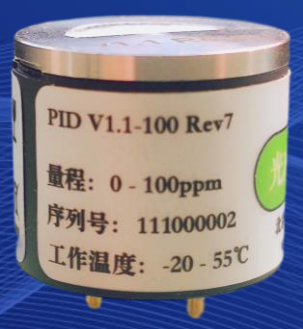
FirstFind PID

PID Sensor



FirstFind®

An HT-Nova Product

Photoionization sensor Detector) also known as PID is one of the most widely used technologies for the detection of volatile organic compounds (VOCs) and various inorganic gases.
The principle behind PID sensors is to use a high-energy ultraviolet light source to ionize gas molecules and generate current signals. The sample molecules can only be ionized when their ionization energy is less than the energy of the ultraviolet light source.

Application Scenario

- **Chemicals**: Safety hazard monitoring of flammable gas leakage and safety monitoring in emergency rescue
- **Petroleum and petrochemicals**: production safety risk monitoring, environmental risk monitoring and personnel health monitoring
- **Emergency management**: monitoring and alarming of flammable and toxic gases in the prevention, response and disposal of emergencies
- **Public security** Detection of flammable materials and toxic and harmful gases (sources) during public security inspections and anti-terrorism operations
- **Transportation**: Inspection of flammable and explosive dangerous goods, toxic and harmful gases (sources)
- **Major events**: Safety precautions against toxic and harmful gases at event sites

Product Features

- Long life, no less than 8000 hours
- Anti-humidity interference
- Anti-pollution design
- Ionization energy 10.0 eV/10.6 eV optional
- High linearity
- High consistency
- 4 series standard 3 -pin mode
- Full range, customizable 0-20,000ppm

Intellectual Properties

- An adjustable photoionization sensor
- A photoionization sensor for detecting gas concentration
- A multi-window ultraviolet lamp and preparation method thereof
- A photoionization detector and a method for dynamically adjusting the range of the detector

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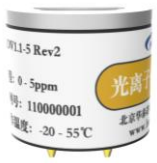
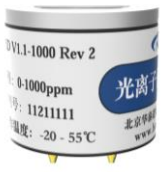
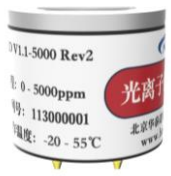
Performance Parameters

Typical Range	20ppm	200ppm	2000ppm	10000ppm
Photos				
Detection limit	1ppb	2ppb	40ppb	100ppb
Linearity	R2 ≥0.99	R2 ≥0.99	R2 ≥0.9 8	0 ～ 2000ppm R2≥0.98 ＞ 2000 ppm R ^{2} ≥0.9 6
Typical sensitivity	165 mv/ppm	16.5 mv/ppm	1.65 mv/ppm	0.25 mv / ppm
Repeatability	RSD% < 3 %			
Response time	3 to 5 seconds			
Input voltage	3.2 V ~ 5 V			
Saturation output voltage	3.0 V			
Power consumption	≤ 1 2 0 mW @3.3 V			
Temperature range	- 4 0 ℃～ 60 ℃			
Humidity range	0 ～ 93%±3%（30 ℃), no condensation			
weight	＜ 10 g			
life	＞ 8000 h			
Shelf life	One year			
UV energy	10.0ev, 10.6ev optional			
Customizable range	The upper limit of the measuring range can be selected as follows: 5 ppm , 20 ppm , 100 ppm , 200 ppm , 500 ppm , 1000 ppm , 2000 ppm , 5000 ppm , 10000 ppm , 15000 ppm, 20000 ppm			