

Laboratory PID

The Laboratory PID (LAB PID) is a stationary photoionization measuring system suitable for the continuous detection of volatile organic compounds (VOCs) with an ionization potential of < 10.6 eV. Being intended as measuring device for laboratory use, the system covers a broad range of applications in the sector of hazardous substances measurement thanks to its advanced design and compact construction.

The LAB PID meets all requirements towards state-of-the-art, low-maintenance and user-friendly photoionization measuring systems.

Extended measuring range

A new sensor unit allows an extended measuring range of up to 2 000 ppm (isobutene) with high resolution even at low concentrations.

Easy user interface

A graphic color display with intuitive user guidance, clear text instructions and step-by-step configuration supports the ease of use.

High performance PID lamp

The ionization source is a high stable hollow cathode lamp with an energy of 10.6 eV. With its ceramic discharge channel, the stability is improved and a longer service life of up to 15 000 hours and more will be achieved.

Extended service interval

The high stability of the lamp and the special design of the sensor in conjunction with automatic feeding of pollutant-free air through an activated carbon filter results in longer maintenance intervals.

Automatic fresh air setup

For testing and adjusting the zero point, pollution free air is applied via the activated carbon filter periodically through the gas path.

Temperature / humidity compensation

The integrated humidity / temperature sensor measures in addition to the sensor signal the physical environment data and compensates their influence on the measuring result.



Simple calibration

Even in heavy environment, only one calibration gas is required for the simple menu driven 2-point calibration. The applied active carbon filter provides the zero point.

Flexible connections

A configurable current loop output, alarm and fault relays and a USB or RS232 or RS485 interface with MODBUS protocol makes it easy to integrate the detector into target system.

LabVIEW Support

A LabVIEW driver supports the PC-based virtual instrumentation.

Technical Data

Detector principle	VUV-Photoionization with 10.6 eV hollow cathode lamp with Ceramic Discharge Channel technology	
Detection range	0 ... 2 000 ppm Isobutene *	
Display range	0 ... 20 000 ppm, depending on response factor of detected substance	
Lower detection limit	Typical 10 ppb *	
Display resolution	Dynamic up to 0.01 ppm	
Response time	T90 < 10 s *	
Signal integrity	Up to 100 ppm	typical > 98 % *
	Up to 2 000 ppm	typical > 95 % *
Influence of humidity	Humidity and temperature compensation at 0 ... 50 °C and 0 ... 90 % rH residual effect less than < 10 % FS	
Operating conditions	0 ... 40 °C	0 ... 90 % rH, non-condensing
Storage conditions	-20 ... 60 °C	0 ... 95 % rH, non-condensing
Gas sampling	Integrated diaphragm pump (about 300 ml/min) Sample inlet with dust and water protection filter	
PID lamp life time	Min. 8 000 hours, typical more than 15 000 h	
Signalisation	Leds at the front to indicate various operating conditions	
Display	Full graphic color display, 3.5 inch TFT with 320 x 240 pixel	
Program functions	Continuous or cyclical measuring, limit value monitoring by optical and acoustic alarm, two-point calibration, self-testing, data storage	
User Interface	Intuitive graphical menu navigation via cursor or touchscreen, multilingual	
Memory	More than 50 000 measurement data with time, temperature and humidity	
Power supply	100 ... 260 VAC/50 ... 60 Hz	
Relays	3 x SPDT 30 V / 2 A	
Analog output	Current loop, 4 ... 20 mA	
Digital interface	USB, RS232, RS485 (MODBUS)	
Calibration	Automatically two point calibration Zero gas via activated char coal filter, span gas via sample inlet	
Response factors	Selectable built-in response factors	
Dimension, weight	310 mm x 244 mm x 130 mm (L x W x H), approx.: 3 kg	
Ingress Protection	IP30	
Warranty	2 years, except for components in gas path and wearing parts	
Approvals	EMC directive 2014/30/EU, Low voltage directive 2014/35/EU	

* The indicated values were obtained under standardized conditions.
Test gas was isobutene in synthetic air.

Contact

Analytical Control Instruments GmbH
Volmerstraße 9A
D-12489 BERLIN, Germany
www.aci-berlin.de