

Hydrogen Cyanide CiTiceL[®] Specification



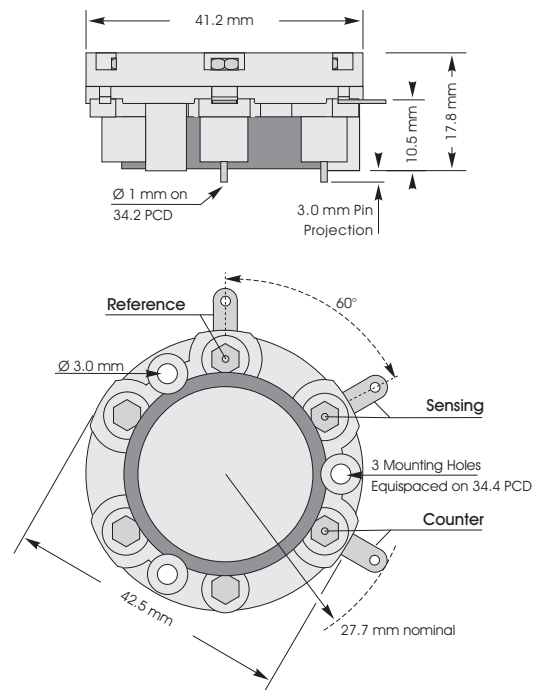
3HCN CiTiceL[®]

Performance Characteristics

Nominal Range	0-100ppm
Maximum Overload	200ppm
Expected Operating Life	Two years in air at STP
Output Signal	0.1 ± 0.02 µA/ppm
Resolution	0.5ppm
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	No data
T₉₀ Response Time	≤200 seconds
Relative Humidity Range	15 to 90% non-condensing
Typical Baseline Range (pure air)	-2.0 to +1.5ppm equivalent
Maximum Zero Shift (+20°C to +40°C)	no data
Long Term Output Drift	<2% signal loss/month
Recommended Load Resistor	10Ω
Bias Voltage	Not required
Repeatability	2% of signal
Output Linearity	Linear

N.B. All performance data is based on conditions at 20°C, 50%RH, and 1013mBar

Outline Dimensions



All tolerances ±0.15mm unless otherwise stated.
Sensor shown with side tags and gold pins.
Do not solder to pin connections

Physical Characteristics

Weight	22g
Position Sensitivity	None
Storage Life	Six months in CTL container
Recommended Storage Temperature	0-20°C
Warranty Period	12 months from date of despatch



Distributed by:

Shawcity Ltd
91-92 Shrivenham Hundred Business Park
Watchfield, Oxfordshire, SN6 8TY
Tel: 01793 780622
Email: sensororders@shawcity.co.uk
www.shawcity.co.uk



Temperature Dependence

The output of a CiTiceL can vary with temperature. A programme of data acquisition is currently underway at City Technology to establish a statistically based relationship for 3HCN sensors. For applications where accurate data is required please contact City Technology.

Cross-sensitivity Data

CiTiceLs may exhibit a response to certain gases in a sample other than the target gas. 3HCN CiTiceLs have been tested with a number of commonly cross-interfering gases and the results are given below. The table shows the typical response to be expected from a sensor when exposed to a given test gas concentration (relevant to safety, e.g. TLV levels).

<u>Gas</u>	<u>Conc.</u>	<u>3HCN</u>	<u>Gas</u>	<u>Conc.</u>	<u>3HCN</u>
Carbon monoxide:	300ppm	$15 \leq x\% \leq 60\text{ppm}$	Chlorine:	1ppm	$\approx 0.5\text{ppm}$
Hydrogen sulphide:	15ppm	See note below	Hydrogen:	200ppm	0ppm
Sulphur dioxide:	5ppm	$5.5 \leq x\% \leq 17.5\text{ppm}$	Hydrogen chloride:	5ppm	n/d
Nitric oxide:	35ppm	$-14 \leq x\% \leq -3.5\text{ppm}$	Ethylene:	100ppm	$20 \leq x\% \leq 70\text{ppm}$
Nitrogen dioxide:	5ppm	$-17.5 \leq x\% \leq -10\text{ppm}$	**For details of other possible cross-interfering gases contact City Technology.**		

n/d: No data yet, under investigation

Note: Due to a very high cross-sensitivity ($\approx 350\%$), this sensor is unsuitable for use in atmospheres which contain hydrogen sulphide.

Ordering Information

The 3HCN Hydrogen Cyanide CiTiceL is available with side tags, gold-plated PCB pins, or both PCB pins and side tags. To ensure the appropriate option is supplied care must be taken to provide the correct code when ordering.

Type 3HCN:- With side tag and PCB pin connections - **3HCN**
 With side tag connection - **3HCN(S)**
 With gold-plated PCB pin connection - **3HCN(G)**

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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.