

REMOTE TOXIC, COMBUSTIBLE, AND OXYGEN GAS SENSORS WITH LOCAL DIGITAL DISPLAY

TXGARD & FLAMGARD PLUS

FEATURES

- Digital display with flexible output options
- Wide range of long life sensors
- Non-intrusive one-man calibration
- Low cost of ownership
- Simple parts replacement
- Rugged and reliable
- Operates even in harsh environments
- 4-20 mA current sink or source
- 2 or 3 wire formats
- Optional relays for alarm and fault



The Flamgard and TXgard Plus range of detectors offers reliable detection of Flammable, Toxic or Oxygen gases with a local digital display and optional relays. Three models are available to suit all requirements:

Flamgard Plus: 'Exd – Flameproof' Flammable gas detector with local digital display and optional relays.

TXgard Plus: 'Exd – Flameproof' Toxic or Oxygen gas detector with local digital display and optional relays.

TXgard-IS + : 'I.S. – Intrinsically Safe' Toxic or Oxygen gas detector with local display.



CEA Instruments, Inc.

"EXPERTS IN TOXIC GAS DETECTION"

TXGARD & FLAMGARD PLUS SPECIFICATIONS

Model	Flamgard Plus	TXgard Plus	TXgard-IS+
Size	200h x 115w x 115d (mm)	200h x 115w x 115d (mm)	160h x 123w x 92d (mm)
Weight	2.2 Kg	2.2 Kg	0.7 Kg
Enclosure Material	Junction box: Marine grade alloy Sensor housing: 316 stainless steel	Junction box: Marine grade alloy Sensor housing: 316 stainless steel	Junction box: Carbon loaded nylon Sensor housing: ABS plastic
Ingress Protection	IP65, IP66 with weatherproof cap	IP65, IP66 with weatherproof cap	IP65, IP66 with weatherproof cap
Cable Entries	2 x M20 or 1/2"NPT	2 x M20 or 1/2"NPT	1 x M20 or 1/2"NPT (with adaptor)
Power	10-30 VDC, 210 mA max. (relay), 160 mA max. (non-relay)	10-30 VDC, 100 mA max. (relay), 50 mA max. (non-relay)	10.8-30 VDC, 4-20 mA loop-powered
Operating Temperature	-10°C to 55°C (14 to 131 °F)	-10°C to 55°C (14 to 131 °F) Sensor dependent	-20°C to 55°C (-4 to 131 °F) Sensor dependent
Humidity	0 to 99% RH non-condensing	15 to 90% RH non-condensing	15 to 90% RH non-condensing
Relays (optional)	SPNO or SPNC contacts rated 30 VDC 1A (non-inductive load) for Alarm 1, Alarm 2, Fault	SPNO or SPNC contacts rated 30 VDC 1A (non-inductive load) for Alarm 1, Alarm 2, Fault	Not Available 2-line, 16 character LCD
Display	3-digit LCD back-lit display. LED status indicator	3-digit LCD back-lit display. LED status indicator	
Calibration Method	Via magnetically operated buttons	Via magnetically operated buttons	Via push-buttons
Electrical Output	3-wire 4-20mA (current sink or source)	3-wire 4-20mA (current sink or source)	2-wire 4-20mA (current sink)
Terminals	Suitable for up to 1.5mm ² cable	Suitable for up to 1.5mm ² cable	Suitable for up to 2.5mm ² cable
Sensor Type	Catalytic bead	Electrochemical	Electrochemical
Repeatability	+/- 2% FSD	+/- 2% FSD	+/- 2% FSD
Zero Drift	+/- 2% FSD, 6 months	+/- 2% FSD, 6 months	+/- 2% FSD, 6 months
Response Time	T90 <10 sec. typically	T90 <10 sec. typically (Oxygen) T90 <30 sec. typically (Toxic)	T90 <10 sec. typically (Oxygen) T90 <30 sec. typically (Toxic)
Hazardous Area Zones	Zone 1 or Zone 2	Zone 1 or Zone 2	Zone 0, Zone 1 or Zone 2 (when connected via an isolation device)
Approvals	Ex II 2 G EExd IIC T6 UL Class 1 Div. 1 Groups B, C, D	Ex II 2 G EExd IIC T6 UL Class 1 Div. 1 Groups B, C, D	Ex II 1 GD EExia IIC T6 UL Class 1 Div. 1 Groups A, B, C, D

Available Ranges:

