

FECS42-20 - for the Detection of Nitrogen Dioxide

Features:

- * High sensitivity/selectivity to NO₂
- * Quick response to NO₂
- * Linear output
- * Long life
- * Stable baseline
- * Unique leak-proof structure

The FECS42-20 is a unique electrochemical-type nitrogen dioxide sensor. Its most notable feature is its unique leak-proof structure, making it ideal for NO₂ monitors and detectors in various fields.

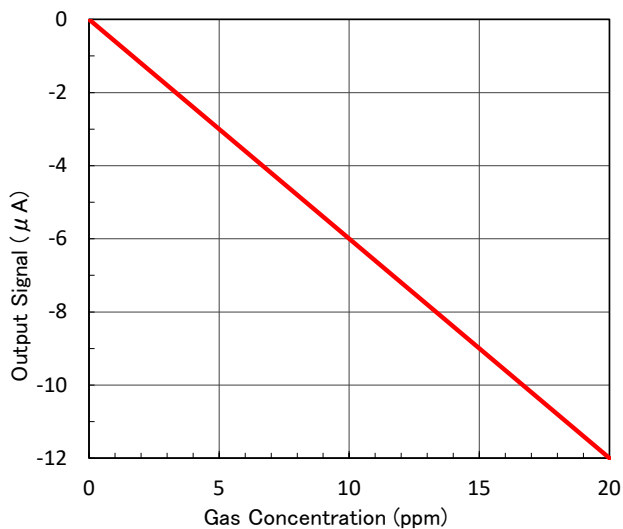
Applications:

- * Portable and fixed installation NO₂ monitors
- * NO₂ detectors
- * Ventilation control for indoor parking garages



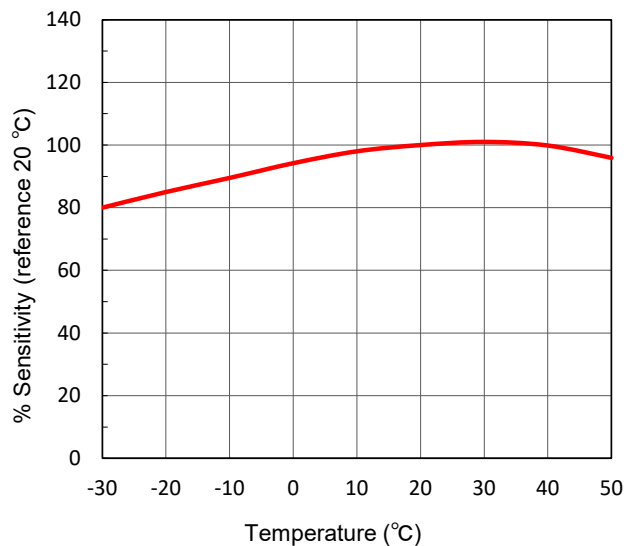
Sensitivity Characteristics:

Typical characteristics (linearity) of FECS42-20 (20°C) are shown below.



Temperature Dependency:

Typical characteristics (temperature dependency) of FECS42-20 are shown below.



Specifications:

Detection Gas	Nitrogen Dioxide
Detection Range	0 ~ 20 ppm
Maximum Overload	150 ppm
Output Signal	-600 ± 150 nA/ppm (*1)
Repeatability	±2% (*1)
Resolution	0.1 ppm (*1)
Baseline Range (Clean air)	±0.2 ppm (*1)
Response Time (t ₉₀)	< 25 sec (*1)
Baseline Shift (-20 ~ 40°C)	< 0.2 ppm (*1)
Long Term Output Drift	< 2% /month (*1)
Expected Life Time	> 2 years (*1,*2)
Operating Temperature	-20 ~ 50°C
Operating Humidity	15 ~ 90% RH
Operating Pressure Range	1013 hPa ±10%
Recommended Load Resistor	33Ω
Bias Voltage	Not required
Position Sensitivity	None
Recommended Storage Temp.	0 ~ 20°C
Cap Color	Black
Weight	4.5g (approx.)

*1 Factory test data conditions: 20°C, 50%RH and 1013 hPa.

*2 Life expectancy in normal air under the factory test conditions is defined as the period until sensor output drops to 60% of its original value.

Cross Sensitivity Data :

Table1 shows the typical response of FECS42-20 to interference gases.

Table1 Cross Sensitivity of FECS42-20 (20°C)

Gas	Concentration (ppm)	Typical Nitrogen Dioxide Concentration(ppm)Equivalent
Nitrogen Dioxide	20	20
Hydrogen	1,000	0
Carbon Monoxide	300	0
Carbon Dioxide	5,000	0
Sulphur Dioxide	20	0
Hydrogen Sulfide	10	-0.7 ~ 0.3
Nitric Oxide	30	0
Ammonia	100	0
Ethanol	100	0
Chlorine	1	1

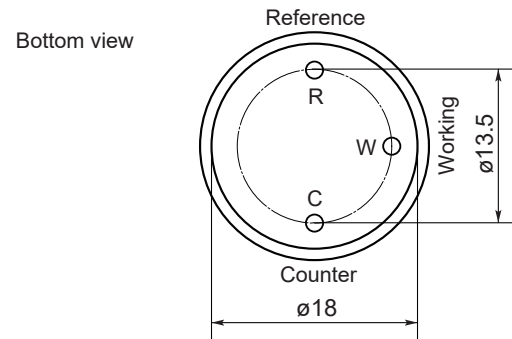
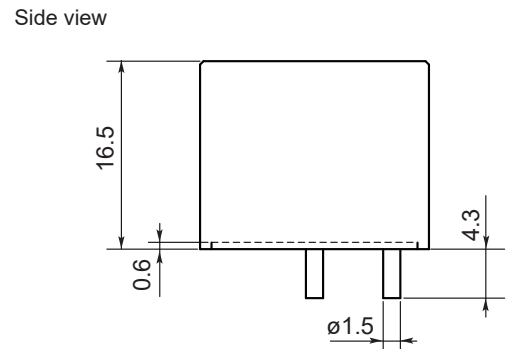
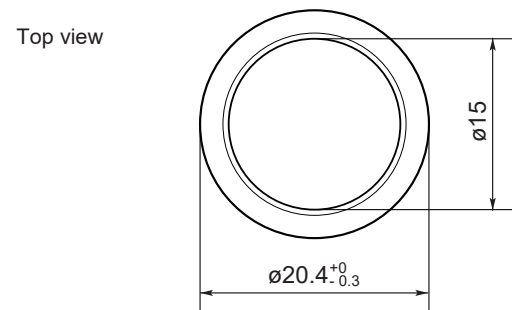
For information on warranty, please refer to Standard Terms and Conditions of Sale of Figaro USA Inc. All sensor characteristics shown in this brochure represent typical characteristics. Actual characteristics vary from sensor to sensor. The only characteristics warranted are those in the Specification table above.

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

Dimensions:



Unit: mm

All tolerance ± 0.1mm unless otherwise stated.

The following are the recommended socket pins of FECS-series gas sensors:

Recommended specifications:

- Basically fitting male pin diameter is φ1.5 mm
- Male pin insertion depth is 4.3 mm or more

Socket pins (example):

S.E.R. Corporation: SS 6000-00

Mac Eight Co., Ltd: PD-152

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