

# 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

**CROWCON**  
Gas Detection You Can Trust

**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 (current sink or source)	3 wire 4-20mA (current sink or source)	2 wire 4-20mA (current sink)
<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	LTEL (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.

A HALMA COMPANY



**UK:** 2 Blacklands Way, Abingdon Business Park, Abingdon, OXON, OX14 1DY  
+44 (0) 1235 557700 [sales@crowcon.com](mailto:sales@crowcon.com)

**US:** 21 Kenton Lands Road, Erlanger, Kentucky 41018-1845  
+1 859 957 1039 [salesusa@crowcon.com](mailto:salesusa@crowcon.com)

**NL:** Vlambloem 129, 3068JG, Rotterdam  
+31 10 421 1232 [eu@crowcon.com](mailto:eu@crowcon.com)

**SG:** Block 194 Pandan Loop, #06-20 Pantech Industrial Complex, Singapore, 128383  
+65 6745 2936 [sales@crowcon.com.sg](mailto:sales@crowcon.com.sg)

**www.crowcon.com**

P03019GB Issue 4 April 2010

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