

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.

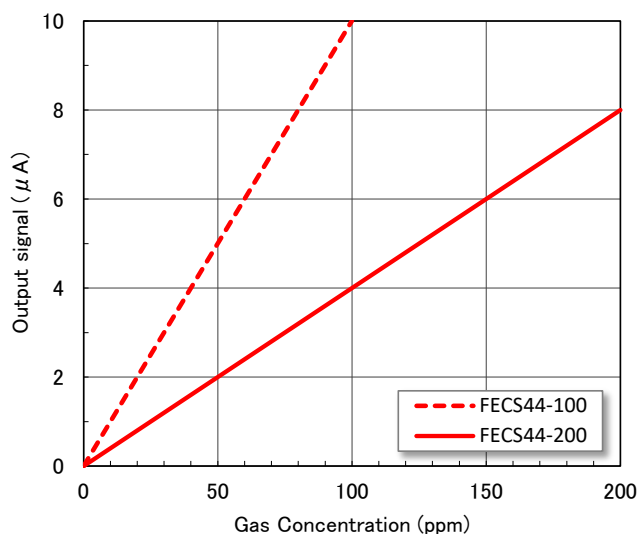
Applications:

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



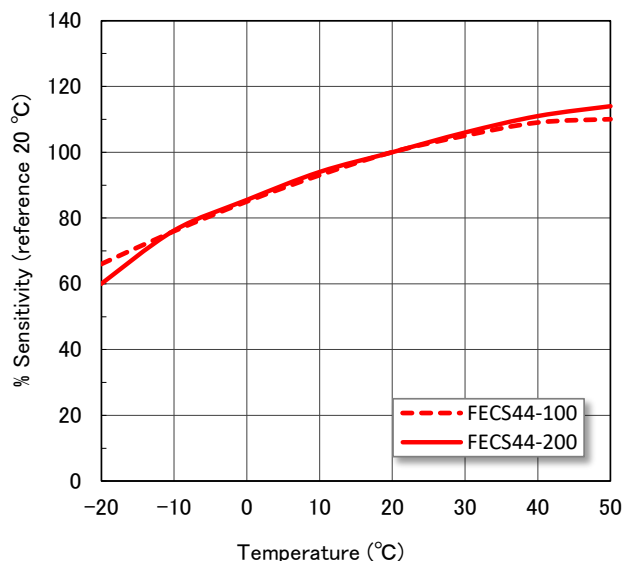
Sensitivity Characteristics:

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 :

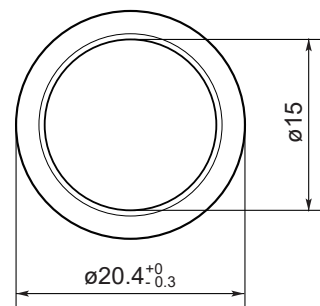
Table1 shows the typical response of FECS44-100 / -200 to interference gases.

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

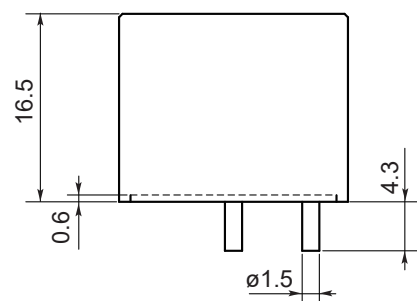
Gas	Concentration (ppm)	Typical Ammonia Concentration(ppm) Equivalent	
		FECS44-100	FECS44-200
Ammonia	100	100	100
Hydrogen Sulfide	10	-1.5 ~ 0	-1.5 ~ 0
Sulphur Dioxide	10	-3	-2
Carbon Dioxide	5,000	0	0
Carbon Monoxide	300	0	0
Hydrogen	1,000	0	0
Nitrogen Dioxide	20	-1.5 ~ 0	0
Nitric Oxide	30	0	0
Ethanol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

Dimensions:

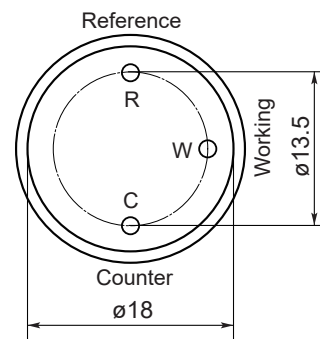
Top view



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