



**NETWORK
TECHNOLOGIES
INC**

1275 Danner Dr Tel:330-562-7070
Aurora, OH 44202 Fax:330-562-1999
www.networktechinc.com

ENVIROMUX[®] Series

E-H2S-LC

Hydrogen Sulfide Transmitter

User Manual



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CHANGES

The material in this guide is for information only and is subject to change without notice. Network Technologies Inc reserves the right to make changes in the product design without reservation and without notification to its users.

Product Introduction

Product Overview

Hydrogen sulfide is a flammable hazardous chemical. It can be explosive when mixed with air. It can cause fire and explosion when exposed to open fire and high heat. At the same time, hydrogen sulfide is an indispensable raw material in the chemical industry, such as for the synthesis of phosphors and the manufacture of photoconductors. Hydrogen sulfide is also a highly toxic gas, which can cause human olfactory paralysis. After inhalation, a small amount of highly-concentrated hydrogen sulfide can be fatal within a short period of time. Low concentrations of hydrogen sulfide have an effect on the eye, respiratory system and central nervous system. Therefore, for the industry that uses hydrogen sulfide, the E-H2S-LC hydrogen sulfide detector is indispensable.

The E-H2S-LC hydrogen sulfide detector is a constant potential electrolytic hydrogen sulfide (H₂S) sensor with low power consumption, high precision, high sensitivity, wide linear range, strong anti-interference ability, excellent repeatability and stability. The E-H2S-LC is widely used in the detection of hydrogen sulfide in industrial, mining, environmental protection and animal husbandry. The IP65 rated enclosure can be adapted to many different environmental monitoring conditions.

Features

- Measures H₂S in a range of 0 to 100 ppm.
- Accuracy: $\pm 2\text{ppm}$ or $\pm 10\%$
- Weatherproof enclosure.
 - IP65-rated water and dust protection.
- Dimensions WxDxH (in): 4.33x1.73x3.35 (110x44x85mm)
- Operating temperature: -4 to 122°F (-20 to 50°C).
- Operating relative humidity: 15 to 90% non-condensing RH.
- Requires the E-S5VDC sensor converter to operate with E-2D/5D/16D (sold separately).
 - E-S5VDC maximum cable length: 1000 ft (305 m).
 - E-S5VDC powered by E-2D/5D/16D.
- 0 to 5 VDC output.
- Powered by E-S5VDC sensor converter.
- Current consumption: 20mA @ 12VDC.
- Regulatory approvals: CE

Materials Included:

Hydrogen sulfide transmitter

2- Self-tapping screws

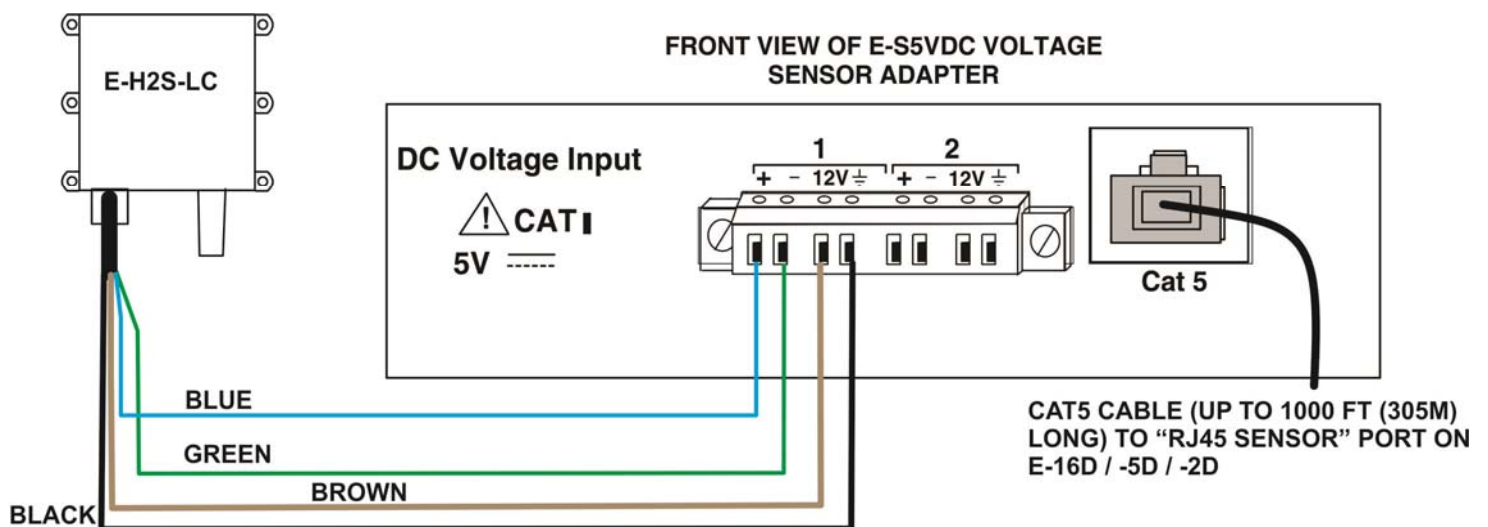
2- Expansion plugs

Installation

Wiring

	Line color	Description
power supply	brown	Power supply (10~30V DC)
	black	Negative power supply
Output	blue	Hydrogen sulfide signal is positive
	green	Hydrogen sulfide signal negative