GAS TYPE	LETEL (ppm)	STEL (ppm)	Ranges Available TXgard-IS+	Ranges Available TXgard Plus	GAS TYPE	LEL (% Vol)	Ranges Available Flamgard Plus
Ammonia (NH ₃)	25	35	50, 100, 1000 ppm	50, 100, 150, 500 ppm	Acetylene (C ₂ H ₂)*	2.5 (2.3)	0-100% LEL
Carbon Monoxide (CO)	30	200	250, 500 ppm	100, 250, 500, 1000 ppm	Ammonia (NH ₃)	15	0-100% LEL
Chlorine (Cl ₂)	0.5	1	5, 10, 20 ppm		Butane (C ₂ H ₁₀)	1.8 (1.4)	0-100% LEL
Ethylene Oxide (C ₂ H ₄ O)	5 (MEL)	-		10 ppm	Ethane (C ₂ H ₆)	3 (2.5)	0-100% LEL
Hydrogen (H ₂)	N/A	N/A	2000, 20000 ppm (50% LEL)		Ethylene (C ₂ H ₄)	2.7 (2.3)	0-100% LEL
Hydrogen Cyanide (HCN)	-	10 (MEL)	25 ppm		Hexane (C ₆ H ₁₄)	1.2	0-100% LEL
Hydrogen Fluoride (HF)	1.8	3	10 ppm		Hydrogen (H ₂)	4	0-100% LEL
Hydrogen Sulfide (H ₂ S)	5	10	5, 25, 50, 100 ppm	15, 20, 25, 50, 100, 200 ppm	LPG	2	0-100% LEL
Nitrogen Dioxide (NO ₂)	1	1	10 ppm		Methane (CH ₄)	5 (4.4)	0-100% LEL
Ozone (O ₃)	-	0.1	1 ppm		Pentane (C ₅ H ₁₂)	1.5 (1.4)	0-100% LEL
Oxygen (O ₂)	-	-	25% Volume	25% Volume	Petrol	1.3 (1.2)	0-100% LEL
Phosgene (COCl ₂)	0.02	0.06	1 ppm		Propane (C ₃ H ₈)	2.2 (1.7)	0-100% LEL
Phosphine (PH ₃)	-	0.3	2 ppm		Ethanol, Methanol and Propanol also available		
Sulfur Dioxide (SO ₂)	1	1	10, 20, 30 ppm		Figures in brackets are taken from IEC61779		

(Specifications subject to change without notice.)



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TXGARD-PLUS PRICE LIST

Remote toxic gas detector using an electrochemical sensor located in a 316 stainless steel flameproof housing, 3-wire device with 4-20 mA output. Complete with a marine grade alloy junction box, LCD 3 digit backlit display, LED status indicator, magnetically actuated calibration buttons, and Crowmag. Operating temperature -10 to +55°C sensor dependent. Certified to ATEX II 2 G - EEx d IIC T6 amb = +55°C, UL - AEx d IIC T6. UL Class 1, Div. 1, Groups B, C, D.

To ensure you receive the correct item, please use the following key to construct the part number you require: **TXP / Relay or Analog (R or A) / Target Gas / Cable Entry (M20, 1/2"NPT or 3/4"NPT) / Certification (Sira or UL) / Range**

Example: TXgard-Plus for 0-100 ppm Hydrogen Sulfide, relays, M20 cable entry, and Sira certification would be part number TXP/R/H2S/M20/Sira/100.

Part #	Description	Price
Analogue with Display - No Relays		
TXP/A/OX	Oxygen 0-25% volume	\$ 1268.00
TXP/A/CO	Carbon Monoxide 0-100, 250, 500, or 1,000 ppm	\$ 1293.00
TXP/A/H2S	Hydrogen Sulfide 0-15, 20, 25, 50, 100, or 200 ppm	\$ 1344.00
Part # Description Price		
Analogue with Display and with Relays		
TXP/R/OX	Oxygen 0-25% volume	\$ 1344.00
TXP/R/CO	Carbon Monoxide 0-100, 250, 500, or 1,000 ppm	\$ 1369.00
TXP/R/H2S	Hydrogen Sulfide 0-15, 20, 25, 50, 100, or 200 ppm	\$ 1411.00



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TXGARD-IS+ PRICE LIST

Remote toxic gas detector using an electrochemical sensor located in a plastic bayonet housing. Complete with carbon loaded nylon junction box which contains the amplifier/transmitter to provide a 2 wire 4 to 20 mA output. LCD 2 x 16 character display with extensive context sensitive messages. Three button keypad, password protected. Operating temperature -20 to +55°C sensor dependent. Certified to ATEX II 1 GD - EEx ia IIC T6, Tamb = -40 to +55°C. This detector CANNOT be provided for nitric oxide, ethylene oxide, hydrogen chloride, hydrogen-immune carbon monoxide and volatile organic compounds. Also approved for use in atmospheres containing potentially flammable dusts. UL Class 1, Div. 1, Groups A, B, C, and D.

