

# TXgard & Flamgard Plus

CO<sub>2</sub>  
H<sub>2</sub>S  
Cl<sub>2</sub>  
NH<sub>3</sub>  
O<sub>3</sub>  
CO  
O<sub>2</sub>  
CH<sub>4</sub>  
SO<sub>2</sub>  
HF  
H<sub>2</sub>



The Flamgard and TXgard 'Plus' range of detectors offer reliable detection of flammable, toxic or oxygen gases with a local display and optional relays.

Three models are available to suit all requirements:

**Flamgard Plus:** 'Exd - Flameproof' flammable gas detector with local display and optional relays

**TXgard Plus :** 'Exd - Flameproof' toxic or oxygen gas detector with local display and optional relays

**TXgard-IS+:** 'I.S. - Intrinsically Safe' toxic or oxygen gas detector with local display

#### Low cost of ownership

- Non-intrusive one man calibration
- Long life sensors
- Simple parts replacement

#### Flexible output options

- 4-20mA current sink or source
- 2 or 3 wire formats
- Optional relays for alarm and fault

#### Rugged and reliable







- TXgard Plus and Flamgard Plus are constructed using marine grade aluminium with a stainless steel sensor housing
- TXgard-IS+ is made from tough carbon loaded nylon
- Proven track record for operation in the harshest environments

#### Wide range of sensors

- Choice of catalytic beads for a wide selection of flammable gases and vapours
- Extensive range of electrochemical sensors for toxic gases and oxygen



## TXgard & Flamgard Plus Specification:

Model	Flamgard Plus 	TXgard Plus 	TXgard-IS+ 
<b>Size</b>	200h x 115w x 115d (mm)	200h x 115w x 115d (mm)	160h x 123w x 92d (mm)
<b>Weight</b>	2.2kg	2.2kg	0.7kg
<b>Enclosure material</b>	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
<b>Ingress Protection</b>	IP65	IP65	IP65
<b>Cable entries</b>	2 x M20 or 1/2" NPT	2 x M20 or 1/2" NPT	1 x M20 or 1/2" NPT with adaptor
<b>Power</b>	10-30Vdc, 210mA max (relay version) 160mA max (non relay)	10-30Vdc, 100mA max (relay version) 50mA max (non relay)	8-32Vdc, 4-20mA loop-powered
<b>Operation temperatures</b>	-10°C to +55°C (14°F to 131°F)	-10°C to +55°C (14°F to 131°F) Figures shown exclude the sensors - Please contact Crowcon for a full list of sensor operating temperatures	-20°C to +55°C (-4°F to 131°F) Figures shown exclude the sensors - Please contact Crowcon for a full list of sensor operating temperatures
<b>Humidity</b>	0-99% RH non-condensing	15 to 90% RH non-condensing	15 to 90% RH non-condensing
<b>Relays (optional)</b>	SPNO or SPNC contacts rated 30Vdc 1A (non-inductive load) for Alarm 1, Alarm 2, Fault	SPNO or SPNC contacts rated 30Vdc 1A (non-inductive load) for Alarm 1, Alarm 2, Fault	N/A
<b>Display</b>	3-digit LCD back-lit display, LED status indicator	3-digit LCD back-lit display, LED status indicator	2-Line, 16 character LCD
<b>Calibration method</b>	Via magnetically operated buttons	Via magnetically operated buttons	Via push-buttons
<b>Electrical output</b>	3 wire 4-20mA	3 wire 4-20mA	2 wire 4-20mA
<b>Terminals</b>	Suitable for up to 1.5mm <sup>2</sup> cable	Suitable for up to 1.5mm <sup>2</sup> cable	Suitable for up to 2.5mm <sup>2</sup> cable
<b>Sensor type</b>	Catalytic bead	Electrochemical	Electrochemical
<b>Repeatability</b>	+/- 2% FSD typically	+/- 2% FSD typically	+/- 2% FSD typically
<b>Zero drift</b>	+/-2% FSD, 6 months typically	+/-2% FSD, 6 months typically	+/-2% FSD, 6 months typically
<b>Response time</b>	T90 <15 seconds typically	Contact Crowcon for a full list of sensor response times	Contact Crowcon for a full list of sensor response times
<b>Hazardous area zones</b>	Zone 1 or 2	Zone 1 or 2	Zone 0, 1 or 2 Division 1 or 2 (when connected via an isolation device)
<b>Approvals</b>	ATEX  II 2 G Exd IIC T6 UL Class I Zone 1	ATEX  II 2 G Exd IIC T6 UL Class I Zone 1	ATEX, IECEx  II 1 G Exia IIC T4 Ga UL & cUL Class I Groups A,B,C,D.
<b>EMC compliance</b>	EN50270, FCC, ICES-003	EN50270, FCC, ICES-003	EN50270, FCC, ICES-003

