FCM2630-C01 – Pre-calibrated Module for Refrigerant Gases R-32

Features:

* Factory calibrated
* Temperature compensation circuit
* Resistant to interference gases
* Analog output
* Meets IEC60335-2-40 and JRA4068 requirements

Applications:

* Refrigerant gas leak detection in air conditioning/refrigeration systems

FCM2630-C01 is an embedded type module using the semiconductor gas sensor TGS2630 which is optimized to detect A2L refrigerant gas R-32.
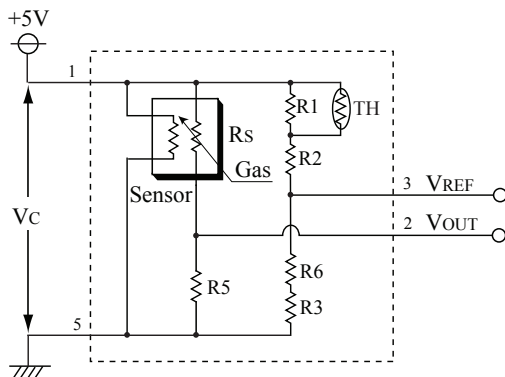
This module enables users to easily build a reliable gas leakage detection system by eliminating electronic circuit design for temperature compensation and the calibration process. In addition, a connector allows easy replacement of the gas sensor module for periodic maintenance.

The TGS2630 gas sensor has a built-in filter to reduce the influence of alcohol and other interference gases, resulting in high selectivity to R-32. For more detailed information on the gas sensor, including sensitivity characteristics, see *TGS2630 Product Information.*

FCM2630-C01 is capable of satisfying the IEC60335-2-40 Edition 6.0 Annex LL and the JRA4068:2021 (Performance 3) standards. The applicable standards are both limited to refrigerant gas type R-32.

Circuit Diagram

V_C: Circuit voltage
V_{OUT}: Output voltage
V_{REF}: Reference voltage

Pin Connections

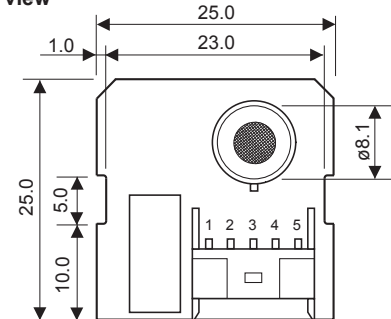| Pin No.	Name	Description
1	V_C	Circuit voltage
2	V_{OUT}	Output voltage
3	V_{REF}	Reference voltage
4	-	-
5	GND	Common ground

Connector model: S05B-PASK-2 (made by JST)
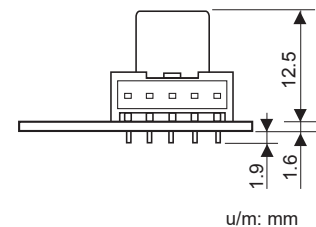Recommended receptacle for connector: PAP-05V-S (made by JST)

Specifications

Model No.		FCM2630-C01
Gas sensor		TGS2630
Target gases		Refrigerant gas R-32
Circuit voltage	V_C	5.0±0.2V DC
Output voltage	V_{OUT}	3.50V typical in 5000ppm R-32 Malfunction condition: V_{OUT} < 0.05V or V_{OUT} > 4.95V (V_C = 5.00V)
Reference voltage	V_{REF}	3.50±0.10V at 20˚C Malfunction condition: V_{REF} < 2.50V or V_{REF} > 3.70V (V_C = 5.00V)
Initial alarm accuracy		2800~7000ppm R-32 (under standard test conditions) Alarm state: V_{OUT} ≥ V_{REF} Normal state: V_{OUT} < V_{REF}
Warm-up time		≤60 seconds (time before V_{OUT} < V_{REF} after power is turned on in a clean atmosphere)
Operating conditions		-10˚~+50˚C, 20~95%RH (avoid condensation)
Power consumption		approx. 0.3W
Weight		approx. 4g
Dimensions		25 x 25 x 16mm
Standard test conditions	Test gas conditions	20˚±2˚C, 65±5%RH
	Circuit conditions	V_C = 5.00±0.05V DC
	Conditioning period prior to test	≥1 day

Structure and Dimensions

Top view

25.0
23.0
1.0
ø8.1
25.0
5.0
10.0
1 2 3 4 5

Side view

12.5
1.9
1.6

u/m: mm

NOTE 1:

Sensor module performance may be affected if exposed to a high concentration of gas during an operating or storage period. Replace the gas sensor module if it is exposed to gas equivalent to 10,000ppm or more of R-32.

NOTE 2:

If the internal temperature near the gas sensor module becomes higher than the external ambient temperature by 10˚C or more due to heat generated by electronic components in a device into which this gas sensor module is incorporated, the set alarm threshold may drift. Please consult with Figaro if there is difficulty in designing a device so as to keep the temperature rise inside the device within 10˚C.

Before purchasing this product, please read the Warranty Statements shown in our webpage by scanning this QR code.

https://figarosensor.com/pdf/Figaro_USA_Sales_T&C.pdf