



3CLH CiTiceL[®]

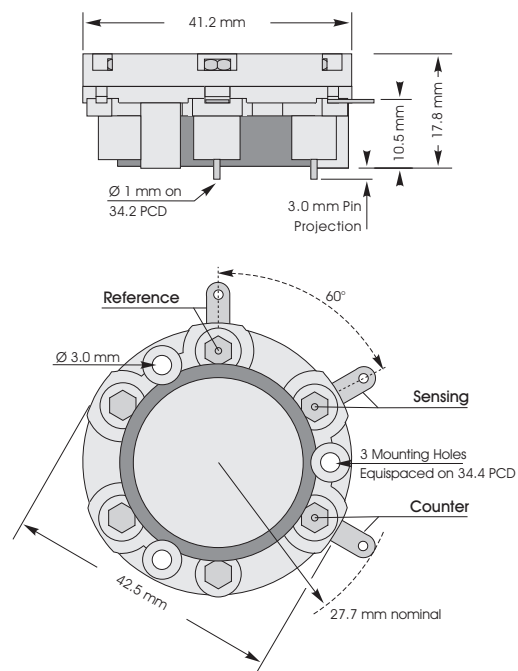
Performance Characteristics

Nominal Range	0-20ppm
Maximum Overload	250ppm
Expected Operating Life	Two years in air
Output Signal	1.0 ± 0.25 µA/ppm
Resolution	0.1ppm
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	No data
T₈₀ * Response Time	≤60 seconds
Relative Humidity Range	15 to 90% non-condensing
Typical Baseline Rang (pure air)	0 to +0.5ppm equivalent
Maximum Zero Shift (+20°C to +40°C)	-0.2ppm equivalent
Long Term Output Drift	<2% signal loss/month
Recommended Load Resistor	33Ω
Bias Voltage	Not required
Repeatability	2% of signal
Output Linearity	Linear

*T₈₀ : Time taken for signal to reach 80% of final signal.

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

Outline Dimensions

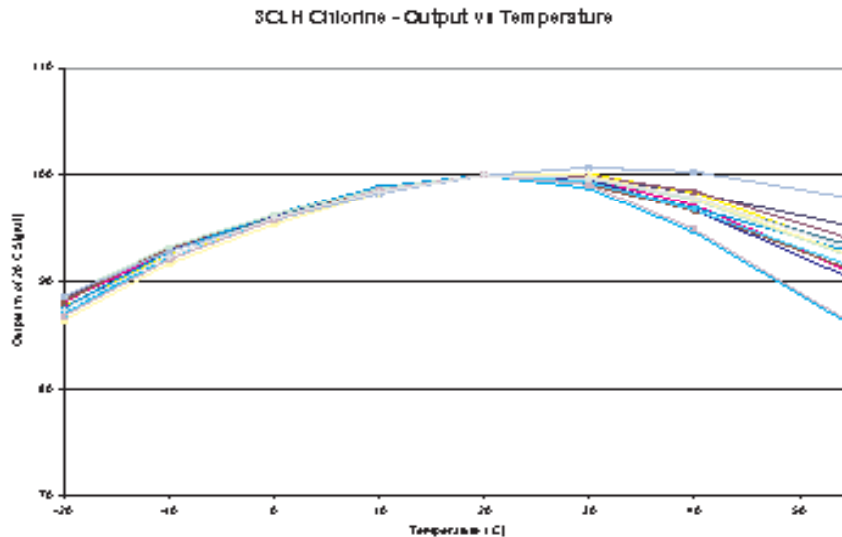


All tolerances ±0.15mm unless otherwise stated.
Sensor shown with side tags and gold pins.
Do not solder to pin connections

Physical Characteristics

Colour of Ring	Brown
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

Chlorine CiTiceL® Specification



Ordering Information

The 3CLH Chlorine 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 3CLH:-** With side tag and PCB pin connections - **3CLH**
 With side tag connection - **3CLH(S)**
 With gold-plated PCB pin connection - **3CLH(G)**

Cross-sensitivity Data

CiTiceLs may exhibit a response to certain gases in a sample other than the target gas. 3CLH 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).

Gas	Conc.	3CLH	Gas	Conc.	3CLH
Carbon monoxide:	300ppm	0ppm	Hydrogen:	100ppm	0ppm
Hydrogen sulphide:	15ppm	≈-1.5ppm	Hydrogen cyanide:	10ppm	0ppm
Sulphur dioxide:	10ppm	-0.1<x\$<0ppm	Hydrogen chloride:	5ppm	0ppm
Nitric oxide:	35ppm	0ppm	Ethylene:	100ppm	0ppm
Nitrogen dioxide:	5ppm	≈5ppm			

For details of other possible cross-interfering gases contact City Technology.

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.

Key Features & Benefits:

- Robust 3-Series packaging
- Factory calibrated mV output

Technical Specifications

MEASUREMENT

Sensor Type Used	3CLH
Maximum Range	100 ppm NO ₂
Sensitivity	
Standard	1 mV/ppm ± 5%
High	10 mV/ppm ± 5%
Filter	None
Baseline Offset (Clean Air)	±1 mV
Response Time (T₉₀)	<60 Seconds at 20°C
Resolution	0.1 ppm
Zero Shift (-20°C to +40°C)	< -0.5 ppm equivalent
Repeatability	2% of signal
Linearity	Linear

ELECTRICAL

Power Supply Required	7 to 18 VDC single-ended or ±3.5 to ±9 VDC dual
Power Consumption	250 µA @ 9 VDC
Calibration	Via built-in span and zero potentiometers (Refer to OP14)

MECHANICAL

Weight	38 g (with connector)
Body Material	Polycarbonate
Position Sensitivity	None

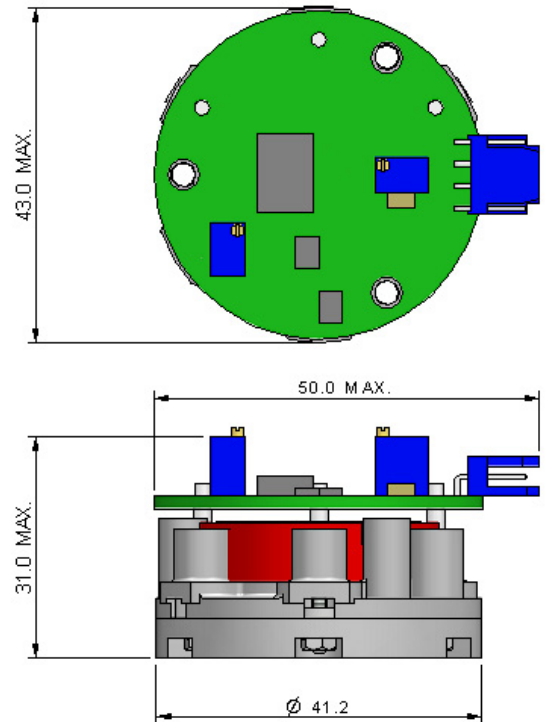
ENVIRONMENTAL

Operating Temperature Range	-20°C to +50°C
Recommended Storage Temp	0°C to 20°C
Temperature Compensation	None
Operating Pressure Range	Atmospheric ± 10%
Operating Humidity Range	15 to 90% RH non-condensing

LIFETIME

Long Term Sensitivity Drift	<2% signal loss/month
Expected Operating Life	Two years in air
Storage Life	6 months in CTL container
Standard Warranty	12 months from date of despatch

Product Dimensions



All dimensions in mm

All tolerances ±0.15 mm unless otherwise stated

IMPORTANT NOTE:

All performance data is based on conditions at 20°C, 50% RH and 1013 mBar. For further information on the operation and calibration of City Technology mV output sensors, please refer to OP14.

RANGES AVAILABLE

3MCLH is available with the following precalibrated sensitivities.

Sensitivity	Order Code
1 mV/ppm	MHH60-014
10 mV/ppm	MHH60-024

Poisoning

CiTiceLs 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 CiTiceL as the solvent may cause crazing of the plastic.

Cross Sensitivity Table

Whilst CiTiceLs are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other gases. The table below is not exclusive and other gases not included in the table may still cause a sensor to react. The figures are expressed as a percentage of the primary sensitivity (i.e. $Cl_2 = 100\%$).

Gas	Concentration Used (ppm)	3MCLH (%)
Carbon Monoxide, CO	300	0
Hydrogen Sulfide, H ₂ S	15	~ -10
Sulfur Dioxide, SO ₂	5	0
Nitric Oxide, NO	35	0
Nitrogen Dioxide, NO ₂	5	~ 100
Hydrogen, H ₂	100	0
Hydrogen Cyanide, HCN	10	0
Hydrogen Chloride, HCl	5	0
Ethylene, C ₂ H ₄	100	0

SAFETY NOTE

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4CL CiTiceL[®]

