

**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>	0-1 ppm B <sub>2</sub> H <sub>6</sub>
<b>Maximum Overload</b>	10 ppm B <sub>2</sub> H <sub>6</sub>
<b>Lower Detection Limit</b>	<30 ppb when using recommended electronics
<b>Filter</b>	None
<b>Sensitivity</b>	2200 ± 500 nA/ppm
<b>Response Time (T<sub>90</sub>)</b>	<30 Seconds
<b>Baseline Offset (clean air)</b>	< ±20 nA
<b>Zero Shift (-40°C to +50°C)</b>	< ±60 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 <15 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

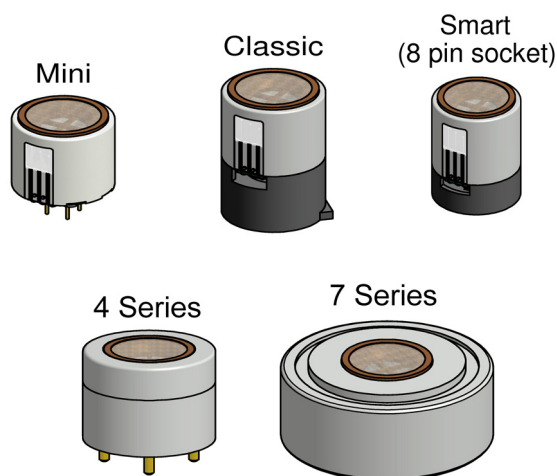
**LIFETIME**

<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>	10 months from date of despatch

**Part Numbers**

B2H6 3E 1 LT	Part Number
Mini	0831-337-30009
4-Series	0831-337-30049
7-Series	0831-337-30079
Classic	0831-337-30069
Smart	0831-337-30259
Transmitter	0831-337-30659

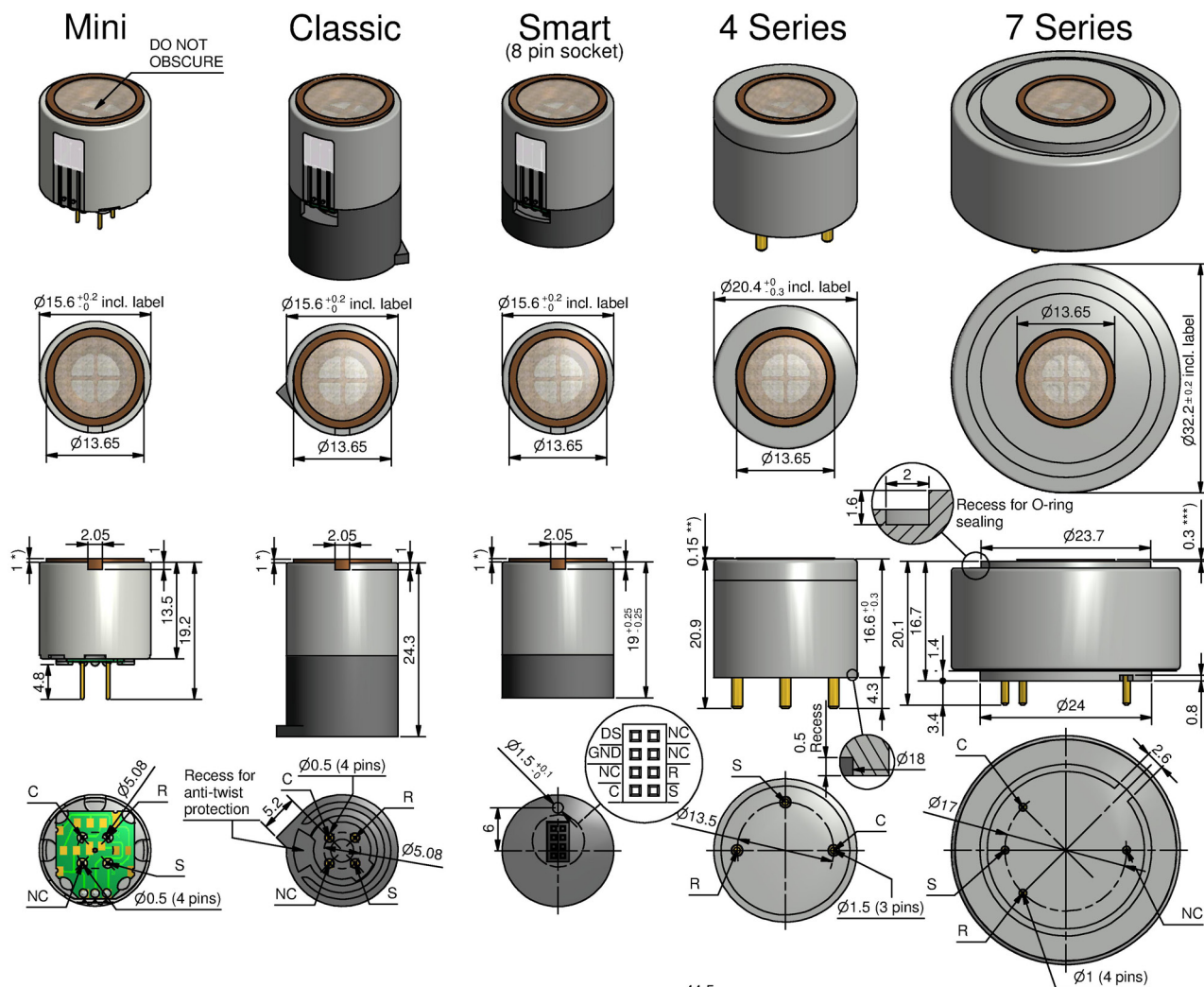
Orders should be placed through Sensoric Gas Sensors in Bonn.

