



Remote Sensing Head DF-9200 EChem

[Permanently mounted sensing head to monitor toxic gases in air, according to TRGS, COSHH, etc.]

Features

- Selective and sensitive sensors for toxic gas monitoring
- Flexible use with MSA gas warning systems or as stand-alone sensing head
- Simple one-person calibration and service [plug-in sensors]
- Compact construction
- Easily wall-mounted
- Installation costs reduced with multi-core cable connection for up to 4 sensing heads
- Excellent price/performance ratio

Application

Continuously operating gas warning systems are installed in many industrial environments to protect the worker, the plant and the environment from hazardous substances.

The MSA diffusion remote sensing heads series DF-9200 EChem have been designed specifically for monitoring of workplaces inside buildings as required by regulations such as TRGS, COSHH, etc.

The remote sensing heads can be used with MSA control modules or with a separate 24V power supply as a stand-alone sensing head [e.g. as a transmitter for a building control system].

The remote sensing head DF-9200 EChem can be installed in all those work areas where a hazard can occur from the following substances:

- carbon monoxide CO
- hydrogen sulfide H₂S
- ammonia NH₃
- sulfur dioxide SO₂
- hydrogen cyanide HCN
- hydrogen H₂
- oxygen deficiency O₂
- chlorine Cl₂
- hydrogen chloride HCl
- nitric oxide NO
- nitrogen dioxide NO₂

Design and Function

The remote sensing heads are equipped with electrochemical sensors type MSA EChem which in many applications have proven to be highly selective, have short response times and show good long-term stability. The gas to be measured reaches the electrochemical sensor in the remote sensing head by diffusion and here a signal proportional to the gas concentration is generated.

This current is amplified electronically and normalized to a 4...20 mA output signal. The remote sensing heads are powered with 24 Volts on the same 2-core wire.

Calibrations and adjustments are performed right on the remote sensing head, permitting one-person calibration. If a multi-core cable is used, up to 4 remote sensing heads can be connected with a single cable; this reduces installation costs.

Technical Data

Measuring range:

carbon monoxide	0... 300 ppm CO
hydrogensulfide	0... 50 ppm H ₂ S
ammonia	0... 100 ppm NH ₃
ammonia	0... 500 ppm NH ₃
ammonia	0...1000 ppm NH ₃
sulfur dioxide	0... 10 ppm SO ₂
hydrogen cyanide	0... 50 ppm HCN
hydrogen	0... 500 ppm H ₂
oxygen	0... 30 Vol.-% O ₂
chlorine	0... 10 ppm Cl ₂
hydrogen chloride	0... 20 ppm HCl
nitric oxide	0... 200 ppm NO
nitrogen dioxide	0... 30 ppm NO ₂

Display Accuracy:

± 2% of full scale [f. s.]

Span drift:

< ± 2% of f. s./week

Response time: T₉₀

carbon monoxide	< 40 s
hydrogensulfide	< 150 s
ammonia	< 160 s
sulfur dioxide	< 120 s
hydrogen cyanide	approx. 160 s
hydrogen	< 80 s
oxygen	< 30 s
chlorine	< 180 s
hydrogen chloride	< 70 s
nitric oxide	< 80 s
nitrogen dioxide	< 240 s

Typical sensor lifetime:

24 months

Ambient temperature:

CO, H₂S, SO₂, H₂, Cl₂, NO, NO₂:
-10°C...+40°C

O₂: 0°C...+40°C

NH₃-100: -30°C...+40°C

NH₃-1000, NH₃-500, HCl, SO₂:
-20°C...+40°C

HCN: -40°C...+40°C

Relative humidity:

20...90% r. h. non-condensing

Power supply:

24 VDC, from control module

Analog output:

4...20 mA

Terminals:

2 cable glands Ø 16.5 mm for remote sensing cable

Construction:

stainless steel wall housing

Protection:

IP42

Dimensions:

102 x 150 x 95 mm [w x h x d]

Operating elements:

[accessible after opening the sensing head with special key]

1 zero potentiometer

1 span potentiometer

2 test points for digital voltmeter

Ordering Information

The remote sensing heads DF-9200 are supplied without the EChem sensor; these have to be ordered separately.

D0756601 remote head DF-9200/CO

D07566027 EChem sensor CO

D0756602 remote head DF-9200/H₂S

D07566048 EChem sensor H₂S

D0756603 remote head DF-9200/NH₃-100 ppm

D0742321 EChem sensor NH₃-100 ppm

D0756615 remote head DF-9200/NH₃-500 ppm

D0742325 EChem sensor NH₃-1000 ppm

D0756613 remote head DF-9200/NH₃-1000 ppm

D0742325 EChem sensor NH₃-1000 ppm

D0756604 remote head DF-9200/SO₂

D07566050 EChem sensor/SO₂

D0756605 remote head DF-9200/HCN

D0742320 EChem sensor HCN

D0756607 remote head DF-9200/H₂

D07566052 EChem sensor H₂

D0756616 remote head DF-9200/O₂

D07566059 EChem sensor O₂

D0756609 remote head DF-9200/Cl₂

D07566054 EChem sensor Cl₂

D0756610 remote head DF-9200/HCl

D0742323 EChem sensor HCl

D0756611 remote head DF-9200/NO

D07566058 EChem sensor NO

D0756612 remote head DF-9200/NO₂

D07566056 EChem sensor NO₂

D6079762 calibration cap

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Subject to change without notice.
ID 07-408.2 ITL/6.11/03.04/G

