



POLI Multi Gas Detector

Available for many gases

APPLICATIONS

- Confined spaces
- Personal PID detector
- Installation market
- Soil remediation
- (Petro)chemical industry
- Environmental
- Transport
- Oil and Gas industry
- Beverages



The WatchGas POLI in pumped version is an advanced instrument with an integrated pump that enables a full range of sensors for a variety of applications, including confined space entry. The POLI in diffuse detection version is a multi-gas detector that is ideally suited for worker safety monitoring in hazardous locations.

Smart sensors contain calibration and ID information, so you can change them on the spot. This makes the POLI the ideal device for emergency response to incidents involving hazmat response.

The construction of the POLI is very robust and operation is intuitive with two buttons and a large LCD screen. The man-down alarm function, which is unique in this segment of the market, warns nearby personnel when the user has stopped moving.

FEATURES AND BENEFITS

- Wide selection of “plug-and-play” Smart Sensors
- Up to 60h rechargeable Li-ion battery
- Pump-off switch saves battery for longer operation time
- Automatic flow fault on pump
- 360-Degree LED alarm bar
- Man-Down alarm
- USB Micro charger & communications cable
- Flip screen
- 6 Months continuous datalogging
- Durable double shot outer case
- Combination 2 IR/PID sensors possible!
- Max. 30 meter hose
- Wireless remote team communication available (see Squad & Platoon datasheets)

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DETECTOR SPECIFICATIONS

Size	140 x 84 x 42 mm (5.74 x 3.31 x 1.65 in)
Weight	435g (pumped), 385g (diffusion)
Sensor technology	Over 30 interchangeable and field-replaceable sensors including PID for VOCs, EC for Toxic and O ₂ , Pellistor for LEL, and NDIR for LEL, Vol% and CO ₂
Temperature	-20°C to 50°C (-4 to 122°F)
Humidity	5% ~ 95% RH (Non-condensing)
Alarm type	High Alarm, Low Alarm, TWA Alarm, STEL Alarm, Man-Down alarm with pre-alarm, On-screen indication of alarm conditions
Alarm signal	Acoustic: 95 dB @ 30 cm Visual: Flashing bright red LEDs Vibration
Panic Alarm	Yes
Display	128 x 128 graphical 45 x 44 mm LCD Display (1.77 x 1.73 in), with LED backlight for enhanced readability. Automatic screen "flip" feature
Calibration	2-point calibration, zero and span. Power-on zero calibration with user confirmation MonoDock allows automatic bump test and calibration
Data log	Continuous datalogging (6 months for 4 sensors at 1-minute intervals, 24 hours/day and 7 days/week)
Battery operating time	Rechargeable Li-ion pack Diffusive with LEL Cat: 16h Pumped with LEL Cat: 12h Diffusive with LEL IR: 60h Pumped with LEL IR: 28h Only EC sensors: 60 hours
Measurement	Built-in pump (sample from up to 30m) or diffusion
Housing	Polycarbonate and rubber
Response time T₉₀	Sensors: 15 seconds (LEL/CO/H ₂ S/O ₂) Others gases vary (technical note 4: Sensor Technical Data Summaries) Hoses: 10m: 60s / 20m: 90s / 30m: 120s
Accuracy deviation	2-3%
IP-Rating	IP-65 (pump versions); IP-67 (diffusion versions)
EMI/RFI	Compliant with EMC 2014/30/EU
Safety certifications	UL: Class I, Div 1, Group ABCD, T4, -20°C ≤ Tamb ≤ +50°C IECEX: Ex ia IIC T4 Ga ATEX: II 1G Ex ia IIC T4 Ga CE: Conformité Européenne
Warranty	2 Years on instruments 2 Years on sensors for pellistor LEL, LEL/Vol, O ₂ , CO, CO ₂ , H ₂ S, SO ₂ , HCN, NO, NO ₂ , and PH ₃ 1 Year on other sensors

