

CDM4161A - Pre-calibrated module for carbon dioxide

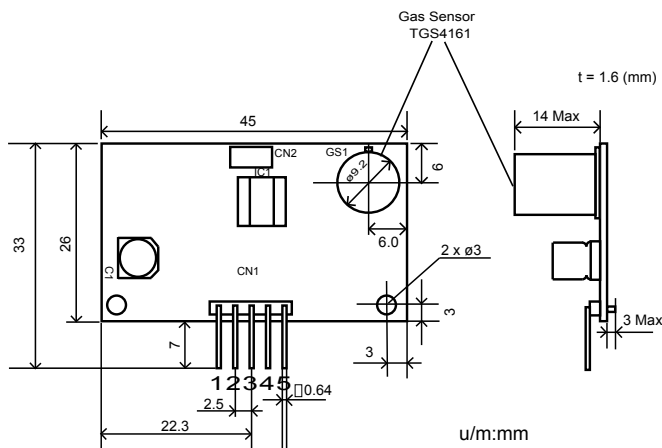
Features:

- * Ultra compact size
- * High selectivity to CO₂
- * Maintenance free
- * Low power consumption
- * Long life
- * Pre-calibrated
- * Low cost

CDM4161A is a highly miniaturized pre-calibrated CO₂ unit which uses TGS4161, Figaro's compact and low-power consumption solid electrolyte CO₂ sensor. Due to Figaro's proprietary idea for signal processing with a microcomputer, no maintenance is required for this module. When compared with traditional CO₂ sensor modules using IR sensors, Figaro's CO₂ 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 ₂ 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 ₂) 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 ₂ concentration signal (*2) | $V_{conc} = \text{CO}_2 \text{ concentration}/1,000$ (DC 0.4 to 4.0V) |
| Trouble signal | LOW output |
| Control signal | ON: HIGH output (when CO ₂ conc. exceeds 1000ppm) OFF: LOW output |
| Reset switch | Establishes the ambient CO ₂ 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 CO₂. This value does not contain long term drift.

Note 2: In this module, the CO₂ 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 CO₂).

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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