

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 ½"NPT	2 x M20 or ½"NPT	1 x M20 or ½"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	TXgard-IS+		TXgard Plus		GAS TYPE	Flamgard Plus	
	LEL (ppm)	STEL (ppm)	Ranges Available	Ranges Available		LEL (% Vol)	Ranges Available
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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