AG-4-CO-M5042

----- Pre-calibrated module Instruction Manual

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Product Description

The AG-4-CO-M5042 is an embedded type module equipped with the Figaro's carbon monoxide gas sensor TGS5042, for accurately detecting carbon monoxide (CO) gas concentrations in various environments. The module has been pre-calibrated before leaving the factory and has good stability and selectivity. It allows users to easily and quickly integrate the module into various systems, making it suitable for both indoor and outdoor air quality detection, as well as industrial gas detection.

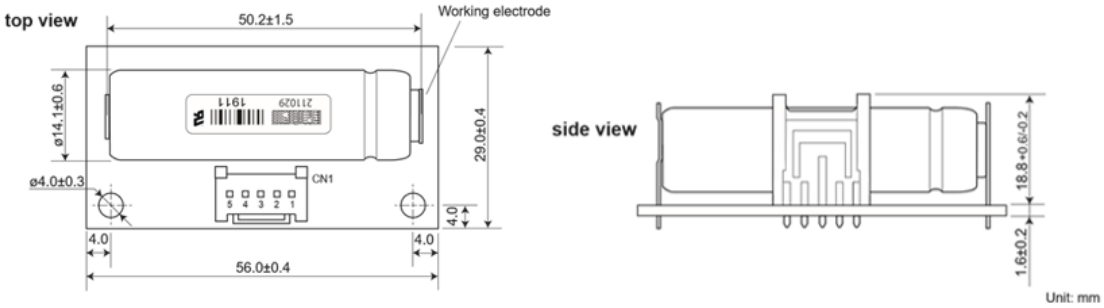
Technical Specification

Item	Specification
Model Number	AG-4-CO-M5042
Target Gases	CO
Sensing Principle	Electrochemical
Detection Range	0 ~ 800ppm
Current consumption	≤ 5mA
Input voltage	2.5~5.3V DC
Output V_{CONC}	0 ~ 2V DC
Normal operation	V_{CONC} = 2- [CO conc(ppm)/400]
V_{CONC} in 0 ppm CO	2.0±0.1V
V_{CONC} in 400 ppm CO	1.0±0.1V
Warm up time	⩽ 30 sec
Operating temperature	-5˚C ~ +55˚C
Operating humidity	5 ~ 95%RH
Storage conditions	-5˚C ~ +55˚C/5 ~ 95%RH
Size	L*W*H=56mm*29mm*22mm
Expected Life	≥ 10 years

Application

- Residential and commercial CO detectors
- CO monitors for industrial applications
- Ventilation control for indoor parking garages
- Fire detection

Product Appearance and Dimensions



Pin Configuration

Pin Number	Name	Functional Description
1	GND	Common ground
2	Test	Self-diagnosis control input *1
3	Vconc	Concentration output voltge
4	-	(not connected)
5	Vin	Input voltage

Note:

1) After being powered-on, the module needs approximate 30s to warm up. Once the process is complete, the module enters into normal monitoring state.

Application Notes

- Do not perform the self-diagnosis under the existence of CO gas.
- The self-diagnosis should be done in clean air.
- Open or short circuit condition of the sensor can be detected by this self-diagnosis procedures.
- Proper detection values for self-diagnosis should be determined depending on the design of the application product.
- The time for connecting the Test pin to GND should not exceed 10 seconds.
- If the water in the reservoir should freeze very rapidly (typically occurs only under artificially created conditions), irreversible change of sensor characteristics would occur. To avoid this risk, the sensor is recommended to be positioned with its cap (working electrode) facing up.
- Please contact *Apollosense Ltd* for more information if the required temperature range would exceed the specified limits.