VSR - Smartline Vacuum Transducer Piezo / Pirani

Absolute Pressure 1200 to 1 x 10^{-4} mbar



Overview VSR vacuum transducer

- Wide measuring range due to combination sensor piezo/Pirani
- High accuracy and optimal resolution over the whole measuring range
- Excellent reproducibility and long term stability
- Short response time of up to 40 ms
- Integrated metal screen for protection against contamination such as oil and solvent vapors
- Stable measurement due to optimized temperature compensation
- Measurements independent of gas type above 20 mbar and adjustable gas type correction factor for Pirani sensor

Overview Smartline vacuum transducers

- Digital RS485 interfaces plus 0-10 V output signal, EtherCAT or PROFINET, Bluetooth adapter SLKBT for wireless communication
- PROFINET transducers support MRP
- Exchangeable sensor heads with stored calibration data
- Large LCD display (exc. EtherCAT, PROFINET)
- Readjustment of zero and atmosphere by push-button or interface
- LEDs for device status and switch points
- Two independent, potentialfree relay switch points (exc. EtherCAT, PROFINET)
- Protection class up to IP54
- 0-10 V output signal can be scaled according to the required output characteristics. Exchange of existing vacuum gauges easily, independent of the manufacturer, without programming effort
- Intelligent sensors for simplified integration according to Industry 4.0 standards
- Metal sealed stainless steel sensor cell, suitable for UHV (He leackage rate <5e-10 mbar l / s)
- Expansion with 2 channel controller VD12 or 4 channel controller VD14 possible
- VacuGraph™ Windows software for visualisation, analysis and storage of measuring data

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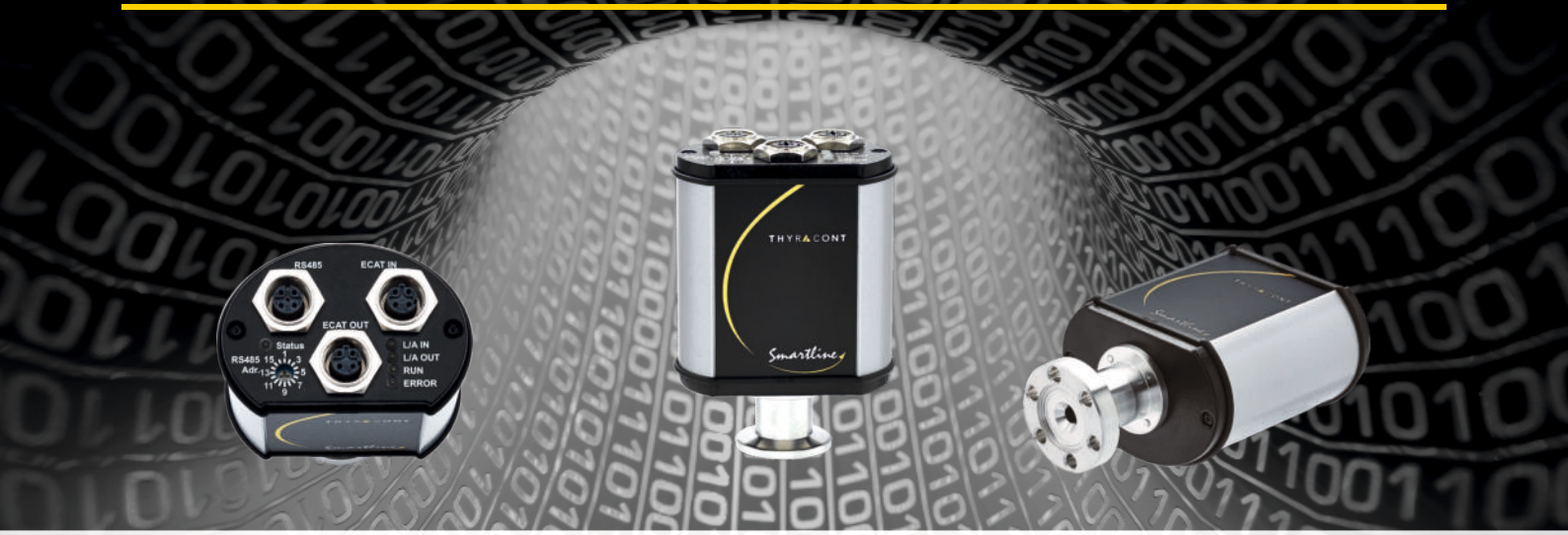
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Technical Data

