Photo-ionization Detectors







The NEO is one of the most advanced handheld VOC (Volatile Organic Compound) monitors available for ppb (parts per billion) detection. VOCs include a variety of chemicals such as benzene, alcohols, fuels, paint thinners, industrial solvents and many others, which can have short and long-term adverse health effects. Measuring these compounds is essential for worker protection in industries like oil & gas, fire & hazmat, pharmaceuticals, paints & adhesives, and many others. In addition, VOC monitoring is useful chemical process control, detecting leaks and other releases to the environment, and in measuring indoor air quality. The NEO offers several models from the most sensitive 1 ppb to a high range up to 15,000 ppm for different applications, and a filter tube version (NEO BENZ) for benzene-specific or butadiene-specific measurements. In addition to the standard continuous read-out, a Leak Detection and Repair (LDAR) mode is included. Novel designs of the Photo-ionization Detector (PID) and Ultraviolet (UV) lamp provide outstanding sensitivity, stability and reproducibility. Includes real-time data monitoring using mPower Suite software via cable to a PC or via Bluetooth to an Android phone or tablet.

Features, Functions and Benefits

- Smaller and lighter weight than comparable PIDs
- Most stable ppb-level PID on the market
- Outstanding linearity over full measurement range
- Easy charging on laptop or other USB port
- USB Micro Charger; combination USB-m charging and communications cable
- Powerful battery (run time 24 hours)
- Bluetooth Low Energy (BLE) connectivity standard
- Search Mode for LDAR Sampling
- Filter tube version for benzene- or butadiene-selective measurements
- Large backlight graphic display
- Lamp glow indicator
- Rugged, stainless-steel housing with rubber outer boot

NEO Specifications

Detector Specifications

Size	9.1 x 2.9 x 2.2 in (230 x 74 x 55 mm) (with boot)
Weight	24.9 oz (708 g) (w/boot)
Sensor	Photo-ionization sensor with standard 10.6 eV lamp (9.8 eV lamp in MP186)*
Response Time	3 sec (t_{90}) VOC Mode 45 sec @ 68°F (20°C) Benzene Tube Mode (MP186)
Accuracy	±3% (at calibration point)
Battery / Run Time	Rechargeable Lithium-Ion battery with 24 hours typical operation
Keypad	4 Operation keys
Sampling Pump	Built-in pump with 3 settings from 300 to 430 cc/min Sample from up to 100 ft (30 m)
Display	128 x 128 graphical LCD, 1.77 x 1.73 in (45 x 44 mm), with LED backlight for enhanced display readability
Direct Readout	Real-time reading of gas concentration (ppb, ppm, mg/m^3, $\mu g/m^3$), PID measurement gas and correction factor, lamp on/off, Man-Down alarm on/off, battery status, pump status, datalogging on/off, wireless on/off, temperature and time
Operating Modes	• Continuous readout with realtime data download to PC • Individual sampling mode for Leak Detection & Repair
Alarms	• Audible (95 dB @ 30 cm), visual (flashing bright red LEDs), and on-screen indication of alarm conditions • High, Low, TWA and STEL alarms • Over range alarm, battery low alarm • Man-Down alarm with pre-alarm and real-time remote wireless notification
Datalogging Capacity	• Standard 12 months at one-minute intervals • Storage interval adjustable from 1 to 3,600 seconds • 9999 LDAR sample points storage
Calibration	Two/three-point calibration
Low Flow Alarm	Auto pump shutoff at low-flow condition
Charging and Communication	Charging, data download, instrument configuration and firmware upgrades on PC or laptop via Micro USB. Configuration also via BLE using mobile App on Android phone or tablet
BLE Range	10 m (33 ft) line of sight
Corr. Factors	Integrated Correction Factor list of > 700 compounds
IP Rating	IP-66/67
EMI/RFI	Highly resistant to EMI/RFI Compliant with EMC Directive 2014/30/EU
Safety Certifications	c UL us Class I, Div 1, Group ABCD, T4 IECEx Ex ia IIC T4 Ga ATEX Ex II 1G Ex ia IIC T4 Ga CE European Conformity
Temperature	-4° to 122°F (-20° to 50°C)
Humidity	0% to 95% Relative humidity (non-condensing)
Attachments	Durable rubber boot, color coded for different models; Tube holder for MP186
Warranty	1 Year including lamp and sensor

Model Options

Model Number	VOC Range (ppm)	Part No.
MP181 (NEO PPM)	0.01-5,000	M011-0004-000
MP182 (NEO EXT)	0.01-15,000	M011-0005-000
MP184 (NEO PPB)	0.001-15,000	M011-0006-000
MP185 (NEO SEMI) (w/o MicroUSB)	0.001-15,000	Special Order
MP186 (NEO BENZ)* (w/9.8 eV Lamp & Tube Holder)	0.01-200 Benzene or Butadiene 0.005-10,000 VOC	M011-0013-000

* 9.8 eV lamp detects fewer VOCs than does 10.6 eV lamp

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