Performance Characteristics

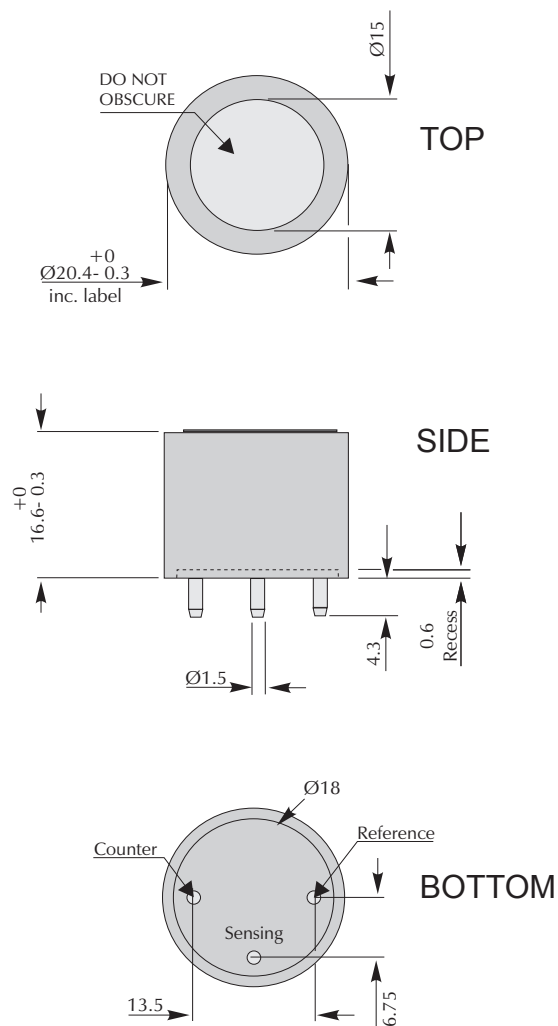
Nominal Range	0-10 ppm
Maximum Overload	100 ppm
Expected Operating Life	Two years in air
Output Signal	0.6 ± 0.15 µA/ppm
Resolution	0.1 ppm
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
T₈₀* Response Time	<60 seconds
Relative Humidity Range	15 to 90% non-condensing
Typical Baseline Range (pure air)	-0.2 to +0.2 ppm equivalent
Maximum Zero Shift (+20°C to +40°C)	<0.2 ppm equivalent
Long Term Output Drift	<2% signal loss/month
Recommended Load Resistor	33 Ω
Bias Voltage	Not required
Repeatability	2% of signal
Output Linearity	Linear

*T₈₀ : Time taken for signal to reach 80% of final signal.
 N.B. All performance data is based on conditions at 20°C, 50%RH, and 1013 mBar

Physical Characteristics

Weight	5g (approx.)
Position Sensitivity	None
Storage Life	Six months in CTL container
Recommended Storage Temperature	0-20°C
Warranty Period	12 months from date of despatch

Outline Dimensions



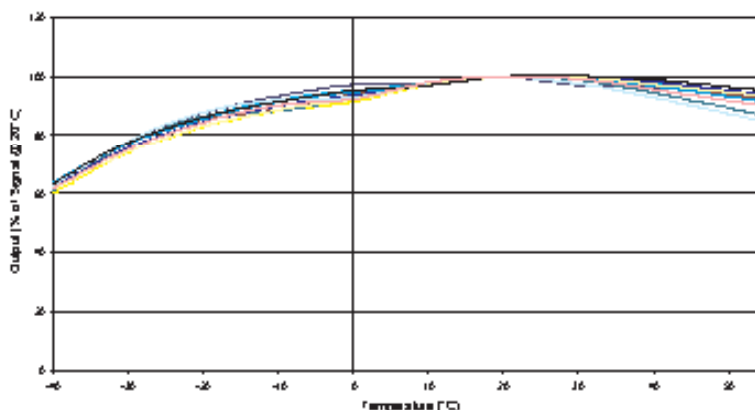
All dimensions in mm
 All tolerances ±0.15 mm unless otherwise stated

IMPORTANT NOTE: Connection should be made via PCB sockets only. Soldering to the pins will seriously damage your sensor.

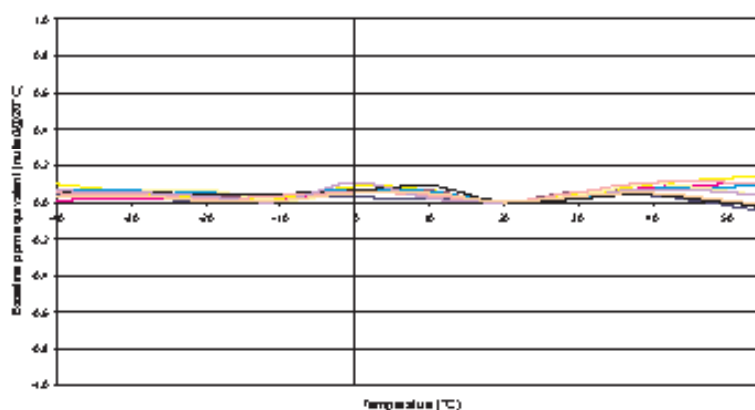
Chlorine CiTiceL® Specification



4CL Chlorine CiTiceL - Output vs Temperature



4CL Chlorine CiTiceL - Baseline vs Temperature



Cross-sensitivity Data

CiTiceLs may exhibit a response to certain gases in a sample other than the target gas. 4CL 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).

Gas	Conc.	4CL	Gas	Conc.	4CL
Carbon monoxide:	300ppm	0ppm	Sulphur dioxide:	5ppm	0ppm
Hydrogen sulphide	15ppm	-7.5 ≤ x ≤ 0ppm	Nitric oxide:	35ppm	0ppm

For details of other possible cross-interfering gases contact City Technology.

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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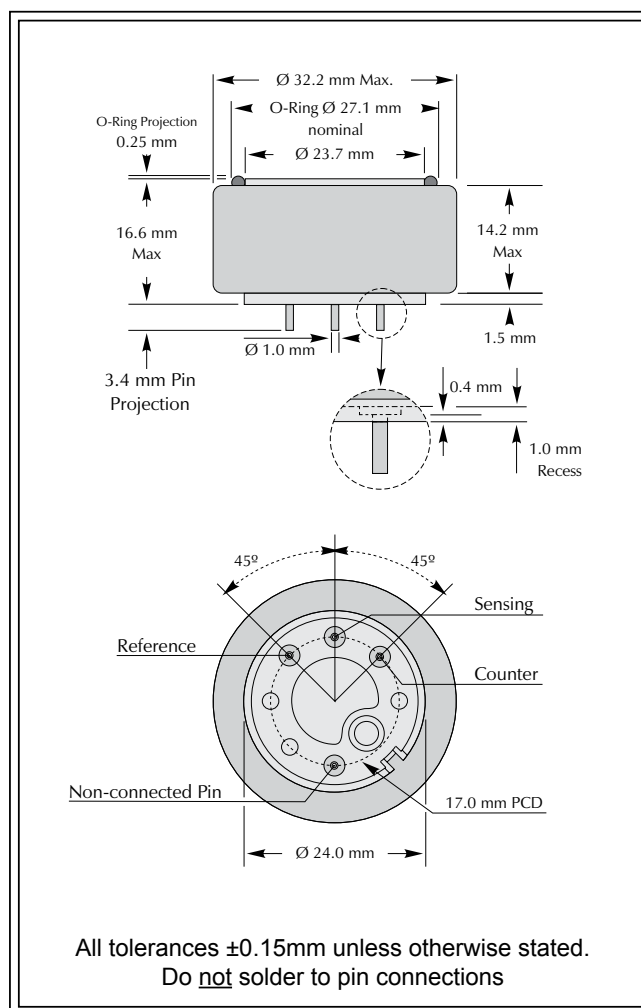


7CLH CiTiceL[®]

Performance Characteristics

Nominal Range	0-20ppm
Maximum Overload	250ppm
Expected Operating Life	Two years in air
Output Signal	1.0 ± 0.25 µA/ppm
Resolution	0.1ppm
Temperature Range	-20°C to +50°C
Pressure Range	Atmospheric ± 10%
Pressure Coefficient	No data
T₈₀* Response Time	<60 seconds
Relative Humidity Range	15 to 90% non-condensing
Typical Baseline Range (pure air)	0 to +0.5ppm equivalent
Maximum Zero Shift (+20°C to +40°C)	-0.2ppm equivalent
Long Term Output Drift	<2% signal loss/month
Recommended Load Resistor	33Ω
Bias Voltage	Not required
Repeatability	2% of signal
Output Linearity	Linear

*T₈₀ Time taken for signal to reach 80% of final signal.
 N.B. All performance data is based on conditions at 20°C, 50%RH, and 1013mBar



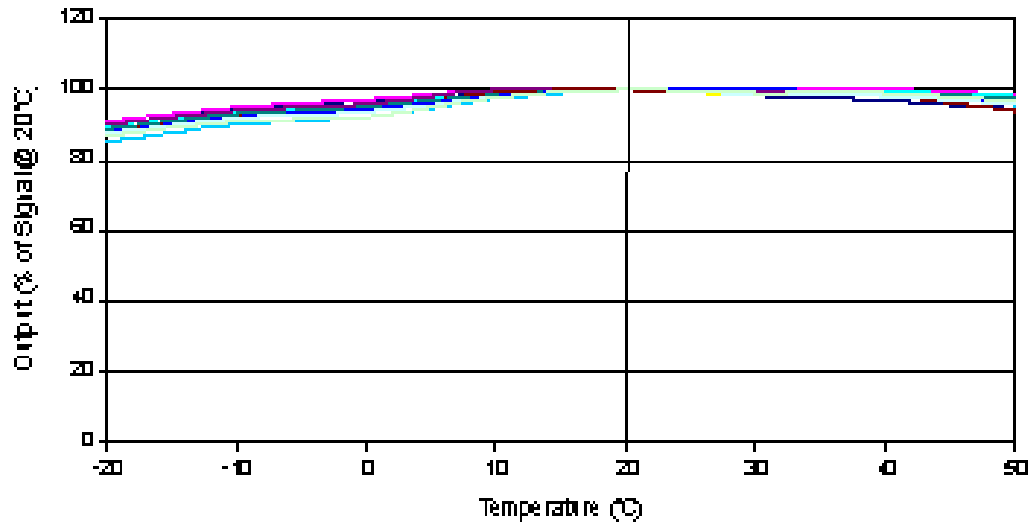
Physical Characteristics

Weight	17g
Position Sensitivity	None
Storage Life	Six months in CTL container
Recommended Storage Temperature	0-20°C
Warranty Period	12 months from date of despatch

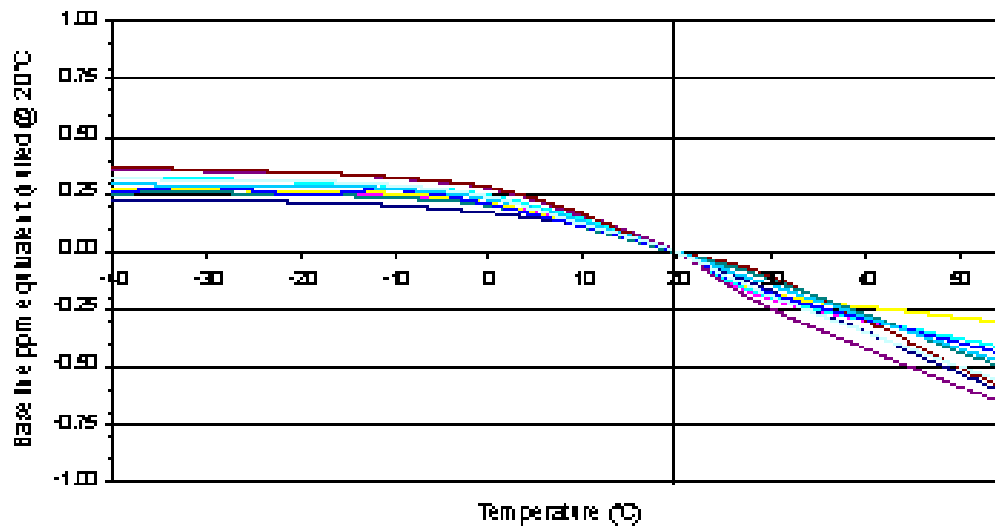
IMPORTANT NOTE: Connection should be made via PCB sockets only. Soldering to the pins will render your warranty void.



