

# GAS 10 – Oxygen/toxic Gas Sensor

## TECHNICAL

**Gas Type** Oxygen / Toxic Gases

### Input Voltage

12~30v DC – 24v nominal  
Optional Mains 230/115vAC 50/60hz  
Nominal 30mA - 120mA full alarm

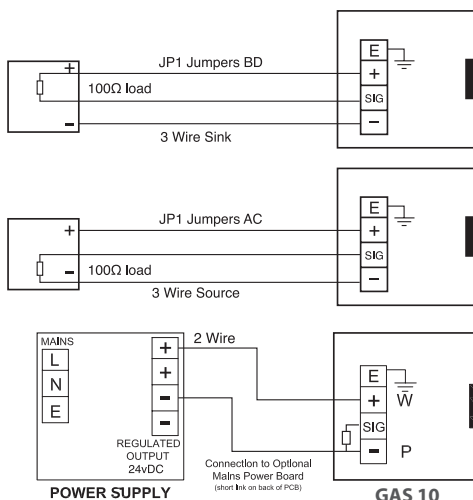
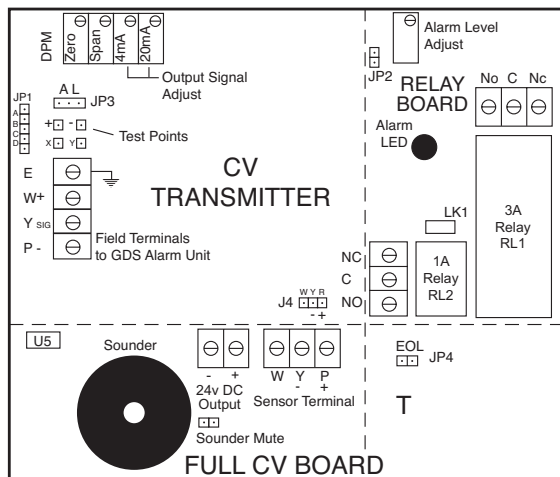
### Output Standard

Analogue 4~20 mA (250 ohms max) – sink/source  
(source mode - standard)  
Option 1~5v output – solder G

**CV-Sensor Cable** 3 core screened

### Alarm Relay

Signal relay contacts S.P.C.O. rated 1A/24v Main relay S.P.C.O. 3A/230v AC  
Fire Alarm panel signalling – cut F  
Trip Indicator LED – trip point selectable 10% to full scale (Auto reset)  
On board sounder  
Auxiliary output DC volts – standard-as input volts 24v  
DPM – gas readout display – (zero and span potentiometers used only for DPM setting)



## INSTALLATION

Siting of the equipment should be chosen with regard to the following points:

1. Safe area use only (not hazardous zone)
2. Away from sources of heat and with room for adequate air circulation.
3. Within easy reach for operating and maintenance personnel.
4. Connecting cables to be electrically shielded.
5. For further information regarding sensor location see our website

Note: Sensor cables should not be run in the same ducting as power cables.

### Removing Lid (30J)

Using a 2.5mm Allan key withdraw the two lid screws until they clear the lid bezels. Push the lid up until it is stopped by the circuit board located inside the enclosure; pull one side to remove the lid.

### Mounting

Direct wall mount - use M4 or No.8 screws through the membrane of the 4 stand-offs. Where the stand-offs are to be removed (rotate each stand-off using pliers) drill at mounting points marked C or utilise knock out slots.

For surface mount box drill at points B (2 off)

For conduit box fixing drill at points A (2 off)

### Supply Input

Ensure that the supply is correct for the voltage rating of the indicator. Ensure that the supply is OFF before making any connections and wire only in accordance with the terminal detail.

### Calibration (factory set)

1. Connect a digital voltmeter (millivolt range) to the X and Y test terminals, the CV is preset in the current source mode.
2. In clean air check that the DVM reads 4mV, if not adjust the 4mA potentiometer on the CV transmitter board (toxic gases).
3. Apply test gas and wait until a stable DVM reading is obtained, if necessary adjust the 20mA potentiometer for the required mV reading for the calibration gas used (see range/reading on test certificate or printed on the CV circuit board).
4. For oxygen level monitoring remove the sensor terminal connector for 4mA (4mV).
5. Where a digital panel meter is fitted to the CV card the reading may be adjusted by the DPM Zero potentiometer.

Reconnect the cell and allow reading to stabilise adjust the DVM reading for 17.3mA (20.8% ambient oxygen) using the 20mA potentiometer.

Where a Digital panel meter is fitted the display may be adjusted by using the DPM S potentiometer (span).

### Alarm Trip Point Adjustment (factory set)

This level will normally be set at to the appropriate O.E.L. for the gas or 19% for oxygen.

1. Connect the DVM as above, using the 4mA potentiometer adjust for the required trip level (20mA potentiometer for Oxygen).
2. Adjust the alarm level potentiometer until the alarm LED just comes on.
3. Using the 4mA potentiometer re-adjust the DVM to 4mV (20mA pot to 17.3).

The above adjustment may be carried out in house by connecting the CV transmitter directly to a DC power supply and connecting a 100Ω load resistor.

Should a full board be required to operate on a 2 wire loop then the alarm relay / LED must be disabled - remove JP2.