PSS-423081

Gas (CO, H2S, O2, CH4) Sensors

Product introduction

PSS-423081 The gas detection sensor is designed for various places requiring environmental gas detection, including four types of gas sensors (CO, H2S, O2, CH4 and other gases can be expanded). With good selectivity and stability, the module can output the current concentration values of four gases in real time through the digital serial port.
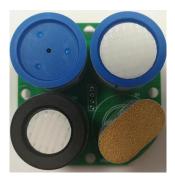
Detection principle

Carbon monoxide CO, hydrogen sulfide H2S and oxygen O2 are electrochemical detection. The electrochemical structure is a three electrode structure. The principle of electrochemical detection is that the compounds on the sensor change according to the concentration of the ambient gas, the conductivity changes, and the voltage value output by the module changes accordingly to obtain the concentration data.

Methane CH4 is the principle of catalytic combustion. At a certain temperature, combustible gas will be catalytic combustion on its surface. Combustion is a function of the concentration of combustible gas when platinum resistance temperature rises and resistance changes.

Product features

❖ Detect item: carbon monoxide CO, hydrogen sulfide H2S, oxygen O2, methane CH4
❖ High integration
❖ Good stability and fast response
❖ Real time serial port output concentration

Product parameters

Parameters	
Detection gas	CO,H2S,O2,CH4
Measuring range	CO：（0-1000）ppm H2S：（0-100）ppm O2：（0-30）%VOL CH4：（0-100）%LEL
Resolution	CO：1ppm H2S：1ppm O2：0.1%VOL CH4：1%LEL
Working voltage	（3.5~5）V
Operating current	<100mA
Response time	<30s
Interface	
Output signal	UART
Mechanical	
Size	46mm*46mm*21.6mm
Working temperature	-20℃～50℃
Operating humidity	15%RH~90%RH

Storage temperature	0 ℃~20 ℃ (recommended)
Life expectancy	2 years (in normal air)
Power	
Power	3.5~5V

Application

It can be used in the environment of plant gas leakage, underground operation, tunnel detection, coal mine detection, etc. It can be worn or held by human body to enter the detection site, or it can be used in fixed sites to detect the current ambient gas concentration and remind personnel of safety.

Ordering Guide

❖ PSS-423081 sensor is a sensor only, it needs to use with WxS terminals to combine to different product series; On the basis of the combination, multiple PSS sensors can be loaded through the Multiple Purpose Interface (MPI) of the intelligent IoT terminal.

❖ According to the specific scenario of use case, the enclosure and antenna of intelligent IoT terminal will be replaced to ensure the product quality and performance.

❖ PSS sensors can be integrated with the WxS terminal via the MPI interface to form different product series.

❖ Example of products are as follows:

- WxS7800-423081 WiFi Series Smart Gas (CO, H2S, O2, CH4) Sensors & RTU 2-in-1 Terminal
- WxS8800-423081 LoRaWAN Series Smart Gas (CO, H2S, O2, CH4) Sensors & RTU 2-in-1 Terminal
- WxS9800-423081 NB-IoT (China) Series Smart Gas (CO, H2S, O2, CH4) Sensors & RTU 2-in-1 Terminal
- WxS9900-423081 NB-IoT (Global) Series Smart Gas (CO, H2S, O2, CH4) Sensors & RTU 2-in-1 Terminal
- WxSC800-423081 LTE Cat1 Series Smart Gas (CO, H2S, O2, CH4) Sensors & RTU 2-in-1 Terminal
- WxSC900-423081 LTE Cat1 w/GPS Series Smart Gas (CO, H2S, O2, CH4) Sensors & RTU 2-in-1 Terminal
- WxSD800-423081 LTE Cat4 Series Smart Gas (CO, H2S, O2, CH4) Sensors & RTU 2-in-1 Terminal