Wiring example



Configuration

Sensor Settings	
Description	Server Rack Cooling Fan 1 Descriptive name for the sensor
Min. Level	0.0 Min. supported value for the sensor
Max. Level	5.0 Max. supported value for the sensor
Associate Sensor	<input checked="" type="checkbox"/> Associate sensor to a customized sensor type
Associated Sensor Type	Hydrogen Sulfide Type of the associated sensor
Associated Sensor Unit	PPM Measurement unit for the associated sensor
SNMP Associated Type ID	32767 ID value for SNMP type of associated sensor
Min. Associated Level	0.000000 Sensor expected value corresponding to 0V
Max. Associated Level	100.000000 Sensor expected value corresponding to 5V
Min. Non-Critical Threshold	 Min. threshold below which indicates a non-critical alert condition
Max. Non-Critical Threshold	 Max. threshold above which indicates a non-critical alert condition
Min. Critical Threshold	 Min. threshold below which indicates an alert condition
Max. Critical Threshold	 Max. threshold above which indicates an alert condition
Refresh Rate	1 Sec The refresh rate at which the sensor view is updated
Group Settings	
Schedule Settings	
Non-Critical Alert Settings	
Critical Alert Settings	
Data Logging	
Save	

Example of configuration in ENVIROMUX web interface

See [man154.pdf](https://www.networktechinc.com/pdf/man154.pdf) at <https://www.networktechinc.com/pdf/man154.pdf> for the E-16D/E-5D/E-2D Enterprise Environment Monitoring System, pages 39-50, for Alert Notification Configuration.

Calculation Method

Signal output conversion calculation

For example, the range is 0~100ppm, the output is 0-5V, and when the output signal is 3V, we will calculate the current hydrogen sulfide concentration value.

The hydrogen sulfide range spans 100ppm and is expressed by a 5V voltage signal, $100\text{ppm}/5\text{V}=20\text{ppm per }1\text{V}$, that is, the voltage output of 3V represents a change of hydrogen sulfide concentration of 60ppm, so if the measured output value is 3V, then $3\text{V}\times 20\text{ppm (per Volt)}=60\text{ppm}$. The current hydrogen sulfide concentration is 60 ppm.

ppm versus mg/m3 conversion

At standard atmospheric pressure and normal temperature, the conversion according to the following formula is only applicable to the calculation of hydrogen sulfide (H_2S):

$$1\text{ppm} = 1.417\text{mg/m}^3$$

Common problems and solutions

No output or output error

Possible reason:

- 1) The wiring method is incorrect or the wiring sequence is wrong.
- 2) The power supply voltage is incorrect
- 3) The distance between the transmitter and the collector is too long, causing signal disturbance.
- 4) Equipment damage.

Notes

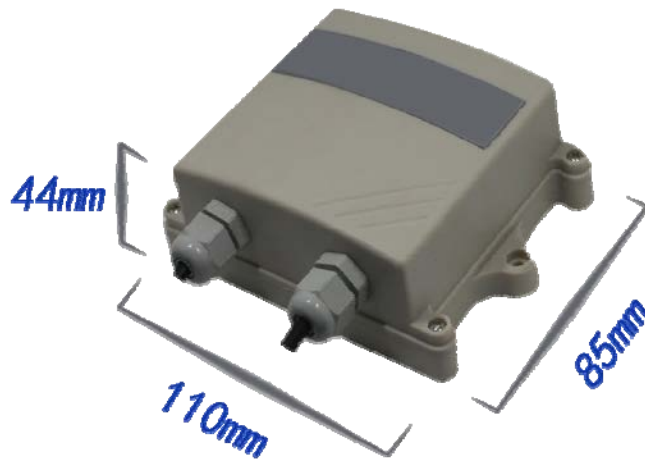
- 1) The detector should be operated for at least 48 hours before taking readings;
- 2) Electrolyte leakage will cause injury, please do not disassemble the sensor at will;
- 3) The sensor should avoid contact with organic solvents (including silicone rubber and other adhesives), paints, chemicals, oils and high-concentration gases;
- 4) The sensor should not be immersed in an oxygen-free environment for a long time, otherwise it will damage the performance of the sensor;
- 5) It should not be used for a long time in an environment containing corrosive gases, corrosive gases will damage the sensor;
- 6) The sensor should not be excessively impacted or vibrated;
- 7) **DO NOT** store and use in high concentration alkaline gas for a long time;
- 8) The air inlet holes must not be blocked or contaminated.

Specifications

Power supply	10 to 30V DC
Output signal	0 to 5V
Current consumption	20mA @ 12VDC
Operating temperature	-4 to 122°F (-20 to 50°C)
Working humidity	15-90% non-condensing RH
Pressure range	90-110kPa
Zero drift (-20~40°C)	± 5ppm
Repeatability	<2% output value
Range	0-100ppm
Precision	± 2ppm or ± 10%
Enclosure rating	IP65
Dimensions WxDxH (in)	4.33x1.73x3.35 (110x44x85mm)
Resolution	1ppm
Approval	CE

Housing dimensions

Overall size: 110 × 85 × 44mm



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