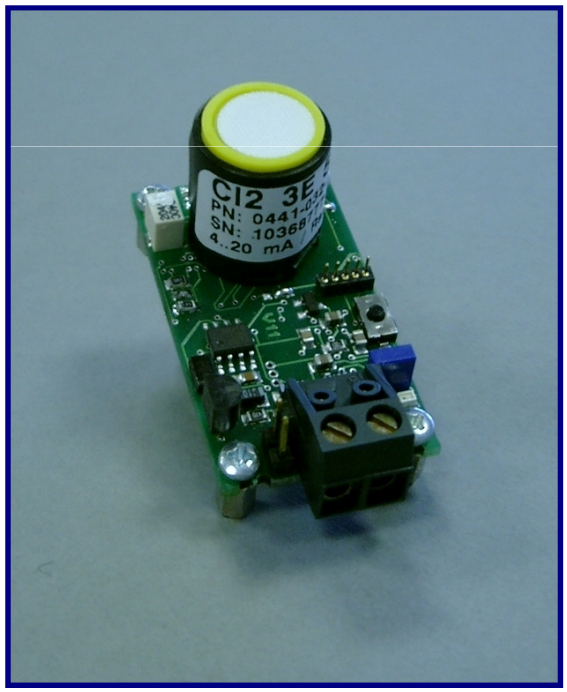
Technical Data Sheet

Sensoric 4-20 mA Transmitter Board



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Sensoric Sensors are designed and manufactured in
Justus-von-Liebig-Str. 22, D- 53121 Bonn, Germany
Tel: ++49 (0) 228 52 66 40 **Fax**: ++49 (0) 228 5266439

Introduction

The Transmitter is a small though robust device which converts the raw sensor signal of an electrochemical sensor cell into a standard 4..20 mA output. Additionally, the output signal is converted by an on-board resistor into a 40..200 mV voltage output.

The Transmitter Board is available for existing SensoriC electrochemical gas sensors.

The Transmitter Board has on-board temperature compensation and allows the use of an optional external temperature sensor for temperature compensation.

In general, it is shipped fully calibrated including the sensor cell. There are two possibilities for recalibration when appropriate:

- by use of a small button for zero and/or span calibration and
- by use of a potentiometer for span calibration.

The Transmitter Board is equipped with 4 mounting holes and an LED for calibration acknowledgement.

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Technical Details – Transmitter board

Output :	4..20 mA, 2 wire loop powered 40..200 mV
Supply voltage :	10 to 30 V DC
Maximum Loop Load :	700 Ohms
Protection :	Reverse polarity protection
No power equivalent :	Short circuit via FET, if applicable for sensor cells
Operating current range :	0 .. 30 nA to 0 … 500 µA, bipolar operation
Bias range :	0 .. –1500 mV
Minimal Resolution :	0.01 mA
Optional Zero Adjust :	Button press (compensates negative or positive offsets)
Recalibration :	Button press for full scale adjustment (span gas concentration), optional manual calibration via potentiometer
Temperature Range :	-40 .. +50 °C (transmitterboard) For sensor operating conditions please see sensor data sheet.
Temp. Compensation :	-40 .. +50 °C via temperature sensor and microprocessor if applicable by sensor specification.
Special features :	10 Ohms on board for voltage output (200 mV = 20 mA), Four mounting holes (3 mm)

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Remarks

The Sensoric transmitter has been designed to ensure a maximum reliability in the field at minimum cost.
Therefore, the sensor cell is soldered onto the board and cannot be replaced easily in the field.

Should the sensor no longer fulfill its function of gas monitoring, Sensoric recommends replacing the complete low cost transmitter rather than exchanging the sensor in the field.

Designing gas detection solutions around the Sensoric transmitter may require additional mounting tools for the transmitter. Sensoric offers technical support and customized solutions to ensure the correct and most effective integration.

Reliable calibration of gas sensors and transmitters in field applications requires extensive training and experience in handling trace levels of calibration gas concentrations.

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Safety Note

This sensor is designed to be used in safety critical applications. To ensure that the sensor and/or instrument in which it is used, are operating properly, it is a requirement that the function of the device is confirmed by exposure to target gas (bump check) before each use of the sensor and/or instrument. Failure to carry out such tests may jeopardize the safety of people and property.

Attention

Use of the Sensoric range sensors requires complete understanding of the instructions. Before using Sensoric range sensors please carefully read 'Application Notes' which can be found at www.citytech.com under the heading '*Support' -> 'Application Notes' -> 'Sensoric'*

Product Safety Data Sheets (PSDS) can be obtained at www.citytech.com under the heading '*Support' -> 'Product Safety Datasheets'*

For further assistance on sensor selection and use, please contact a member of the Technical Sales team.

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