

Key Features & Benefits:

- Excellent stability
- Resistant to drying out
- Reliable in continuous flow applications

Technical Specifications

MEASUREMENT

Operating Principle 3-electrode electrochemical
Measurement Range 0-50 ppm SiH₄
Maximum Overload 50 ppm
Lower Detection Limit <1 ppm when using recommended electronics

Filter None

Sensitivity 130 ± 70 nA/ppm

Response Time (T₉₀) <60 Seconds

Baseline Offset (clean air) < ±25 nA

Zero Shift (-40°C to +50°C) < ±300 ppb

Repeatability <2% of signal

Linearity <10% of full scale

ELECTRICAL

Recommended Load Resistor 1.5 kΩ
Bias Voltage 0 V
Resolution Dependent on Electronics
 <500 ppb when using recommended circuitry

MECHANICAL

Housing Material PPO Noryl
Weight 4.5 g
Orientation Any

ENVIRONMENTAL

Typical Applications Portable & fixed life safety
Operating Temperature Range:
 Continuous -20°C to +40°C
 Intermittent -40°C to +50°C
Operating Pressure Range Atmospheric ± 10%
Operating Humidity Range 10% to 95% RH non-condensing

INTRINSIC SAFETY DATA

Maximum at 2000ppm <0.2 mA at 100 ppm
Maximum o/c Voltage <500 mV
Maximum s/c Current <1.0 A

LIFETIME

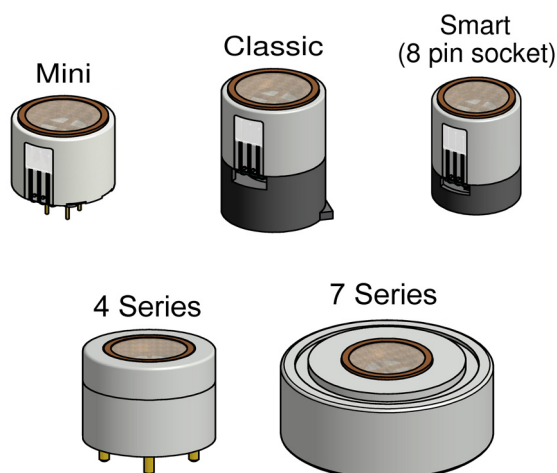
Long Term Output Drift <5% per 6 months
Expected Operating Life 2 years in normal use
Storage Life 3 months in sealed container
Standard Warranty 12 months from date of despatch

Part Numbers

SiH4 3E 50 LT	Part Number
Mini	0941-337-30009
4-Series	0941-337-30049
7-Series	0941-337-30079
Classic	0941-337-30069
Smart	0941-337-30259
Transmitter	0941-337-30659

Orders should be placed through Sensoric Gas Sensors in Bonn.

