

# HEATWAVE

## Moisture Tolerant PID

Introducing the  
world's first and  
only PID Sensor for  
High Humidity  
Applications.



---

Applications Uniques Ltd. is creating the  
future of PID sensors for use in the most  
difficult of applications.

---

## Heatwave™ Series PID Sensors perform better and require much lower maintenance in difficult applications

Au has developed a Photoionization Detection Sensor (PID sensor) that works similar to well known PID sensors, using UV light to ionize VOC gases, but features a Patent Pending new design that greatly eliminates moisture related performance anomalies.

Used to measure volatile organic gases (VOCs) in the air, it can respond to hundreds of organic gases without destroying the gases being sensed.

The American company Au (Applications Uniques Ltd), has launched a newly upgraded, second-generation, high-humidity-resistant PIS sensor called Heatwave™ following the success of its Rainbow™ series of general purpose PID sensors.

Heatwave™ uses innovative anti-humidity, patented pending technology to reduce, and in most cases eliminate, interference from humid samples. Heatwave is the proper solution for affordable, high performance TVOC monitoring in harsh outdoor environments. On rainy days, false alarms and drift are nearly eliminated. It is especially suitable for applications in outdoor environmental online monitoring.

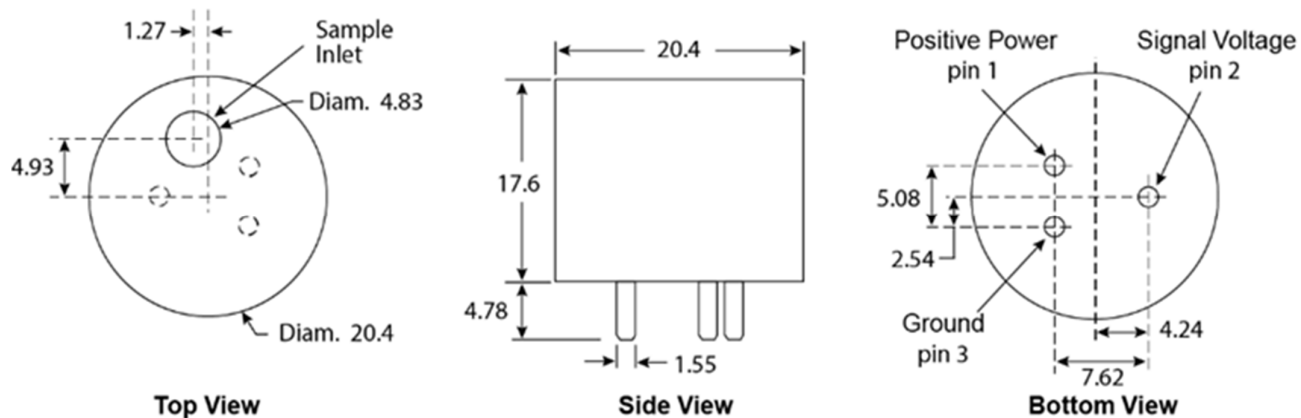
### Product Highlights

- Resistant to humidity interference
- No false alarms on rainy days
- No need for special expensive sample conditioning. Dehumidification devices such as condensers are typically not needed
- 10,000 hours UV lamp life
- One-year warranty (including lamps and detector cells)
- Three layers of anti-pollution filtration, anti-condensation filtration membranes
- Significantly reduced lamp cleaning and maintenance frequency
- Six conventional optional measuring ranges
- Gold-plated electrode sheets to prevent corrosion
- Tool-free removal and replacement of lamp

### Application Scenarios

- Industrial toxic and harmful gas emissions
- TVOC (VOCs) online monitoring
- Air Quality Monitoring
- Environmental Quality Monitoring
- Regulation Enforcement Monitoring
- Emergency Response Monitoring
- Special VOC Gas Detection
- Personnel Safety
- Urban Health
- Laboratory Gas Analysis
- Industrial Process Gas Analysis...
- And more