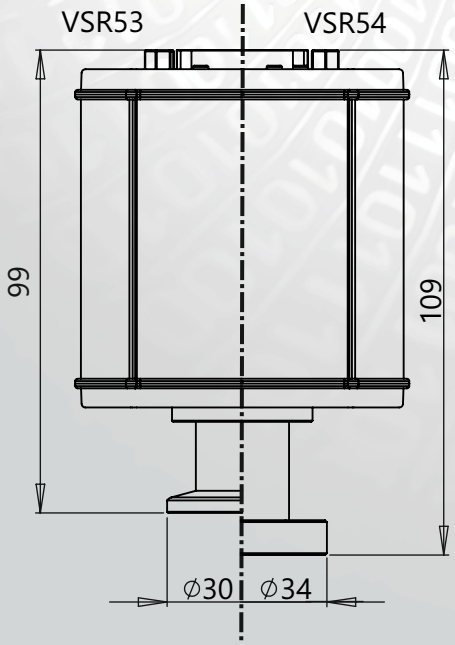
Measurement Principle	Piezo resistive / heat conduction Pirani (Pirani, dep. on gas type)
Measurement Range	1200 - 1e-4 mbar (900 - 1e-4 Torr)
Max. Overload	4 bar abs.
Accuracy	1200 - 40 mbar: 0.3 % f. s., 40 - 2e-3 mbar: 10 % f. r.
Repeatability	1200 - 40 mbar: 0.1 % f. s., 40 - 1e-2 mbar: 2 % f.r.
Materials with Vac. Contact	Stainless steel 1.4307, tungsten, nickel, glass, gold, silicon oxide
Reaction Time	40 ms
Operating Temperature	+5...+60°C (Profinet -5... + 50°C)
Storage Temperature	-40...+65°C
Bake Out Temperature	Max. 150 °C at the flange (voltage supply switched-off)
Voltage Supply	20 - 30 VDC
Power Consumption	Max. 2.5 W, add. 0.8 W for EtherCAT / relays /LCD, add. 1.6 W for Profinet
Output Signal	0-10 VDC, min. 10 kΩ, measuring range 1.5 to 8.58 VDC, log. (Default) except for EtherCAT, Profinet
Digital Interface	RS485: 9.6 kBd to 115 kBd, 8 databit, 1 stopbit, no parity, EtherCAT, Profinet
Switch Points	2x relay, potential free, 49 VAC / 2 A or 30 VDC / 2 A, max. 60 VA except for EtherCAT, Profinet
Electrical Connection	RS485/0-10V: SubD, 15-pole, male RS485/EtherCAT/Profinet: 1x M12 A / 2x M12 D, female
Vacuum Connection	DN 16 ISO-KF (VSR53), DN 16 CF-F (VSR54)
Protection Class	Up to IP54 (SubD with XB15SL05 adaptor)
Weight	Approx. 195 g (VSR53D)

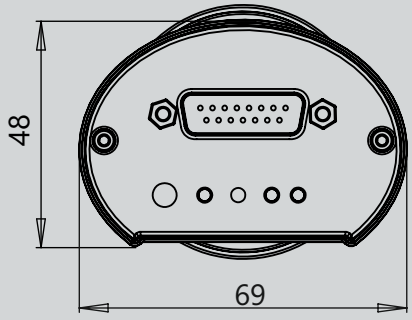
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Dimensions in mm





Model designations

- VSR53D DN16 ISO-KF, 0-10 V and RS485
- VSR54D DN16 CF-F, 0-10 V and RS485

- VSR53DL DN16 ISO-KF, 0-10 V and Rs485, with LCD display
- VSR54DL DN16 CF-F, 0-10 V and RS485, with LCD display

- VSR53E DN16 ISO-KF, EtherCAT and RS485
- VSR54E DN16 CF-F, EtherCAT and RS485

- VSR53PN DN16 ISO-KF, Profinet and RS485
- VSR54PN DN16 CF-F, Profinet and RS485

Set

VD1253P: Set including a 2 channel controller VD12, VSR53D, measuring cable 2 m

Accessories

- Replacement sensor heads: B_VSR53, B_VSR54
- SLCASE Smartline protective plastic case , SLN4 plug-in power supply, SLKUSB interface converter RS485-USB, VGR VacuGraph software lite version

Further accessories as well as detailed information about our product family can be found in our Smartline brochure.