

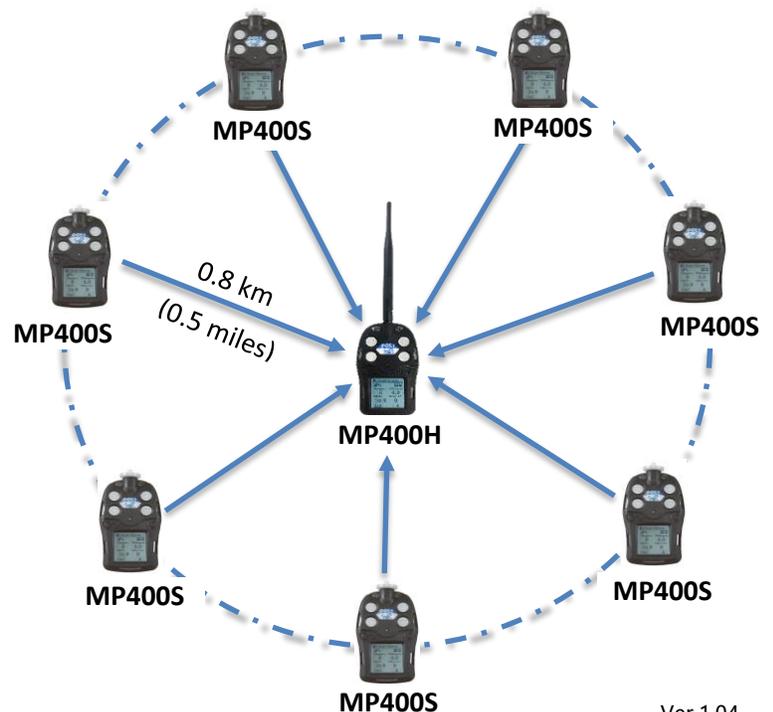
## Mobile Wireless Multi-Gas Team Warning System



The mSquad System is a quickly-deployable set of mobile multi-gas meters that communicate wirelessly to a Squad leader up to 0.8 km (0.5 miles) distant. The system is ideal for Hazmat Response, firefighters, temporary venue protection, etc. An mSquad consists of one Head monitor (MP400H) and up to 7 Soldier monitors (MP400S) that communicate with each other. Each 4- or 5-gas monitor has options for a full range of sensors for toxic gases, oxygen (O<sub>2</sub>), combustibles (LEL) and carbon dioxide (CO<sub>2</sub>). The MP400S can also have a PID for volatile organic compounds (VOCs). In addition to high gas concentration alarms, all Squad units receive any Man-Down alarms to notify them remotely of a worker in distress. All the Squad monitors are Class I Division I certified to operate in hazardous zones. The entire mSquad is mobile, running on batteries for up to 12 hours. The MP400S and MP400H have rugged construction and easy-to-learn 2-button operation.

### Features, Functions and Benefits

- Remote, wireless real-time readings and alarms including Man-down
- Up to 8 remote 4- or 5-gas monitors
- Up to 0.8 km (0.5 miles) distance to Squad Head
- All mSquad units alarm if any one unit has an alarm condition
- Mobile system operation
- 12-hour continuous operation on single Li-ion battery charge.
- USB Micro cable for battery charging and direct PC communication
- Wide selection of sensor types



## MP400S and MP400H Specifications

<b>Size</b>	5.7 x 3.3 x 1.7 in (140 x 84 x 42 mm) w/o Antenna
<b>Weight</b>	15.5 oz (435 g)
<b>Sensors</b>	Interchangeable and field-replceable: PID for VOCs (MP400S only), EC for Toxic & O <sub>2</sub> , Pellistor for LEL, and NDIR for LEL, Vol% & CO <sub>2</sub>
<b>Response time (t90)</b>	<ul style="list-style-type: none"> <li>• 15 s (LEL/CO/H<sub>2</sub>S/O<sub>2</sub>) MP400S</li> <li>• 20 s (LEL/CO/H<sub>2</sub>S/O<sub>2</sub>) MP400H</li> <li>• Others vary up to 120 s</li> </ul>
<b>Sampling</b>	MP400S - Internal pump; MP400H - Diffusion
<b>Battery</b>	8-36 hr (depending on sensors and pump installed)
<b>Direct Readout</b>	<ul style="list-style-type: none"> <li>• Real-time reading of gas concentration</li> <li>• PID measurement gas and correction factor,</li> <li>• Battery status</li> <li>• STEL, TWA, peak and minimum values</li> <li>• Man-Down alarm on/off</li> </ul>
<b>Display</b>	128 x 128 graphical LCD, 1.77 x 1.73 in (45 x 44 mm), with LED backlight and auto "flip" screen
<b>Range</b>	0.8 km (1/2 mile) between MP400H and MP400S
<b>Frequency</b>	ISM band (902-928 MHz) FCC Part 15 approved
<b>Calibration</b>	Zero and span calibration. Single or multiple sensor simultaneous calibration settings
<b>Monitors</b>	Up to 8 per mSquad (1 MP400H plus 7 MP400S)
<b>Alarms</b>	<ul style="list-style-type: none"> <li>• Audible (95 dB @ 30 cm)</li> <li>• Visual (flashing bright red LEDs)</li> <li>• Vibration</li> <li>• On-screen indication of alarm conditions</li> <li>• Man-Down alarm and manual Panic alarm</li> </ul>
<b>Wireless Alarm Notification</b>	Alarm on any monitor sent to all others in mSquad for 5 seconds, then remains on at MP400H
<b>Datalogging</b>	Continuous datalogging (6 months for 4 sensors at 1-minute intervals, 24 hours/day and 7 days/week)
<b>Direct PC Comm and Charging</b>	USB cable for charging, data download, instrument setup and firmware upgrades on PC or 100-240V AC charger, or CaliCase.
<b>Temperature</b>	-4° to 122°F (-20° to 50°C)
<b>Humidity</b>	0% to 95% Relative humidity (non-condensing)
<b>IP Rating</b>	IP-65 MP400S (pump); IP-67 MP400H (diffusion)
<b>Safety Certifications</b>	 Class I, Div 1, Group ABCD T4, -20°C ≤ T <sub>amb</sub> ≤ +50°C  Ex ia IIC T4 Ga  II 1G Ex ia IIC T4 Ga  European Conformity
<b>EMC/RFI</b>	EMC directive: 2014/30/EU
<b>Warranty</b>	<ul style="list-style-type: none"> <li>• 2 Years on instruments</li> <li>• 2 Years on sensors for pellister LEL, and O<sub>2</sub>, CO, H<sub>2</sub>S, SO<sub>2</sub>, HCN, NO, NO<sub>2</sub>, and PH<sub>3</sub> EC sensors</li> <li>• 1 Year on other sensors</li> </ul>