7CLH Chlorine CiTiceL - Output vs Temperature



7CLH Chlorine CiTiceL - Baseline vs Temperature





Cross-sensitivity Data

CiTiceLs may exhibit a response to certain gases in a sample other than the target gas. 7CLH 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).

Gas	Conc.	7CLH	Gas	Conc.	7CLH
Carbon monoxide:	300ppm	0ppm	Hydrogen:	100ppm	0ppm
Hydrogen sulphide:	15ppm	-3.8<x\$<0ppm	Hydrogen cyanide:	10ppm	0ppm
Sulphur dioxide:	5ppm	-0.05ppm	Hydrogen chloride:	5ppm	0ppm
Nitric oxide:	35ppm	0ppm	Ethylene:	100ppm	0ppm
Nitrogen dioxide:	5ppm	≈5ppm	**For details of other possible cross-interfering gases contact City Technology.**		

SAFETY NOTE

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Key Features & Benefits:

- Robust 3-Series packaging
- Industry standard 4-20 mA output

Technical Specifications

MEASUREMENT

Sensor Type Used	3CLH
Filter	None
Output	4-20 mA d.c., two wire loop powered
Response Time (T₉₀)	<60 Seconds at 20°C
Resolution	0.1 ppm
Zero Shift (-20°C to +40°C)	< -0.2 ppm equivalent
Repeatability	2% of signal
Linearity	Linear

ELECTRICAL

Power Supply Required	10 - 35 VDC single-ended
Calibration	Via built-in push buttons

MECHANICAL

Mounting	Via mounting nose supplied
Weight	58 g including mounting accessory
Position Sensitivity	None

ENVIRONMENTAL

Operating Temperature Range	-20°C to +50°C
Recommended Storage Temp	0°C to 20°C
Temperature Compensation	None
Operating Pressure Range	Atmospheric ± 10%
Pressure Coefficient	No data
Operating Humidity Range	15 - 90% RH non-condensing

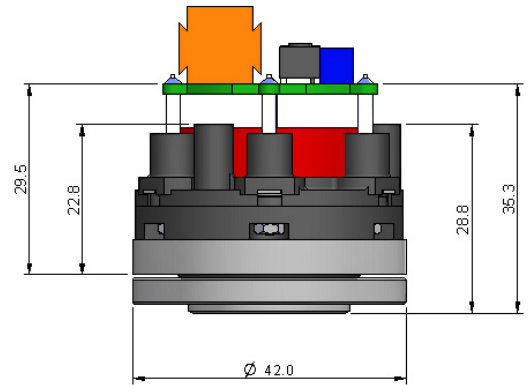
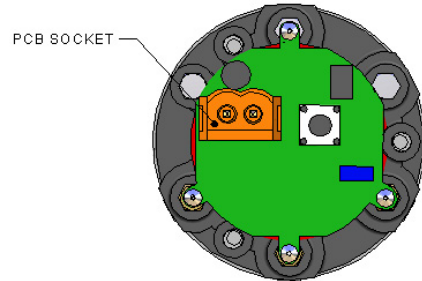
LIFETIME

Long Term Sensitivity Drift	<2% signal loss/month
Expected Operating Life	Two years in air
Storage Life	6 months in CTL container
Standard Warranty	12 months from date of despatch

IMPORTANT NOTE:

All performance data is based on conditions at 20°C, 50% RH and 1013 mBar. For further information on the operation and calibration of City Technology EasyCal 4-20mA transmitters, please refer to OP-13.

Product Dimensions



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

RANGES AVAILABLE

3CLH CiTiceL 4-20 mA EasyCal Transmitters are available with the following precalibrated ranges, and can be recalibrated to intermediate ranges.

Range	Order Code
0-10 ppm	2TH3B-1A
0-20 ppm	2TH3C-1A
0-30 ppm	2TH3D-1A
0-50 ppm	2TH3E-1A
0-100 ppm	2TH3F-1A

Poisoning

CiTiceLs 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 CiTiceL as the solvent may cause crazing of the plastic.

Cross Sensitivity Table

Whilst CiTiceLs are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other 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)	3CLH (ppm Cl₂)
Carbon Monoxide, CO	300	0
Hydrogen Sulfide, H ₂ S	15	≈ -1.5
Sulfur Dioxide, SO ₂	5	0
Nitric Oxide, NO	35	0
Nitrogen Dioxide, NO ₂	5	≈ 5
Hydrogen, H ₂	100	0
Hydrogen Cyanide, HCN	10	0
Hydrogen Chloride, HCl	5	0
Ethylene, C ₂ H ₄	100	0

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

Key Features & Benefits:

- Robust 3-Series packaging
- Industry standard 4-20 mA output

Technical Specifications

MEASUREMENT

Sensor Type Used	3CLH
Filter	None
Output	4-20 mA d.c.
Response Time (T₈₀)	<60 Seconds at 20°C
Resolution	0.1 ppm
Zero Shift (-20°C to +40°C)	< -0.2 ppm equivalent
Repeatability	2% of signal
Linearity	Linear

ELECTRICAL

Power Supply Required	10 - 35 VDC single-ended
Output Impedance	4 MΩ
Calibration	Via built-in span and zero potentiometers

MECHANICAL

Mounting	Via mounting nose supplied
Weight	58 g including mounting accessory
Position Sensitivity	None

ENVIRONMENTAL

Operating Temperature Range	-20°C to +50°C
Recommended Storage Temp	0°C to 20°C
Temperature Compensation	None
Operating Pressure Range	Atmospheric ± 10%
Pressure Coefficient	No data
Operating Humidity Range	15 - 90% RH non-condensing

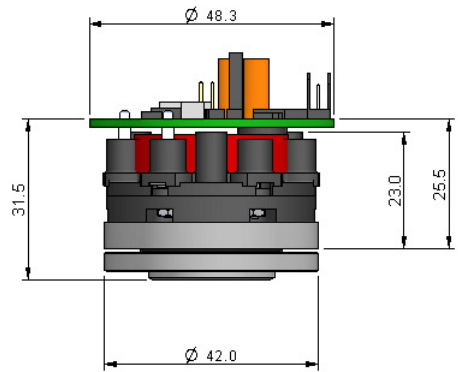
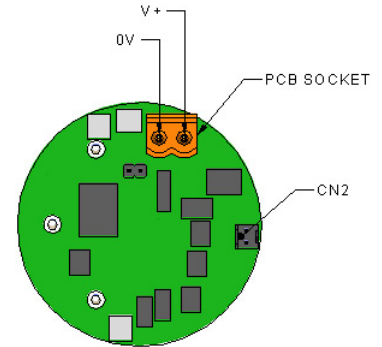
LIFETIME

Long Term Sensitivity Drift	<2% signal loss/month
Expected Operating Life	Two years in air
Storage Life	6 months in CTL container
Standard Warranty	12 months from date of despatch

IMPORTANT NOTE:

All performance data is based on conditions at 20°C, 50% RH and 1013 mBar. For further information on the operation and calibration of City Technology 4-20mA transmitters, please refer to OP-12.

Product Dimensions



All dimensions in mm

All tolerances ±0.15 mm unless otherwise stated

RANGES AVAILABLE

3CLH CiTiceL 4-20 mA Transmitters are available with the following precalibrated ranges, and can be recalibrated to intermediate ranges.

Range	Order Code
0-5 ppm	TH3A-1A
0-10 ppm	TH3B-1A
0-20 ppm	TH3C-1A
0-30 ppm	TH3D-1A
0-50 ppm	TH3E-1A
0-100 ppm	TH3F-1A
0-200 ppm	TH3G-1A

Poisoning

CiTiceLs 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 CiTiceL as the solvent may cause crazing of the plastic.

