

FECS44-100 / -200

- for the Detection of Low Concentration Ammonia

Features:

- * High selectivity to NH_3
- * Small influence by H_2S
- * Excellent durability to NH_3 exposure
- * Linear output
- * Long life
- * Stable baseline
- * Unique leak-proof structure

The FECS44 is a unique electrochemical-type ammonia sensor. Its most notable features are small influence by H_2S , excellent durability to NH_3 exposure, and a unique leak-proof structure. These features make the sensor ideal for NH_3 monitors and detectors in various fields.

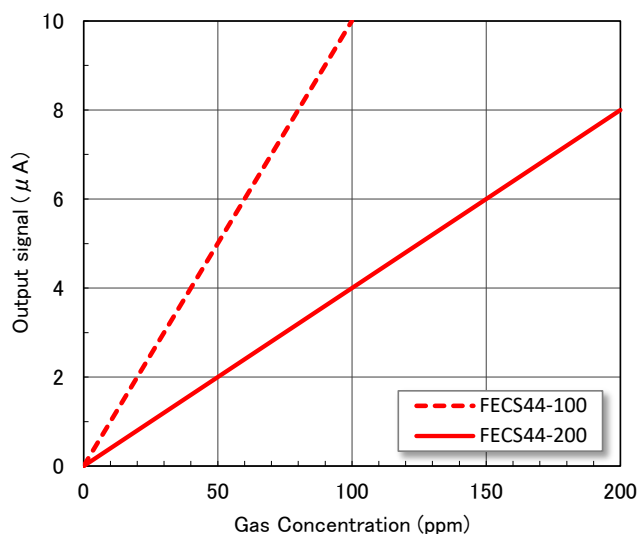
Applications:

- * Portable and fixed installation NH_3 monitors
- * NH_3 detectors
- * Ammonia leak detection in refrigerators



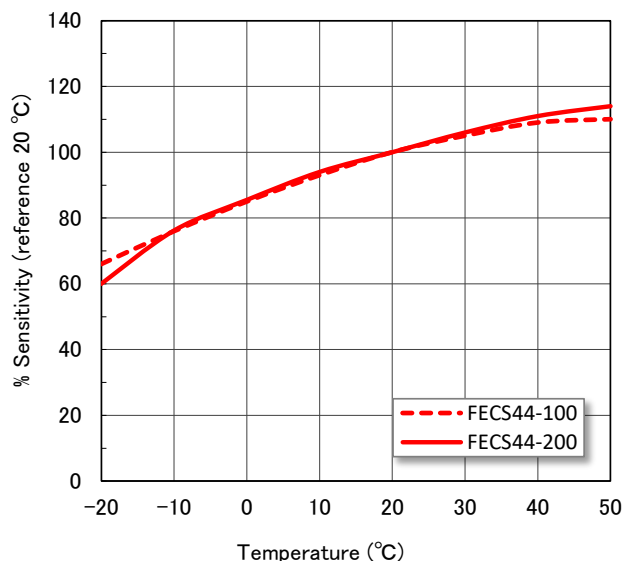
Sensitivity Characteristics:

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 (*1) | 40 ± 12 nA/ppm (*1) |
| Repeatability | ±10% (*1) | ±10% (*1) |
| Resolution | 1 ppm (*1) | 2 ppm (*1) |
| Baseline Range (Clean air) | ±2 ppm (*1) | ±4 ppm (*1) |
| Response Time (t_{90}) | 60 sec (typical)(*1) | 90 sec (typical)(*1) |
| Baseline Shift (-30 ~ 40°C) | < 2 ppm (*1) | < 4 ppm (*1) |
| Long Term Output Drift | < 2% /month (*1) | |
| Expected Life Time | > 2 years (*1,*2) | |
| 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 | |
| Cap Color | Purple | |
| 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 :

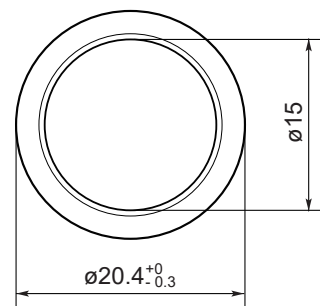
Table1 shows the typical response of FECS44-100 / -200 to interference gases.

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

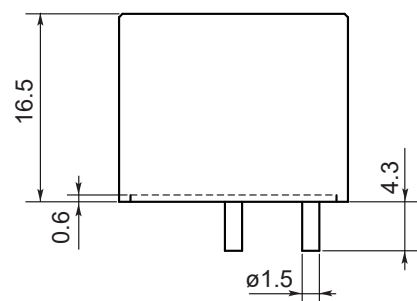
| Gas | Concentration (ppm) | Typical Ammonia Concentration(ppm) Equivalent | |
|------------------|---------------------|---|------------|
| | | FECS44-100 | FECS44-200 |
| Ammonia | 100 | 100 | 100 |
| Hydrogen Sulfide | 10 | -1.5 ~ 0 | -1.5 ~ 0 |
| Sulphur Dioxide | 10 | -3 | -2 |
| Carbon Dioxide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

Dimensions:

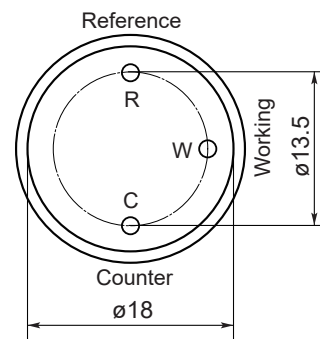
Top view



Side view



Bottom view



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