

# CDM4161A - Pre-calibrated module for carbon dioxide

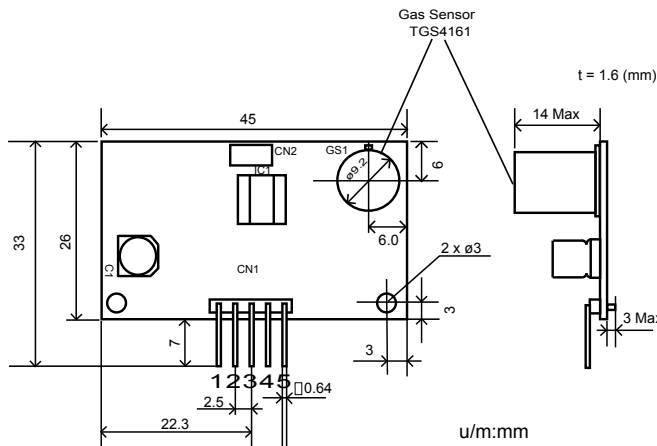
## Features:

- \* Ultra compact size
- \* High selectivity to CO<sub>2</sub>
- \* Maintenance free
- \* Low power consumption
- \* Long life
- \* Pre-calibrated
- \* Low cost

CDM4161A is a highly miniaturized pre-calibrated CO<sub>2</sub> unit which uses TGS4161, Figaro's compact and low-power consumption solid electrolyte CO<sub>2</sub> sensor. Due to Figaro's proprietary idea for signal processing with a microcomputer, no maintenance is required for this module. When compared with traditional CO<sub>2</sub> sensor modules using IR sensors, Figaro's CO<sub>2</sub> module is much more cost effective, making this module the ideal choice for indoor air quality control systems.

## Applications:

- \* Indoor air quality control



CDM4161A dimensions

Pin No.	Name	Description
1	VIN	Power supply input
2	VCONC TRBL	CO <sub>2</sub> concentration output Trouble signal output
3	CTRL	Control signal output
4	RESET	Reset signal input
5	GND	Common ground

CDM4161A pin designations of CN1

**NOTE:** CN1 should be MB5P-90S, mfg. by JST.  
Recommended receptacle for connector: 05JQ-BT, mfg. by JST.

**Specifications:**

Product name	Carbon dioxide (CO <sub>2</sub> ) sensor module
Model No.	CDM4161A
Detection range	400 to 4,000ppm
Sensor (principle)	TGS4161 (solid state electrolyte)
Accuracy (*1)	approx. ±20%
Power supply	DC5.0±0.2V regulated
Power consumption	300mW (typical)
Inrush current	100mA (max)
Operational temperature & humidity range	-10°~+50°C, 5~95%RH (avoid condensation)
Storage temperature & humidity range	-20°~+60°C, 5~90%RH (pack in a moisture proof bag)
Warm up time	2 hours
CO <sub>2</sub> concentration signal (*2)	V <sub>conc</sub> = CO <sub>2</sub> concentration/1,000 (DC 0.4 to 4.0V)
Trouble signal	LOW output
Control signal	ON: HIGH output (when CO <sub>2</sub> conc. exceeds 1000ppm) OFF: LOW output
Reset switch	Establishes the ambient CO <sub>2</sub> concentration as 400ppm by HIGH input signal
Dimensions	45 x 26 x 17mm (45 x 33 x 17mm incl. CN1)
Weight	approx. 6g

**Note 1:** Assumes benchmark is set accurately at 400ppm of CO<sub>2</sub>. This value does not contain long term drift.

**Note 2:** In this module, the CO<sub>2</sub> concentration is calculated by measuring the relative change of sensor output at the measuring point from sensor output in clean air (assumed to be 400ppm of CO<sub>2</sub>).

**IMPORTANT:** This product is not designed and authorized for use as a critical component in life support applications wherein a failure or malfunction of the products may result in injury or threat to life. Figaro Engineering Inc. reserves the right to make changes without notice to this product to improve reliability, functioning or design.

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