Cross Sensitivity Table

Whilst CiTiceLs are designed to be highly specific to the gas they are intended to measure, they will still respond to some degree to various other 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)	3CLH (ppm Cl₂)
Carbon Monoxide, CO	300	0
Hydrogen Sulfide, H ₂ S	15	≈ -1.5
Sulfur Dioxide, SO ₂	5	0
Nitric Oxide, NO	35	0
Nitrogen Dioxide, NO ₂	5	≈ 5
Hydrogen, H ₂	100	0
Hydrogen Cyanide, HCN	10	0
Hydrogen Chloride, HCl	5	0
Ethylene, C ₂ H ₄	100	0

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

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氯气传感器 0-10 ppm

性能表征

产品型号	CLE-0911-400
量程	0-10 ppm
最大荷载	50 ppm
灵敏度	0.75± 0.15 μ A/ppm
基线 (20 °C)	< ±0.1 μ A
基线漂移 (-20 ~ 40 °C):	相当于 0 ~ -0.3 ppm
分辨率:	0.1 ppm
响应时间 (t90)	≤30 秒
线性度	线性
长期稳定性	<2% 信号值/月

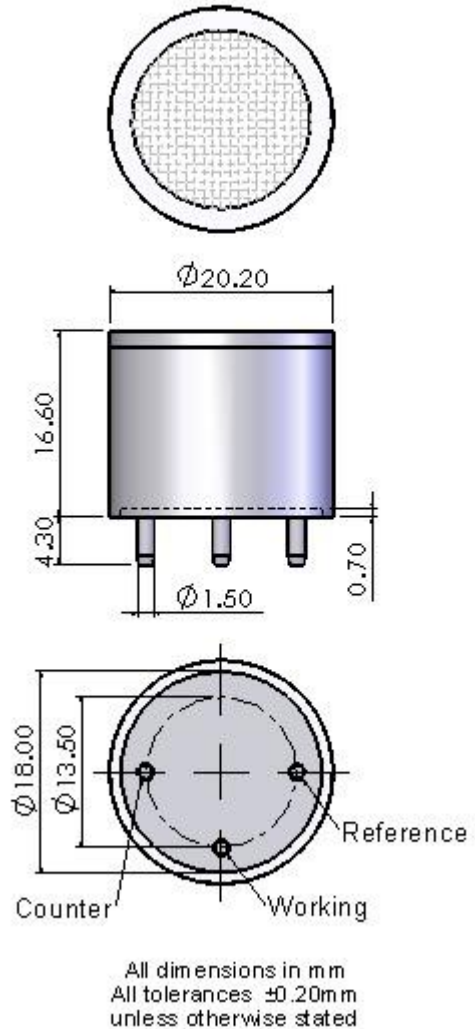
工作条件

工作温度	-20°C to 50°C
工作湿度	15 ~ 90%RH (无冷凝)
工作压力	90 to 110 kPa
偏压	0 mV
储存时间	6 个月 (专用包装盒中)
储存温度	0 °C to 20°C
使用寿命	空气中 2 年
质保期	交货后 12 个月

物理性能

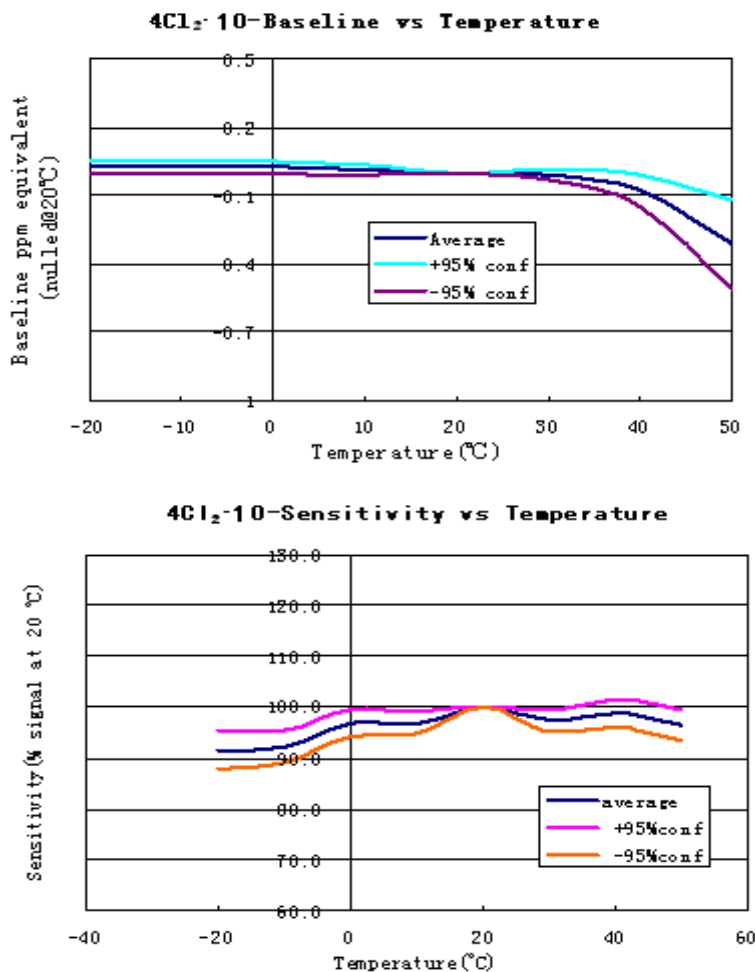
重量	约 5 克
方位要求	无

Outline Dimensions



Note: 推荐使用 PCB 插座来连接传感器，焊接会损害传感器。

温度影响



交叉灵敏度

气体	浓度 (ppm)	输出信号 (相当于 ppm Cl ₂)
硫化氢	20	-4
一氧化碳	100	0
二氧化硫	20	0
一氧化氮	35	0
二氧化氮	10	12
氢气	3000	0
氨气	100	0
二氧化碳	10000	0
二氧化氯	1	3.5

使用须知

1. 以上所有性能规格都是在环境条件：温度 20 °C, 相对湿度 50% RH, 一个大气压 (100 kPa 或环境压力) 下测得。
2. 推荐用目标气体进行标定。如果用交叉敏感气体进行标定, 我们不保证其标定和测量的准确度。
3. 交叉灵敏度会有 +/- 30% 的浮动, 并且可能随着传感器的生产批次不同和传感器的寿命而变化。
4. 上述交叉灵敏度包括但不限于上述气体, 该传感器有可能对其他气体有响应。

氯气传感器 0-50 ppm

性能表征

产品型号	CLE-0951-400
量程	0 to 50 ppm
最大荷载	100 ppm
灵敏度	$0.45 \pm 0.20 \mu\text{A/ppm}$
基线 (20 °C)	$< \pm 0.1 \mu\text{A}$
基线漂移 (-20 to 40 °C)	相当于 0 to -0.3 ppm
分辨率	0.1 ppm
响应时间(T90)	≤ 30 秒
线性度	线性
长期稳定性	$< 2\%$ 信号值 /月

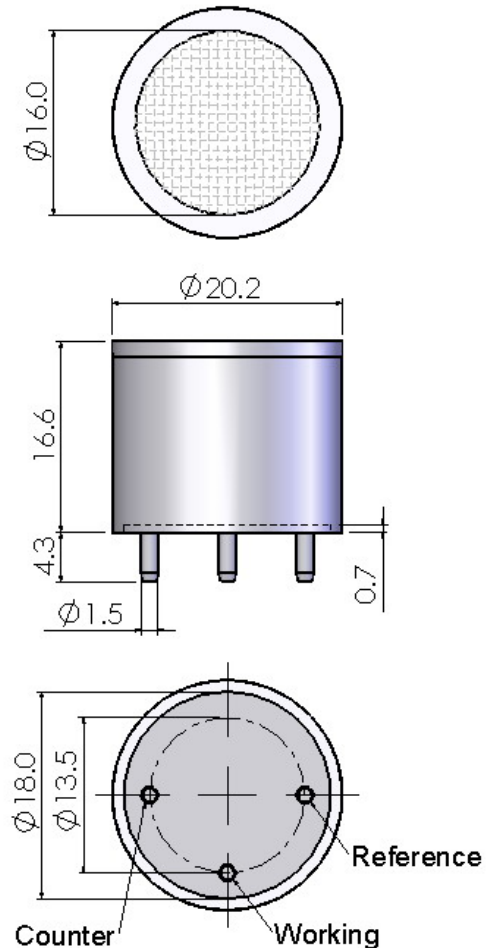
工作条件

工作温度	-20 °C to 50 °C
工作湿度	15 to 90%RH(无冷凝)
工作压力	90 to 110 kPa
偏压	0 mV
储存时间	6 个月 (专用包装盒中)
储存温度	0 °C to 20 °C
使用寿命	空气中 2 年
质保期	交货后 12 个月

物理性能

重量	约 5 克
方位要求	无

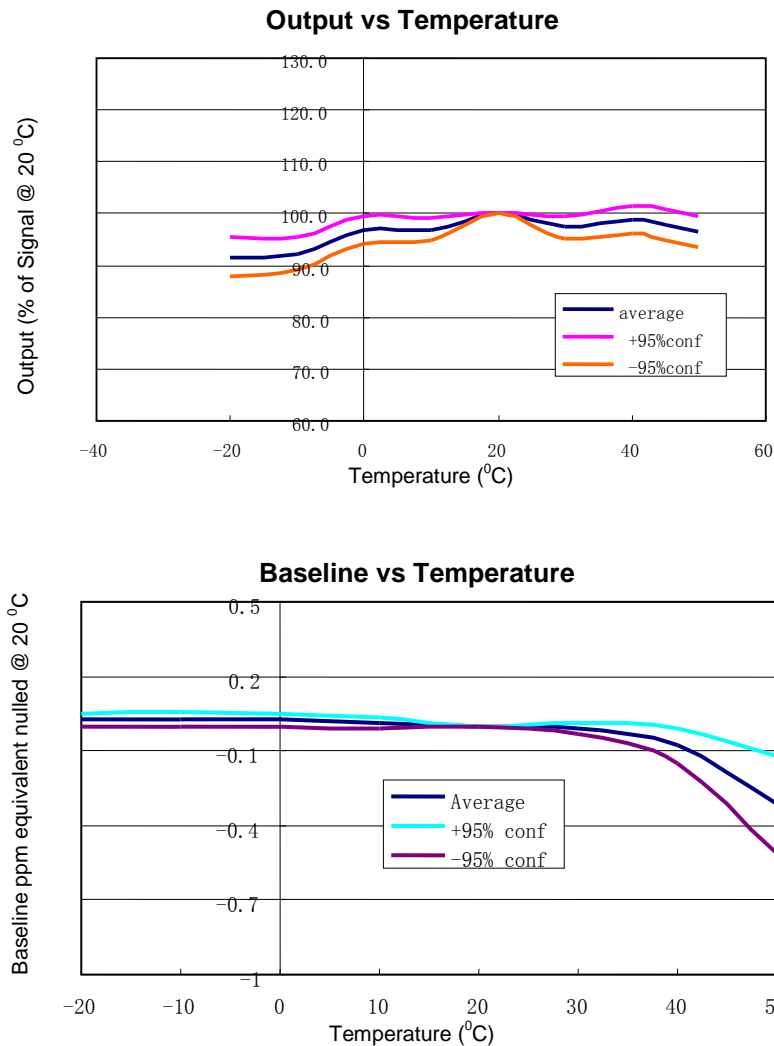
Outline Dimensions



All dimensions are in millimeters.
All tolerances are $\pm 0.2\text{mm}$.

