

## FECS50-100 - for the Detection of Hydrogen Sulfide

### Features:

- \* High sensitivity/selectivity to  $H_2S$
- \* Quick response to  $H_2S$
- \* Small influence by CO
- \* Linear output
- \* Long life
- \* Stable baseline
- \* Unique leak-proof structure

The FECS50-100 is a unique electrochemical-type hydrogen sulfide sensor. Its most notable features are small influence by CO and a unique leak-proof structure. These features make the sensor ideal for  $H_2S$  monitors and detectors in various fields.

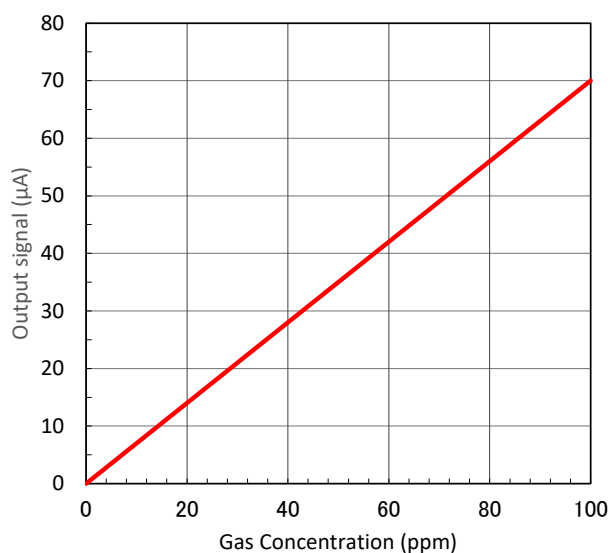
### Applications:

- \* Portable and fixed installation  $H_2S$  monitors
- \*  $H_2S$  detectors



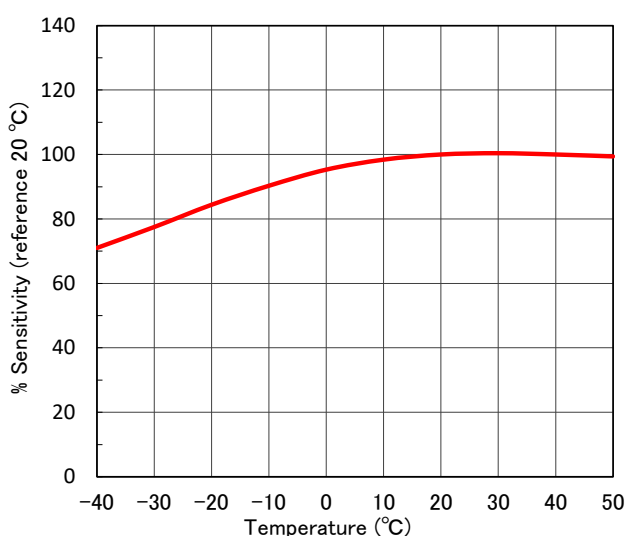
### Sensitivity Characteristics:

Typical characteristics (linearity) of FECS50-100 (20°C) are shown below.



### Temperature Dependency:

Typical characteristics (temperature dependency) of FECS50-100 are shown below.



## Specifications:

Detection Gas	Hydrogen Sulfide
Detection Range	0 ~ 100 ppm
Maximum Overload	500 ppm
Output Signal	700 ± 150 nA/ppm (*1)
Repeatability	±2% (*1)
Resolution	0.1 ppm (*1)
Baseline Range (Clean air)	-0.1ppm to +0.4 ppm (*1)
Response Time (t <sub>90</sub> )	< 30 sec (*1)
Baseline Shift (-20 ~ 40°C)	< 0.5 ppm (*1)
Long Term Output Drift	< 2% /month (*1)
Expected Life Time	> 2 years (*1,*2)
Operating Temperature	-40 ~ 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
Cap Color	Dark Blue
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 :

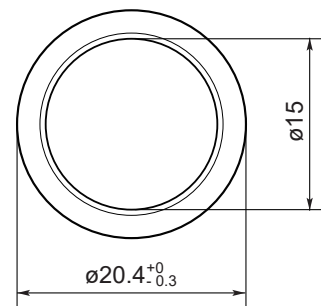
Table1 shows the typical response of FECS50-100 to interference gases.

Table1 Cross Sensitivity of FECS50-100 (20°C)

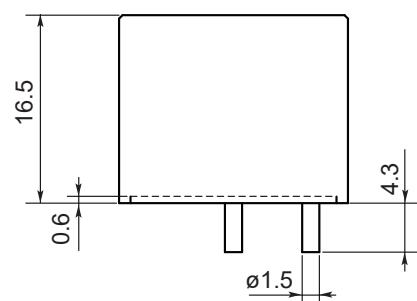
Gas	Concentration (ppm)	Typical Hydrogen Sulfide Concentration(ppm)Equivalent
Hydrogen Sulfide	10	10
Carbon Monoxide	300	< 2
Carbon Dioxide	5,000	0
Hydrogen	1,000	< 3
Sulphur Dioxide	5	0.5
Nitric Oxide	30	0.3
Nitrogen Dioxide	5	-1
Ammonia	100	0
Ethanol	1,000	< 2

## Dimensions:

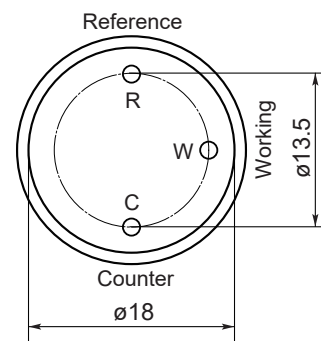
Top view



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  $\phi 1.5$  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