Hal Technology

Handheld VOC Meter/Monitor

HAL-HVX501

Features

- Reliable PID sensor
- User selectable over hundred target gas
- Fast response
- Direct real time digital reading
- Large data storage capacity
- Live streaming/charting and TWA/STEL measurement via USB with a free data download software
- Auto backlight
- Simple and easy self-calibration and correction
- Audible excess limit warning
- Rechargeable Li-ion battery
- Optional digital pressure, temperature and humidity probe
- Window XP/7/8/10 compatible
- CE certified

HalTech introduces a state-of-art HVX501 handheld volatile organic compound (VOC) meter based on the best-available-on-the-market photo-ionization-detector (PID) sensor technology. It can easily take a quick and accurate measurement of VOC levels. As a part of Haltech gas meter family, the HVX501 can detect a wide variety of organic compounds and some inorganic gases (a few hundreds of chemicals) in ambient air. The Intrinsically safe PID sensor ionizes chemicals in the gas sample whose ionization potential less than the UV lamp energy and at least 200 times more sensitive to VOCs than conventional Heated Metal Oxide Sensors (HMOS). While priced among the lowest one on market, it can be utilized in a variety of environmental and safety applications for scientific research, industrial, commercial, and residential markets.

The light-weight HVX501, HVX501, with a data logging ability, has selections of wide measuring ranges, high sensitivity and high resolution of sensors (0-2ppm with 1ppb sensitivity and up to 2000ppm range) for continuous monitoring and research applications. With a built-in pump capable of point-to-sample capability, it can trace the origin of sources and offers a fast response to ambient changes in VOC levels with long-term stability and durability. Exceptional stability and patented self-calibration algorithm allow very long intervals between calibration intervals. It is fully compatible to Window XP/7/8/10 systems. The HVX501 offers the best performance at half price of similar products.

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Applications

- Industrial hygiene & safety monitoring
- Confined space entry
- Fugitive emission
- Soil contamination and remediation
- Hazmat sites and spills
- Solvent vapor monitoring for clean and degas processes
- Low concentration leak detection
- EPA Method 21 and emissions monitoring
- Arson investigation

Specifications

Target Gas	User selectable over a hundred of VOCs in ambient air
Detection Range	0~ 2.000 ppm 0 ~ 20.00 ppm, 0 ~ 200.0 ppm or 0 ~ 2000.0 ppm (Isobutylene standard) (special custom request for other range possible)
Technology	Photo ionization detection
UV Lamp Energy	10.6 eV (9.6 eV for special custom request)
Lamp lifetime	> 6000 hours
Response Time	< 6 seconds (T90)
Sensitivity	1ppb for 2ppm,0.01ppm for 20ppm, 0.025ppm for 200ppm and 0.05ppm for 2000ppm
Humidity Effect	< 1 ppm @ 90% RH
Onboard Filter	To remove particles and liquids
Sampling Method	Flow through and point sampling with a built-in pump
Memory	Up to 500 sets of data
Interface	USB for data down loading
Operating Conditions	32ºF to 122ºF (0ºC to 40ºC), < 90%RH (non-condensing), 950 - 10,000 mbar
Power	Rechargeable Lithium ion battery (3.7VDC/1250mAh); AC adapter 5VDC/1A
Dimensions	80 (W) × 42 (D) × 158 (H) mm
Weight	About 230 grams
Accessories	AC charger, USB data cable, data download software
Optional Accessories	Digital pressure, temperature and humidity sensor probe

Gas List

The relative factor is given so that, if necessary, a user can calculate the VOC concentration post-measurement. The user can default to Isobutylene and multiply the response by the factor below for the specific gas type.

Gas Name	Relative Factor
1,2,3-trimethylbenzene	0.49
1,2,4-trimethylbenzene	0.43
1,2-dibromoethane	11.70

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1,2-dichlorobenzene	0.50
1,3,5-trimethylbenzene	0.34
1,4-dioxane	1.40
1-butanol	3.40
1-methoxy-2-propanol	1.40
1-propanol	5.70
2-butoxyethanol	1.30
2-methoxyethanol	2.50
2-pentanone	0.78
2-picoline	0.57
3-picoline	0.90
4-hydroxy-4-methyl-2-pentanone	0.55
4-methylbenzyl alcohol	0.80
acetaldehyde	10.80
acetic acid	11.00
acetone	1.20
acetophenone	0.59
acrolein	3.90
allyl alcohol	2.50
ammonia	9.40
amylacetate	3.50
arsine	2.60
benzene	0.53
bromoform	2.30
bromomethane	1.80
butadiene	0.69
butyl acetate	2.40
carbon disulfide	1.20
chlorobenzene	0.40
cumene (isopropylbenzene)	0.54
cyclohexane	1.50
cyclohexanone	0.82
decane	1.60
diethylamine	1.00
dimethoxymethane	11.30
dimethyl disulfide	0.30
diesel fuel #1	0.90
diesel fuel #2	0.75
epichlorhydrin	7.60

ethanol 10	10.00
ethyl acetate	4.20
ethyl acetoacetate	0.90
ethyl acrylate	2.30
ethyl ether (diethyl ether)	1.20
ethyl mercaptan	0.60
ethylbenzene	0.51
ethylene	10.10
ethylene glycol	15.70
ethylene oxide	19.50
gasoline	1.10
heptane	2.50
hydrazine	2.60
hydrogen sulfide	3.20
isoamyl acetate	1.80
isobutanol	4.70
isobutyl acetate	2.60
isobutylene	1.00
isooctane	1.30
isopentane	8.00
isophorone	0.74
isoprene (2-methyl-1,3-butadiene)	0.60
isopropanol	5.60
isopropyl acetate	2.60
isopropyl ether	0.80
isopropylamine	0.90
Jet A fuel	0.40
JP-5 fuel	0.48
JP-8 fuel	0.48
mesityl oxide	0.47
methyl acetate	7.00
methyl acetoacetate	1.10
methyl acrylate	3.40
methyl benzoate	0.93
methyl ethyl ketone	0.90
methyl isobutyl ketone	1.10
methyl mercaptan	0.60
methyl methacrylate	1.50
methyl tert-butyl ether	0.86

methylamine	1.20
m-xylene	0.53
naphtalene	0.37
n,n-dimethylacetamide	0.73
n,n-dimethylformamide	0.80
n-hexane	4.50
nitric oxide	7.20
n-nonane	1.60
n-pentane	9.70
n-propyl acetate	3.10
octane	2.20
o-xylene	0.54
phenol	1.00
phosphine	2.80
pinene, alpha	0.40
pinene, beta	0.40
propionaldehyde (propanal)	14.80
propylene	1.30
propylene oxide	6.50
p-xylene	0.50
pyridine	0.79
quinoline	0.72
styrene	0.40
tert-butyl alcohol	3.40
tert-butyl mercaptan	0.55
tert-butylamine	0.71
tetrachloroethylene	0.56
tetrahydrofuran	1.60
thiophene	0.47
toluene	0.53
trans-1,2-Dichloroethene	0.45
trichloroethylene	0.50
trimethylamine	0.83
turpentine - crude sulfite	1.00
turpentine - pure gum	0.45
vinyl acetate	1.30
vinyl bromide	0.40
vinyl chloride	1.80
vinylcyclohexane (VCH)	0.54

vinylidene chloride (1,1-DCE)	0.80