

# D-Guard™

## Digital gas detector. With Sounder & Strobe



**Build-in sounder strobe**

**Zero stability logic**

**One man calibration**

**Non intrusive calibration**

**Graphical backlit display**

**No alarm calibration**

**Simple user options**

**One board does all**

**No tool calibration**

**Isolate feature**

**Intrinsically safe**

**Fully programmable processor control**

**High impact non-static housing**

**Water resistant IP 66 design**

**Two year warranty(\*\*)**

GasTech Australia's latest series of gas detectors: The Digital Guard (D-Guard™). This new style of gas detector uses an advanced processor and program logic, making the choice of a reliable detector simple.

Our engineers have developed high end electronics and a program that monitors the sensor's outputs and is tailored to and pre-programmed to many different gas types. The program and electronics process the sensor's output trends and calculates accurate and stable readings which are displayed on the permanently backlit graphic display. This is transmitted back to the processor using the industry standard 4-20mA.

### Mechanical design:

One card to suit all applications is the philosophy. Many of our customers are in remote locations around the world and holding stock for all the different kinds of detectors and ranges that they have on site is expensive and difficult to manage. In the D-Guard™ design this card had to be easily configured for the different gasses, ranges, sensors styles and must have enough program memory to hold the logic for each type of gas. Our engineers were able to achieve all this, with enough resources still available to implement many future features. Each card will be simple to upgrade as needs change.

Housing is a IP 66 carbon impregnated anti static Nylon, which is UV stable. The design of the housing was designed to meet the most challenging conditions encountered in off shore oil rigs.

### End user features:

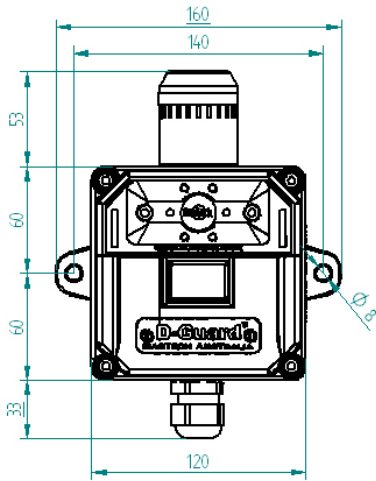
No tool calibration or set up. No screwdrivers, No meters, no special programming tools required to calibrate.

Backlit display. This feature is not available on most loop-powered devices due to high power consumption but it is one of the most requested features, due to operations at night or in dark areas. Our engineers used the latest low power components leaving sufficient resources to implement a back light.

No alarms during calibration. This is probably one of the most useful features of this system. Once you open the calibration door the D-Guard™ locks the output signal at zero gas reading until the calibration process is finished. Our engineers have implemented a fail-safe logic to maintain constant monitoring. There is also an Isolate switch, which will permanently isolate all signals and alarms until the operator reactivates the unit.

# D-Guard™

## Sensor & 4-20mA Transmitter Specifications



### Typical range of Gases Detected

|                                     |              |                        |
|-------------------------------------|--------------|------------------------|
| Ammonia (NH <sub>3</sub> )          | 0 to 100 ppm | in 1 ppm increments    |
| Carbon Monoxide (CO)                | 0 to 100 ppm | in 1 ppm increments    |
| Chlorine (CL <sub>2</sub> )         | 0 to 10 ppm  | in 0.1 ppm increments  |
| Hydrogen (H <sub>2</sub> )          | 0 to 100 ppm | in 0.5 ppm increments  |
| Hydrogen Cyanide (HCN)              | 0 to 50 ppm  | in 1 ppm increments    |
| Hydrogen Sulfide (H <sub>2</sub> S) | 0 to 200 ppm | in 1 ppm increments    |
| Hydrogen Chloride (HCL)             | 0 to 200 ppm | in 1 ppm increments    |
| Nitric Oxide (NO)                   | 0 to 100 ppm | in 1 ppm increments    |
| Nitrogen Dioxide (NO <sub>2</sub> ) | 0 to 10 ppm  | in 0.1 ppm increments  |
| Phosphine (PH <sub>3</sub> )        | 0 to 1 ppm   | in 0.01 ppm increments |
| Sulfur Dioxide (SO <sub>2</sub> )   | 0 to 10 ppm  | in 0.1 ppm increments  |
| Ethylene Oxide (ETO)                | 0 to 20 ppm  | in 0.1 ppm increments  |
| Ozone (O <sub>3</sub> )             | 0 to 2 ppm   | in 0.01 ppm increments |
| Oxygen (O <sub>2</sub> )            | 0 to 25%     | in 0.1 %Vol increments |
| Fluorine (F <sub>2</sub> )          | 0 to 1ppm    | in 0.01 ppm increments |

\*Increased sensors and detection range available on request.

|                       |   |
|-----------------------|---|
| Analogue Output       | Two wire 4-20mA   |
| Indication            | Graphical Back Light LCD display  |
| Relay Outputs         | 3 user adjustable SPDT  |
| Sounder               | 98db  |
| Strobe                | Red, Amber Clear, Blue, Green, Yellow   |
| Input Power           | 20-30VDC  |
| Response Time         | 90% full scale response in less than 40 seconds sensor dependent  |
| Operating Temperature | -20°C to +60°C (+55° IS Version) *50°C sensor special   |
| Humidity Range        | 0-95% non condensing  |
| Accuracy              | ±5% of reading  |
| Repeatability         | ±1% of reading  |
| Sensor style          | Standard 7 series or 4 series plug in sensors   |
| Calibration           | Non intrusive push buttons, no screwdrivers or meters needed  |
| Drift                 | Less than 5% signal loss per year   |
| Weight                | 500g  |
| Dimensions            | 206mm x 90mm x 55mm   |
| Enclosure             | IP66 anti static RFI/EMI UV stable Chemical resistant Nylon   |
| IP rating             | IP65 sounder  |
| Warranty              | 2 Years on sensor and electronics for O <sub>2</sub> , CO & H <sub>2</sub> S<br>1 year on all other sensors |

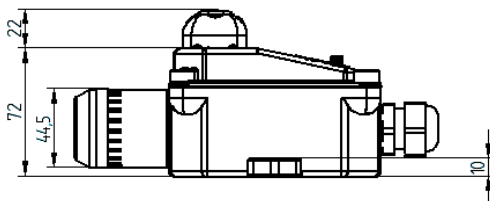
Part Number            65-1012-xxx            (xxx is gas type, eg. CO or H<sub>2</sub>S)

### Barriers:

- 57-9010-01 IS Barrier Zenner less than 100 Ohm (4100R controller only)
- 57-9010-02 IS Barrier and repeaters +100 Ohm load

\*\* 2 years on O<sub>2</sub>, CO, H<sub>2</sub>S and electronics

\*\* 1year on all other sensors



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