Note: 推荐使用 PCB 插座来连接传感器，焊接会损害传感器。

温度影响



交叉灵敏度

气体	浓度 (ppm)	输出信号(相当于 ppm Cl ₂)
硫化氢	20	-4
一氧化碳	100	0
二氧化硫	20	0
一氧化氮	35	0
二氧化氮	10	12
氢气	3000	0
氨气	100	0
二氧化氮	10000	0
二氧化氯	1	3.5

使用须知

1. 以上所有性能规格都是在环境条件：温度 20 °C, 相对湿度 50% RH, 一个大气压 (100 kPa 或环境压力) 下测得。
2. 推荐用目标气体进行标定。如果用交叉敏感气体进行标定, 我们不保证其标定和测量的准确度。
3. 交叉灵敏度会有 +/- 30% 的浮动, 并且可能随着传感器的生产批次不同和传感器的寿命而变化。
4. 上述交叉灵敏度包括但不限于上述气体, 该传感器有可能对其他气体有响应。

氯气传感器 0-20 ppm

性能表征

产品型号	CLE-0921-700
量程	0-20 ppm
最大荷载	50 ppm
灵敏度	0.75±0.15 μA/ppm
基线 (20 °C)	< ±0.2 μA
基线漂移 (-20 °C to 50 °C)	0 ~ -0.5ppm Cl ₂
分辨率	0.1 ppm
响应时间(T90)	≤45 秒
线性度	线性
长期稳定性	<2% 信号值/月

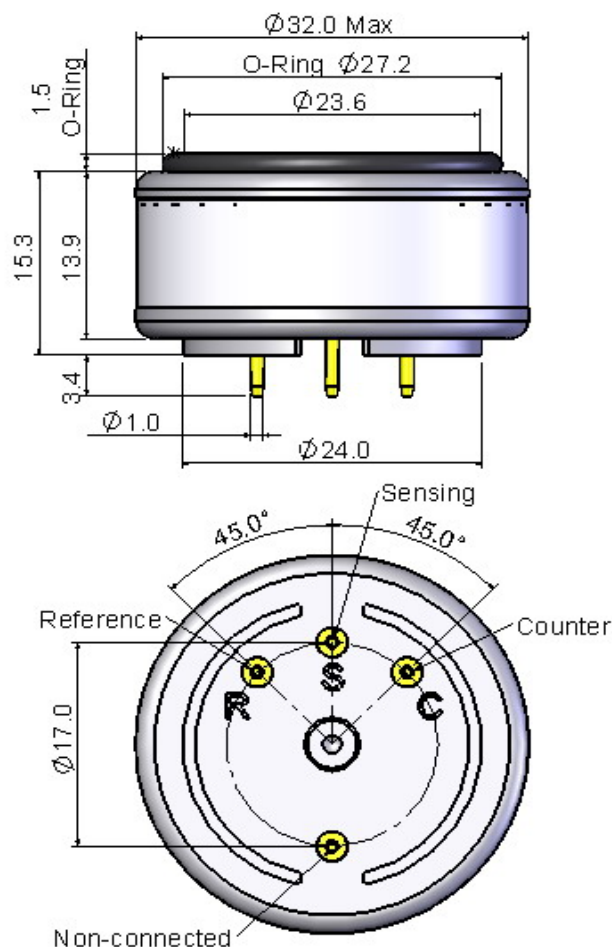
工作条件

工作温度	-20°C to 50°C
工作湿度	15 ~ 90%RH 无冷凝)
工作压力	90 to 110 Kpa
偏压	0mV
储存时间	6 个月 (专用包装盒中)
储存温度	0°C to 20°C
使用寿命	空气中 2 年
质保期	交货后 12 个月

物理性能

重量	约 8 克
方位要求	无

Outline Dimensions

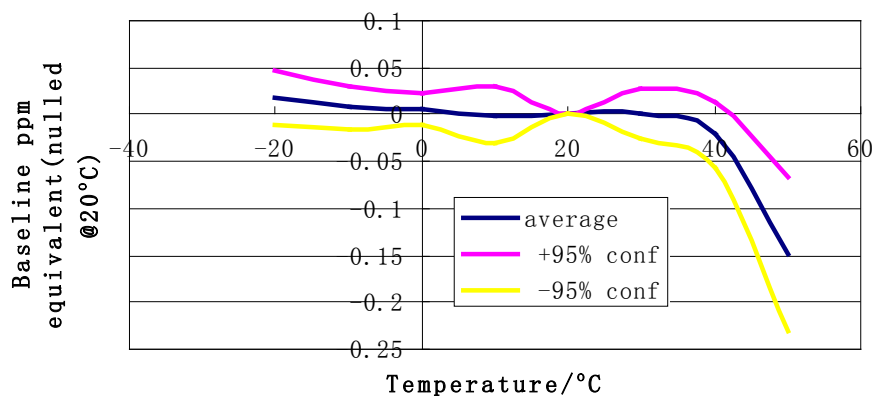


All dimensions in mm
All tolerances ±0.2mm
unless otherwise stated

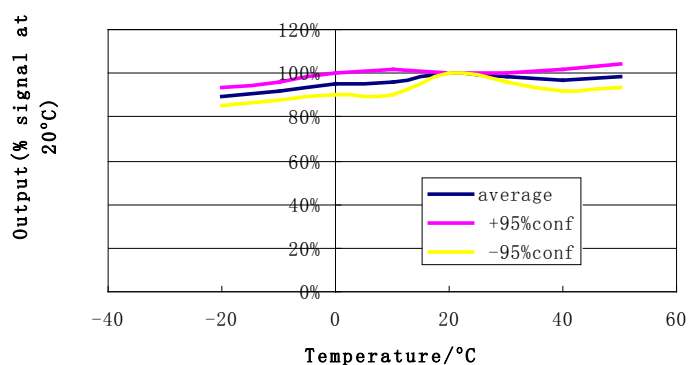
Note: 推荐使用 PCB 插座来连接传感器，焊接会损害传感器。

温度影响

Baseline drift of 7R Cl₂ sensor



7R Cl₂ Sensor Sensitivity Temperature Dependence



交叉灵敏度 (20 °C)

气体	浓度(ppm)	输出信号 (相当于 ppm Cl ₂)
一氧化碳	100	0
二氧化硫	20	0
一氧化氮	35	-0.4
二氧化氮	10	10
氢气	2000	0
硫化氢	20	-10
氨气	100	0
二氧化氮	1	1.5

使用须知

1. 以上所有性能规格都是在环境条件：温度 20 °C, 相对湿度 50% RH, 一个大气压 (100 kPa 或环境压力) 下测得。
2. 推荐用目标气体进行标定。如果用交叉敏感气体进行标定, 我们不保证其标定和测量的准确度。
3. 交叉灵敏度会有 +/- 30% 的浮动, 并且可能随着传感器的生产批次不同和传感器的寿命而变化。
4. 上述交叉灵敏度包括但不限于上述气体。

氯气传感器 0-50 ppm

性能表征

产品型号	CLE-0951-700
量程	0 - 50 ppm
最大荷载	100 ppm
灵敏度	0.45 ± 0.2 μA/ppm
基线 (20 °C)	< ±0.2 μA
基线漂移 (-20 to 50 °C)	相当于 0 to -0.5 ppm
分辨率	0.1 ppm
响应时间 (T ₉₀)	≤ 45 秒
线性度	线性
长期稳定性	<2% 信号值/月

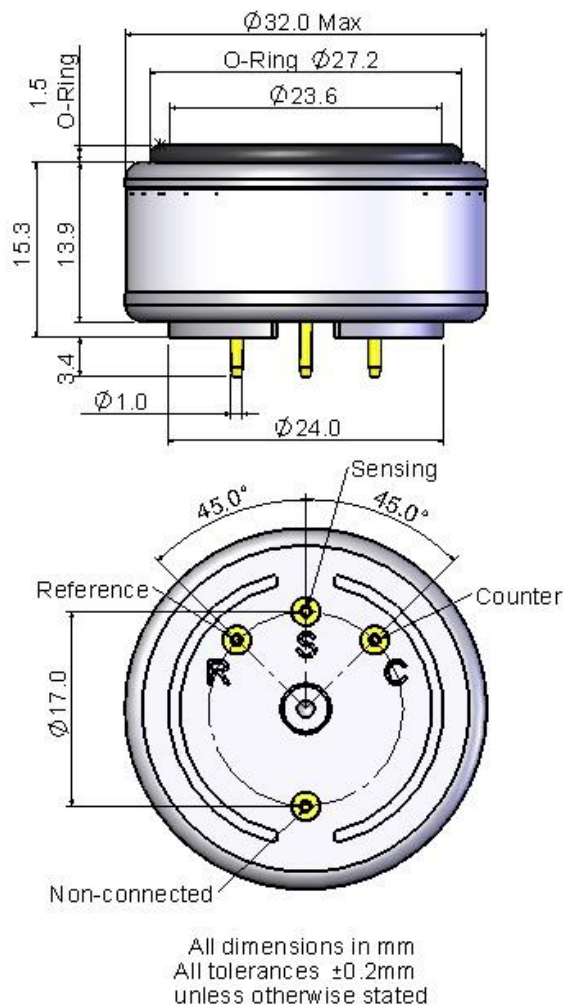
工作条件

工作温度	-20°C to 50°C
工作湿度	15 ~ 90%RH(无冷凝)
工作压力	90 to 110 Kpa
偏压	0 mV
储存时间	6 个月 (专用包装盒中)
储存温度	0°C to 20°C
使用寿命	空气中 2 年
质保期	交货后 12 个月

