piD-TECH™
Plug-In Photoionization Sensor

Baseline - MOCON, Inc.™

Sensor

The "piD-TECH™" Plug-In Photoionization Sensor is designed to be installed in portable and stationary gas monitors that accept City Technology™ - 4P cells. It provides complete photoionization detection capability in a package that has the same dimensional and electrical profile as these cells.

This gives many gas monitors new and powerful detection capability that was previously unavailable. It opens up an incredible variety of environmental and safety applications in industrial, commercial and residential markets.

The piD-TECH™ sensor is offered in two models. They are virtually insensitive to humidity changes, providing unparalleled performance in a variety of applications.

The piD-TECH™ Black Label has a linear dynamic range of 0.1ppm to 2,000ppm.

The piD-TECH™ Silver Label has a linear dynamic range of <0.01ppm to 20ppm.

The sensor is based on a photoionization detector (PID). The sample gas is exposed to an ultraviolet light from a lamp. The lightemitted by the lamp ionizes the targeted gases in the sample so they can be detected by the instrument and reported as a concentration. Chemicals such as VOCs with an ionization potential <10.6 eV will be detected by photoionization. Contact Baseline for a comprehensive ionization potential list.

Applications

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

Features

- City Technology™ - 4P cell platform compatible
- Complete Sensor including:
  - Detector Cell
  - Photoionization Detector Lamp
  - Lamp Driver
  - Amplifier
  - Sample Filter
- Lamp energy = 10.6 eV
- Intrinsically Safe

Baseline, the reference point from which all things are measured.

Information in Baseline - MOCON, Inc. Product Literature is accurate at the time of release. However, product specifications and availability, promotions, prices, relationships, contact numbers and other specific information may change over time. Visit http://www.baselineindustries.com for additional information and the latest product literature.

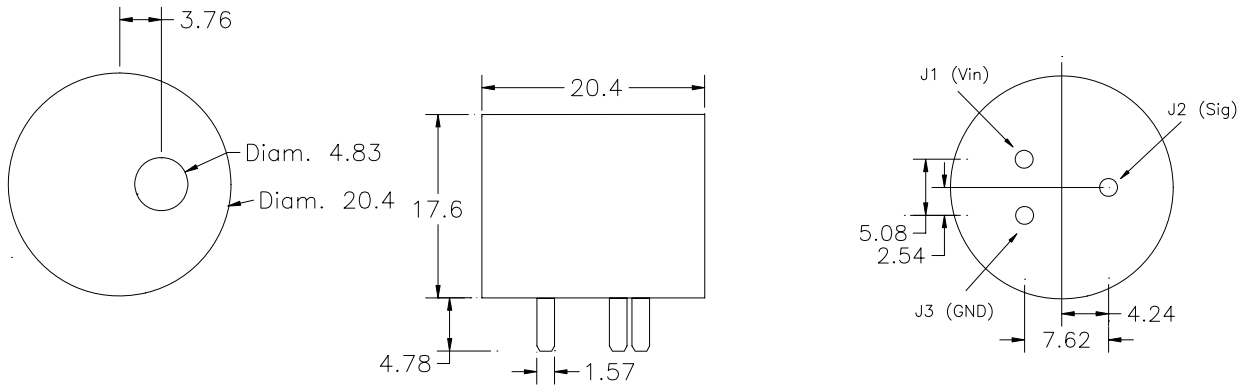
piD-TECH® *plus* Photoionization Sensor
Data Sheet

Performance Characteristics

Target Gases: VOCs and other gases with Ionization Potential ≤10.6 eV
Lamp Energy: 10.6 eV
Linear Range: 0 - 2000 ppm Isobutylene, Accuracy at 2000ppm is %20 with calibration point at 100ppm.
Minimum Detectable Quantity: 0.1 ppm Isobutylene
T_{90} Response Time: ≤ 20 seconds (diffusion mode)
Temperature Range: -20 °C to 40 °C (Maximum temperature is 60 °C).
Temperature Dependence: Maximum deviation from the average temperature dependence curve is less than %20.
Relative Humidity Range: 0 to 90% non-condensing
Humidity Response: < 1ppm @ 90% r.h., 25 °C, with zero gas applied.
Humidity Effect: Reduction of response to Isobutylene @ 90% r.h. < 15% of response @ 0% r.h.
Onboard Filter: To remove liquids/ particles
Operating Life: > 1 year
Storage Life: > 2 year

Mechanical Specifications:

Dimensions are in millimeters. (+/− 0.05)



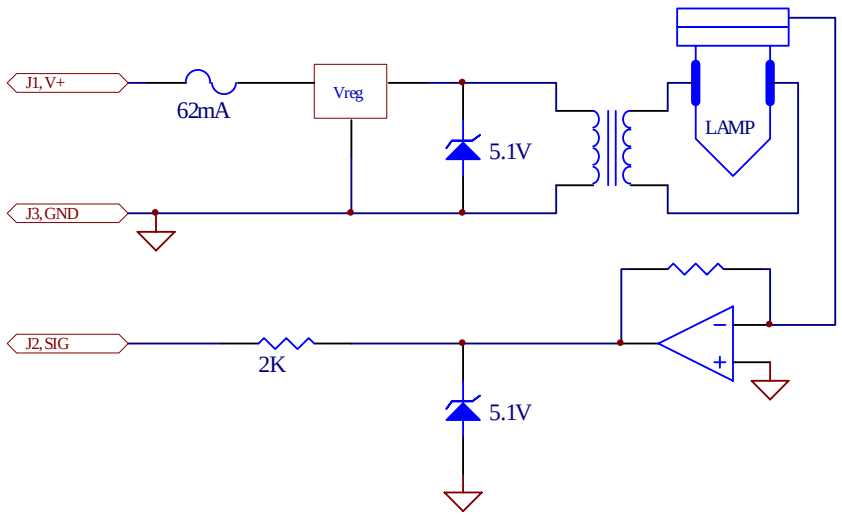
Baseline-MOCON, Inc.	19661 HWY 36 Lyons, CO 80540 PH 303-823-6661	
piD-TECH® *plus* - Data Sheet	DWG No. 7400-0105-011	Rev. C
	Part No. ZPP6018001	
	Sheet 1 of 2	