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SENSOR SPECIFICATIONS

Model		Detectable Gas Ranges		Resolution	
PID ^P		0-200 ppm 0-2000 ppm 0-10000 ppm		0.01 ppm 0.1 ppm 1 ppm	
O ₂ Oxygen	Lead-Free O ₂	0-30 %Vol		0.1 %Vol	
	Lead-Wool O ₂	0-30 %Vol		0.1 %Vol	
Combustibles (LEL%)		0-100 %LEL		1 %LEL / 0.1 %LEL	
NDIR Methane (LEL%)		0-100 %LEL		0-100 %LEL	
NDIR Methane (Vol%)		0-100 %Vol		0.1% Vol	
Dual-Range LEL%/Vol%		0-100 %Vol		1 %LEL or 0.1 Vol%	
NDIR Methane CH ₄ +CO ₂ CO ₂		0-100 %LEL 0-50000 ppm		1 %LEL 100 ppm	
NDIR Methane CH ₄ +CO ₂ CO ₂		0-100 %Vol		0.1 %Vol	
CO ₂ (ATEX Zone 1) Carbon Dioxide		0-50000 ppm	90000 mg/m ³	100 ppm	180 mg/m ³
CO Carbon Monoxide		0-1000 ppm	1829 mg/m ³	1 ppm	2 mg/m ³
H ₂ S Hydrogen Sulfide		0-100 ppm 0-1000 ppm	142 mg/m ³ 1418 mg/m ³	0.1 ppm 1 ppm	0.1 mg/m ³ 1 mg/m ³
CO + H ₂ S	CO	0-500 ppm	573 mg/m ³	1 ppm	1.8 mg/m ³
	H ₂ S	0-200 ppm	279 mg/m ³	0.1 ppm	0.1 mg/m ³
SO ₂ + H ₂ S	SO ₂	0-20 ppm	53 mg/m ³	0.1 ppm	0.3 mg/m ³
	H ₂ S	0-100 ppm	142 mg/m ³	0.1 ppm	0.1 ppm
SO ₂ Sulfur Dioxide		0-20 ppm 0-100 ppm	53 mg/m ³ 266 mg/m ³	0.1 ppm 0.1 ppm	0.3 mg/m ³ 0.3 mg/m ³
Cl ₂ Chlorine ^P		0-50 ppm	71 mg/m ³	0.1 ppm	0.3 mg/m ³
ClO ₂ Chlorine Dioxide ^P		0-1 ppm	3 mg/m ³	0.01 ppm	0.03 mg/m ³
NO Nitric Oxide		0-250 ppm	450 mg/m ³	1 ppm	1.9 mg/m ³
NO ₂ Nitrogen Dioxide ^P		0-20 ppm	38 mg/m ³	0.1 ppm	0.2 mg/m ³
H ₂ Hydrogen		0-1000 ppm	83 mg/m ³	1 ppm	0.1 mg/m ³
PH ₃ Phosphine		0-20 ppm 0-1000 ppm	28 mg/m ³ 2758 mg/m ³	0.01 ppm 1 ppm	0.01 mg/m ³ 1.4 mg/m ³
ETO Ethylene Oxide ^P		0-100 ppm	183 mg/m ³	0.1 ppm	0.2 mg/m ³
NH ₃ Ammonia ^P		0-100 ppm 0-500 ppm	71 mg/m ³ 353 mg/m ³	1 ppm 1 ppm	1 mg/m ³ 1 mg/m ³
HF (Pump required) Hydrogen Fluoride		0-20 ppm	17 mg/m ³	0.1 ppm	0.1 mg/m ³
HCl Hydrogen Chloride ^P		0-15 ppm	23 mg/m ³	0.1 ppm	0.2 mg/m ³
HCN Hydrogen Cyanide ^P		0-100 ppm	112 mg/m ³	0.1 ppm	1 mg/m ³
CH ₃ SH Methyl Mercaptan		0-10 ppm	20 mg/m ³	0.1 ppm	0.2 mg/m ³
C ₂ H ₄ O Acetaldehyde ^P		0-20 ppm	37 mg/m ³	0.1 ppm	0.2 mg/m ³

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THT Tetrahydrothiophene ^P	0-40 ppm	144 mg/m ³	0.1 ppm	0.4 mg/m ³
AsH ₃ Arsine	0-1ppm	3.24 mg/m ³	0.01 ppm	0.03 mg/m ³
COCl ₂ Phosgene ^P	0-1ppm	4.11 mg/m ³	0.01 ppm	0.04 mg/m ³
NDIR N ₂ O Nitrous Oxide	0-1000ppm	1800 mg/m ³	1 ppm	1.8 mg/m ³

^P Use in pumped models is required or strongly preferred

CROSS SENSITIVITY

Model	Cross Sensitivity gas	Measurement		Resolution		CF
		ppm	mg/m ³	ppm	mg/m ³	
ETO Ethylene Oxide	CH ₃ OH Methanol	0 - 100 ppm	133.27 mg/m ³	0.1ppm	0.13 mg/m ³	0.9
	C ₂ H ₅ O Ethanol	0 - 100 ppm	191.63 mg/m ³	0.1ppm	0.19 mg/m ³	1.5
	C ₂ H ₃ Cl Vinyl Chloride	0 - 100 ppm	259.96 mg/m ³	0.1ppm	0.26 mg/m ³	1.4
	CH ₂ O Formaldehyde	0 - 100 ppm	124.92 mg/m ³	0.1ppm	0.12 mg/m ³	0.4
	CH ₂ O ₂ Formic Acid	0 - 100 ppm	191.46 mg/m ³	0.1ppm	0.19 mg/m ³	1.4
AsH ₃ Arsine	SiH ₄ Silane	0 - 1ppm	1.34 mg/m ³	0.01ppm	0.01 mg/m ³	1.8
	PH ₃ Phosphine	0 - 1ppm	1.41 mg/m ³	0.01ppm	0.01 mg/m ³	1.2

Full cross sensitivity data available in TN-4

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ACCESSORIES



Ball Float



Last-O-More Gas Sampling Hose



WatchGas POLI Case



POLI 4-Way Stackable Charging Cradle



Filters



Regulators



Calibration Gases



POLI MonoDock

The Poli Comes complete with the following Items:

- Calibration adapter
- Calibration certificate
- USB data cable
- Piece of hose
- Filter
- Manual
- Charging adapter

FOR MORE INFORMATION

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Therefore, the specifications and features mentioned in this datasheet are subject to change without prior notice.

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