MST141 H2 sensor

product description ：

MST141 electrochemical hydrogen sensor is a fuel cell-type sensor. Hydrogen and oxygen undergo corresponding redox reactions at the working electrode and counter electrode, releasing electric charges to form a current. The magnitude of the generated current is proportional to the hydrogen concentration and follows Faraday's Law. The level of hydrogen concentration can be determined by measuring the magnitude of the current.

Sensor features:

It exhibits high sensitivity and high selectivity to hydrogen, with an extremely fast response to hydrogen. It also features linear output, a long service life, an environmentally friendly structural design, and a unique anti-leakage structure.

Main applications:

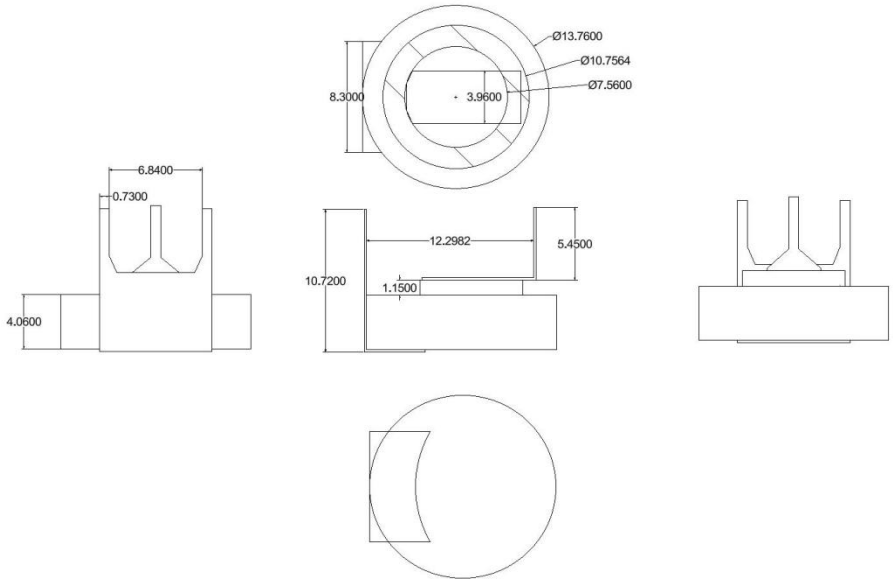
It is widely suitable for hydrogen concentration detection in fields such as commercial applications, energy storage power stations, and vehicle-mounted systems.

product specification：

project	parameter
Object gas	Hydrogen
Measuring range	0~1000ppm
Extreme overload	2000ppm
Output signal	0.2~0.8nA/ppm
Repetitiveness	±2%
Resolution	0.5ppm
Typical response time (t90)	＜60 Seconds
Long-term output drift	＜2%
Expected life	10 years
Working temperature	-20~50℃
Humidity at work	15~90%RH
Working pressure range	0.1MPa±10%

project	parameter
Recommended load resistance	1KΩ
Offset voltage	no requirement

Structural dimensions diagram:



Sensor characteristics description:

Sensitivity characteristics

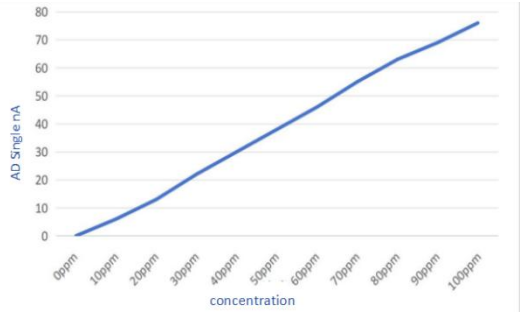


Figure 1: Typical Sensitivity Characteristic Curve of the Sensor at 25℃ (Linear Output)

Response time

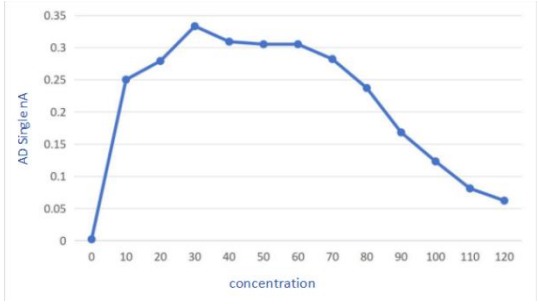


Figure 2: Response Time

Cross-sensitive characteristic data

Typical Response of the Sensor to Various Interfering Gases / Cross-Sensitivity Characteristics (at 25° C)

Object Gas	Concentration (ppm)	Hydrogen Equivalent Concentration (ppm)
Hydrogen sulfide	15	< 30
Sulfur dioxide	5	< 30
Nitrogen dioxide	5	< 30

Installation and Usage Notes

1. Wires can be soldered during installation, but solder must not come into contact with the sensor.
2. The power-on aging time shall be no less than 30 minutes.
3. Avoid long-term contact with organic volatile solvents.
4. The operating or storage environment must not be acidic or alkaline.

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