物理性能

重量	约 8 克
方位要求	无

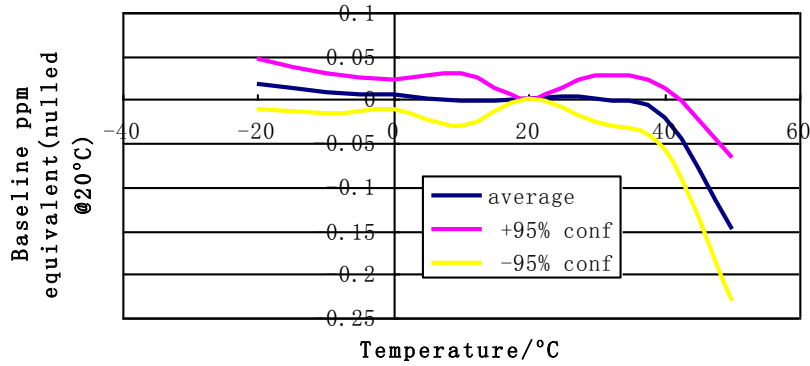
Outline Dimensions



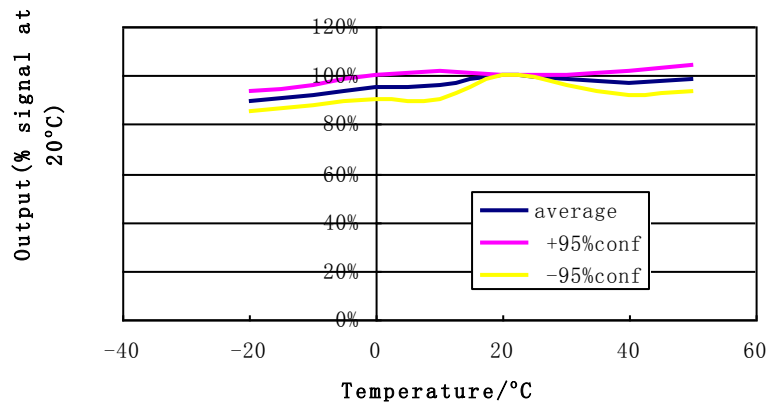
Note: 推荐使用 PCB 插座来连接传感器，焊接会损害传感器。

温度影响

Baseline drift of 7R Cl₂ sensor



7R Cl₂ Sensor Sensitivity Temperature Dependence



交叉灵敏度 (20 °C)

气体	浓度(ppm)	输出信号 (相当于 ppm Cl ₂)
一氧化碳	100	0
二氧化硫	20	0
一氧化氮	35	-0.4
二氧化氮	10	10
氢气	2000	0
硫化氢	20	-10
氨气	100	0
二氧化氯	1	1.5

使用须知

1. 以上所有性能规格都是在环境条件：温度 20 °C, 相对湿度 50% RH, 一个大气压 (100 kPa 或环境压力) 下测得。
2. 推荐用目标气体进行标定。如果用交叉敏感气体进行标定，我们不保证其标定和测量的准确度。
3. 交叉灵敏度会有 +/- 30% 的浮动，并且可能随着传感器的生产批次不同和传感器的寿命而变化。
4. 上述交叉灵敏度包括但不限于上述气体，该传感器有可能对其他气体有响应。

氯气传感器 0-200 ppm

性能表征

产品信号	CLE-0922-400
量程	0 to 200ppm
灵敏度	$0.18 \pm 0.05 \mu\text{A}/\text{ppm}$
基线 (20 °C)	$< \pm 0.2 \mu\text{A}$
基线漂移 (-20 to 40 °C)	相当于 0 to -0.3 ppm
分辨率	0.1 ppm
响应时间 (T ₉₀)	≤ 30 秒
线性度	线性
长期稳定性	< 2%信号值/月

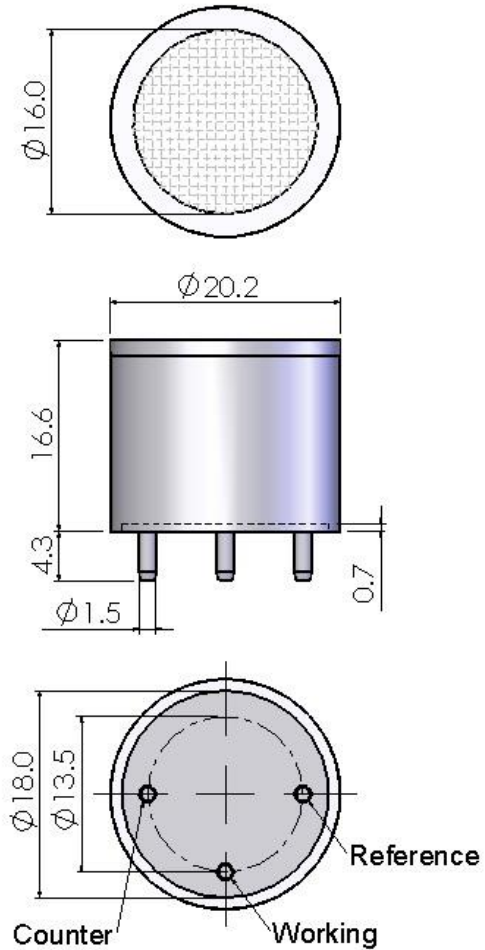
工作条件

工作温度	-20 °C to 50 °C
工作湿度	15 to 90%RH (无冷凝)
工作压力	90 to 110 kPa
偏压	0 mV
储存时间	6 个月 (专用包装盒中)
储存温度	0 °C to 20 °C
使用寿命	空气中 2 年
质保期	交货后 12 个月

物理性能

重量	约 5 克
方位要求	无

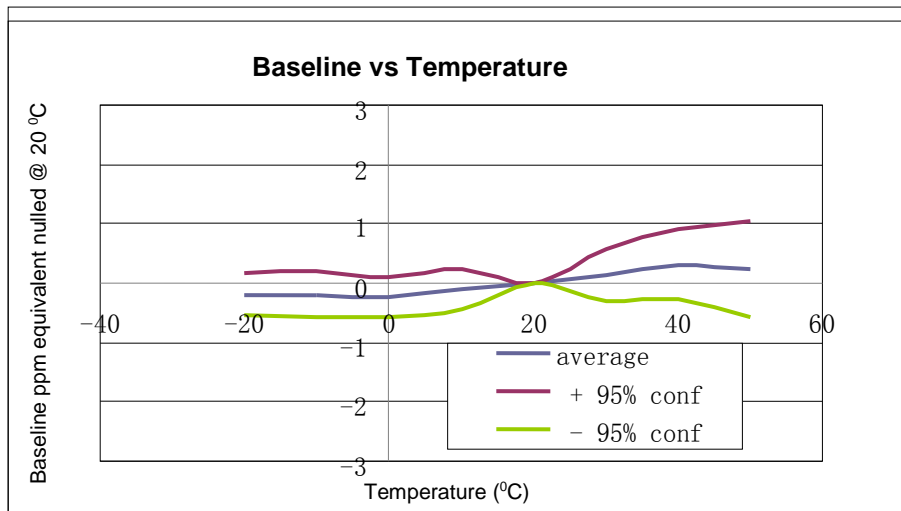
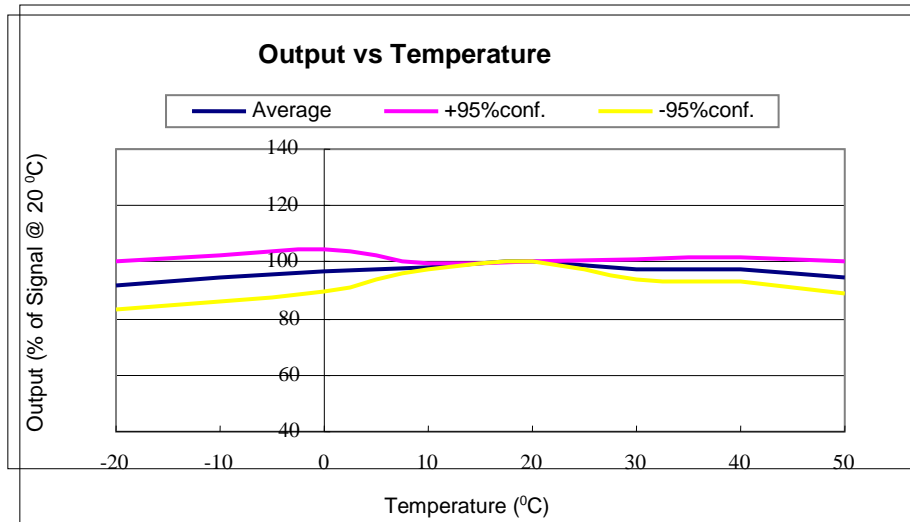
Outline Dimensions



All dimensions are in millimeters.
All tolerances are $\pm 0.2\text{mm}$.

