

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 SiH ₄
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

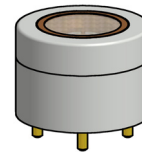
Long Term Output Drift	<5% per 6 months
Expected Operating Life	2 years in normal use
Storage Life	3 months in sealed container
Standard Warranty	12 months from date of despatch

Part Numbers

SiH4 3E 50 LT	Part Number
4-Series	0941-337-30049
Transmitter	0941-337-30659

Available in:

4 Series



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 recommended circuitry. For information on sensor performance under other conditions, refer to the Operating Principles.

Product Data Sheet

Poisoning

Sensors 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 sensors as the solvent may cause crazing of the plastic.

Cross Sensitivity Table

Whilst sensors 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 jeopardise the safety of people and property.

Every effort has been made to ensure the accuracy of this document at the time of printing. In accordance with the company's policy of continued product improvement, the manufacturer reserves the right to make product changes without notice. No liability is accepted for any consequential losses, injury or damage resulting from the use of this document or from any omissions or errors herein. The data is given for guidance only. It does not constitute a specification or an offer for sale. The products are always subject to a programme of improvement and testing which may result in some changes in the characteristics quoted. As the products may be used by the client in circumstances beyond the knowledge and control of the manufacturer, we cannot give any warranty as to the relevance of these particulars to an application. It is the clients' responsibility to carry out the necessary tests to determine the usefulness of the products and to ensure their safety of operation in a particular application.

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