

## Key Features & Benefits:

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

## Technical Specifications

### MEASUREMENT

<b>Operating Principle</b>	3-electrode electrochemical
<b>Measurement Range</b>	0-50 ppm SiH <sub>4</sub>
<b>Maximum Overload</b>	50 ppm
<b>Lower Detection Limit</b>	< 1 ppm when using recommended electronics
<b>Filter</b>	None
<b>Sensitivity</b>	130 ± 70 nA/ppm
<b>Response Time (T<sub>90</sub>)</b>	< 60 Seconds
<b>Baseline Offset (clean air)</b>	< ±25 nA
<b>Zero Shift (-40°C to +50°C)</b>	< ±300 ppb
<b>Repeatability</b>	< 2 % of signal
<b>Linearity</b>	<10% of full scale

### ELECTRICAL

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

### MECHANICAL

<b>Housing Material</b>	PPO Noryl
<b>Weight</b>	4.5 g
<b>Orientation</b>	Any

### ENVIRONMENTAL

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

### INTRINSIC SAFETY DATA

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

### LIFETIME

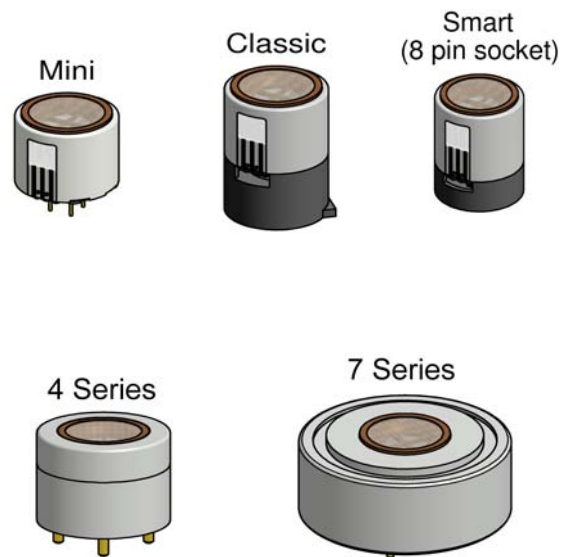
<b>Long Term Output Drift</b>	< 5% per 6 months
<b>Expected Operating Life</b>	2 years in normal use
<b>Storage Life</b>	3 months in sealed container
<b>Standard Warranty</b>	12 months from date of despatch

