



**Diamond  
Controls**<sup>®</sup>

Leak Detection & Trace Heating Systems

Datasheet

GAS LEAK DETECTION



# Merlin Gas Detector X

## Fixed Point Gas Detector

The X range of S&S detectors work in combination with the S&S Merlin range of Gas Detection panels and Safety Systems. Compact, modern, digital design makes the units aesthetically pleasing.

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### Features

- Low level & high level alarm.
- Traffic light style gas level display indicator.
- Straightforward to install.
- Can work in conjunction with other Merlin Gas Safety Systems to ensure maximum safety.
- Modbus RTU compatible
- Built in test button for onsite commissioning

### Dimensions

- Height - 140mm
- Width - 95mm
- Depth - 30mm

### Typical Detector Position

Target Gas	Typical Detector Position
Natural Gas/Methane (NG/CH <sub>4</sub> )	High Level - 300mm (1ft) from ceiling
Liquid Petroleum Gas (LPG)	Low Level - 300mm (1ft) from ground level
Carbon Monoxide (CO)	Breathing Zone - 1700mm (5ft 6") from ground level
Hydrogen	High Level - 300mm (1ft) from ceiling
Oxygen (O <sub>2</sub> )	Breathing Zone - 1000-1500mm (3-5ft) from ground level



### Technical Information

General								
Product:	Gas Detector-X							
Model(s):	CO (Carbon Monoxide) NG (Methane/Natural Gas) LPG (Liquid Petroleum Gas) H2 (Hydrogen) O2 (Oxygen) Carbon Dioxide (CO2)							
Use:	Indoor, Safe Areas (not to be used in potentially explosive atmospheres)							
Indicators (1.8" TFT Screen)	Green (Safe), Yellow (Special State) & Red (Alarm). Gas Type & Detected Concentration Level. Measured Value Detector ID No. Serial No. End of Life. Sensor Fault. Service.							
Screen Brightness	Non- adjustable							
Mounting	Wall Mounting							
Electrical								
Max. Power Consumption	90mA Max @ 24vdc							
Power Voltage Input Range	12-32Vdc (24vdc Nominal)							
Communication	RS485, Modbus RTU							
BMS Terminal	Volt Free (Normally Closed / Common / Normally Open)							
GDP Terminal	24Vdc Power Input (+ - ) & Current Loop (CL)							
Relay(s)	1x 30vdc 2A (non-Latching)							
Terminal Wire ratings	Copper 18AWG (0.75mm <sup>2</sup> ) Min. 14 x screw terminals.							
Construction								
Dimensions (H x W x D)	140 x 95 x 30mm / 5.51 x 3.74 x 1.18"							
Unit Weight (Approx.)	0.05kg / 1.77oz							
Housing Material	Polylac - PA765							
Environmental								
Ingress Protection	IP40							
Storage Conditions	Dry. Temp: -10 ~ 50°C / 14~ 122°F : 30 ~ 80% rh							
Compliance								
CE / UKCA	BS EN 50270 / BS EN 61010-1							
Sensor Specification								
Factory Calibration Conditions	25° ± 5°C - 77° ± 41°F (40-70% RH)							
Sensor Operating Temperature	-10°C ~ 50°C (14 ~ 122°F)							
Sensor Operating Humidity	Continuous 30-80% rh Non-Condensing							
Sensor Operating Pressure	Normal Atmospheric Pressure ± 10%							
Gas Sensor	Indicating Range	Steps	Calibration Gas	Response (t90)	Recovery (t10)	Alarm: 1 (Pre alarm warning)	Alarm: 2	*EOL (Years)
Electrochemical Sensors								
Carbon Monoxide (CO)	0-999ppm	1	120ppm CO	<60s	<60s	▲20ppm	Exposure time. ▲20ppm (after two hours) ▲50ppm (after one hour) ▲100ppm (after ten minutes) ▲300ppm (after one minute)	5
Oxygen (O <sub>2</sub> )	0-30% V/V	0.1	Clean Air (20.9%)	<30s	<60s	▼19.5% V/V	▼18.5% V/V ▲23% V/V	2
Semiconductor Sensors								
Methane (CH <sub>4</sub> )	0-20% LEL	0.1	0.5% BV methane	<30s	<30s	▲8% LEL	▲10% LEL	10
Propane (LPG)	0-20% LEL	0.1	0.2% BV Propane	<30s	<30s	▲8% LEL	▲10% LEL	10
Hydrogen (H <sub>2</sub> )	0-20% LEL	0.1	4000ppm Hydrogen	<30s	<30s	▲8% LEL	▲10% LEL	10
NDIR. Intelligent Infrared CO2 Module. ABC Logic Auto Calibration								
Carbon Dioxide (CO <sub>2</sub> )	400-5000ppm	1	N/A	<50s	<60s	▲2800ppm	▲4500ppm	10

▲ Rising Alarm ▼ Falling alarm

\*EOL – Expected Operational Life

**Important:** All information, including illustrations, is believed to be reliable. Users, however, should independently evaluate the suitability of each product for their application.