

Specification (Tentative)

CO₂ sensor IMGXCA0006-00xx

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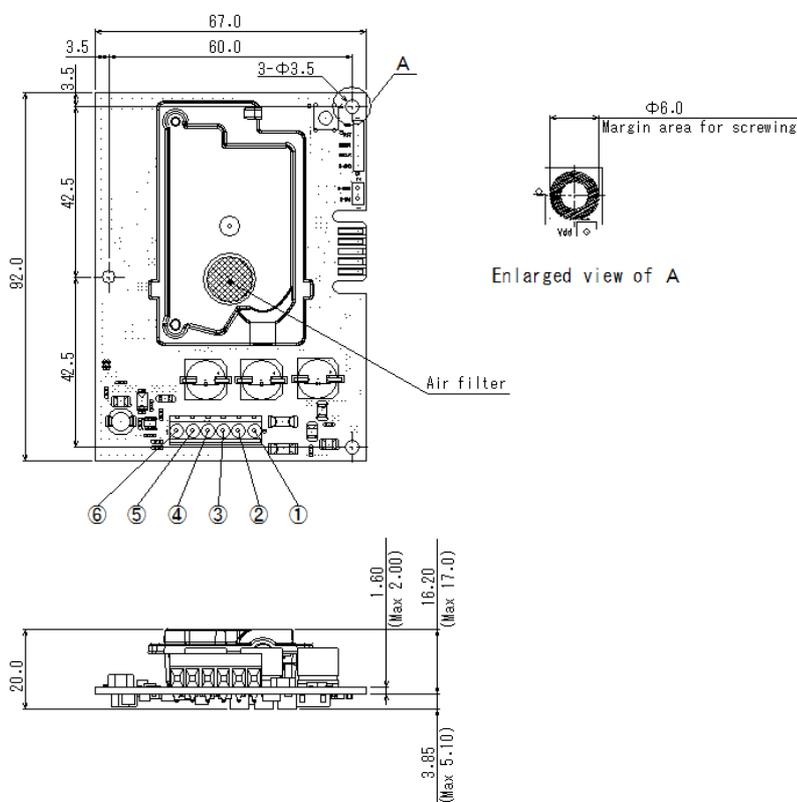
1. Scope

This specification is applied to a NDIR (Non-dispersive infrared) CO₂ sensor used for environmental sensing. Please contact us when you use this product for any other applications described in the above.

2. Product size and outline

2-1. Outline dimensions of the CO₂ sensor

67.0^{+0.5}_{-0.2} mm × 92.0^{+0.5}_{-0.2} mm × 20.0^{+2.1}_{-1.3} mm(t)



2-2. Terminal block assignment

Terminal number	Item
① (ACDC+)	Input Power (+)
② (AC-)	Unused
③ (FG)	Input Power (-)
④ (AG)	Output (-)
⑤ (OUT)	Output (+)
⑥ (I IN)	Unused

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2-3. Product Weight (Reference)

Item	Weight	Remark
CO ₂ sensor	Typ. 56 g	

3. Electrical characteristics

3-1. Input and output characteristics

Item	Detail	Remark
Power supply	DC 12.0±2.0 V DC 24.0±2.4 V	
Current consumption	Average 50 mA (DC 12 V) Average 25 mA (DC 24 V)	Peak 200 mA (DC 12 V) Peak 100 mA (DC 24 V)
Output voltage	DC 0-5 V	Min 10 mV
Allowable load resistance	4.7 kΩ Min.	
Allowable load capacitance	10 nF Max.	

3-2. CO₂ concentration characteristics

Item	Detail	Remark
Measurement range	0-3000 ppm	
Accuracy	± (50ppm+5% of reading)	Typ. ± (30ppm+2.5% of reading)
Measurement interval	5 seconds	
Warm up time	180 seconds	Output voltage : 0 V Automatic calibration starts after turning power on.
Pressure dependence	Typ. 0.14 %/hPa	This product is adjusted based on standard atmospheric pressure (1013hPa).

3-3. Automatic calibration

Item	Detail	Remark
Calibration time	Typ. 167 seconds.	
Timing	1. When Power is turned on 2. When it passes for 24h ±10s or temperature change by ±5°C after previous calibration.	
Environmental conditions for starting automatic calibration	Temperature variation is less than 0.3°C during 60 s just before the calibration	
Output voltage during calibration	Keep the output voltage just before the calibration	

3-4. Environment conditions

Item	Detail	Remark
Operating environment	Temperature : 0~50°C Humidity : 0~95%RH Pressure : 700~1300hPa	Non-condensing
Storage temperature	-20~50°C	Non-condensing
Condensation correspondence	The circuit board is coated with a moisture-proof coating	

4. Caution for usage

4-1. Limitation of applications

Please avoid using this product for the applications listed below which require especially high reliability for the prevention of defects that might directly cause damage to the third party's life, human body or property.

When this product is used for the applications listed below, we shall not be liable for any claims on the product.

1. Aircraft equipment
2. Aerospace equipment
3. Undersea equipment
4. Power plant control equipment
5. Medical equipment
6. Transportation equipment (vehicles, trains, ships, etc.)
7. Traffic signal equipment
8. Data-processing equipment
9. Application of similar complexity and/or reliability requirement to the applications listed in the above

4-2. Fail-safe

Be sure to provide an appropriate fail-safe function on your product to prevent a second damage that may be caused by the abnormal function or the failure of this product.

4-3. Caution for handling and storage

- 1) To prevent failure or malfunction, Please use a stabilized power supply.
- 2) Please avoid using this product in the following conditions because it may cause failure or malfunction.
 - a) In liquid, corrosive gas or sea breeze.

- b) In a place exposed to rapid ambient temperature change.
 - c) In a place exposed to strong vibration.
 - d) In a place exposed to strong electromagnetic field.
 - e) In charge field and static electricity field.
 - f) In a place exposed to pesticide application.
In a place splashed water or mist on sensor module.
 - g) In a place exposed to large amounts of dust.
 - h) In any other place similar to the above (a) through (g).
- 3) Strong shock should be avoided.
 - 4) The electrostatics and electromagnetic field may occur malfunction or breakdown.
 - 5) Do not store in liquid, corrosive gas, or sea breeze.
 - 6) Please do not touch the air filter.
 - 7) This product is not waterproof.

5.  Note

- 1) You are requested not to use our product deviating from the agreed specifications.
- 2) We consider it not to appropriate to include any terms and conditions with regard to the business transaction in the product specifications, drawings or other technical documents. Therefore, if your technical documents as above include such terms and conditions such as warranty clause, product liability clause, or intellectual property infringement liability clause, they will be deemed to be invalid.