## Part Numbers

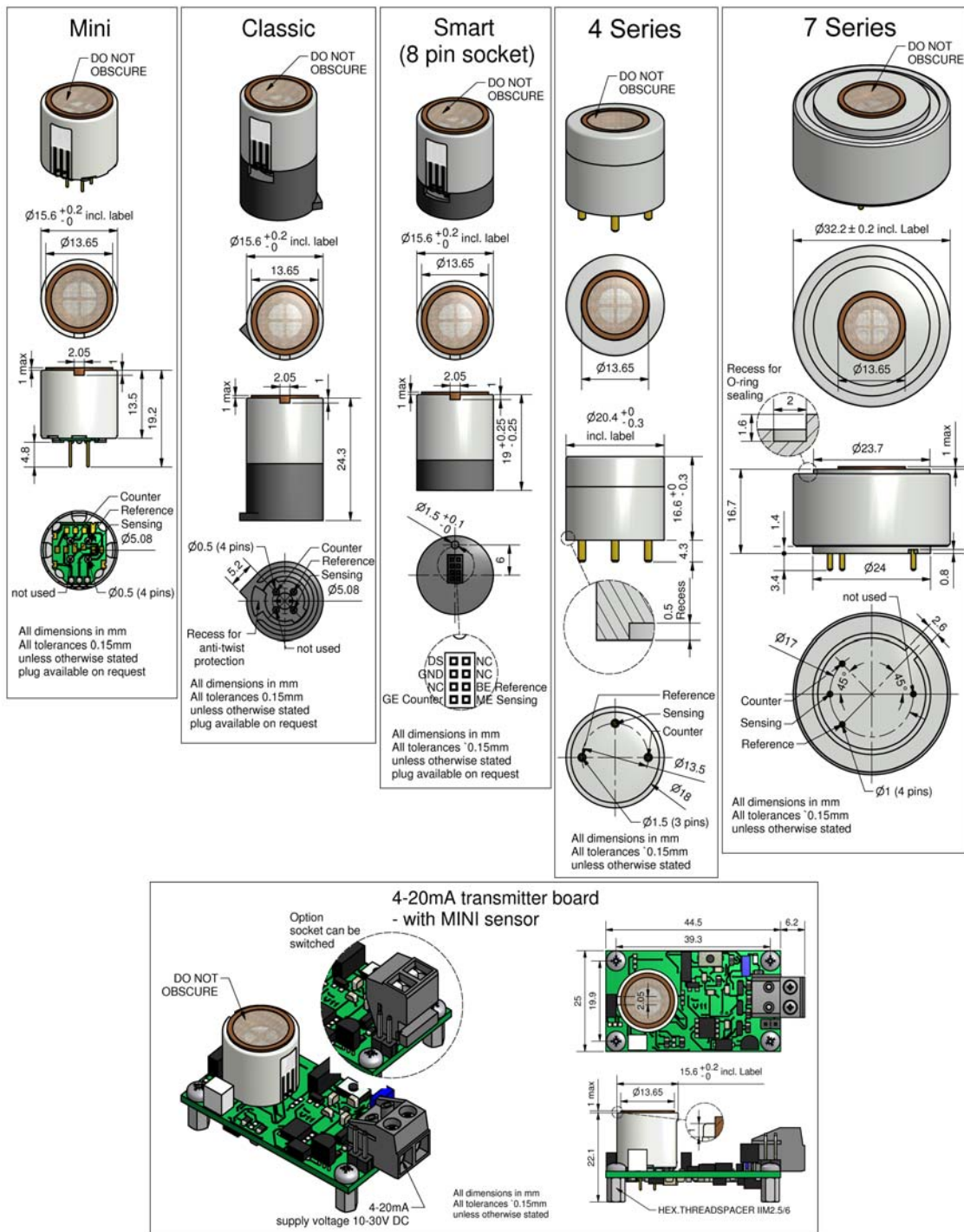
SiH <sub>4</sub> 3E 50 LT	Part Number
Mini	0941-337-30009
4-Series	0941-337-30049
7-Series	0941-337-30079
Classic-Series	0941-337-30069
Smart	0941-337-30259
Transmitter	0941-337-30659

Orders should be placed through Sensoric Gas Sensors in Bonn.

## Available in:



## Product Dimensions



**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 sensor performance data under other conditions, refer to the Characterisation Note and Operating Principles.

## 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 <sub>4</sub> )
Carbon Monoxide	85	0
Hydrogen, H <sub>2</sub>	3,100	0
Nitrogen Dioxide, NO <sub>2</sub>	10	2.3
Propan-2-ol, C <sub>3</sub> H <sub>5</sub> OH	25,000	0
Hydrogen Sulfide, H <sub>2</sub> S	18	8
Sulfur Dioxide, SO <sub>2</sub>	18	7.4
Chlorine Cl <sub>2</sub>	0.85	0.1
Hydrogenchloride HCl	8	0.45
Hydrogenfluoride HF	7.2	0
Hydrogencyanide HCN	12	0.77
Arsine, AsH <sub>3</sub>	0.16	0.2
Hydrogen Selenide, H <sub>2</sub> Se	0.8	0.2
Diborane, B <sub>2</sub> H <sub>6</sub>	0.2	0.27
Phosphine, PH <sub>3</sub>	0.2	0.35

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.

**WARNING:** By the nature of the technology used, any electrochemical or catalytic bead sensor can potentially fail to meet specification without warning. Although City Technology makes every effort to ensure the reliability of our products of this type, where life safety is a performance requirement of the product, and where practical we recommend that all sensors and instruments using these sensors are checked for response to gas before use.

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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.