

RPG-1

Handheld Gasometric Instrument



CO₂



O₂



CO



H₂S



THp



CH₄

RPG-1

Handheld Gasometric Instrument



design

production

implementation

service

Device description

Handheld Gasometric Instrument RPG-1 is a portable battery powered device designed for conducting measurements of atmosphere parameters in an environment endangered with explosive gases. The instrument is produced with several versions for measuring gases concentrations (methane, carbon dioxide, oxygen, carbon monoxide or hydrogen sulphide) or for measuring temperature, relative humidity and absolute pressure. The device is destined for using in mines underground or industrial facilities with explosion hazards. The instrument is mounted in hermetic plastic housing (IP-67) with antistatic abilities. The measurement is conducted using several types of sensors including semiconductor elements, pellistors, infrared detectors or electrochemical sensors. The device is powered by built-in lithium ion battery and can be charged only outside the endangered zone. Charging process can be executed by the connector in the device case using spark safe 12V power supply or using contactless technology and dedicated induction charger.

RPG-1 instrument allows measurement data exchange with PC software by RS485 bus or wireless using 2.4GHz radio transmission. Producing device in complete wireless version allows eliminating any electrical contacts on the outside of the device case which significantly increase instrument durability and safety. Measurement result is presented on an OLED display. The device realizes alarm functionality using LED and acoustic signalisation and optional vibration feedback.

Basic parameters

ATEX certificate marking (pellistor version)	Ⓔ I M1 Ex ia I Ma Ⓔ II 2G Ex ia II (CH4) Gb	
Measurement ranges	T = -40°C ÷ 85°C	RH = 0 ÷ 100%
	p = 10hPa ÷ 2000hPa	CH4 = 0 ÷ 100%
	CO2 = 0 ÷ 2.5%	O2 = 0 ÷ 25%
	CO = 0 ÷ 2000ppm	H2S = 0 ÷ 50ppm
External transmission	RS485 or wireless 2.4GHz	
Battery operating time	ca. 24h for pellistor sensor / ca. 60h for others	
Battery charging time	ca. 4h	
Battery charging technology	12V wired charger / Induction contactless	
Working temperature range	from -20°C to 40°C	
Dimensions	108mm x 57.5mm x 33mm	
Weight	ca. 250g	
Ingress Protection code	IP-67	

Roottel Sp. z o.o.

ul. Leopolda 29
40-189 Katowice

tel.: (+48 32) 705 73 95

fax: (+48 32) 705 73 99

biuro@roottel.pl
www.roottel.pl