## Physical Dimensions:



## General Specifications and Characteristics:

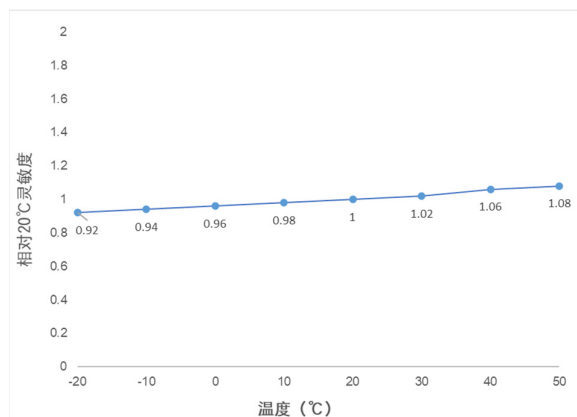
<b>Sensing Capability</b>	VOCs gases with ionization potentials of approximately 10.6 eV or less
<b>Supply Voltage</b>	3.25 ~ 5.5 VDC
<b>Rated Current</b>	120 mA @ 3.3 V Supply
<b>Output Signal</b>	0.04 ~ 2.5 V (over range up to 2.95V)
<b>Operating Temperature</b>	-40 °C ~ 55 °C
<b>Working humidity</b>	0 - 100% RH - Light to medium condensation only*
<b>Sampling Method</b>	Diffusion at Sensor face (pumping flow rates 200mL/min ~ 300mL/min recommended)
<b>life span</b>	>5 years (except bulb and electrode sheet), typical life of lamp >10,000 hours, electrode sheet >2 years
<b>Warranty</b>	1 year (including bulb and pole piece)
<b>weight</b>	9.5g

\*Heavy condensation should be avoided if possible. If a heavy condensation event takes place, such as in the case of advection fog formation, the sensor may perform poorly for a short period. It should correct itself within 2 to 4 days after the event is over.

## Range Specific Characteristics:

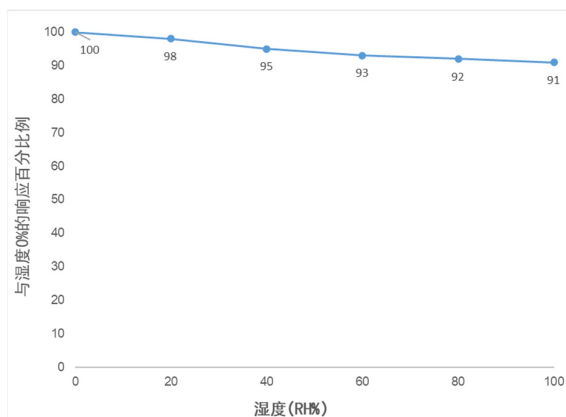
P/N	Full Scale	MDL	Sensitivity	T90	Background Signal
092-011	10 ppm	1 ppb	> 150mV/ppm	< 15 Sec	60 mV - 100 mV
092-012	20 ppm	1.5 ppb	> 100mV/ppm	< 10 Sec	60 mV - 100 mV
092-013	50 ppm	2 ppb	> 40mV/ppm	< 5 Sec	50 mV - 85 mV
092-015	200 ppm	10 ppb	> 10mV/ppm	< 5 Sec	50 mV - 85 mV
092-017	2000 ppm	500 ppb	> 2mV/ppm	< 5 Sec	50 mV - 85 mV
092-018	10,000 ppm	1000 ppb	> 1mV/ppm	< 5 Sec	50 mV - 85 mV

## Temperature Effects



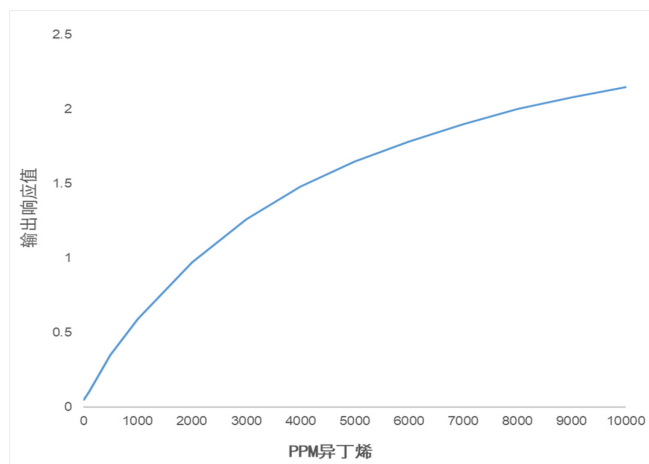
Greatly improved low-temperature characteristics. Response variation at -20°C is less than 10%.

## Humidity Effects



The above is the response of humidity without condensation of water. Condensation effects appear as increased signal. This may happen in extreme conditions.

## Response over Maximum Range



High linearity is maintained up to 200ppm. At higher measuring range, signal correction can be employed to linearize the signal.

## Accessories

Detector Cell: P/N: Heatwave 092-150  
 10.6 eV Lamp: P/N: Heatwave 092-160  
 Membrane Filter: P/N: Heatwave 092-170

## Precautions

- 1) Do not to solder the pins, please use matching socket for connection.
- 2) Use pure air or hydrocarbon-free air for zero calibration.
- 3) It is recommended to use 50% full range for span calibration.