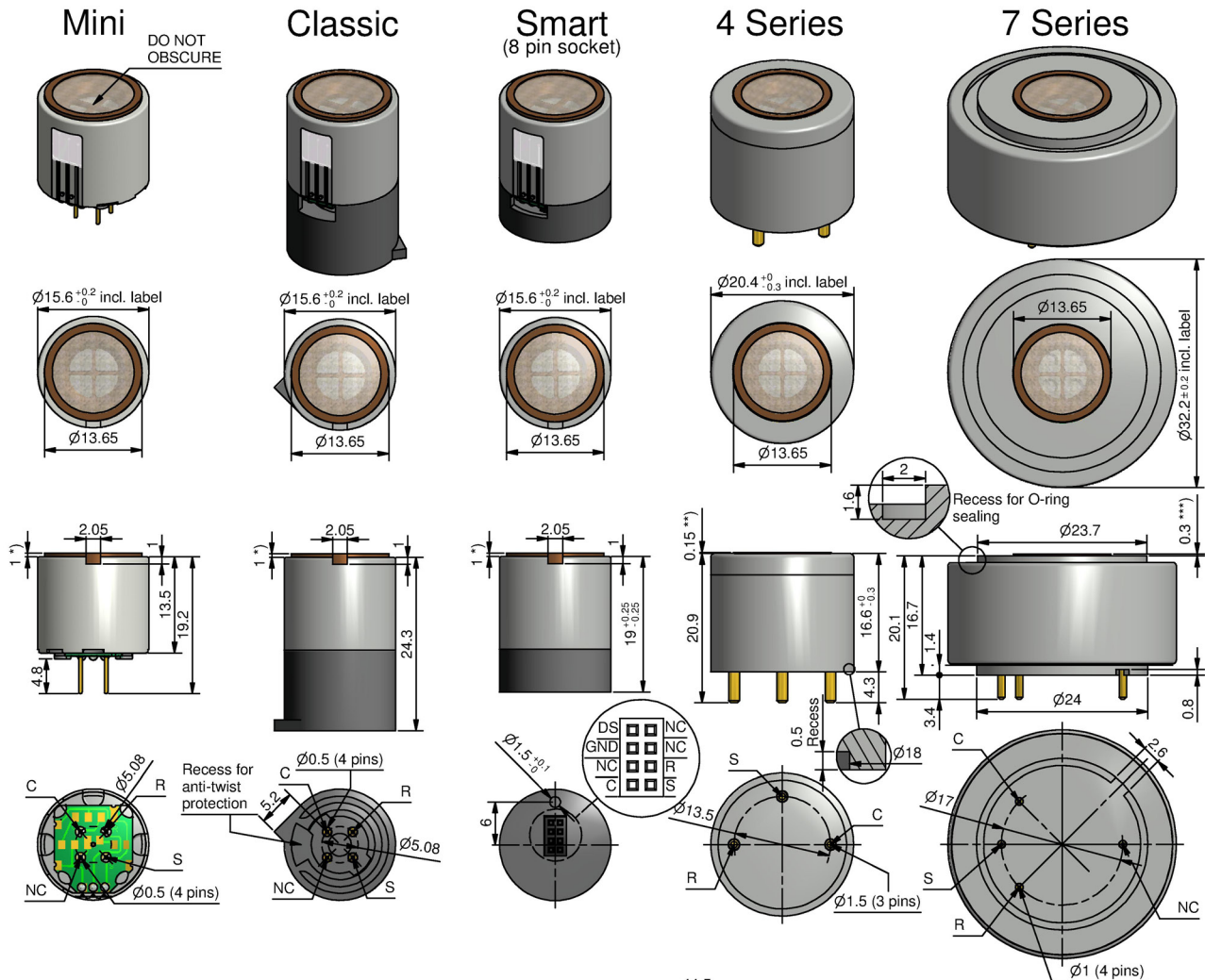
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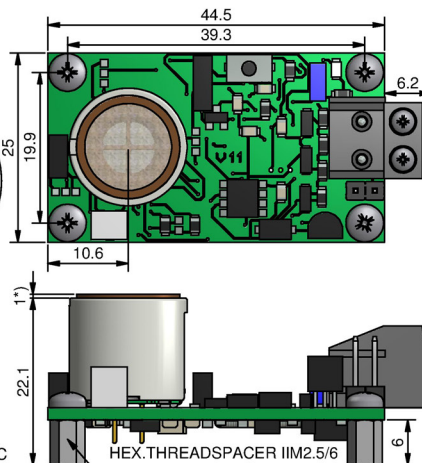
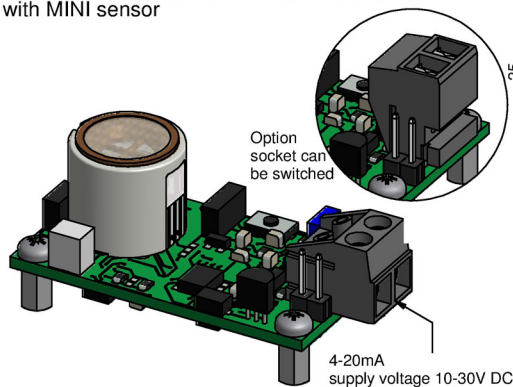
IMPORTANT NOTE: Connection should be made via PCB sockets only. Soldering to pins will render your warranty void.

All performance data is based on conditions at 20°C, 50%RH and ambient pressure using Sensoric recommended circuitry. For information on sensor performance under other conditions, refer to the Operating Principles.

Product Dimensions



4-20mA transmitter board with MINI sensor



Scale for all products 1:1

All dimensions in mm
All tolerances ± 0.15 mm
unless otherwise stated

S Sensing
C Counter
R Reference
NC not connected

Plugs and customized adaptations available on request

Important Note: Connection should be made via PCB sockets only. Soldering to the pins will render your warranty void.

*) Projection 0.6 - 1.25mm depending on gastype
**) Projection up to 0.4mm for 4 Series
***) Projection up to 0.55mm for 7 Series

Poisoning

Sensoric cells are designed for operation in a wide range of environments and harsh conditions. However, it is important that exposure to high concentrations of solvent vapours is avoided, both during storage, fitting into instruments, and operation.

When using sensors with printed circuit boards (PCBs), degreasing agents should be used before the sensor is fitted. Do not glue directly on or near the Sensoric cells as the solvent may cause crazing of the plastic.

Cross Sensitivity Table

Whilst Sensoric cells are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react.

Gas	Concentration Used (ppm)	Reading (ppm SiH ₄)
Arsine, AsH ₃	0.16	0.2
Carbon Dioxide, CO ₂	5000	0
Carbon Monoxide, CO	85	0
Chlorine, Cl ₂	0.85	-0.1
Diborane, B ₂ H ₆	0.2	0.27
Hydrocarbons, CH ₄	18000	0
Hydrogen, H ₂	3100	0
Hydrogen Chloride, HCl	8	0.45
Hydrogen Cyanide, HCN	12	0.77
Hydrogen Fluoride, HF	7.2	0
Hydrogen Selenide, H ₂ Se	0.8	0.2
Hydrogen Sulfide, H ₂ S	18	8
Nitrogen Dioxide, NO ₂	10	-2.3
Phosphine, PH ₃	0.2	0.35
Propan-2-ol, C ₃ H ₅ OH	25000	0
Sulfur Dioxide, SO ₂	18	7.4

The cross-sensitivity values quoted are based on tests conducted on a small number of sensors. They are intended to indicate sensor response to gases other than the target gas. Sensors may behave differently with changes in ambient conditions and any batch may show significant variation from the values quoted.

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.

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Performance characteristics on this data sheet outline the performance of newly supplied sensors. Output signal can drift below the lower limit over time.