Electrical Characteristics

Supply Voltage(J1): 3.2V – 10V
Current: 20mA - 30mA
Power Consumption: 64mW - 300mW, Dependent on supply voltage.
Output Signal(J2): 0.05V - 2V (Maximum Voltage = 2.85V)

0ppm: 0.05V – 0.06V
100ppm (Isobutylene): 0.09V – 0.167V (.4mV/ppm - 1.07mV/ppm)
2000ppm (Isobutylene): 0.68V – 2V, (Based on non-linearity of –10% @ 2000ppm)

Simplified Sensor Circuit



Conditions for safe use:

- The sensor shall be installed inside of a suitable enclosure in accordance with the end product standards.
- The sensor is to be powered from an intrinsically safe circuit in the end product.
- Refer to control drawing (7400-0108-011)for entity parameters and additional information.

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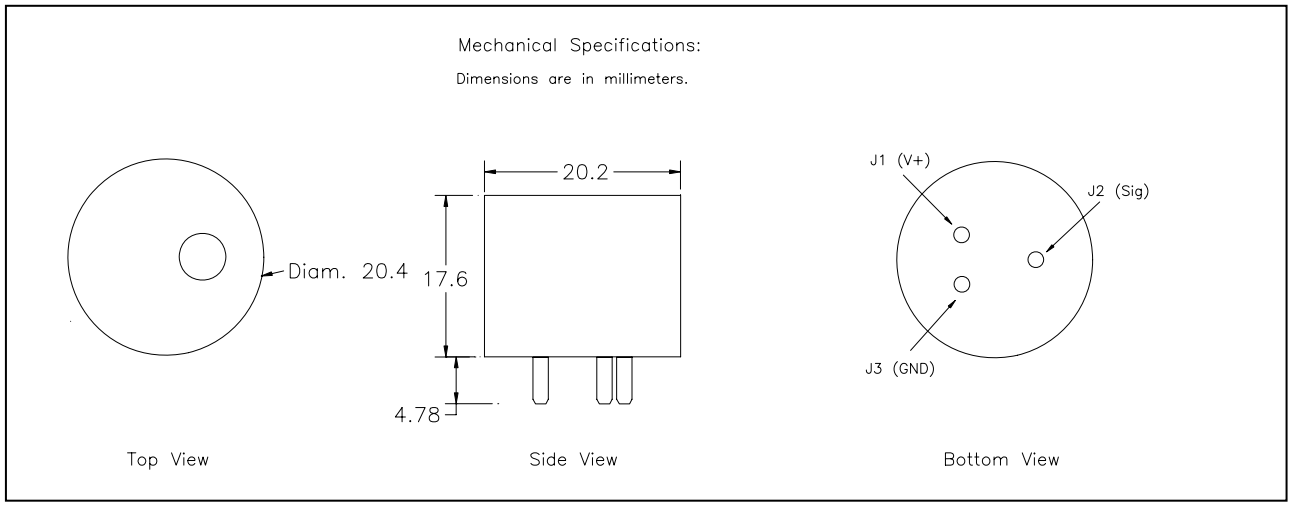
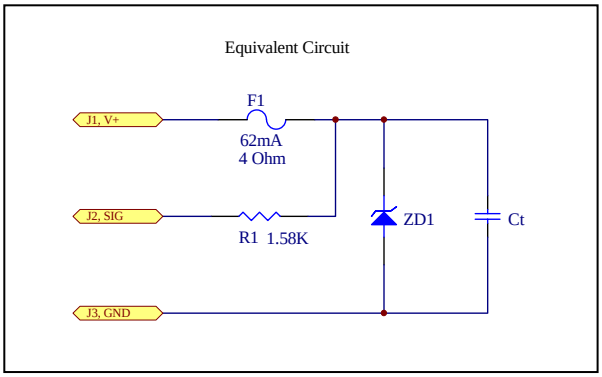
Mechanical Details:



Entity Parameters:

	Pins J1,J2,J3	Comments
Vmax, Ui	10V	
Imax, Ii	-	The current is limited by an internal fuse.
Pi	-	Power is limited to .581W by an internal fuse, resistor and zener diodes.
Ci	0uF	
Li	0H	



Manufacturer and Applicant: Baseline-MOCON, Inc., Lyons, Colorado 80540, USA

Label Information:

0539 ⟨Ex⟩ II 2 G EEx ia IIC
DEMKO 06 ATEX 0547796U
Ex ia IIC IECEx UL 06.0011U
Class I, Division 1, Groups A,B,C,D
Tamb = -20°C to +60°C

Note 1:
No changes permitted without reference to notified body.

Baseline-MOCON, Inc.	19661 HWY 36 Lyons CO 80540 PH 303-823-6661	
PiD-TECH - Control Drawing	DWG No. 7400-0108-011	Rev. B
	BMI No. ZPP60180 **	
	Date: 07/15/06	Sheet 1 of 1