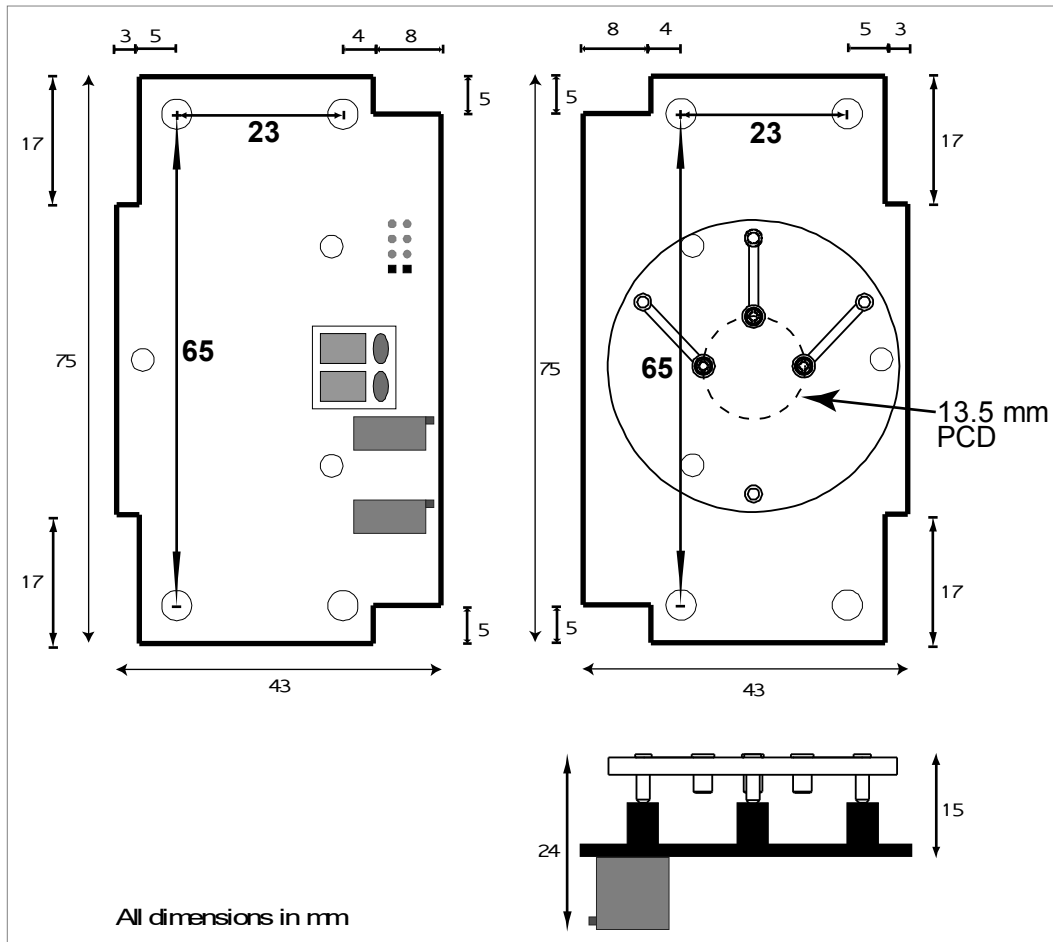


4 to 20 mA Transmitter Board for Electrochemical Gas Sensor Suitable for Miniature-Sensors (Pin layout: 4-Series)



Transmitter Specifications

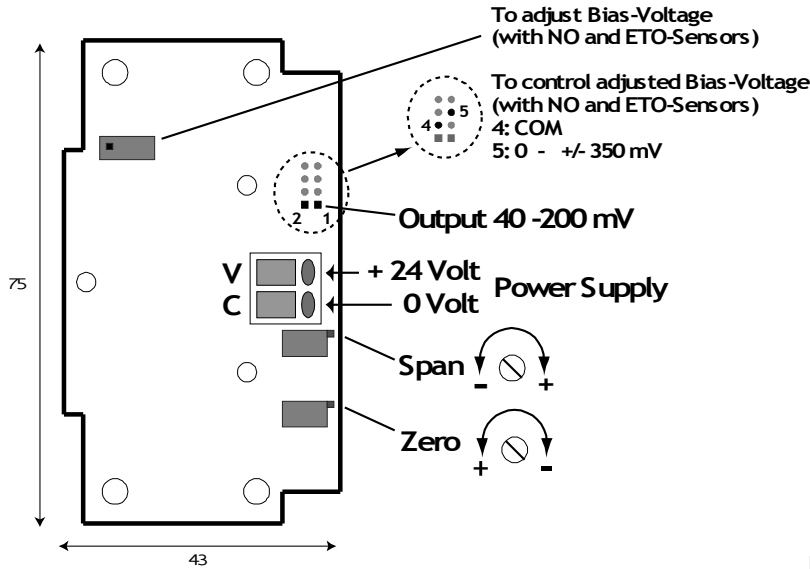
Input voltage required	+12 to +36 Volts DC
Output at zero gas concentration	4 mA (40 mV)
Output at full-scale	20 mA (200 mV)
Sockets Plating	Gold
Compliance	RoHS Compliant

Operation of the Transmitter

The transmitter needs a power supply of 12 – 36 V DC to operate. Connect the power source to the connector (V/C). **Pay attention to the correct polarity, otherwise the transmitter can be destroyed.** If the transmitter is not powered the inserted sensor is short-circuited (exception: NO-Sensors).

The voltage output signal can be collected between pins 1 und 2. To obtain the current output signal, refer to the last section. The output signal has a linear range from 40 – 200 mV and 4 – 20 mA respectively.

Transmitters for NO-Sensors are equipped with a potentiometer to adjust the bias-voltage. This voltage can be measured between position 4 and 5. Transmitters for NO-Sensors are delivered with an adjusted bias-voltage of 300 mV.



Calibration

The spring on the sensor must be removed before insertion in the electronic circuit.

There are two potentiometers on the circuit board to calibrate the transmitter together with a sensor. To adjust the zero point, purge the sensor with synthetic air at a flow of around 30 l/h for at least 3 minutes. Adjust the potentiometer "zero" to get an output signal of 40 mV.

Use the maximum gas concentration allowed by the specification of the particular sensor to adjust the rang of the output signal. Purge the sensor with this gas mixture. When the signal is stable, adjust with the potentiometer "span" the gain to reach an output signal of 200 mV.

If you use a gas mixture with an analyte gas concentration lower than the maximum concentration, calculate the appropriate output signal using a linear relation ship.

Operating the Transmitter in current mode

The transmitter can be operated in a 2-wire mode. The current being drawn (4-20 mA) is linear to the sensor signal and therefore the sensor signal can be obtained from the supply current. This setup is widely used in (Multi-Channel) Gas Detectors:

