



NEO

PHOTO-IONIZATION DETECTOR

Applications

- Confined space measurement
- Measurement in low (ppb) ranges
- VOC measurements
- Benzene measurements
- Firefighters
- Emergency response to incidents related to hazardous substances (Hazmat)
- Paint, glue and printing
- Degreasers
- Disinfection and fumigation

Features and Benefits



Flexible Measurement Ranges

The NEO comes in several models – from the most sensitive 1 ppb, to a high range up to 15.000 ppm for different applications, and a benzene-specific version (NEO BENZ). Novel designs of the Photo-ionization Detector (PID) and Ultraviolet (UV) lamp deliver outstanding sensitivity, stability, and reproducibility. Options include real-time data monitoring via a built-in wireless modem and the WatchGas Suite application software.



Low-Cost Maintenance

The WatchGas NEO offers easy access to sensor and lamps, providing easy on the spot swap in less than 1 minute. The fast replacement allows the user to quickly restart monitors and hereby reducing the downtime. Cleaning of contaminated sensors and lamps are simple processes requiring limited equipment and hereby reducing to operation cost. Probably the most critical aspect of utilizing a PID.



Status Indication

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.



Function Flexibility

The WatchGas NEO comes with more than 700 correction factors for target gases, allowing the user to get the reading in the target equivalent unit, simplifying the interpretation of the reading.



Connectivity and Man-Down

The WatchGas NEO includes multiple advanced features. Combining wireless capabilities and Man-Down alarm enables team near proximity safety supervision at a low cost, providing an additional layer of safety layer in low visibility and/or high-noise environments.



Designed for Industrial Use

The WatchGas NEO rugged design and slim fit rubber boot, High IP rating, sample line capabilities, long battery life, large informative display layout, large variety of accessories, charging capabilities and ease of use provides any user a solution that can be tailored to the specific needs.

Specifications

Dimensions	9.1 x 2.9 x 2.2 in (230 x 74 x 55 mm) (with boot)
Weight	708 g (24.9 oz) (with boot)
Sensor Technology	Photo-ionization sensor with standard 10.6 eV lamp (or 9.8 eV lamp in MP186)*
Temperature	-20° to 50°C (-4° to 122°F)
Humidity	0% ~ 95% RH (non-condensing)
Alarms	High, Low, TWA and STEL alarms over-range alarm, battery low alarm Man-Down alarm with pre-alarm notification Low Flow Alarm: Auto pump shut-off at low flow condition
Alarm Signal	Acoustic: 95 dB @ 30 cm Visual: flashing bright red LEDs
Display	128 x 128 graphical LCD, 45 x 44 mm, with LED backlight
Direct Readout	Real-time reading of gas concentration (ppb, ppm, mg/m ³ , µg/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
Calibration	Two/three-point calibration
Datalogging	Standard 12 months at one-minute intervals adjustable from 1 to 3,600 seconds / 9999 LDAR sample points storage
Battery Run Time	24 hours rechargeable Li-Ion
Measurement	Pumped
Housing	Durable rubber boot, color coded for different models
Sampling Pump	Built-in pump with 2 settings from 300 to 430 cc/min. Sample from up to 30 m (100 ft)
Charging and Communication	Charging, data download, instrument configuration and firmware upgrades via Micro USB.
Response time T90	3 seconds (T90) VOC Mode 45 seconds @ 20°C (68°F) Benzene Tube Mode 120 seconds @ (68°F) Butadiene (Tube Mode)
Accuracy	±3% (at calibration point)
Correction Factors	Integrated Correction Factor list of 700+ compounds
IP Rating	IP67, IP66 when turned on
Safety Certifications	 Compliant with EMC Directive 2014/30/EU
	 Class I, Div 1, Group ABCD, T4, -20°C ≤ Tamb ≤ +50°C
	 Ex ia IIC T4 Ga
	 II 1G Ex ia IIC T4 Ga
Warranty	2 Years including lamp and sensor (1-year for 9.8 eV lamp)

For more information

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WatchGas is dedicated to continuously improving its products. Therefore, the specifications and features mentioned in this datasheet are subject to change without prior notice.

Sensor Specifications

Models	Gas Measuring Range	Resolution	Response Time
NEO PID Blue	0 - 5,000 ppm	0.01 ppm	M011-0004-W00
NEO PID Blue High Range	0 - 15,000 ppm	0.01 ppm	M011-0005-W00
NEO Benzene Specific RED (w/9.8 eV Lamp & Tube Holder)* (NEO Butadiene on request) Safety Certifications	0 - 200 ppm Benzene	0.01 ppm	M011-0013-W00
	0 ppm - 10,000 ppm VOC	0.001 ppm	
NEO PPB Black	0 - 15,000 ppm	0.001 ppm	M011-0006-W00

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

Accessories



The NEO comes complete with the following items:

- 1x Robust Case
- 1x PID Lamp Cleaning Solution
- 5x Inlet Filters
- 1x USB Charger
- 1x USB Cable
- 10x Finger Protection
- 20x Cotton Buds
- 1x Cleaning Wipe
- 1x Inlet Probe
- 1x Inlet/Outlet Luer Adapter
- 1x Quick Start Guide
- Benzene Separator Tube (**NEO Benzene only**)

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