Gas Type	LEL (ppm)	STEL (ppm)	Range Available: TXgard-IS+	Range Available: TXgard Plus
Ammonia (NH <sub>3</sub> )	25	35	50, 100, 1000 ppm	-
Carbon Monoxide (CO)	30	200	250, 500 ppm	100, 250, 500, 1000 ppm
Chlorine (Cl <sub>2</sub> )	-	0.5	5, 10, 20 ppm	-
Chlorine Dioxide (ClO <sub>2</sub> )	0.1	0.3	1 ppm	-
Hydrogen (H <sub>2</sub> )	N/A	N/A	2000ppm, 50%LEL, 100%LEL	-
Hydrogen Cyanide (HCN)		10 (MEL)	25 ppm	-
Hydrogen Fluoride (HF)	1.8	3	10 ppm	-
Hydrogen Sulphide (H <sub>2</sub> S)	5	10	5, 25, 50, 100, 200 ppm	15, 20, 25, 50, 100, 200 ppm
Nitrogen Dioxide (NO <sub>2</sub> )	1	1	10 ppm	-
Ozone (O <sub>3</sub> )	-	0.2	1 ppm	-
Oxygen (O <sub>2</sub> )	-	-	25% Vol	25% Vol
Phosgene (COCl <sub>2</sub> )	0.02	0.06	1 ppm	-
Phosphine (PH <sub>3</sub> )	0.1	0.2	2 ppm	-
Sulphur Dioxide (SO <sub>2</sub> )	1	1	10, 20, 30 ppm	-

Gas Type	LEL (%vol)	Ranges Available: Flamgard Plus
Acetylene (C <sub>2</sub> H <sub>2</sub> )*	2.3 (2.4)	0-100% LEL
Ammonia (NH <sub>3</sub> )	15	0-100% LEL
Butane (C <sub>4</sub> H <sub>10</sub> )	1.4 (1.8)	0-100% LEL
Ethanol (C <sub>2</sub> H <sub>5</sub> OH)	3.1 (4.3)	0-100% LEL
Ethane (C <sub>2</sub> H <sub>6</sub> )	2.5 (3)	0-100% LEL
Ethylene (C <sub>2</sub> H <sub>4</sub> )	2.3 (2.7)	0-100% LEL
Hexane (C <sub>6</sub> H <sub>14</sub> )	1.0 (1.1)	0-100% LEL
Hydrogen (H <sub>2</sub> )	4	0-100% LEL
LPG	2	0-100% LEL
Methane (CH <sub>4</sub> )	4.4 (5)	0-100% LEL
Methanol (CH <sub>3</sub> OH)	5.5 (7.3)	0-100% LEL
Pentane (C <sub>5</sub> H <sub>12</sub> )	1.4 (1.5)	0-100% LEL
Petrol vapour	1.3	0-100% LEL
Propane (C <sub>3</sub> H <sub>8</sub> )	1.7 (2.2)	0-100% LEL
Propanol (C <sub>3</sub> H <sub>8</sub> O)	2.2 (2.1)	0-100% LEL

STEL & LTEL figures are derived from the UK HSE document: EH40. Other thresholds may apply in countries outside the UK.

LEL figures derived from EN61779-1:2000

\*Acetylene option not available on UL certified version.



Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.