## Sensor Options

Sensor	Range	Resolution
<b>PID</b>	0-200 ppm 0-2000 ppm	0.01 ppm 0.1 ppm
<b>Oxygen (O<sub>2</sub>)</b> <b>Lead Wool</b> <b>Lead-Free</b>	0-30%Vol 0-30%Vol	0.1%Vol 0.1%Vol
<b>Combustibles (LEL%)</b>	0-100%LEL	1%LEL
<b>Hydrocarbons (Vol%)</b>	0-100%Vol	0.1%Vol
<b>Dual-Range LEL%/Vol%</b>	0-100%Vol	1%LEL
<b>CO<sub>2</sub> (Carbon Dioxide)</b>	0-50000 ppm	100 ppm
<b>CO (Carbon Monoxide)</b>	0-1000 ppm	1 ppm
<b>H<sub>2</sub>S (Hydrogen Sulfide)</b>	0-100 ppm 0-1000 ppm	0.1 ppm 1 ppm
<b>CO + H<sub>2</sub>S</b>	<b>CO</b> 0-500 ppm <b>H<sub>2</sub>S</b> 0-200 ppm	1 ppm 0.1 ppm
<b>SO<sub>2</sub> + H<sub>2</sub>S</b>	<b>SO<sub>2</sub></b> 0-20 ppm <b>H<sub>2</sub>S</b> 0-100 ppm	0.1 ppm 0.1 ppm
<b>NH<sub>3</sub> (Ammonia)</b>	0-100 ppm 0-500 ppm	1 ppm 1 ppm
<b>Cl<sub>2</sub> (Chlorine)</b>	0-50 ppm	0.1 ppm
<b>ClO<sub>2</sub> (Chlorine Dioxide)</b>	0-1 ppm	0.01 ppm
<b>H<sub>2</sub> (Hydrogen)</b>	0-1000 ppm	1 ppm
<b>HCl (Hydrogen Chloride)</b>	0-15 ppm	0.1 ppm
<b>HF (Hydrogen Fluoride)</b>	0-20 ppm	0.1 ppm
<b>HCN (Hydrogen Cyanide)</b>	0-100 ppm	0.1 ppm
<b>NO (Nitric Oxide)</b>	0-250 ppm	1 ppm
<b>NO<sub>2</sub> (Nitrogen Dioxide)</b>	0-20 ppm	0.1 ppm
<b>PH<sub>3</sub> (Phosphine)</b>	0-20 ppm 0-1000 ppm	0.01 ppm 1 ppm
<b>SO<sub>2</sub> (Sulfur Dioxide)</b>	0-20 ppm 0-100 ppm	0.1 ppm 0.1 ppm
<b>C<sub>2</sub>H<sub>4</sub>O (Acetaldehyde)</b>	0-20 ppm	0.1 ppm
<b>ETO (Ethylene Oxide)</b>	0-100 ppm	0.1 ppm
<b>CH<sub>3</sub>SH (Methyl Mercaptan)</b>	0-10 ppm	0.1 ppm
<b>THT (Tetrahydrothiophene)</b>	0-40 ppm	0.1 ppm

### Typical Battery Run Times

Sensor Configuration	Monitor	Pump	Time
<b>NDIR</b> <b>LEL/VOL/O<sub>2</sub>/CO/H<sub>2</sub>S</b>	MP400H	None	36 hr
	MP400S	Off	36 hr
	MP400S	On	24 hr
<b>NDIR</b> <b>LEL/VOL/PID/O<sub>2</sub>/CO+H<sub>2</sub>S</b>	MP400H	None	20 hr
	MP400S	Off	20 hr
	MP400S	On	15 hr
<b>Pellistor</b> <b>LEL/O<sub>2</sub>/CO/H<sub>2</sub>S</b>	MP400H	None	12 hr
	MP400S	Off	12 hr
	MP400S	On	10 hr
<b>Pellistor</b> <b>LEL/PID/O<sub>2</sub>/CO+H<sub>2</sub>S</b>	MP400H	None	10 hr
	MP400S	Off	10 hr
	MP400S	On	8 hr

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