

PORTABLE SIGNALLING METHANE DETECTOR MPS-1, MPS-1i



Catalogue card



DESCRIPTION

Methane detectors MPS-1, MPS-1i are a portable device for measuring atmospheric parameters and signaling exceeding methane content in explosion hazard areas in underground coal mines. They can be used:

- As a private methane detector.
- As a portable methane detector, hung in a mining work place (also blasting work) or in underground vehicles e.g. railway locomotive.
- As a methane detector it cooperates with exploder of electrical and electronical fuse. Methane detector will be use to block the exploder when the methane content have been exceeded.
- As a stationary methane detector with using switching-off outputs UW1, UW2.

Methane detector is made in two types:

MPS-1 – with pellistor measuring convertor

MPS-1i – with infrared measuring convertor

Portable signalling methane detector possesses autonomous power supply (battery), which can supplies methane detector for minimum 30 hours. The loading of methane detector can be done by loader type MPS-1Ł only out of hazard area. In explosion hazard areas MPS-1, MPS-1i can be supply by suitable intrinsically safe feeder. This feeder supplies electronics of methane detector and loads battery.

Methane detector has two outputs (UW1, UW2) to control external devices in the case of exceeding of permissible alarm thresholds. Methane detector 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

Methane Detector MPS-1, MPS-1i (common part)

Power supply + calibrator	U _i = 16V (U _n =12÷15V, I _n =0,25A max)
Power supply autonomy	min 30h; about 50h outwatch (without signaling excess)
Auxiliary power output and charging	only by loader MPS-1Ł out of hazard area U _o = 4,2V; I _o = 42mA ; P _o = 44mW; C _o = 100uF; L _o = 100mH
Switching-off output UW1, UW2	U _i = 30V; I _i = 0,6A; P _i = 1,67W; U _o = 4,2V; I _o = 3mA; P _o = 3,15mW; C _i = 0; L _i = 0; C _o = 100uF; L _o = 1mH
Communication circuit	U _i = 30V; I _i = 50mA; P _i = 70mW; C _i = 0; L _i = 0
Working temperature range	from -10 °C to + 40°C
Relative humidity range	from 0% to 95% without condensation
External dimensions	240 x 75 x 75 mm
Weight	1,4 kg
Casing internal protection	IP-54
Methane detector type MPS-1	
Measurement range (type of measurement)	0-5% CH ₄ (catalytic) 5-100% CH ₄ (conductometric)
Measurement method	pellistor, continuous
Response time t ₉₀	≤ 5s
Methane detector type MPS-1i	
Measurement range (type of measurement)	0 - 100%
Measurement method	IR, continuous
Response time t ₉₀	< 25s

EXPLOSION-PROOF MARK



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EC type examination certificate: FTZU 10 ATEX 0042X