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	T	Xgard Plus	TXgard-	TXgard-IS+		
Size	200h x 115w x 115d (m	nm) 20	00h x 115w x 115d (mm)	160h x 123	w x 92d (mm)		
Weight	2.2 Kg		2 Kg	0.7 Kg			
Enclosure Material	Junction box: Marine g Sensor housing: 316 st		unction box: Marine grade al ensor housing: 316 stainless		Junction box: Carbon loaded nylon Sensor housing: ABS plastic		
Ingress Protection	IP65, IP66 with weathe	erproof cap IP	65, IP66 with weatherproof	ap IP65, IP66 v	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 x M20 or 1/2"NPT (with adaptor)		
Power	10-30 VDC, 210 mA ma 160 mA max. (non-rela		0-30 VDC, 100 mA max. (rel 0 mA max. (non-relay)	ay), 10.8-30 VD	10.8-30 VDC, 4-20 mA loop-powered		
Operating Temperature	-10℃ to 55℃ (14 to 13		0 ℃ to 55 ℃ (14 to 131 ℃) -20 ℃ to 55 ℃ (-4 to 131 ℃) ensor dependent Sensor dependent				
Humidity	0 to 99% RH non-cond	ensing 15	5 to 90% RH non-condensing	15 to 90% F	15 to 90% RH non-condensing		
Relays (optional)	SPNO or SPNC contact 30 VDC 1A (non-induct for Alarm 1, Alarm 2, Fa	tive load) 30	PNO or SPNC contacts rate 0 VDC 1A (non-inductive loa or Alarm 1, Alarm 2, Fault		Not Available 2-line, 16 character LCD		
Display	3-digit LCD back-lit dis LED status indicator		-digit LCD back-lit display. ED status indicator				
Calibration Method	Via magnetically opera	ted buttons Vi	ia magnetically operated but	ons Via push-bu	Via push-buttons		
Electrical Output	3-wire 4-20mA (current source)		-wire 4-20mA (current sink o ource)	2-wire 4-20	2-wire 4-20mA (current sink)		
Terminals	Suitable for up to 1.5m	m² cable Su	uitable for up to 1.5mm ² cab	e Suitable for	Suitable for up to 2.5mm ² cable		
Sensor Type	Catalytic bead		lectrochemical	Electrochen	Electrochemical		
Repeatability	+/- 2% FSD	+/-	/- 2% FSD	+/- 2% FSD	+/- 2% FSD		
Zero Drift	+/- 2% FSD, 6 months	+/-	/- 2% FSD, 6 months	+/- 2% FSD	+/- 2% FSD, 6 months		
Response Time	T90 <10 sec. typically		90 <10 sec. typically (Oxyge 90 <30 sec. typically (Toxic)		T90 <10 sec. typically (Oxygen) T90 <30 sec. typically (Toxic)		
Hazardous Area Zones	Zone 1 or Zone 2	Zo	one 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 Grou		x II 2 G EExd IIC T6 L Class 1 Div. 1 Groups B, C		Ex II 1 GD EExia IIC T6 UL Class 1 Div. 1 Groups A, B, C, D		
<u>Available Ranges:</u> GAS TYPE		Ranges Available		GAS TYPE	LEL Ranges Available		
Ammonia (NH3)		TXgard-IS+ 50, 100, 1000 ppn	TXgard Plus m 50, 100, 150, 500 ppm	Acetylene (C2H2)*	(% Vol) Flamgard Plus 2.5 (2.3) 0-100% LEL		

