

GAS 10 – Flammable Gas Sensor

TECHNICAL

Gas Type Flammable Gases

Input voltage

12~30v DC - 24v nominal – 160mA

Optional Mains 230/115vAC 50/60hz

Output

Analogue 4~20mA (250 ohms max) (source mode – standard)

Sink factory option

Option 1~5v output – Link - LK1

Sensor Cable

3 core screened, maximum cable loop resistance 20 ohms

Alarm Relay

Signal relay contacts S.P.C.O. rated 1A/24vDC

Main relay S.P.C.O. 3A/230vAC

Alarm Setting

Trip Indicator LED - trip point selectable 10% to full scale

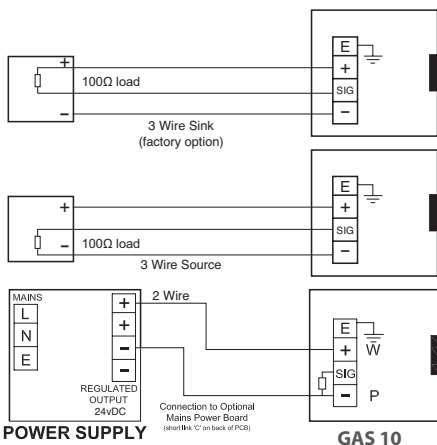
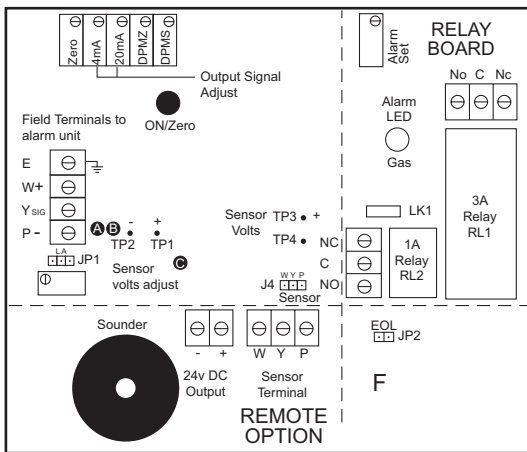
Fire Alarm panel signalling - Remove LK1

Logic output - JP1 position L and end of line link JP2 – normally set at A (analogue)

On board sounder

Auxiliary output DC volts - standard - as input volts 24vDC

DPM - gas readout display - (DPMZ and DPMS potentiometers used only for DPM setting)



Sensor cell supply table

CAT300A	2v/300mA	THE300A	2v/300mA
CAT170A	2v/175mA	SS10	2v/175mA
SEM-1	4v/170mA	CAT335A	2.5v/335mA
PRIME	4v/125mA	CAT335B	2.5v/335mA
CAT335C	2.5v/335mA	CAT100A	2v/100mA

This document is not contractual and the equipment specification may be modified at any time without prior notice.

Gas Alarm Systems
A Protec Fire and Security Group Company

Unit 4, Halfpenny Close, Knaresborough, North Yorkshire HG5 0TG.

Tel: 01423 862240 Fax: 01423 860239 | Email: sales@gasalarmsystems.co.uk | www.gasalarmsystems.co.uk

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.

Set Up (factory set)

1. Having powered up allow 5 minutes for the sensor to stabilise.
2. The sensor current/voltage should be set by connecting a voltmeter (mV range) across TP3/TP4 and adjusting the sensor voltage potentiometer (10 turn) until the required voltage reading is obtained (mV meter reading = mA sensor current) caution – do not exceed 360mV (mA). See sensor cell supply table.
3. Zero the card in clean air by adjustment of the potentiometer marked zero until the ON/Zero LED just turns from ORANGE to GREEN. (At this point the output will = 4mA). If you require to check this, connect a digital meter (mV range) to the test pins marked TP1 and TP2, if adjustment is required adjust the 4mA potentiometer (4mV = 4mA). See Note.
4. Where a digital panel meter is fitted to the CV card the reading may be adjusted

Calibration (factory set)

With the digital meter connected to the test pins TP1 and TP2 and reading 4mV in clean air, apply test gas and wait until a maximum reading is obtained, if necessary adjust the 20mA potentiometer for the required mV reading for the calibration gas being used.

Where 4 ~ 20mA span = 0 ~ 100% L.E.L. (Lower explosive level) and the sensor is to be calibrated for Methane which has an L.E.L. of 5% vol, when using 1% Methane in air test gas (20% L.E.L.) a reading of 7.2mv (7.2mA) would be required.

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

Alarm Trip Point Adjustment

This level will normally be set at 20% of the range reading i.e. 7.2mA.

1. Connect the DVM as above, using the zero potentiometer adjust for the required trip level (mv)
2. Adjust the alarm level potentiometer until the relay just changes state.
3. Using the zero potentiometer re-adjust the DVM to 4mV.

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