**Available in:**

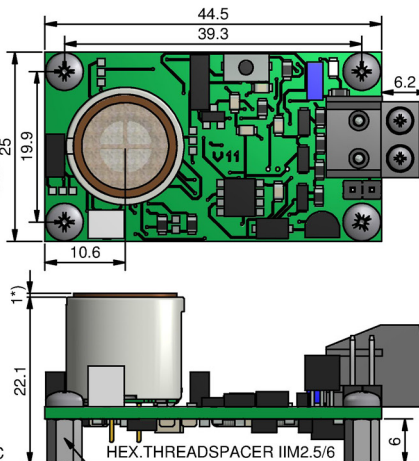
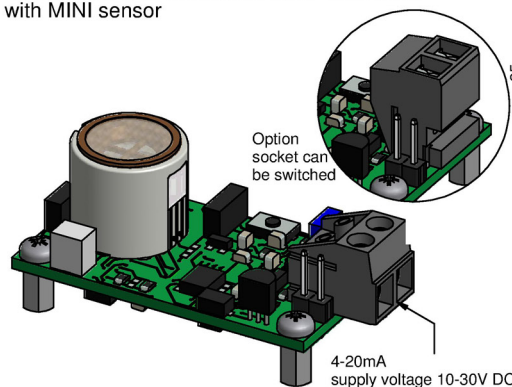
**IMPORTANT NOTE:** Connection should be made via PCB sockets only. Soldering to pins will render your warranty void.

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



Scale for all products 1:1

All dimensions in mm  
All tolerances  $\pm 0.15\text{mm}$   
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 B <sub>2</sub> H <sub>6</sub> )
Ammonia, NH <sub>3</sub>	108	<0.1
Arsine, AsH <sub>3</sub>	0.15	0.1
Carbon Dioxide, CO <sub>2</sub>	5000	0
Carbon Monoxide, CO	85	0
Chlorine, Cl <sub>2</sub>	0.85	-0.15
Hydrocarbons	18000	0
Hydrogen, H <sub>2</sub>	3100	<0.05
Hydrogen Chloride, HCl	6.8	0.45
Hydrogen Cyanide, HCN	12.6	0.5
Hydrogen Fluoride, HF	7.2	0
Hydrogen Selenide, H <sub>2</sub> Se	0.85	0.2
Hydrogen Sulfide, H <sub>2</sub> S	18.1	7.5
Nitrogen Dioxide, NO <sub>2</sub>	10.1	-1.5
Phosphine, PH <sub>3</sub>	0.18	0.18
Propan-2-ol, C <sub>3</sub> H <sub>5</sub> OH	20000	<0.05
Silane, SiH <sub>4</sub>	4.4	0.45
Sulfur Dioxide, SO <sub>2</sub>	17.8	3.3

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.