LIEL	SIEL	Ranges Available	Ranges Available			anges Available	
(ppm)	(ppm)	TXgard-IS+	TXgard Plus	GAS TYPE	(% Vol)	Flamgard Plus	
25	35	50, 100, 1000 ppm	50, 100, 150, 500 ppm	Acetylene (C2H2)*	2.5 (2.3)	0-100% LEL	
30	200	250, 500 ppm	100, 250, 500,1000 ppm	Ammonia (NH3)	15	0-100% LEL	
0.5	1	5, 10, 20 ppm		Butane (C2H10)	1.8 (1.4)	0-100% LEL	
5 (MEL)	-		10 ppm	Ethane (C2H6)	3 (2.5)	0-100% LEL	
N/A	N/A	2000, 20000 ppm		Ethylene (C2H4)	2.7 (2.3)	0-100% LEL	
		(50% LEL)		Hexane (C6H14)	1.2	0-100% LEL	
-	10 (MEL)	25 ppm		Hydrogen (H2)	4	0-100% LEL	
1.8	3	10 ppm		LPG	2	0-100% LEL	
5	10	5, 25, 50, 100 ppm	15, 20, 25, 50,	Methane (CH4)	5 (4.4)	0-100% LEL	
			100, 200 ppm	Pentane (C5H12)	1.5 (1.4)	0-100% LEL	
1	1	10 ppm		Petrol	1.3 (1.2)	0-100% LEL	
-	0.1	1 ppm		Propane (C3H8)	2.2 (1.7)	0-100% LEL	
-	-	25% Volume	25% Volume	Ethanol, Methanol and Propanol also available			
0.02	0.06	1 ppm		Figures in brackets are taken from IEC61779			
-	0.3	2 ppm		*Acetylene not available in UL certified form			
1	1	10, 20, 30 ppm					
			(Sp	Specifications subject to change without notice.)			
	(ppm) 25 30 0.5 5 (MEL) N/A - 1.8 5 1 - - 0.02	(ppm) (ppm) 25 35 30 200 0.5 1 5 (MEL) - N/A N/A - 10 (MEL) 1.8 3 5 10 1 1 - 0.1 - - 0.02 0.06	(ppm) TXgard-IS+ 25 35 50, 100, 1000 ppm 30 200 250, 500 ppm 0.5 1 5, 10, 20 ppm 5 (MEL) - - N/A 2000, 20000 ppm (50% LEL) - 10 (MEL) 25 ppm 1.8 3 10 ppm 5 10 5, 25, 50, 100 ppm - - - 1 1 10 ppm - - 25% Volume 0.02 0.06 1 ppm - 0.33 2 ppm	(ppm) (ppm) TXgard-IS+ TXgard Plus 25 35 50, 100, 1000 ppm 50, 100, 150, 500 ppm 30 200 250, 500 ppm 100, 250, 500, 1000 ppm 0.5 1 5, 10, 20 ppm 100, 250, 500, 1000 ppm 5 (MEL) - 10 ppm N/A N/A 2000, 20000 ppm - .5 (MEL) - 10 ppm - 10 (MEL) 25 ppm - 1.8 3 10 ppm 5 10 5, 25, 50, 100 ppm 15, 20, 25, 50, 100, 200 ppm 1 1 10 ppm - - 0.1 1 ppm - - 25% Volume 25% Volume 0.02 0.06 1 ppm - - - 0.3 2 ppm - 1 10, 20, 30 ppm - -	(ppm) (ppm) TXgard-IS+ TXgard Plus GAS TYPE 25 35 50, 100, 1000 ppm 50, 100, 150, 500 ppm Acetylene (C2H2)* 30 200 250, 500 ppm 100, 250, 500,1000 ppm Butane (C2H10) 5 1 5, 10, 20 ppm 10 ppm Ethane (C2H6) N/A N/A 2000, 20000 ppm 10 ppm Ethane (C2H4) - 10 (MEL) 25 ppm Hydrogen (H2) 1.8 3 10 ppm LPG 5 10 5, 25, 50, 100 ppm 15, 20, 25, 50, 100 ppm Pertol - 0.11 10 ppm Petrol Petrol - 0.11 1 ppm 25% Volume Ethanol, Methanol at the propane (C3H8) - 0.3 2 ppm 25% Volume Figures in brackets at the propane in the pro	(ppm) (ppm) TXgard-IS+ TXgard Plus GAS TYPE (% Vol) 25 35 50, 100, 1000 ppm 50, 100, 150, 500 ppm Acetylene (C2H2)* 2.5 (2.3) 30 200 250, 500 ppm 100, 250, 500,1000 ppm Ammonia (NH3) 15 0.5 1 5, 10, 20 ppm 10 ppm Ethane (C2H10) 1.8 (1.4) 5 (MEL) - 10 ppm Ethane (C2H6) 3 (2.5) N/A N/A 2000, 20000 ppm Ethylene (C2H4) 2.7 (2.3) (50% LEL) - Hydrogen (H2) 4 1.8 3 10 ppm LPG 2 5 10 5, 25, 50, 100 ppm 15, 20, 25, 50, 100 ppm Hydrogen (H2) 4 1.8 3 10 ppm Pertol 1.3 (1.2) - 0.1 1 ppm Propane (C3H8) 2.2 (1.7) - 25% Volume 25% Volume Ethanol, Methanol and Propard 0.02 0.06 1 ppm Figures in brackets are taken fror - 0.3	



CEA Instruments, Inc.

160 Tillman Street, Westwood, N.J. 07675 U.S.A. Telephone (201) 967-5660 Fax (201) 967-8450 E-Mail: ceainstr@aol.com Website: www.ceainstr.com

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