

# FECS44-1000 / -5000

## - for the Detection of High Concentration Ammonia

### Features:

- \* High selectivity to  $\text{NH}_3$
- \* Small influence by  $\text{H}_2\text{S}$
- \* Excellent durability to  $\text{NH}_3$  exposure
- \* Linear output
- \* Long life
- \* Stable baseline
- \* Unique leak-proof structure

### Applications:

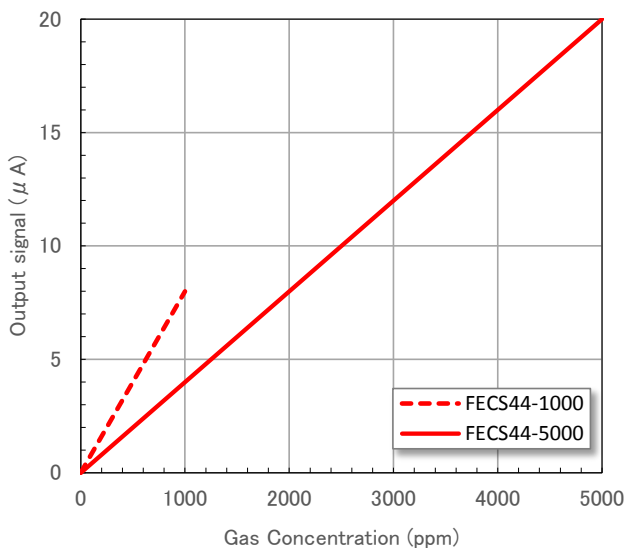
- \* Portable and fixed installation  $\text{NH}_3$  monitors
- \*  $\text{NH}_3$  detectors
- \* Ammonia leak detection in refrigerators

Figaro's Ammonia Sensor FECS44 is a unique electrochemical-type ammonia sensor. Its most notable features are small influence by  $\text{H}_2\text{S}$ , excellent durability to  $\text{NH}_3$  exposure, and a unique leak-proof structure. These features make the sensor ideal for  $\text{NH}_3$  monitors and detectors in various fields.



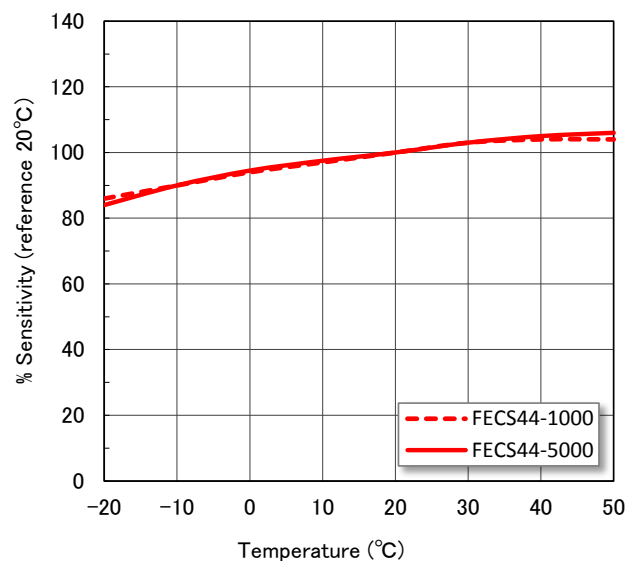
### Sensitivity Characteristics:

Typical characteristics (linearity) of FECS44-1000 / -5000 (20°C) are shown below.



### Temperature Dependency:

Typical characteristics (temperature dependency) of FECS44-1000 / -5000 are shown below.

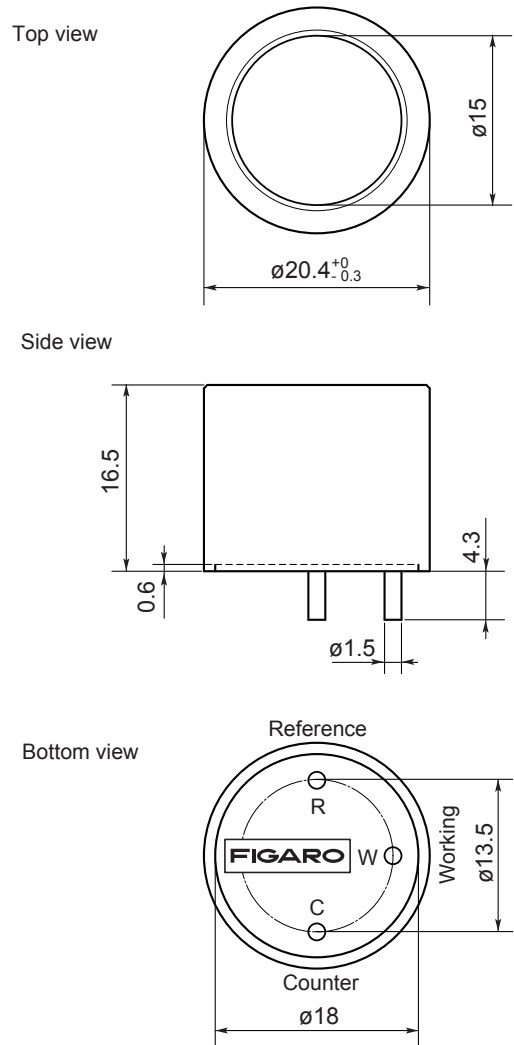


### Specifications:

|  |                  |                  |
|--|------------------|------------------|
| Model Number                             | FECS44-1000      | FECS44-5000      |
| Detection Gas                            | Ammonia          |                  |
| Detection Range                          | 0 ~ 1000 ppm     | 0 ~ 5000 ppm     |
| Maximum Overload                         | 2500 ppm         | -                |
| Output Signal                            | 8 ± 4 nA/ppm (*) | 4 ± 2 nA/ppm (*) |
| Repeatability                            | ±10% (*)         |                  |
| Resolution                               | 10 ppm (*)       | 20 ppm (*)       |
| Baseline Range (Pure air)                | < 6 ppm (*)      | < 10ppm (*)      |
| Typical Response Time (t <sub>90</sub> ) | 120 sec (*)      | 150 sec (*)      |
| Baseline Shift (-30 ~ 50°C)              | < 20 ppm(*)      | < 40 ppm(*)      |
| Long Term Output Drift                   | < 2% /month (*)  |                  |
| Expected Life Time                       | Over 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 FECS44-1000 / -5000 to interference gases.

Table1 Cross Sensitivity of FECS44-1000 / -5000 (20°C)

| Model Number     | FECS44-1000         |   | FECS44-5000         |   |
|------------------|---------------------|---|---------------------|---|
|                  | Concentration (ppm) | Typical Ammonia Concentration(ppm) Equivalent | Concentration (ppm) | Typical Ammonia Concentration(ppm) Equivalent |
| Ammonia          | 100                 | 100   | 100                 | 100   |
| Hydrogen Sulfide | 20                  | 0   | 20                  | 0   |
| Sulphur Dioxide  | 20                  | -8  | 20                  | -12   |
| Carbon Dioxide   | 5,000               | 0   | 5,000               | 0   |
| Carbon Monoxide  | 300                 | 0   | 300                 | 0   |
| Hydrogen         | 1,000               | 0   | 1,000               | 0   |
| Nitrogen Dioxide | 20                  | 0   | 20                  | 0   |
| Nitric Oxide     | 30                  | 0   | 30                  | 0   |
| Ethanol          | 100                 | 0   | 100                 | 0   |



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