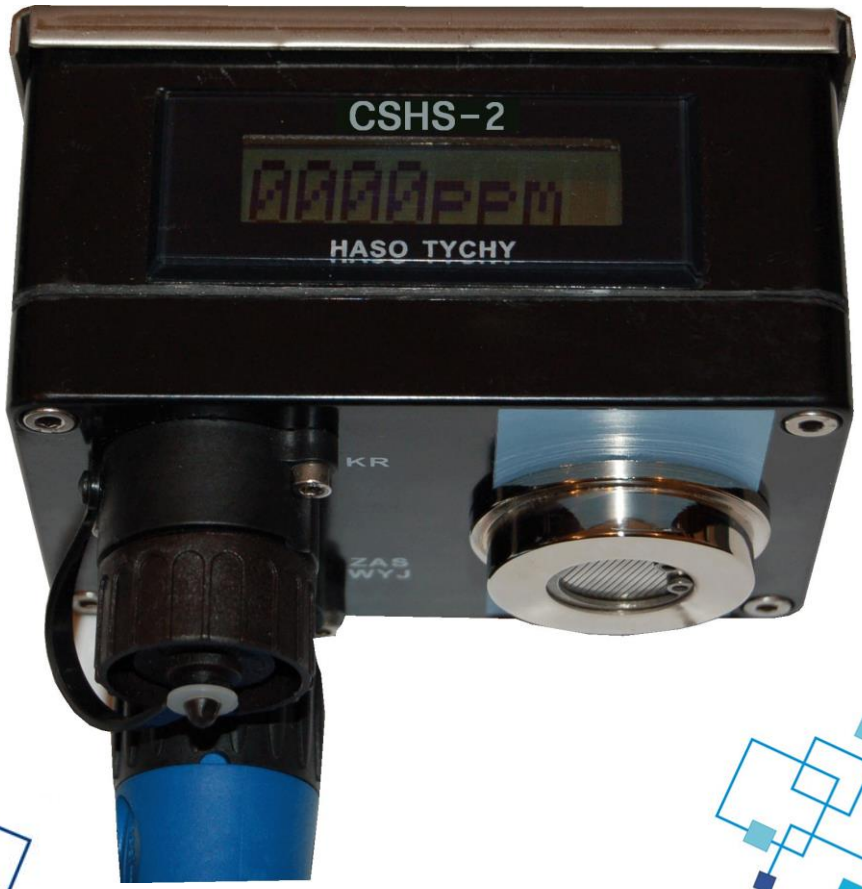
GAS CONCENTRATION SENSOR

CSHS-2 CSSD-2 CSNO-2, CSND-2



Catalogue card

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DESCRIPTION

Gas concentration sensor is a stationary devices, depending on the type it can measure following gases: hydrogen sulphide (CSHS-2), sulfur dioxide (CSSD-2), nitrogen oxide (CSNO-2) or nitrogen dioxide (CSND-2) in explosion hazard areas in underground coal mines. It cooperates with telemetric central station CST-40(A), CST-40C through analogue station CSA-1 and CSA-2. It may also cooperate with other devices provided that the terminal of the feeder-measurement line is compatible.

Sensor is power-supplied from an intrinsically safe source with voltage of 12 V. The measured and processed value of gas concentration is sent to analogue output which generates a signal of 0.4 to 2V. Additionally, by modulating the analogue value, the output may also work in serial digital mode transmission. In this mode the sensor may send (via the CSA-1 or CSA-2 station) the serial number of the sensor and other diagnostic information.

The sensor is a device of M1 category and may thus be used in all underground mines with possible methane or coal dust explosion hazard.

BASIC TECHNICAL PARAMETERS

Gas concentration sensor CSHS-2, CSSD-2, CSNO-2, CSND-2	
Power supply	from 8 to 14.5 VDC (nominal 12 V DC)
Current	max 4 mA
Output, working modes	One analogue or digital.
Output operation modes	As analogue output 0.4-2 V for digital with unidirectional serial transmission.
Measuring range (depend on type)	0 – 200,0 ppm H_2S (CSHS-2) 0 – 100,0 ppm SO_2 (CSSD-2) 0 – 250,0 ppm NO (CSNO-2) 0 – 20,00 ppm NO_2 (CSND-2)
Precision (depend on type)	CSHS-2: ±1 ppm or ±1% measured value - take greater value CSSD-2: digital: ±0,5 ppm or ±1% measured value - take greater value analog: ±0,6 ppm or ±1% measured value - take greater value CSNO-2: digital: ± 1 ppm or ±1% measured value - take greater value analog: ± 2 ppm or ±1% measured value - take greater value CSND- 2: ± 0,2 ppm or ±1% measured value - take greater value
Resolution	0,1 ppm (CSSD-2, CSNO-2, CSHS-2) 0,01 ppm (CSND-2)
Measurement method	Continuous
Response time t_{90}	≤ 40s
Working position	Sensor inlet from the side or the bottom (recommended)
Scaling method and configuration	Calibrator KR-2
Working temperature range	from -10 °C to + 40 °C
Relative humidity range	from 15% to 95%
External dimensions	110 x 75 x 80 mm
Weight	0,65 kg
Casing internal protection	IP-54

EXPLOSION-PROOF MARK

Ex I M1 Ex ia I EC type examination certificate: KDB 07 ATEX 257

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