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 | |



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