

# FCM2630 - Pre-calibrated Module for Refrigerant Gas R-32

### Features:

- \* Factory calibrated
- \* Temperature compensation circuit
- \* Resistant to interference gases
- \* Compact embedded type module

**FCM2630** is an embedded type module using the semiconductor gas sensor TGS2630 which can detect low-flammable refrigerant gases such as 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 refrigerants such as R-32. For more detailed information on the gas sensor, including sensitivity characteristics, see *TGS2630 Product Information*.

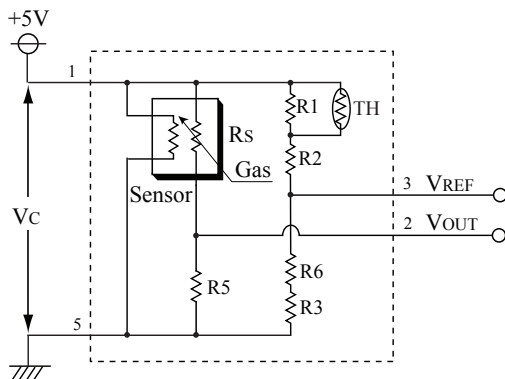
FCM2630 is capable of satisfying the JRA4068:2016 standard (Performance 3) established by the Japan Refrigeration and Air Conditioning Industry Association.

### Applications:

- \* Refrigerant gas leak detection in air conditioning/refrigeration systems



### Circuit Diagram



Vc: Circuit voltage  
 Vout: Output voltage  
 VREF: Reference voltage

### Pin Connections

Pin No.	Name	Description
1	Vc	Circuit voltage
2	Vout	Output voltage
3	VREF	Reference voltage
4	-	-
5	GND	Common ground

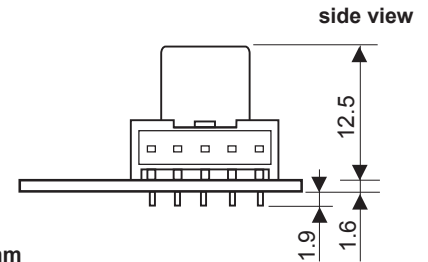
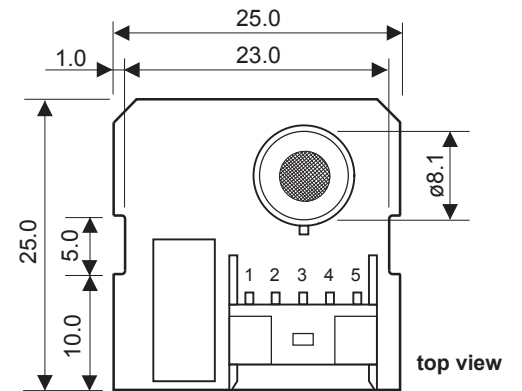
Connector model: S05B-PASK-2 (made by JST)  
 Recommended receptacle for connector: PAP-05V-S (made by JST)

## Specifications

Model No.		FCM2630
Gas sensor		TGS2630
Target gases		Refrigerant gas R-32
Circuit voltage	V <sub>c</sub>	5.0±0.2V DC
Output voltage	V <sub>OUT</sub>	2.5±1.0V in 5000ppm R-32 (under standard test conditions) Malfunction condition: V <sub>OUT</sub> < 0.05V or V <sub>OUT</sub> > 4.95V (V <sub>c</sub> = 5.00V)
Reference voltage	V <sub>REF</sub>	2.5±1.0V (under the standard test conditions) Malfunction condition: V <sub>REF</sub> < 0.50V or V <sub>REF</sub> > 4.00V (V <sub>c</sub> = 5.00V)
Initial alarm accuracy	2800~9000ppm R-32 (under standard test conditions) Alarm state: V <sub>OUT</sub> ≥ V <sub>REF</sub> Normal state: V <sub>OUT</sub> < V <sub>REF</sub>	
Warm-up time	≤60 seconds (time before V <sub>OUT</sub> < V <sub>REF</sub> 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 17mm	
Standard test conditions	Test gas conditions	20°±2°C, 65±5%RH
	Circuit conditions	V <sub>c</sub> = 5.00±0.05V DC
	Conditioning period prior to test	≥1 day

**NOTE:** 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 due to change of the reference voltage (V<sub>REF</sub>). 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.

## Structure and Dimensions



u/m: mm

Figaro Engineering Inc. reserves the right to make changes without notice to this product to improve reliability, functioning, or design.

REV: 07/17

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