

Confined Space Entry Monitors







The POLI multi-gas meters offer 4- or 5-gas monitoring of toxic gases, oxygen (O₂), combustibles (LEL), carbon dioxide (CO₂) and volatile organic compounds (VOCs). The POLI MP400P is an advanced model with built-in pump that allows a full selection of sensors for a wide range of applications, including Confined Space Entry, while the POLI MP400 is a basic, 4-gas diffusion detector for worker safety at hazardous locations. Smart sensors carry calibration and ID information with them for quick exchange in the field during Hazmat response. Specific sensors include electrochemical (EC) for carbon monoxide (CO), hydrogen sulfide (H₂S), ammonia (NH₃), hydrogen cyanide (HCN), hydrogen chloride (HCl), hydrogen fluoride (HF), chlorine (Cl₂), chlorine dioxide (ClO₂), nitric oxide (NO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), ethylene oxide, methyl mercaptan, and others. Also available are pellistor for LEL level combustibles, non-dispersive infrared (NDIR) for Vol% level CO₂ or hydrocarbons, and photo-ionization detector (PID) for ppm level VOCs. Use of combination CO/H₂S or SO₂/H₂S sensors allow up to 5 gas measurements in a single instrument. The MP400P has rugged construction and easy-to-learn 2-button operation. The unique Man-Down alarm feature notifies team workers wirelessly if a user becomes incapacitated.

Features, Functions and Benefits

- Wide selection of “plug-and-play” Smart Sensors (carry calibration data)
- 16-Hour rechargeable Li-ion battery
- Pump-off switch and low-power sensor options save battery for longer operation time
- Automatic flow fault on pump
- 360-Degree LED alarm bar and Man-Down alarm
- USB Micro charger & communications cable
- Flip screen
- 6 Months continuous datalogging
- Durable double shot outer case
- Wireless remote team communication available (see mSquad & mPlatoon datasheets)
- Mobile App for POLI simulation and training in smartphone or tablet

Detector Specifications

Size	5.74 x 3.31 x 1.65 in (140 x 84 x 42 mm)
Weight	15.5 oz (435 g)
Sensors	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% & CO ₂
Response Time (t90)	<ul style="list-style-type: none"> • 15 seconds (LEL/CO/H₂S/O₂) • Others vary – see sensor specification sheet
Battery	Rechargeable Li-ion pack: 16 hours in diffusion mode, 12 hours with pump
Direct Readout	<ul style="list-style-type: none"> • Real-time reading of gas concentration • PID measurement gas and correction factor, • Visual compliance indicator • Battery status • Datalogging on/off • STEL, TWA, peak and minimum values • Man-Down alarm on/off
Display	128 x 128 graphical LCD, 1.77 x 1.73 in (45 x 44 mm), with LED backlight for enhanced readability. Automatic screen “flip” feature
Keypad	2 Operation keys
Sampling	Built-in pump (MP400P) or diffusion (MP400D)
Calibration	Manual calibration. CaliCase option allows automatic bump test and calibration on up to 4 units simultaneously
Alarms	<ul style="list-style-type: none"> • Audible (95 dB @ 30 cm) • Visual (flashing bright red LEDs) • Vibration • On-screen indication of alarm conditions • Man-Down alarm with pre-alarm • Panic Alarm (manual)
Datalogging	Continuous datalogging (6 months for 4 sensors at 1-minute intervals, 24 hours/day and 7 days/week)
Charging and Communication	Charging, data download, instrument setup and firmware upgrades on PC or laptop via PC comm, cradle, travel charger, or CaliCase.
Temperature	-4° to 122°F (-20° to 50°C)
Humidity	0% to 95% Relative humidity (non-condensing)
IP Rating	IP-65 (pump versions); IP-67 (diffusion versions)
Safety Certifications	 Class I, Div 1, Group ABCD T4, -20°C ≤ T _{amb} ≤ +50°C  Ex ia IIC T4 Ga  II 1G Ex ia IIC T4 Ga  European Conformity
EMC/RFI	EMC directive: 2014/30/EU
Warranty	<ul style="list-style-type: none"> • 1 Years on instruments • 1 Years on sensors for pellister LEL, and O₂, CO, H₂S, SO₂, HCN, NO, NO₂, and PH₃ EC sensors • 1 Year on other sensors

Sensor Options

Sensor	Range	Resolution	
PID	0-200 ppm 0-2000 ppm	0.01 ppm 0.1 ppm	
Oxygen (O₂) Lead Wool Lead-Free	0-30%Vol 0-30%Vol	0.1%Vol 0.1%Vol	
Combustibles (LEL%)	0-100%LEL	1%LEL	
Hydrocarbons (Vol%)	0-100%Vol	0.1%Vol	
Dual-Range LEL%/Vol%	0-100%Vol	1%LEL	
CO₂ (Carbon Dioxide)	0-50000 ppm	100 ppm	
CO (Carbon Monoxide)	0-1000 ppm	1 ppm	
H₂S (Hydrogen Sulfide)	0-100 ppm 0-1000 ppm	0.1 ppm 1 ppm	
CO + H₂S	CO H₂S	0-500 ppm 0-200 ppm	1 ppm 0.1 ppm
SO₂ + H₂S	SO₂ H₂S	0-20 ppm 0-100 ppm	0.1 ppm 0.1 ppm
NH₃ (Ammonia)	0-100 ppm 0-500 ppm	1 ppm 1 ppm	
Cl₂ (Chlorine)	0-50 ppm	0.1 ppm	
ClO₂ (Chlorine Dioxide)	0-1 ppm	0.01 ppm	
H₂ (Hydrogen)	0-1000 ppm	1 ppm	
HCl (Hydrogen Chloride)	0-15 ppm	0.1 ppm	
HF (Hydrogen Fluoride)	0-20 ppm	0.1 ppm	
HCN (Hydrogen Cyanide)	0-100 ppm	0.1 ppm	
NO (Nitric Oxide)	0-250 ppm	1 ppm	
NO₂ (Nitrogen Dioxide)	0-20 ppm	0.1 ppm	
PH₃ (Phosphine)	0-20 ppm 0-1000 ppm	0.01 ppm 1 ppm	
SO₂ (Sulfur Dioxide)	0-20 ppm 0-100 ppm	0.1 ppm 0.1 ppm	
C₂H₄O (Acetaldehyde)	0-20 ppm	0.1 ppm	
ETO (Ethylene Oxide)	0-100 ppm	0.1 ppm	
CH₃SH (Methyl Mercaptan)	0-10 ppm	0.1 ppm	
THT (Tetrahydrothiophene)	0-40 ppm	0.1 ppm	

Android



iOS



Scan the 2-D barcode to find the **POLI Training App** on a mobile device App store. This simulates all the functions and alarms of an actual POLI monitor.

* Due to ongoing research and product improvement, specifications are subject to change without notice *