

Baseline®- MOCON®, Inc.

piD-TECH *plus*®

Photoionization Sensor

Fast Response



40 years of experience with Photoionization Detectors

The piD-TECH *plus*® Plug-in Photoionization Sensor provides complete photoionization detection capability and can be installed in portable and stationary gas monitors that accept the 4P cell dimensional profile.

This gives gas monitors a new and powerful detection capability that was previously unavailable. This sensor can be utilized in an incredible variety of environmental and safety applications for industrial, commercial, and residential markets.

The intrinsically safe piD-TECH *plus*® can be easily integrated into gas analyzing and monitoring instruments greatly reducing new product development costs. The sample gas is exposed to an ultraviolet light from a UV lamp. The light ionizes the sample that is then detected by the instrument and reported as a concentration. Chemicals such as Volatile Organic Compounds (VOCs) with an ionization potential less than the energy output (eV) of the lamp will be detected by photoionization. Contact Baseline® for a comprehensive ionization potential list.

Applications

- Industrial hygiene & safety monitoring
- Confined space entry
- Soil contamination and remediation
- Hazmat sites and spills
- Arson investigation
- Low concentration leak detection
- EPA method 21 and emissions monitoring

Features

- Intrinsic safety built-in, no external components required
- Easily cleaned and serviced in the field
- 4P cell platform compatible
- 10.6eV, 10.0eV, and 9.6eV lamp energies available
- Multiple ranges and 3 ionization potentials:

| 10.6 eV Isobutylene | 10.0 eV Isobutylene | 9.6 eV Isobutylene |
|---------------------|---------------------|--------------------|
| 20 ppm | 60 ppm | 1000 ppm |
| 200 ppm | 600 ppm | 10,000 ppm |
| 2000 ppm | 6000 ppm | |
| 10,000 ppm | | |

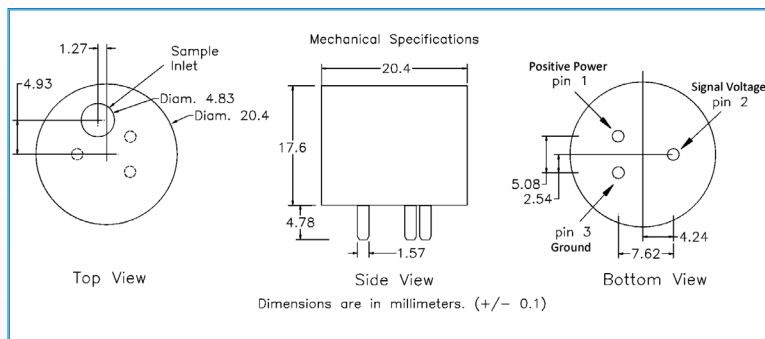
- Complete Sensor including:
 - Detector cell
 - UV Lamp
 - Lamp Driver
 - Amplifier
 - Sample Filter
- Enhanced RF shielding

Performance Characteristics

| | Black Extended | Black | Bronze | Silver |
|---|----------------|------------|------------|------------|
| 10.6 eV Range (Isobutylene): | 10,000ppm | 2,000ppm | 200ppm | 20ppm |
| Minimum Detectable Quantity (Isobutylene): | 100ppb | 50ppb | 25ppb | 5ppb |
| Part Number: | 043-262 | 043-233 | 043-234 | 043-235 |
| T90 Response Time | <3 seconds | <3 seconds | <3 seconds | <5 seconds |

| | Black | Bronze | Silver |
|---|------------|------------|------------|
| 10.0 eV Range (Isobutylene): | 6,000ppm | 600ppm | 60ppm |
| Minimum Detectable Quantity (Isobutylene): | 150ppb | 75ppb | 15ppb |
| Part Number: | 043-327 | 043-328 | 043-329 |
| T90 Response Time | <3 seconds | <3 seconds | <5 seconds |

| | Bronze | Silver |
|---|------------|------------|
| 9.6 eV Range (Isobutylene): | 10,000ppm | 1,000ppm |
| Minimum Detectable Quantity (Isobutylene): | 1250ppb | 250ppb |
| Full-scale Benzene Response (Factor 0.55) | 5,500ppm | 550ppm |
| Part Number: | 043-240 | 043-241 |
| T90 Response Time | <3 seconds | <5 seconds |



Temperature Range: -20° C to 40° C

Relative Humidity Range: 0 to 90% non-condensing

Humidity Response: <0.2ppm @ 90% r.h. (typical)

Humidity Quenching Effect: <15% @ 90% r.h.

Onboard Filter: To remove liquids/particles

All sensors calibrated with Isobutylene. Use of socketed connection is required. Soldering or cutting the connection pins may permanently damage the sensor and void the warranty.

Electrical Characteristics

Supply Voltage: 3.2V - 10V (input voltage regulator included)

Current: 20mA - 30mA

Power Consumption: 64mW - 300mW, dependent on supply voltage

Output Signal: 0.045V - 2.5V

Physical Characteristics

Weight: <8g

Package Type: 4p cell dimensional profile

Servicable Parts: Lamp, detector cell, filters

Lamp Life: Guaranteed for 6000 hours

Warranty Period: 18 months from date of shipment or 12 months from date of installation, whichever ever comes first

Certifications

piD-TECH plus® is a UL certified component. Intrinsically safe - no external components required.

USA: UL 913 (Sixth Edition), For use in Class I, Division 1, Groups A, B, C, D Locations.

Europe: ATEX directives EN50014:1997 E and EN50020:2002 E, II G Eex ia IIC, Tamb -20C to +60C

Other: IECEx Standards IEC60079-0:2004 and IEC60079-11:1999, Ex ia IIC Tamb = -20C to +60C

Patents: US Pat 6,646,444, Japan Pat 3,793,757

Detailed documentation for specific certification is available upon request. Above certifications are issued for piD-TECH plus® sensor only and are not applicable to the equipment in which it is incorporated.

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