Note: 推荐使用 PCB 插座来连接传感器，焊接会损害传感器。

温度影响



交叉灵敏度

气体	浓度 (ppm)	输出信号(相当于 ppm Cl ₂)
硫化氢	20	-4
一氧化碳	100	0
二氧化硫	20	0
一氧化氮	35	0
二氧化氮	10	12
氢气	3000	0
氨气	100	0
三氧化氮	10000	0
二氧化氯	1	3.5

使用须知

1. 以上所有性能规格都是在环境条件：温度 20 °C，相对湿度 50% RH，一个大气压（100 kPa 或环境压力）下测得。
2. 推荐用目标气体进行标定。如果用交叉敏感气体进行标定，我们不保证其标定和测量的准确度。
3. 交叉灵敏度会有 +/- 30% 的浮动，并且可能随着传感器的生产批次不同和传感器的寿命而变化。
4. 上述交叉灵敏度包括但不限于上述气体，该传感器有可能对其他气体有响应。

Chlorine

Sensoric Cl2 3E 10

Product Data Sheet

Sensoric CI2 3E 10

FEATURES

Amperometric 3 electrode sensor cell
Low susceptibility to abrupt changes of humidity
Low interference to SO₂
High poison resistance

TYPICAL APPLICATIONS

Portable & fixed point applications
TLV monitoring
Water treatment plants, swimming pools, chemical industry

PART NUMBER INFORMATION

MINI	0436-032-30009
SENSORIC CLASSIC	0436-032-30069
CTL 4 series adaptation	0436-032-30049
CTL 7 series adaptation	0436-032-30079

Product Data Sheet

Sensoric CI2 3E 10

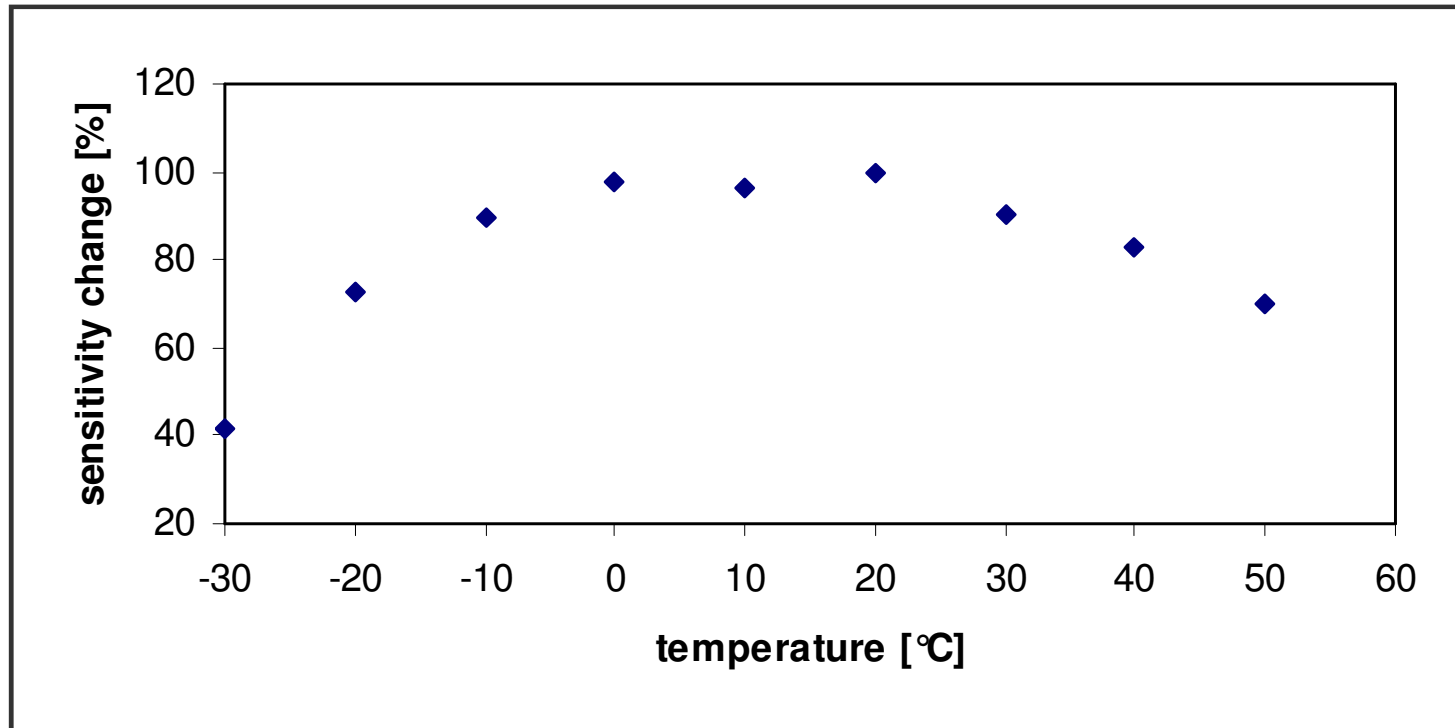
TECHNICAL SPECIFICATIONS

Measuring Range		0-10 ppm; typically: 0–5 ppm
Sensitivity Range		450 nA/ppm \pm 200 nA/ppm (negative current)
Zero Current at 20°C		< \pm 20 nA
Resolution at 20°C		< 0.05 ppm
Bias Potential	0 mV	
Linearity		< 5% full scale
Response Time at 20°C		
t ₅₀		< 30 s calculated from 2 min. exposure time
t ₉₀		< 60 s calculated from 2 min. exposure time
Long Term Sensitivity Drift		< 10% per 6 months
Operation Conditions		
Temperature Range		-20°C to + 40°C
Humidity Range		15–90% r.H., non–condensing
Effect of Humidity		no effect on zero current
Sensor Life Expectancy		> 24 months in air
Warranty		12 months

Product Data Sheet

Sensoric CI2 3E 10

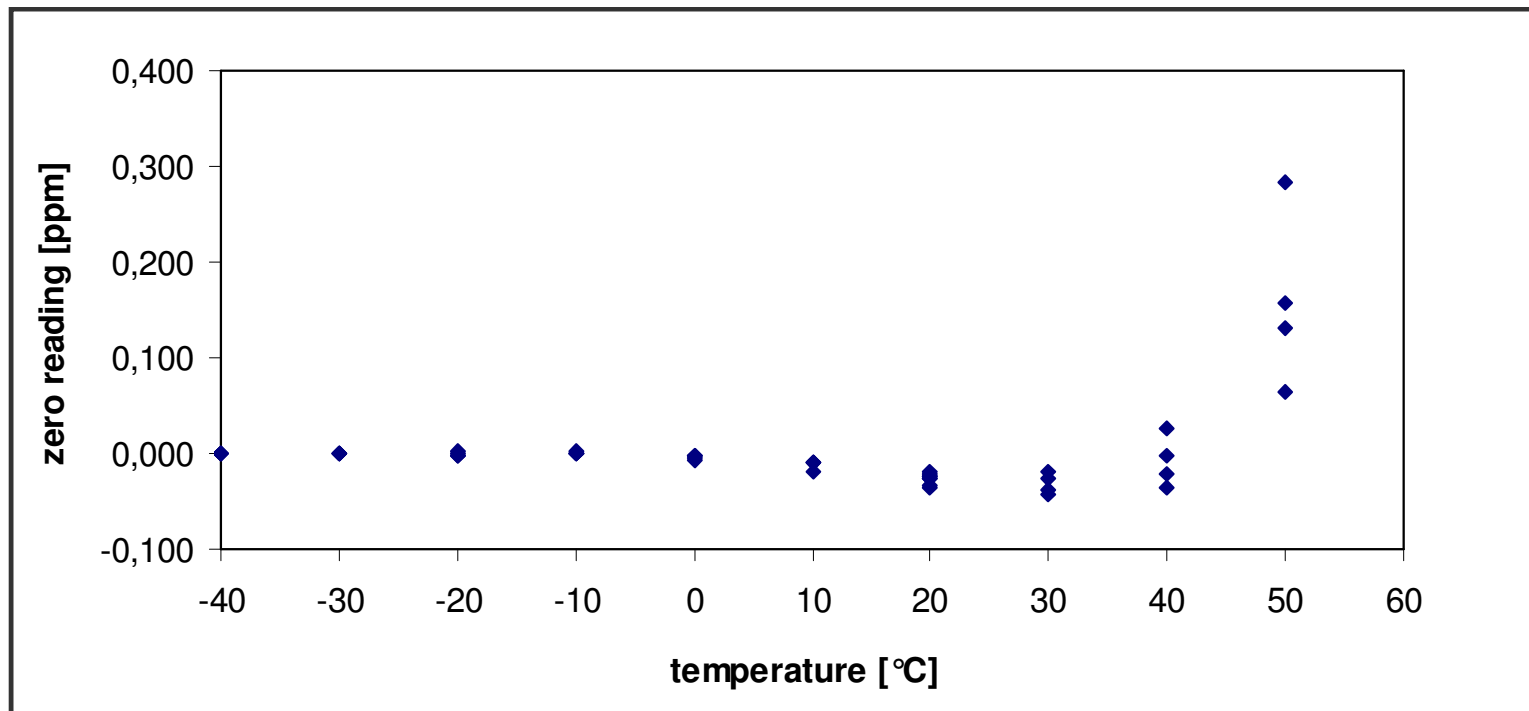
OUTPUT vs. TEMPERATURE:



Product Data Sheet

Sensoric CI2 3E 10

ZERO READING vs. TEMPERATURE:



Product Data Sheet

Sensoric Cl2 3E 10

CROSS SENSITIVITIES AT 20°C

Gas	Concentration	Reading [ppm]
Ammonia	100 ppm	0
Bromine	1 ppm	1.0 (theoretical)
Carbon Dioxide	1 %	0
Carbon Monoxide	100 ppm	0
Chlorine Dioxide	2.4 ppm	0.55
Hydrogen	3000 ppm	0
Hydrogen Sulfide	20 ppm	0.1
Nitrogen Dioxide	10 ppm	4.5
Ozone	0.25 ppm	0.11
Sulfur Dioxide	20 ppm	0

Notes:

1. Interference factors may differ from sensor to sensor and with life time. It is not advisable to calibrate with interference gases.
2. This table does not claim to be complete. The sensor might also be sensitive to other gases.

Product Data Sheet

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.

Attention

Use of the Sensoric range sensors requires complete understanding of the instructions. Before using Sensoric range sensors please carefully read 'Application Notes' which can be found at www.citytech.com under the heading 'Support' -> 'Application Notes' -> 'Sensoric'

Product Safety Data Sheets (PSDS) can be obtained at www.citytech.com under the heading 'Support' -> 'Product Safety Datasheets'

For further assistance on sensor selection and use, please contact a member of the Technical Sales team.

