POLI MP400P Inert

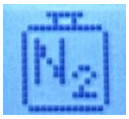
mPower Electronics
Making Powerful Senses
1-866-mPower7

Multi-Gas Monitors for Inert Gas Operations

The POLI MP400P multi-gas detectors allow custom configurations for inert gas applications by use of inverted oxygen alarms and non-dispersive infrared (NDIR) LEL sensors. While typical oxygen low alarms trigger when O_2 concentrations are *below* breathing levels near 20.9%, inverted alarms trigger when O_2 levels are *above* the low or high alarm limits (default at 4% and 5%), and thus are in alarm in breathable air. A simple one-button operation allows switching between Normal O_2 Mode and Inert Gas Mode. Because catalytic combustion LEL sensors are not functional without O_2 present, NDIR sensors are used for inert gas applications, as these sensors do not require oxygen. The built-in pump allows remote sampling from 100 feet or more using 1/8" i.d. tubing. Other sensor options include photo-ionization detector (PID) for ppm level volatile organic compounds (VOCs), CO_2 by NDIR, and a full range of electrochemical (EC) toxic gas sensors including carbon monoxide (CO), hydrogen sulfide (H_2S), ammonia (NH_3), hydrogen cyanide (HCN), hydrogen (H_2), sulfur dioxide (SO_2), and others. 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

- Quick, one-button switching between Normal O_2 Mode and Inert Mode
- Inverted oxygen alarms in Inert Mode
- 100+ foot sampling distance using 1/8-in I.d. tubing
- Wide selection of "plug-and-play" Smart Sensors (carry calibration data)
- 16-Hour rechargeable Li-ion battery (NDIR/PID/ECs with pump)
- 360-Degree LED alarm bar and Man-Down alarm; Flip screen
- USB Micro charger & communications cable
- Optional POLI MonoDock station for automated bump test and calibration
- 6 Months continuous datalogging
- Durable double shot outer case
- Wireless team communication available (see mSquad & mPlatoon datasheets)



Inert Mode Icon on POLI Display

POLI MonoDock

POLI Inert Specifications

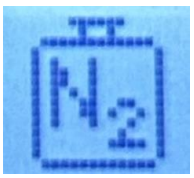
Detector Specifications

Size	5.74 x 3.31 x 1.65 in (140 x 84 x 42 mm)
Weight	15.5 oz (435 g)
Sensors	About 30 interchangeable and field-replaceable sensors including PID for VOCs, EC for Toxic and O_2, and NDIR for LEL%, Vol% & CO_2
Response Time (t_{90})	• 15 seconds ($CO/H_2S/O_2$) • Others vary – see TA Note 4 at www.mpowerinc.com
Battery	Rechargeable Li-ion pack: 16 hours with pump
Direct Readout	• 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	Bulit-in pump (MP400P) draws 100 feet using 1/8” i.d. tubing
Calibration	Manual calibration or automated using POLI Mono-Dock
Alarms	• 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, cable, or MonoDock.
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 **IECEx** Ex ia IIC T4 Ga ATEX II 1G Ex ia IIC T4 Ga CE European Conformity
EMC/RFI	EMC directive: 2014/30/EU
Warranty	• 2 Years on instruments • 2 Years on sensors for LEL, LEL/Vol, O_2, CO, CO_2, H_2S, SO_2, HCN, NO, NO_2, and PH_3 • 1 Year on other sensors

Sensor Options‡

Sensor		Range	Resolution
PID		0-200 ppm 0-2000 ppm 0-10000 ppm	0.01 ppm 0.1 ppm 1 ppm
Oxygen (O_2)	**Lead Wool** **Lead-Free**	0-30%Vol 0-30%Vol	0.1%Vol 0.1%Vol
NDIR Methane (LEL%)*		0-100%LEL	1%LEL*
NDIR Methane (Vol%)*		0-100%Vol	0.1%Vol*
Dual-Range LEL%/Vol%*		0-100%Vol	1%LEL*
NDIR Dual-gas Methane + CO_2	**CH_4** **CO_2**	0-100%LEL 0-50000 ppm	1%LEL* 10 ppm€
NDIR Bio-gas Methane + CO_2	**CH_4** **CO_2**	0-100%VOL 0-100%VOL	1%VOL 1%VOL
CO_2 (Carbon Dioxide)		0-50000 ppm	10 ppm€
CO (Carbon Monoxide)		0-1000 ppm	1 ppm
H_2S (Hydrogen Sulfide)		0-100 ppm 0-1000 ppm	0.1 ppm 1 ppm
CO + H_2S	**CO** **H_2S**	0-500 ppm 0-200 ppm	1 ppm 0.1 ppm
SO_2 + H_2S	**SO_2** **H_2S**	0-20 ppm 0-100 ppm	0.1 ppm 0.1 ppm
NH_3 (Ammonia)		0-100 ppm 0-500 ppm	1 ppm 1 ppm
Cl_2 (Chlorine)		0-50 ppm	0.1 ppm
ClO_2 (Chlorine Dioxide)		0-1 ppm	0.01 ppm
H_2 (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
NO_2 (Nitrogen Dioxide)		0-20 ppm	0.1 ppm
N_2O (Nitrous Oxide)		0-1000 ppm	10 ppm†
PH_3 (Phosphine)		0-20 ppm 0-1000 ppm	0.01 ppm 1 ppm
SO_2 (Sulfur Dioxide)		0-20 ppm 0-100 ppm	0.1 ppm 0.1 ppm
ETO (Ethylene Oxide)		0-100 ppm	0.1 ppm
CH_3SH (Methyl Mercaptan)		0-10 ppm	0.1 ppm
THT (Tetrahydrothiophene)		0-40 ppm	0.1 ppm

***Caution!** NDIR does not detect hydrogen explositivy!
€ 200 ppm deadband
† 100 ppm deadband
‡ See TA Note 4 for all sensor specifications



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