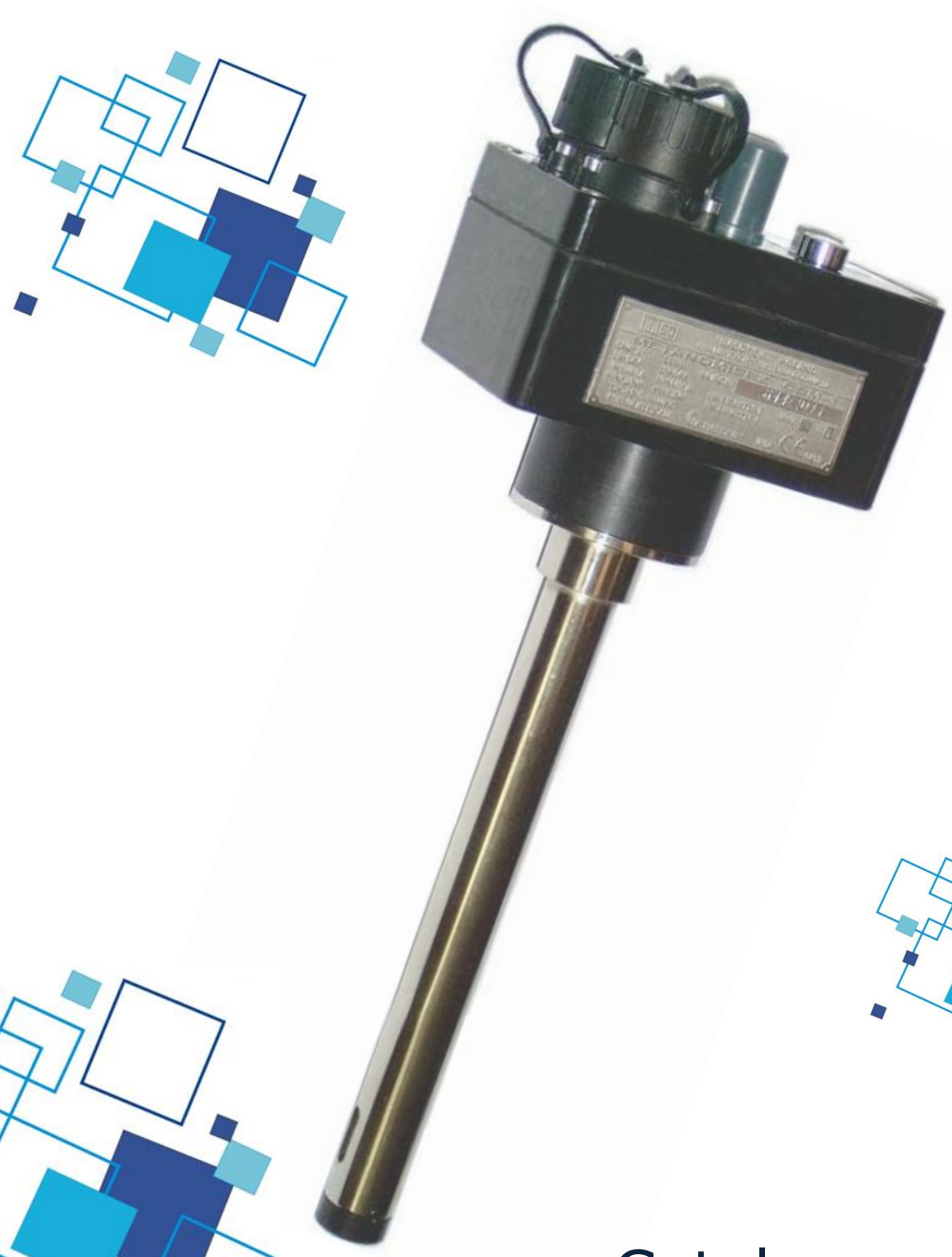
METHANE DETECTOR CSM-1 version R



Catalogue card

HASO S.C. ul. Towarowa 20, 43-100 Tychy, Poland
tel. +48 32 323 38 00, fax. +48 32 323 38 31
haso@haso.pl, www.haso.pl

DESCRIPTION

Methane Detector CSM-1 version R is a stationary device designed for measurement of methane content in methane drainage pipes in underground coalmines. It cooperates mainly with telemetric central station type CST-40(A), CST-40C in data sending and transmitting. It may also cooperate with other telemetric stations provided that the parameters of the feeder-measurement line are compatible.

Methane Detector has one measurement ranges to provide measurement in the range of 0-100%CH4 and two outputs (UW) to control equipment switching off power supply when the preset alarm thresholds have been exceeded. Optionally, it may also be equipped with ambient temperature sensor. Its autonomous supply system (battery) supplies the methane detector when the feeder line is switched off. The communication with the methane detector is carried out by means of digital transmission through the feeder-measurement line of the central station and through the type KR-2 calibrator. The calibrator communicates with the methane detector through a radio link.

Methane Detector is a microprocessor device and it independently performs measurement, control and transmission functions. Its main tasks include continuous measurement of methane content, checking the measured value against the preset alarm thresholds, control of the contacts of the switching-off device (electronic relays). The switching-off contacts operate under positive logic, that is, supply failure, wrong measurement or overrun of alarm threshold causes the contact to open.

BASIC TECHNICAL DATA

Methane detector CSM-1 version R	
Supply (line current) - (current source of the supply-transmission line)	from 27 mA to 40 mA
Measurement range (type of measurement)	0-100% CH_4 (conductometric)
Accuracy	± 3 % CH_4 in the range 0%-60% CH_4 ± 5 % CH_4 in the range 60-100% CH_4
Resolution	1 % CH_4
Relative pressure pipeline	≤ ± 40kPa
Effect of pressure on the indication	pressure variation of ±10kPa increase an indication of 1% CH_4
CO_2 content	every 2% CO_2 reduce an indication of 1% CH_4
Measurement method	continuous
Response time t_{90}	≤ 15s
Working position of the methane detector	Test tube facing downward, the maximum deviation of ± 20 ° from the vertical, the direction of gas flow compatible with the arrow on the housing
Gas penetration method	inside the tube: a forced circulation of pressurized gas flow, in the area sensor: through diffusion
The flow rate of gas in the pipeline	0,3 ÷ 20 m/s
Accuracy of temperature measurement	± 1 °C
Working time of autonomous power supply source	> 4 min
Type of transmission	digital, two-way
Scaling method	by calibrator
Transmission time (of control cycle)	≤ 2 s
Working temperature range	from -10 °C to + 40 °C
Relative humidity range	from 0% to 95% without condensation
External dimensions	Electronic body and sensor: 110x75x127 mm, the tube let into pipeline: Ø20x125mm
Weight	0,9 kg
Casing internal protection	IP-54

EXPLOSION-PROOF MARK

Ex I M1 Ex ia I EC type examination certificate: KDB 06 ATEX 428

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