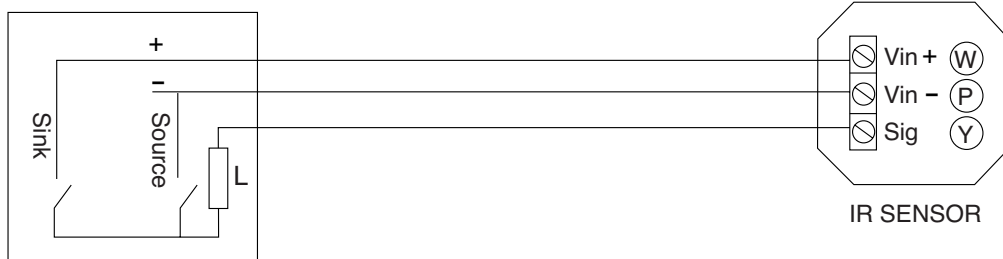


Field terminal detail



V in – input supply voltage 12 to 35V DC

Sig – Signal output (4~20mA) see selector J1 for sink or source mode (normally set in source mode)

Maximum source drive output 5V

Do not apply more than +12V in sink mode

Push on connectors

JP6 – Voltage output 1 - 5V

JP4 – Fail signal open collector output

The equipment will normally be supplied calibrated ready for use and should not require adjustment or calibration. Where adjustments are necessary, the following procedure should be carried out.

Zero set (4mA)

1. Connect a digital meter (mV range) to test pins TP1 and TP2
2. With the sensor powered up and in clean air (flammable gas detection) or in nitrogen (carbon dioxide detection) adjust the 4mA potentiometer until the voltmeter reads 4mV.

Span set (20mA)

1. Expose the sensor to test gas (TG) at a flow rate of approximately 2 litres/min
2. For methane or carbon dioxide adjust the 20mA potentiometer until the output reads the appropriate signal level. For hydrocarbons other than methane the 20mA potentiometer should not be adjusted, adjust potentiometer R (RV3) for required output.

Example: CO₂ - 2% vol = full scale reading (4~20mA)

Using 1% CO₂ test gas a change of 8mA (mV) would be required. Therefore with a 4mA (mV) standing reading + 8mA = meter reading of 12mA (mV).

LED indicator description

The green LED indicates the system condition as follows: -

Green LED	Cause
OFF	Non-recoverable fault has occurred; system not functioning
SHORT ON PULSES	Fault detected; red LEDs on to indicate cause
FLASHING @ 2 Hz	Initial start-up self check procedure in progress
FLASHING @ 4 Hz	a) Indicates normal system function b) Indicates fault recovery in progress; red LEDs ON to indicate cause c) Indicates unit is in calibration mode if all red LEDs are ON

The red LEDs indicate the detectable fault condition as follows: -

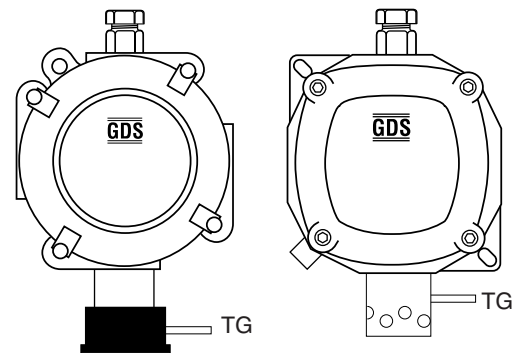
LED A	LED B	LED C	Fault Mode	Action
ON	ON	ON	Hardware integrity failure detected during start-up	Non-recoverable Return transmitter to GDS
ON	ON	OFF	Undefined	Component failure. Return transmitter to GDS
ON	OFF	ON	Mathematics routine error or under-range condition	Recoverable. Normal operation will resume when the fault has cleared.
ON	OFF	OFF	Input voltage is out of range	Check the power supply
OFF	ON	ON	Sensor source drive current failure	Replace the source unit on the sensor
OFF	ON	OFF	Output voltage is out of compliance	Check the load on the voltage output is within limits
OFF	OFF	ON	Undefined	Component failure. Return transmitter to GDS
ON	ON	ON	Calibrate switch is set if green LED is flashing	Normal during output trim setting

Electrical data

Input voltage - 3 wire device (polarity protected)
 Quiescent current consumption
 Maximum current consumption
 Voltage output 1~5V, maximum current draw
 Resolution
 4~20mA output
 (link selectable as source or sink)
 Maximum loop resistance in source mode
 Output resolution
 Maximum offset drift
 Over-range output
 Fail signal

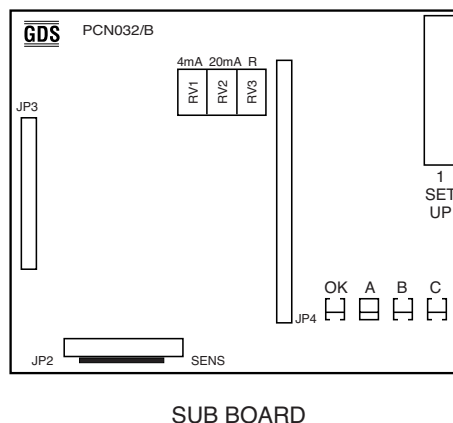
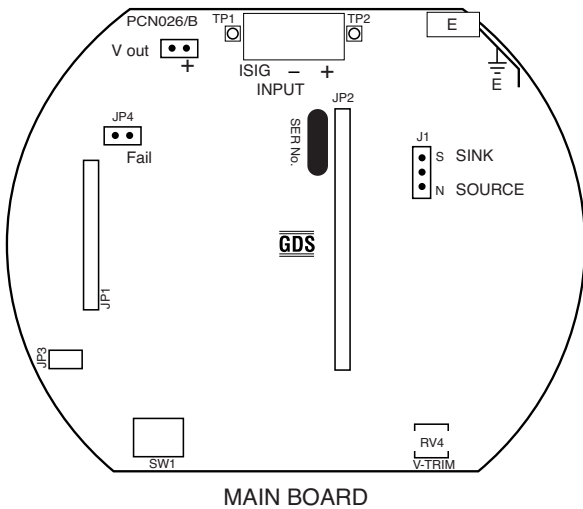
12 to 35V DC
 130mA
 150 mA
 5mA
 0.15% of span

250R
 0.02mA
 ±20uA
 21.3mA (typical)
 4~20mA signal reduced to 3mA
 auto recovery
 Open collector output normally switched to 0v (manual reset)



Fail indication

Recovery - If the circuit develops a recurring fault or if there are other problems, the software can be reset by pressing the RESET push-button SW1. This forces a full software reset and re-initialises the transmitter. The calibration settings are unaffected by a reset.



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