

## FECS44-100 / -200

- for the Detection of Low Concentration Ammonia

### Features:

- \* High selectivity to NH<sub>3</sub>
- \* Small influence by H<sub>2</sub>S
- \* Excellent durability to NH<sub>3</sub> exposure
- \* Linear output
- \* Long life
- \* Stable baseline
- \* Unique leak-proof structure

Figaro's Ammonia Sensor FECS44 is a unique electrochemical-type ammonia sensor. Its most notable features are small influence by H<sub>2</sub>S, excellent durability to NH<sub>3</sub> exposure, and a unique leak-proof structure. These features make the sensor ideal for NH<sub>3</sub> monitors and detectors in various fields.

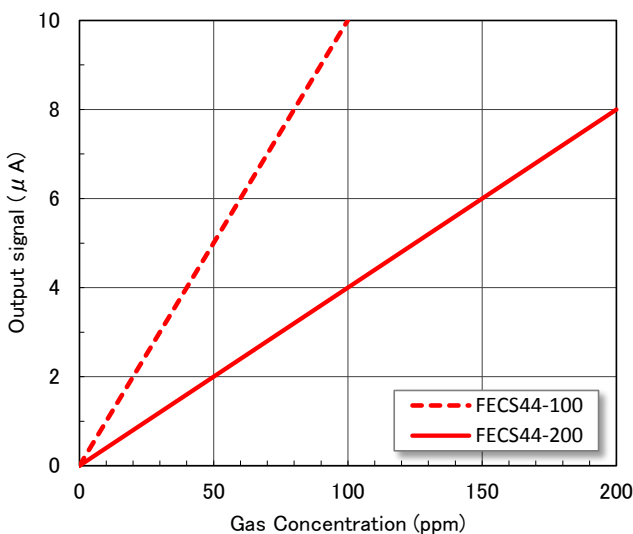
### Applications:

- \* Portable and fixed installation NH<sub>3</sub> monitors
- \* NH<sub>3</sub> detectors
- \* Ammonia leak detection in refrigerators



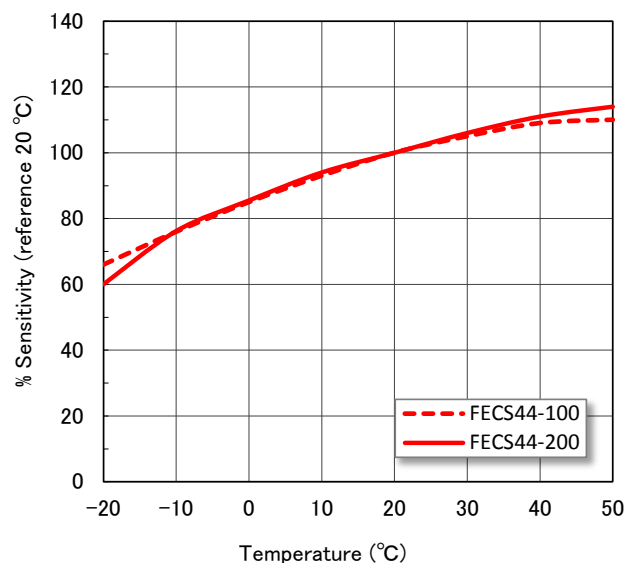
### Sensitivity Characteristics:

Typical characteristics (linearity) of FECS44-100 / -200 (20°C) are shown below.



### Temperature Dependency:

Typical characteristics (temperature dependency) of FECS44-100 / -200 are shown below.

