

Stationary Photoionization Detector SPID2

The Stationary Photoionization Detector SPID2 is a continuously measuring detector for volatile organic compounds (VOCs) with an ionization potential <math><10.6\text{ eV}</math>. **(New:** optional with 11,8eV lamp) The use of new technologies for the excitation source and the sensor allows a high stability of measurement and longer maintenance intervals. An integrated active carbon filter and the circuit sampling an automatic fresh air setup and automatic calibration are controlled.

The device is designed and approved for use in explosive atmospheres.

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 display with intuitive user guidance, clear text instructions and step-by-step configuration support 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 wide range supply voltage, a configurable current loop output, alarm and fault relays and a RS485 interface with MODBUS protocol make it easy to integrate the detector into target system.

IECEx / ATEX certification

The SPID2 fulfils the requirement for use in potentially explosive atmospheres and has the appropriate certifications in accordance with ATEX and IECEx.

Technical Data

Detector principle	VUV-Photoionization with 10.6 eV hollow cathode lamp with Ceramic Discharge Channel technology (optional with 11,8eV lamp)
Detection ranges	0 ... 20 ppm Isobutene * 0 ... 100 ppm Isobutene * 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	-10 ... 55 °C 0 ... 95 % rH, non-condensing
Storage conditions	-20 ... 60 °C 0 ... 95 % rH, non-condensing
Gas sampling	Integrated diaphragm pump (about 250 ml/min) Sample inlet with dust and water protection filter
PID lamp life time	10,6eV: Min. 8 000 hours, typical more than 15 000 h 11,8eV: 4 months from date of delivery
Alarms	2 adjustable alarm levels
Power supply	9 ... 36 VDC, max. 4 W, recommended 24 VDC
Signalisation	2 x LED (red) for alarms, 1 x LED (multicolour) for status
Relays	3 SPDT 30 V / 2 A (surge current), 2 x for alarms, 1 x for failure
Analog output	Current loop, 4 ... 20 mA and 0 ... 5 mA
Digital interface	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, changeable via remote service program
User interface	Graphical display with backlight, magnetic keys
Dimension, weight	200 mm x 370 mm x 133 mm (L x W x H), about 2200 g
Ingress Protection	IP64, Sample inlet with dust and water protection filter
Warranty	2 years, except for components in gas path and wearing parts
Approvals	ATEX/IECEX Gas II 2G Ex db IIC T6 Gb -40 °C ≤ Ta ≤ +60 °C EMC directive 2014/30/EU

* The indicated values were obtained under standardized conditions with 10,6eV lamp.
Test gas was isobutene in synthetic air.

Contact

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