To ensure you receive the correct item, please use the following key to construct the part number you require:
TXISP / Target Gas / M20 Cable Entry (top or side) / Certification (Sira or UL) / Range

Example: TXgard-IS+ for 0-100 ppm Hydrogen Sulfide, side entry, and Sira certification would be part number TXISP/H2S/SIDE/Sira/100.

Target Gas	Available Ranges	Price
Ammonia	0-50 or 0-100 ppm	\$ 1499.00
Ammonia	0-1000 ppm	\$ 1499.00
Carbon Monoxide	0-250 or 0-500 ppm	\$ 989.00
Chlorine	0-5 or 0-10 ppm	\$ 1150.00
Chlorine	0-20 ppm	\$ 1266.00
Hydrogen	0-2000 ppm	\$ 1331.00
Hydrogen	0-50% LEL	\$ 1447.00
Hydrogen Cyanide	0-25 ppm	\$ 1331.00
Hydrogen Fluoride	0-10 ppm	\$ 1443.00
Hydrogen Sulfide	0-25 or 0-50 ppm	\$ 1024.00
Hydrogen Sulfide	0-5 ppm	\$ 978.00
Hydrogen Sulfide	0-100 ppm	\$ 1022.00
Nitrogen Dioxide	0-10 ppm	\$ 1176.00
Oxygen	0-25% volume	\$ 949.00
Ozone	0-1 ppm	\$ 1331.00
Phosgene	0-1 ppm	\$ 1331.00
Phosphine	0-2 ppm	\$ 1331.00
Sulfur Dioxide	0-10 or 0-20 or 0-30 ppm	\$ 1152.00



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TXgard-IS & TXgard-IS+ Spare Sensor Assemblies

Part #	Description			Price
S01180	HX (Electrosense)	Acid Gas	TXgard-IS	\$ 991.00
S011185	NH3 (Sensoric)	Ammonia 0-1000 ppm	TXgard-IS, IS+	\$ 786.00
S01730	NH3 (Sensoric)	Ammonia 0-50 ppm	TXgard-IS, IS+	\$ 619.00
S01183	NH3 (Citi)	Ammonia 0-50 ppm	TXgard-IS	\$ 569.00
S01181	NH3 (Bionics)	Ammonia sensor assembly	TXgard-IS	\$ 1930.00
C01187	NH3 (Bionics)	Ammonia sensor electrolyte	TXgard-IS	\$ 493.00
M02096	NH3 (Bionics)	Ammonia sensor membrane	TXgard-IS	\$ 75.00
S01984	B2 (Sensoric)	Bromine	TXgard-IS	\$ 590.00
S01872	B2 (Bionics)	Bromine	TXgard-IS	\$ 2488.00
491/1	B2 (Bionics)	Bromine sensor electrolyte	TXgard-IS	\$ 425.00
S01171	CO	Carbon Monoxide	TXgard-IS, IS+	\$ 445.00
S01182	CL2 (Citi)	Chlorine	TXgard-IS, IS+	\$ 527.00
S011189	CL2 (Sensoric)	Chlorine	TXgard-IS	\$ 627.00
S01173	CL2 (Electrosense)	Chlorine	TXgard-IS	\$ 884.00
S01900	CLO2 (Citi)	Chlorine Dioxide	TXgard-IS	\$ 675.00
S01642	ETO (Citi)	Ethylene Oxide	TXgard-IS	\$ 605.00
S01187	F2 (Bionics)	Fluorine	TXgard-IS	\$ 2464.00
C01235	F2 (Bionics)	Fluorine sensor electrolyte	TXgard-IS	\$ 425.00
M02196	F2 (Bionics)	Fluorine sensor membrane	TXgard-IS	\$ 65.00
S01728	HCL (Sensoric)	Hydrogen Chloride	TXgard-IS	\$ 787.00
S01178	HCN (Citi)	Hydrogen Cyanide	TXgard-IS	\$ 789.00
S01729	HCN (Sensoric)	Hydrogen Cyanide	TXgard-IS, IS+	\$ 573.00
S01983	HF (Sensoric)	Hydrogen Fluoride	TXgard-IS, IS+	\$ 798.00
S01188	HF (Bionics)	Hydrogen Fluoride	TXgard-IS	\$ 2600.00
M02197	HF (Bionics)	Hydrogen Fluoride membrane	TXgard-IS	\$ 60.00
C01236	HF (Bionics)	Hydrogen Fluoride sensor electrolyte	TXgard-IS	\$ 615.00
S01176	H/Hi (Citi)	Hydrogen Hi	TXgard-IS, IS+	\$ 666.00
S01177	H/Lo (Citi)	Hydrogen Lo	TXgard-IS, IS+	\$ 673.00
S01170	H2S	Hydrogen Sulfide	TXgard-IS, IS+	\$ 445.00
S01174	NO (Citi)	Nitric Oxide	TXgard-IS	\$ 631.00
S01175	NO2 (Citi)	Nitrogen Dioxide	TXgard-IS, IS+	\$ 527.00
S01169	OX	Oxygen	TXgard-IS, IS+	\$ 228.00
S01186	O3 (Citi)	Ozone (Citi)	TXgard-IS	\$ 573.00
S011201	O3 (Sensoric)	Ozone (Sensoric)	TXgard-IS, IS+	\$ 678.00
S01640	PH3 (Citi)	Phosphine	TXgard-IS, IS+	\$ 573.00
S01172	SO2	Sulfur Dioxide	TXgard-IS, IS+	\$ 493.00
S011226	SO2	Sulfur Dioxide - Hydrogen immune	TXgard-IS	\$ 493.00
S01641	VO (Citi)	Volatile Organics	TXgard-IS	\$ 669.00



