

4-20mA BOARD FOR SURECELL

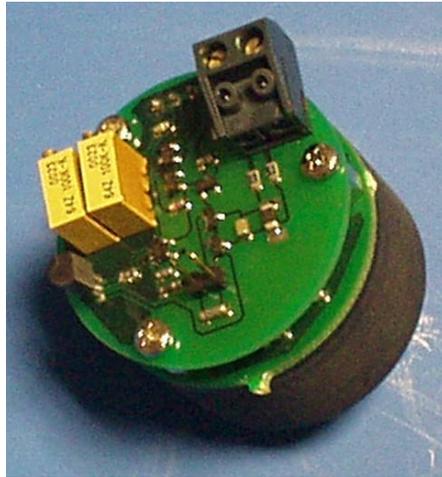


Figure 1. 4–20mA transmitter with zero and span potentiometer, screw terminals and installation ring, complete with SureCell sensor CO(H) or H₂S(L) or Cl₂

- With SureCell Carbon Monoxide CO (M): range 0-1000 ppm
- With SureCell Hydrogen Sulphide H₂S (L): range 0-200 ppm
 - With SureCell Chlorine Cl₂: range 0-20 ppm

Output signal: 4 – 20 mA using two-wire technology

Features

Electronic transmitter
designed to equivalent sensors

Measuring signal 4 – 20 mA

Calibration on required range

User benefits

Immediate use and evaluation of
electrochemical SureCells

Standard interface

Equivalent to specification



4-20mA BOARD FOR SURECELL

SPECIFICATION

Measuring principle:	Electrochemical
Operation:	continuous
Gas entry:	by diffusion
Range:	CO: calibratable up to 1000 ppm CO f.s.d. H ₂ S: calibratable up to 200 ppm H ₂ S f.s.d. Cl ₂ : calibratable up to 20 ppm Cl ₂ f.s.d.
Repeatability:	CO: < ± 3% of signal H ₂ S: < ± 3% of signal Cl ₂ : < ± 5% of signal
Response time:	CO: t ₉₀ < 30 sec H ₂ S: t ₉₀ < 10 sec Cl ₂ : t ₉₀ < 60 sec
Cross sensitivity:	see equivalent sensor data sheet
Linearity:	CO: < ± 5% of nominal value H ₂ S: < ± 5% of nominal value Cl ₂ : < ± 3% of nominal value
Temperature range:	-20°C to +40°C
Humidity range (non-condensing):	15 – 90% r.H.
Operating voltage:	24 V ± 10% d.c.
Output signal:	4 – 20 mA, two-wire; max. load 500 Ω Ohms at 24 V d.c. (+/- 4V)
Zero adjustment:	via potentiometer
Span adjustment:	via potentiometer
RFI:	according EN 50082
Storage conditions:	+ 10°C to +30 °C
Mechanical design:	SureCell sensor plugged into transmitter and surrounded by installation ring
Dimensions:	40 mm Ø, 55 mm high
Warranty period:	6 months from despatch date



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SPECIFICATION

Part Numbers

CO(M) sensor with transmitter: 2112B1020

H₂S(L) sensor with transmitter: 2112B1015

Cl₂ sensor with transmitter: 2112B1035

Accessories

- Installation kit suitable for all transmitters above, part no: 2112B1022
- Test gas cap, part no: 2112B1010
- Gas Measuring System – sensor with transmitter and installation kit, provided as a complete housed unit in aluminium housing:

CO Gas Measuring System: Part no. 2112B1023

H₂S Gas Measuring System: Part no. 2112B1016

Cl₂ Gas Measuring System: Part no. 2112B1018



Figure 2. Test gas cap
Part no. 2112B1010



Figure 3. Gas Measuring System

SureCell sensor with 4-20mA transmitter and installation kit, provided as a complete unit, fitted into aluminium housing.

Part no.: CO: 2112B1023. Range: 0-1000ppm CO
H₂S: 2112B1016. Range: 0-200ppm H₂S
Cl₂: 2112B1018. Range: 0-20ppm Cl₂

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Operating Instructions for SureCell Sensors (CO(M), H₂S(L) or Cl₂) + 4-20 mA pcb

Potentiometer

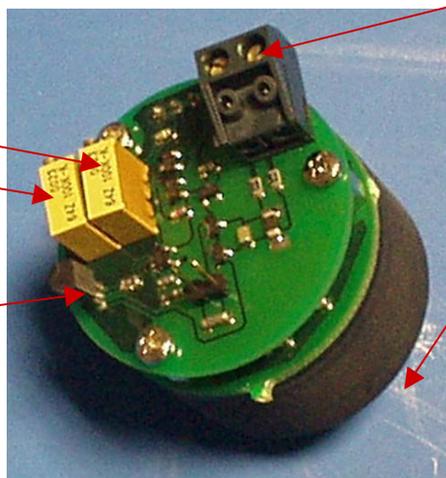
for calibration adjustment

Zero potentiometer

Span potentiometer

Test pins for one man calibration;

0.4 – 2.0 volts signal output



Two wire screw terminal

for 24V d.c. power supply (+/-10%); +4-20mA signal output

Please note: No polarity (+/-) requirements

Test Gas

For calibration, flow relevant gas through a test flow cap. Test flow cap and installation kit also available from Euro-Gas. Please ask for details

Two wire screw terminal: The transmitter has a two wire screw terminal to connect a 24V d.c. power supply. There is no polarity requirement across the two screw terminals (i.e. there is no +/- logic). On the same two wires, you will receive the 4-20 mA signal output. The transmitter is precalibrated on:

With SureCell CO (M): 0-1000ppm CO range

With SureCell H₂S (L): 0-200ppm H₂S range

With SureCell Cl₂: 0-20ppm Cl₂ range

When there is zero gas concentration, you will receive a 4mA signal. With the full concentration, you will receive a 20mA signal.

Potentiometer: This is used for adjusting the signal to the correct value if you apply a test gas concentration to the transmitter and it gives an incorrect signal.

Test pins: The two test pins allow for one man calibration. Please kindly note that the signal here is not 4-20 mA but **0.4 – 2.0 Volts**.

<u>Gas Concentration</u>					
CO	0ppm	250ppm	500ppm	750ppm	1000ppm
H ₂ S	0ppm	50ppm	100ppm	150ppm	200ppm
Cl ₂	0ppm	5ppm	10ppm	15ppm	20ppm
Signal at wires	4 mA	8 mA	12 mA	16 mA	20 mA
Signal at test pins	0.4 V	0.8 V	1.2 V	1.6 V	2.0 V



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