEL(ppm) LEL(%vol)	STEL(ppm) UEL(%vol)	Ranges Available: Type 1	Ranges Available: Type 2	Ranges Available: Type 3,4,5 & Xsafe	Ranges Available:: Type 6
Acetylene (C_2H_2)	2.5	100			0-100% lel*	
Ammonia (NH_3)	25 15	35 28	10,25,50,100,250, 500,1000 ppm		0-25%lel*	
Argon (Ar)	-	-				0-25% vv (in air)†
Arsine (AsH_3)	0.05	-	1 ppm			
Bromine (Br_2)	0.1	0.3	3,5 ppm			
Butane (C_4H_{10})	1.8	9			0-100% lel*	0-25% vv (in air)†
Carbon Dioxide (CO_2)	5000 (0.5%Vol)	15000 (1.5%Vol)				0-100% vv (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_2H_6)	0.1	-	1 ppm			
Ethane (C_2H_6)	3	15.5			0-100% lel*	
Ethylene (C_2H_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% vv (in air)†
Hydrogen (H_2)	4	80	200,500,2000 ppm 2%, 4% vv	200, 500, 2000 ppm 2%, 4% vv	0-100% lel*	0-5%,10%,50% vv (in air) 0-20%,25%,30%, 50% vv (H_2 in N_2)
Hydrogen Cyanide (HCN)	-	10 (MEL)	25,30 ppm			
Hydrogen Fluoride (HF)	1.8	3	10 ppm			
Hydrogen Sulphide (H_2S)	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		
LPG	2	10			0-100% lel	
Methane (CH_4)	5	15			0-100% lel	0-10%,25% 100% vv (in air) 0-100% vv (CH_4 in CO_2)†
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_5H_{12})	1.5	7.8			0-100% lel*	
Petrol	1.3	6			0-100% lel*	
Phosgene ($COCL_2$)	0.02	0.06	1			
Phosphine (PH_3)	-	0.3	1,2 ppm			
Propane (C_3H_8)	2.2	10			0-100% lel	0-25% vv (in air)†
Silane (SiH_4)	0.5	1	1 ppm			
Sulphur 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*	

Notes: Other sensors and ranges maybe available, please contact Crowcon.
*Ranges not available for Xsafe
†Contact Crowcon for availability

Xgard Specifications

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Gas Detection You Can Trust

Xgard Model	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6	Xsafe
Junction box material	A356 Aluminium or 316 Stainless Steel	A356 Aluminium or 316 Stainless Steel	A356 Aluminium or 316 Stainless Steel	A356 Aluminium or 316 Stainless Steel	A356 Aluminium or 316 Stainless Steel	A356 Aluminium or 316 Stainless Steel	A356 marine grade alloy with polyester coating
Dimensions	156 x 166 x 111mm (6.1 x 6.5 x 4.3 inches)	156 x 166 x 111mm (6.1 x 6.5 x 4.3 inches)	156 x 166 x 111mm (6.1 x 6.5 x 4.3 inches)	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)	156 x 166 x 111mm (6.1 x 6.5 x 4.3 inches)	156 x 166 x 111mm (6.1 x 6.5 x 4.3 inches)
Weight	Alloy 1Kg (2.2 lbs) 316 S/S: 3.1kg (6.8 lbs)	Alloy 1Kg (2.2 lbs) 316 S/S: 3.1kg (6.8 lbs)	Alloy 1Kg (2.2 lbs) 316 S/S: 3.1kg (6.8 lbs)	Alloy 1Kg (2.2 lbs) 316 S/S: 3.1kg (6.8 lbs)	Alloy 1Kg (2.2 lbs) 316 S/S: 3.1kg (6.8 lbs)	Alloy 1Kg (2.2 lbs) 316 S/S: 3.1kg (6.8 lbs)	1Kg (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
Cable entries	1 x M20, M25, ½" NPT or ¾" NPT on right-side	1 x M20, M25, ½" NPT or ¾" NPT on right-side	1 x M20, M25, ½" NPT or ¾" NPT on right-side	1 x M20, M25, ½" NPT or ¾" NPT on right-side	1 x M20, M25, ½" NPT or ¾" NPT on right-side	1 x M20, M25, ½" NPT or ¾" NPT on right-side	1 x M20, M25, ½" NPT or ¾" NPT on right-side
Terminations	0.5 to 2.5mm² (20 to 13awg)	0.5 to 2.5mm² (20 to 13awg)	0.5 to 2.5mm² (20 to 13awg)	0.5 to 2.5mm² (20 to 13awg)	0.5 to 2.5mm² (20 to 13awg)	0.5 to 2.5mm² (20 to 13awg))	0.5 to 2.5mm² (20 to 13awg)
Sensor type	Electrochemical	Electrochemical	Catalytic bead	316 s/s sensor housing with catalytic beads	Catalytic bead	Thermal conductivity	Catalytic bead
Operating temperature	-20 to +50°C (-4 to 122°F) (typical) (to +55ºC intermittent)	-20 to +50°C (-4 to 122°F) (typical) (to +55ºC 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)	-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
Repeatability	<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 (Typ.)	<2% FSD / month (Typ.)	<2% FSD / month (Typ.)	<2% FSD / month (Typ.)	<2% FSD / month (Typ.)	<2% FSD / month (Typ.)	<2% FSD / month (Typ.)
Response time	T90 <10s Oxygen T90 <30s to 120s Toxic (sensor dependant)	T90 <10s Oxygen T90 <30s to 120s Toxic (sensor dependant)	T90 <15s (Typ)	T90 <15s (Typ)	T90 <15s (Typ)	T90 <15s (Typ)	T90 <15s (Typ)
Operating voltage	8 – 30V dc	8 – 30V dc	2.0V dc +/- 0.1V (Typ)	2.0V dc +/- 0.1V (Typ)	10 – 30V dc	10 – 30V dc	10 – 30V dc (mA version) 2.0V dc (mV version)
Power requirements	24mA max.	24mA max.	300mA (Typical)	300mA (Typical)	50mA @ 24V dc 1.2W	50mA @ 24V dc 1.2W	mA version: 50mA @ 24V dc 1.2W mV version: 300mA (Typ.)
Electrical output	2-wire 4-20mA (current sink)	2-wire 4-20mA (current sink)	3-wire mV bridge Typical signal 12-15mV / %lel CH4	3-wire mV bridge Typical signal >10mV / %lel CH4	3-wire 4-20mA (current sink or source)	3-wire 4-20mA (current sink or source)	mA version: 3-wire 4-20mA (current sink or source) mV version: 3-wire mV bridge Typical signal 12-15mV / %lel CH4
Approvals	ATEX: Ⓔx II 1 G EExia IIC T4 (Tamb –40 to +55°C) UL and CSA Pending IECEx MED Marine (96/98/EC) Oxygen Only	ATEX: Ⓔx II 2 GD EExd IIC T6 (Tamb –40 to +50°C) UL: Class 1, Div. 1 Groups B,C,D CSA: Pending IECEx MED Marine (96/98/EC) Oxygen Only	ATEX: Ⓔx II 2 GD 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 IECEx	ATEX: Ⓔx II 2 G EExd IIC T3 (Tamb –20 to +150°C) UL and CSA Pending IECEx	ATEX: Ⓔx II 2 GD 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 IECEx	ATEX: Ⓔx II 2 GD 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 IECEx	Not certified for use in a hazardous environment.
EMC compliance	EN 50270	EN 50270	EN 50270	EN 50270	EN 50270	EN 50270	EN 50270

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