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TXgard-IS Spares

Part #	Description	Price
S01225	TXgard-IS amplifier (toxic), specify gas	\$ 567.00
S01736	TXgard-IS amplifier (Sensoric), specify gas	\$ 590.00
S01226	TXgard-IS amplifier (oxygen)	\$ 469.00
C01267	TXgard-IS junction box	\$ 77.00
S01343	Bayonet housing	\$ 40.00

TXgard-IS+ Spares

NOTE: Spare personality modules can only be supplied when the serial number of the detector into which they are to be fitted is known. Modules will be supplied pre-programmed with the configuration data to suit a specific detector

Part #	Description	Price
S01999	Personality module for general toxic versions.	\$ 71.00
S011160	Ozone, Chlorine	\$ 71.00
S011161	Hydrogen Cyanide, Phosgene	\$ 71.00
S01997	Oxygen	\$ 71.00
E01755	Front panel display/membrane label	\$ 50.00

TXgard-Plus Spares

Part #	Description	Price
C01697	Crowmag	\$ 44.00
S01866	Toxic gas amplifier, specify gas and range	\$ 630.00
S01867	Oxygen amplifier	\$ 602.00
S01846	Analogue terminal board	\$ 110.00
S01847	Relay terminal board	\$ 199.00
S01892	Flamgard-Plus/TXgard-Plus junction box only (no label)	\$ 636.00
S01751	96HD/CO detector (spare)	\$ 630.00
S01750	96HD/HS detector (spare)	\$ 630.00
S01753	96HD/OX detector (spare)	\$ 459.00
S01752	96HD/AM detector (spare)	\$ 827.00
S01781	96HD replacement sinter	\$ 60.00
M01614	96HD sinter tool	\$ 151.00

TXgard-IS and TXgard-IS+ Accessories

Part #	Description	Price
C01338	Spray deflector, also remote calibration adaptor	\$ 85.00
C01340	Swivel mounting bracket	\$ 120.00
C01339	Flow adaptor, not for use with TXgard-IS H/Hi	\$ 90.00
C01341	Flow adaptor, stainless, not for use with TXgard-IS H/Hi	\$ 430.00
M01401	Ceiling mounting bracket	\$ 88.00
00027D	Stainless steel duct mounting plate - for GRP junction boxes	\$ 640.00
C03005	Calibration Adaptor	\$ 17.00
C01267	Spare TXgard-IS ABS junction box (orange). Supplied as a box.	\$ 100.00
M05622	Spare TXgard-IS junction box label (Toxic)	\$ 15.00
M05623	Spare TXgard-IS junction box label (Oxygen)	\$ 15.00

TXGARDPLUSPL-0808



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FLAMGARD-PLUS PRICE LIST

Remote flammable gas detector using a pellistor sensor located in a 316 stainless steel flameproof housing, 3-wire device with 4-20mA output. Complete with a marine grade alloy junction box (with IP65 rating), LCD 3 digit backlit display, LED status indicator, magnetically actuated calibration buttons, and Crowmag. Operating temperature -10 to +55°C. Certified to ATEX II 2 G - EEx d IIC T6 amb = +55°C, UL - AEx d IIC T6. UL Class 1, Div. 1, Groups B, C, D.

