## FECS43-20 - for the Detection of Sulfur Dioxide

**Applications:** 

\* SO, detectors

### Features:

- \* High sensitivity/selectivity to SO,
- \* Quick response to SO<sub>2</sub>

FIGARO

- \* Linear output
- \* Long life
- \* Stable output signal at high-temperature
- \* Unique leak-proof structure

Figaro's Sulfur Dioxide Sensor FECS43-20 is a unique electrochemical-type sulfur dioxide sensor. Its most notable features are stable output signal at high-temperature and a unique leak-proof structure. These features make the sensor ideal for SO<sub>2</sub> monitors and detectors in various fields.

# Hur Dioxide Sent FECS43-20 BG1A- 0002

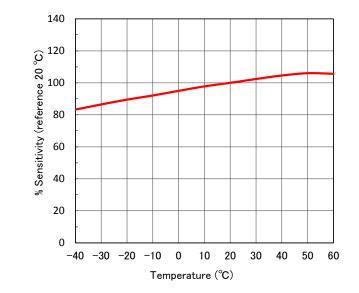
#### Sensitivity Characteristics:

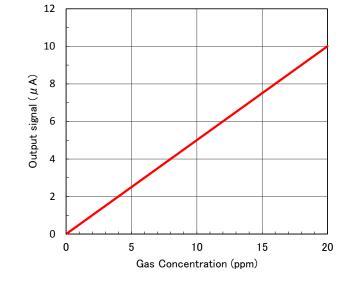
Typical characteristics (linearity) of FECS43-20 (25 $^\circ\text{C})$  are shown below.



Typical characteristics (temperature dependency) of FECS43-20 are shown below.

\* Portable and fixed installation SO, monitors





# FIGARO

### Specifications:

| Detection Gas                            | Sulfur Dioxide                      |  |
|--|-------------------------------------|--|
| Detection Range                          | 0 ~ 20 ppm                          |  |
| Maximum Overload                         | 150 ppm                             |  |
| Output Signal                            | 500 ± 100 nA/ppm (*)                |  |
| Repeatability                            | ±2% (*)                             |  |
| Resolution                               | 0.1 ppm (*)                         |  |
| Baseline Range (Pure air)                | -0.2 ppm to +0.5 ppm equivalent (*) |  |
| Typical Response Time (t <sub>90</sub> ) | < 25 sec (*)                        |  |
| Baseline Shift (-20 ~ 40°C)              | < ±0.2 ppm equivalent(*)            |  |
| Long Term Output Drift                   | < 2% /month (*)                     |  |
| Expected Life Time                       | > 2 years (*)                       |  |
| Operating Temperature                    | -30 ~ 50°C                          |  |
| Operating Humidity                       | 15 ~ 90% RH                         |  |
| Operating Pressure Range                 | 1013 hPa ±10%                       |  |
| Recommended Load Resistor                | 10Ω                                 |  |
| Bias Voltage                             | Not required                        |  |
| Position Sensitivity                     | None                                |  |
| Recommended Storage Temp.                | 0 ~ 20°C                            |  |
| Storage Life                             | 6 months                            |  |
| Cap Color                                | Green                               |  |
| Weight                                   | 4.5g (approx.)                      |  |

(\*) Performance data conditions: 20°C, 50%RH and 1013 hPa.

#### Cross Sensitivity Data :

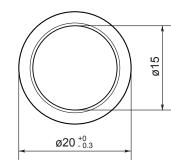
Table1 shows the typical response of FECS43-20 to interference gases.

|                  | <b>*</b>               |  |  |
|------------------|------------------------|--|--|
| Gas              | Concentration<br>(ppm) | Typical Sulfur Dioxide<br>Concentration(ppm)Equivalent |  |
| Sulfur Dioxide   | 10                     | 10   |  |
| Carbon Monoxide  | 300                    | < 1  |  |
| Carbon Dioxide   | 5,000                  | 0  |  |
| Hydrogen         | 400                    | < 1  |  |
| Hydrogen Sulfide | 15                     | 0  |  |
| Nitric Oxide     | 50                     | 1  |  |
| Nitrogen Dioxide | 10                     | -10  |  |
| Ammonia          | 20                     | 0  |  |
| Chlorine         | 5                      | -1   |  |

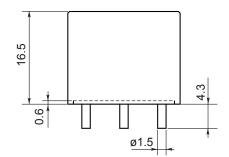
Table1 Cross Sensitivity of FECS43-20 (25°C)

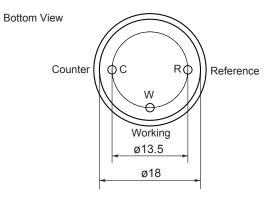
### **Dimensions**:

Top View



Side View





All dimensions in mm.

All tolerance ± 0.1mm Unless otherwise stated.

| FIGARO ENGINEERING INC.    |       |       |         |  |
|----------------------------|-------|-------|---------|--|
| 1-5-11 Senba-nishi         |       |       |         |  |
| Mino, Osaka 562 JAPAN      |       |       |         |  |
| Phone:                     | (81)- | 72-72 | 28-2561 |  |
| Fax:                       | (81)- | 72-72 | 28-0467 |  |
| www.figaro.co.jp           |       |       |         |  |
| email: figaro@figaro.co.jp |       |       |         |  |