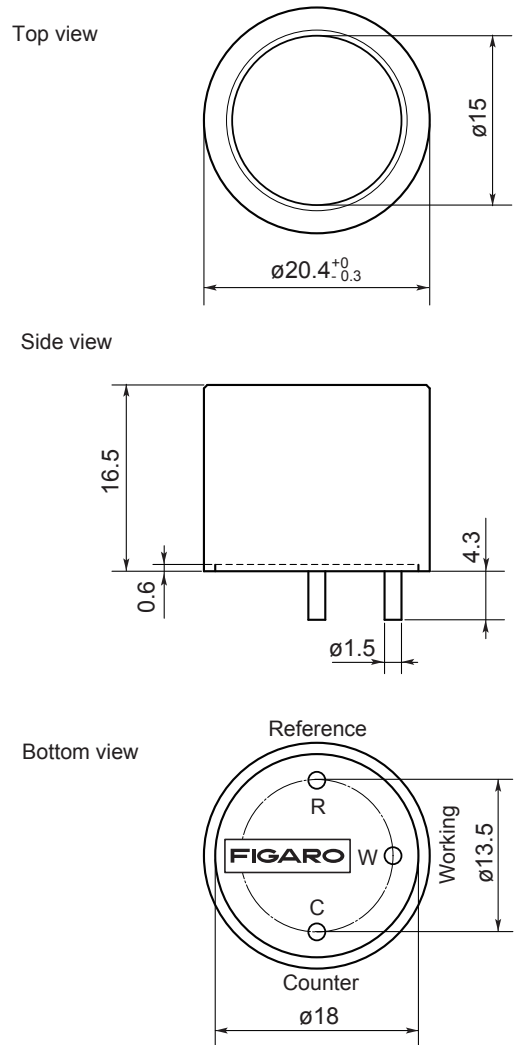


### Specifications:

| Model Number                             | FECS44-100          | FECS44-200         |
|--|---------------------|--------------------|
| Detection Gas                            | Ammonia             |                    |
| Detection Range                          | 0 ~ 100 ppm         | 0 ~ 200 ppm        |
| Maximum Overload                         | 200 ppm             | 500 ppm            |
| Output Signal                            | 100 ± 30 nA/ppm (*) | 40 ± 12 nA/ppm (*) |
| Repeatability                            | ±10% (*)            | ±10% (*)           |
| Resolution                               | 1 ppm (*)           | 2 ppm (*)          |
| Baseline Range (Pure air)                | < ±2 ppm (*)        | < ±4 ppm (*)       |
| Typical Response Time (t <sub>90</sub> ) | 60 sec (*)          | 90 sec (*)         |
| Baseline Shift (-30 ~ 50°C)              | < 3 ppm(*)          | < 6 ppm(*)         |
| 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                | 33Ω                 |                    |
| Bias Voltage                             | Not required        |                    |
| Position Sensitivity                     | None                |                    |
| Recommended Storage Temp.                | 0 ~ 20°C            |                    |
| Storage Life                             | 6 months            |                    |
| Cap Color                                | Purple              |                    |
| Weight                                   | 4.5g (approx.)      |                    |

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

### Dimensions:



All dimensions in mm.

All tolerance ± 0.1mm unless otherwise stated.

### Cross Sensitivity Data :

Table1 shows the typical response of FECS44-100 / -200 to interference gases.

Table1 Cross Sensitivity of FECS44-100 / -200 (20°C)

| Model Number     | FECS44-100          |   | FECS44-200          |   |
|------------------|---------------------|---|---------------------|---|
|                  | Concentration (ppm) | Typical Ammonia Concentration(ppm) Equivalent | Concentration (ppm) | Typical Ammonia Concentration(ppm) Equivalent |
| Ammonia          | 100                 | 100   | 100                 | 100   |
| Hydrogen Sulfide | 10                  | -1.5 ~ 0                                      | 10                  | -1.5 ~ 0                                      |
| Sulphur Dioxide  | 10                  | -3  | 10                  | -2  |
| Carbon Dioxide   | 5,000               | 0   | 5,000               | 0   |
| Carbon Monoxide  | 300                 | 0   | 300                 | 0   |
| Hydrogen         | 1,000               | 0   | 1,000               | 0   |
| Nitrogen Dioxide | 20                  | -1.5 ~ 0                                      | 20                  | 0   |
| Nitric Oxide     | 30                  | 0   | 30                  | 0   |
| Ethanol          | 100                 | 0   | 100                 | 0   |

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