To ensure you receive the correct item, please use the following key to construct the part number you require:
FLP / Pellistor (A, C, G, or H) / Relay or Analog (R or A) / Cable Entry (M20, 1/2"NPT or 3/4"NPT) / Certification (Sira or UL) / Target Gas

Example: **Flamgard-Plus with a 300P for Pentane, relays, M20 cable entry, and Sira certification would be part number FLP/A/R/M20/Sira/Pentane.**

Part #	Description	Price
Analogue with Display - No Relays		
FLP/A/A	0-100% LEL with 300P pellistor (replacement for VQ21T) - gas types available Methane, Pentane, Propane, Butane, Hexane, Hydrogen, LPG, Methanol, Ethanol, Propanol and Carbon Disulfide	\$ 1306.00
FLP/C/A	0-100% LEL with VQ8 pellistor for resistance to Leaded Petrol	\$ 1417.00
FLP/G/A	0-100% LEL with VQ41 pellistor - Ammonia (0-25%, 0-100% LEL) or Jet Fuel	\$ 1417.00
FLP/H/A	0-100% LEL with VQ1 pellistor - gas types available Methane and Acetylene*. Higher sensitivity, reduced poison resistance. *Acetylene version is only available in ATEX certified form.	\$ 1417.00
Analogue with Display - With Three (3) Relays		
FLP/A/R	0-100% LEL with 300P pellistor (replacement for VQ21T) - gas types available Methane, Pentane, Propane, Butane, Hexane, Hydrogen, LPG, Methanol, Ethanol, Propanol and Carbon Disulfide	\$ 1380.00
FLP/C/R	0-100% LEL with VQ8 pellistor for resistance to Leaded Petrol	\$ 1491.00
FLP/G/R	0-100% LEL with VQ41 pellistor - Ammonia (0-25%, 0-100% LEL) or Jet Fuel	\$ 1491.00
FLP/H/A	0-100% LEL with VQ1 pellistor - gas types available Methane and Acetylene*. Higher sensitivity, reduced poison resistance. *Acetylene version is only available in ATEX certified form.	\$ 1491.00
	Flamgard-Plus without sensor assembly	\$ 1037.00
	Flamgard-Plus without sensor assembly supplied with relays	\$ 1155.00



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Flamgard-Plus Flammable Gas Detector Accessories (to fit 96HD)

Part #	Description	Price
C01052	Spray deflector with remote calibration adaptor	\$ 65.00
C01442	Weatherproof cap	\$ 120.00
C01051	Collector cone with remote calibration adaptor	\$ 135.00
C01254	Self adhesive carbon cloth filter	\$ 30.00
C01433	Detector filter assembly, small w/ six (6) of each carbon, steel gauze, and fiber filters	\$ 88.00
C01688	Stainless steel flow adapter for 96HD	\$ 185.00
C03005	Adaptor for gas test kit	\$ 17.00

Cable Gland Adaptors

Part #	Description	Price
M02125	M20 to 1/2" NPT (for standard Exe or Exd junction box)	\$ 33.00
M02281	M20 to 3/4" NPT (for standard Exe or Exd junction box)	\$ 40.00
M02250	1/2" NPT to M20 (CSA junction with DI9)	\$ 33.00

Flamgard-Plus Detector Spares

Part #	Description	Price
C01697	Crowmag	\$ 42.00
S01865	Flammable gas amplifier, specify gas	\$ 651.00
S01846	Analogue terminal board	\$ 90.00
S01847	Relay terminal board	\$ 160.00
S01892	Flamgard-Plus/TXgard-Plus junction box only (no label)	\$ 495.00
S01749/A	96HD/FL flammable gas detector (spare), fitted w/ 300P pellistor (VQ21T replacement)	\$ 438.00
S01637/A/M	96 HD/FL sensor element 300P pellistor (replacement for VQ21T)	\$ 175.00
S01781	96HD replacement sinter	\$ 60.00
M01614	96HD sinter tool	\$ 161.00