Chlorine

Sensoric Cl2 3E 50

Product Data Sheet

Sensoric CI2 3E 50

FEATURES

Amperometric 3 electrode sensor cell
Low susceptibility to abrupt changes of humidity
High dynamic range
0 voltage biased operation

TYPICAL APPLICATIONS

Portable & fixed point applications
TLV monitoring
Water treatment plants, swimming pools, chemical industry

PART NUMBER INFORMATION

MINI	0441-032-30009
SENSORIC CLASSIC	0441-032-30069
CTL 4 series adaptation	0441-032-30049
CTL 7 series adaptation	0441-032-30079

Product Data Sheet

Sensoric CI2 3E 50

TECHNICAL SPECIFICATIONS

Measuring Range	0-50 ppm; typically: 0–5 ppm
Sensitivity Range	450 nA/ppm \pm 200 nA/ppm (negative current)
Zero Current at 20 °C	< \pm 20 nA
Resolution at 20 °C	< 0.05 ppm
Bias Potential	0 mV
Linearity	< 5% full scale
Response Time at 20 °C	
t50	<20 s calculated from 2 min. exposure time *
t90	<60 s calculated from 2 min. exposure time *
Long Term Sensitivity Drift	< 10% per 6 months
Operation Conditions	
Temperature Range	-20 °C to + 40 °C
Humidity Range	15–90% r.H., non–condensing
Effect of Humidity	no effect on zero current
Sensor Life Expectancy	> 24 months in air
Warranty	12 months

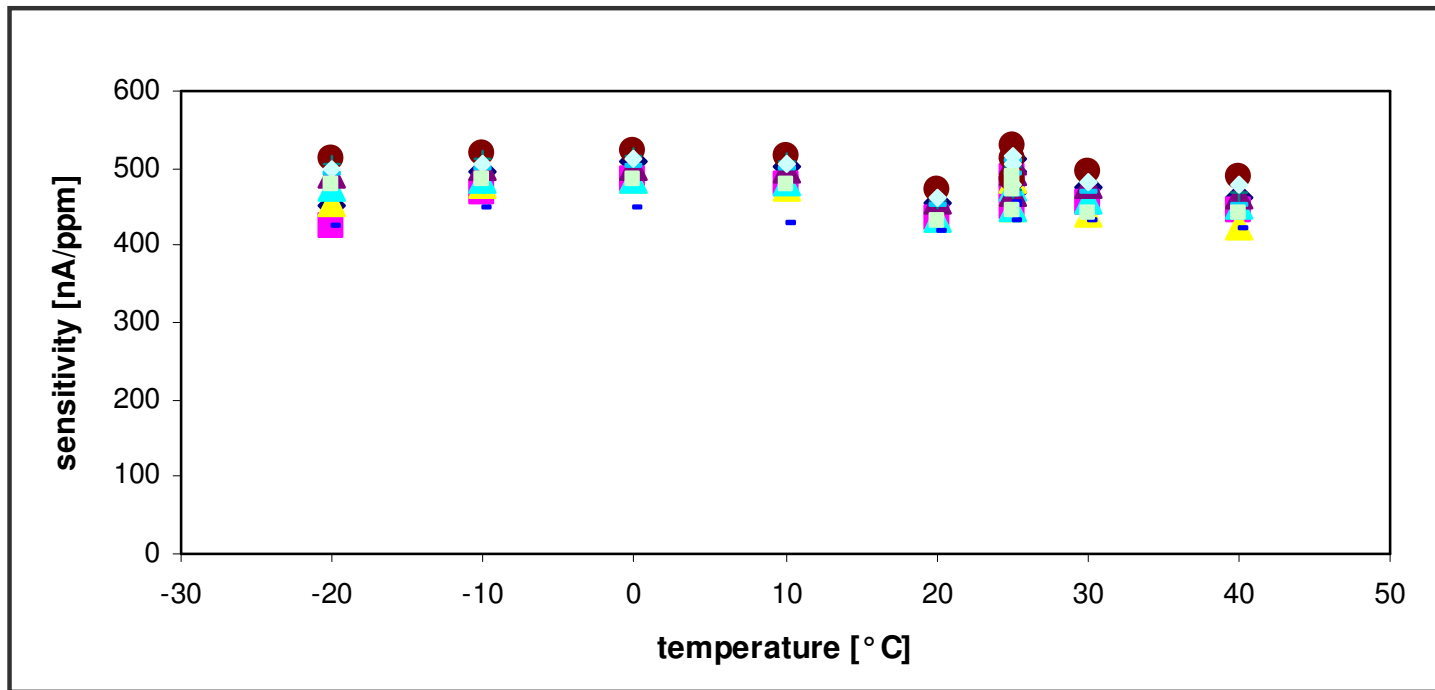
*t50 = 10 s and t90 = 30 s if sensors are exposed to at least 1 ppm Chlorine for at least 2 min

Sensoric deems the data contained herein as factual, and the opinions expressed are those of qualified experts based on the results of tests conducted. The above data can not be used as a warranty provision or representation for which Sensoric assumes legal responsibility. The data are offered solely for consideration, investigation and verification. Any use of this information is subject to federal, state and local laws and regulations.

Product Data Sheet

Sensoric CI2 3E 50

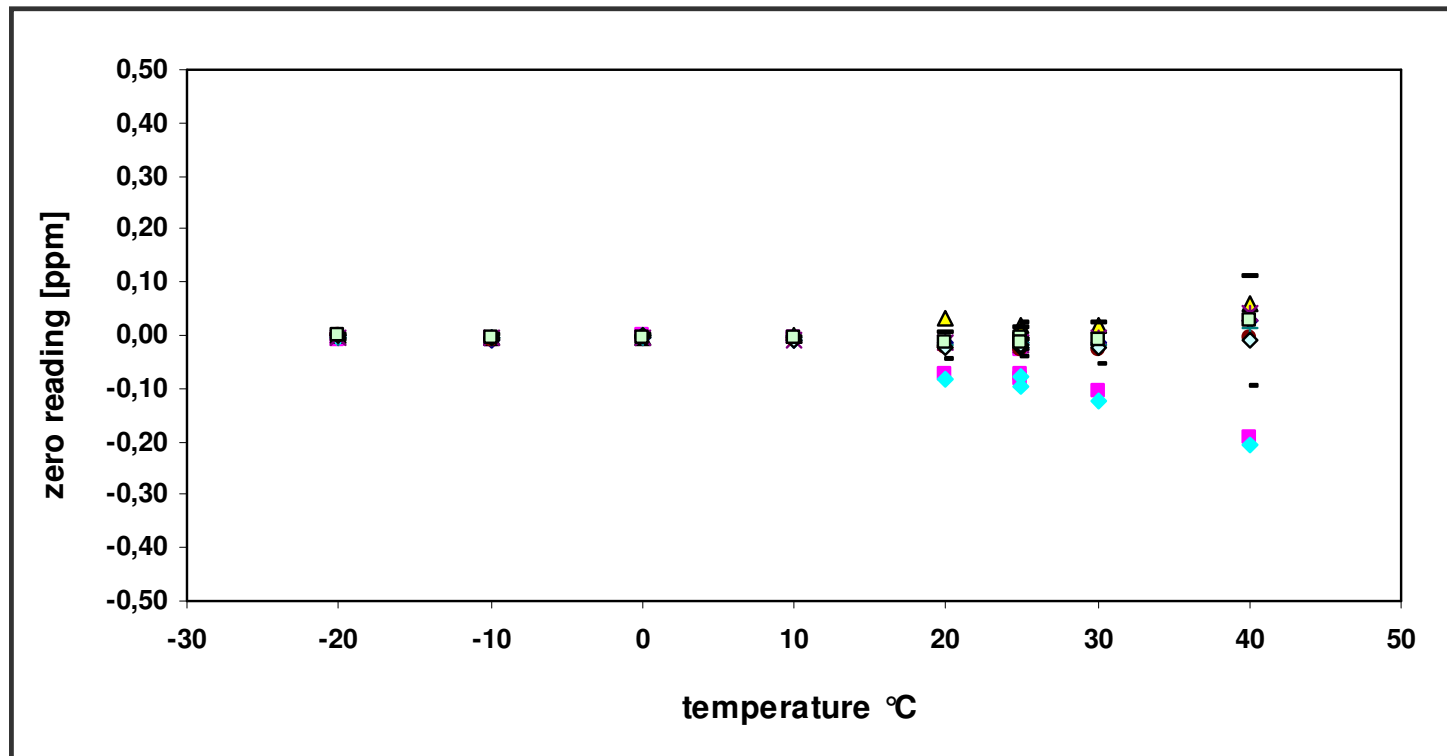
OUTPUT vs. TEMPERATURE:



Product Data Sheet

Sensoric CI2 3E 50

ZERO READING vs. TEMPERATURE:



Product Data Sheet

Sensoric CI2 3E 50

CROSS SENSITIVITIES AT 20 °C

Gas	Concentration	Reading [ppm]
Ammonia	100 ppm	0
Bromine	1 ppm	1.0
Carbon Dioxide	1 %	0
Carbon Monoxide	100 ppm	0
Chlorine Dioxide	1 ppm	0.5
Fluorine	1.0 ppm	0.4
Hydrogen	3000 ppm	0
Hydrogen Sulfide	20 ppm	0 ¹
Nitrogen Dioxide	10 ppm	2
Ozone	0.25 ppm	0.05
Sulfur Dioxide	20 ppm	3.5

1) Exposure to H₂S will poison the cell; further exposure to chlorine will re-activate the sensor.

Notes:

1. Interference factors may differ from sensor to sensor and with life time. It is not advisable to calibrate with interference gases.
2. This table does not claim to be complete. The sensor might also be sensitive to other gases.

Product Data Sheet

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.

Attention

Use of the Sensoric range sensors requires complete understanding of the instructions. Before using Sensoric range sensors please carefully read 'Application Notes' which can be found at www.citytech.com under the heading 'Support' -> 'Application Notes' -> 'Sensoric'

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