

HUMIDITY AND TEMPERATURE SENSOR

CSHT-2



Catalogue card



DESCRIPTION

Humidity and temperature sensor CSHT-2 is a stationary device for measuring humidity and temperature content in explosion hazard areas in underground coal mines. It cooperates with telemetric central station CST-40A, CST-40C through analogue station CSA-1 or CSA-2. It may also cooperate with other devices provided that the parameters of terminal of the feeder-measurement line are compatible.

CSHT-2 sensor provides humidity measuring range from 0 to 100% and temperature measuring range from -20 to 50°C. It is power-supplied from an intrinsically safe 12 V source. Measured and processed values of humidity and temperature are sent to a separate analogue outputs which generate a signal of 0.4 to 2V. Additionally, by modulating the analogue value, the output may also work in serial digital transmission mode. Output operation in digital mode enables sending to the central station of the CST-40A, CST-40C system (via the CSA-1 or CSA-2 station) measurement values of higher precision, sending diagnostic information and the manufacturer's serial number of the sensor.

The CSHT-2 sensor is a device of M1 category and may thus be used in all underground mines with possible methane or coal dust explosion hazard. During its normal operation, as requested by the central station, the humidity and temperature sensor sends measurement data and other information concerning its operation.

BASIC TECHNICAL PARAMETERS

Humidity and temperature sensor CSHT-2

Power supply	from 8 to 14,5 VDC (nominal 12 VDC) max 4 mA
Output operation modes	One analogue or digital. As analogue output 0.4-2 V for digital with unidirectional serial transmission.
Measurement range	Humidity 0÷100% Temperature -20÷50°C
Measurement resolution	1% humidity 0,5 °C temperature
Measurement method	continuous through diffusion
Response time t_{90}	for humidity measurement $\leq 4s$, for temperature measurement $\leq 30s$.
Working position	Sensor inlet from the side or the bottom (recommended)
Scaling method	Calibrator KR-2
Working temperature range	from -10 °C to + 40°C
Relative humidity range	from 15% to 95%
Dimensions	110 x 75 x 80 mm
Weight	0,65 kg
Casing internal protection	IP-54
Power supply parameters	$U_i = 16 V$ $I_i = 150 mA$ $P_i = 2,4 W$ $C_i = 5 \mu F$
Output parameters	$U_o = 5,4 V$ $I_o = 21 mA$ $P_o = 0,4 W$ $C_i = 8,3 \mu F$
Parameters of calibrator input	$U_i = 7 V$ $I_i = 21 mA$ $P_i = 0,4 W$ $C_i = 8,3 \mu F$

EXPLOSION-PROOF MARK



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EC type examination certificate: KDB 08 ATEX 132