

VSI - Smartline Vacuum Transducer Cold Cathode

Absolute Pressure 2×10^{-3} to 5×10^{-9} mbar



Smartline

PROFI
NET

EtherCAT

RS485
0-10 V



Overview VSI vacuum transducer

- Wide range combi sensor cold cathode
- Automatic control of the cold cathode by the Pirani, switch-on of cold cathode at low pressure increases lifetime
- Insensitive against inrush of air
- Voltage reduction of cold cathodes optimizes durability of sensor
- Excellent ignition behavior
- Low stray magnetic field
- Overpressure stability up to 16 bar

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 leakage rate $< 5 \times 10^{-10}$ 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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Technical Data

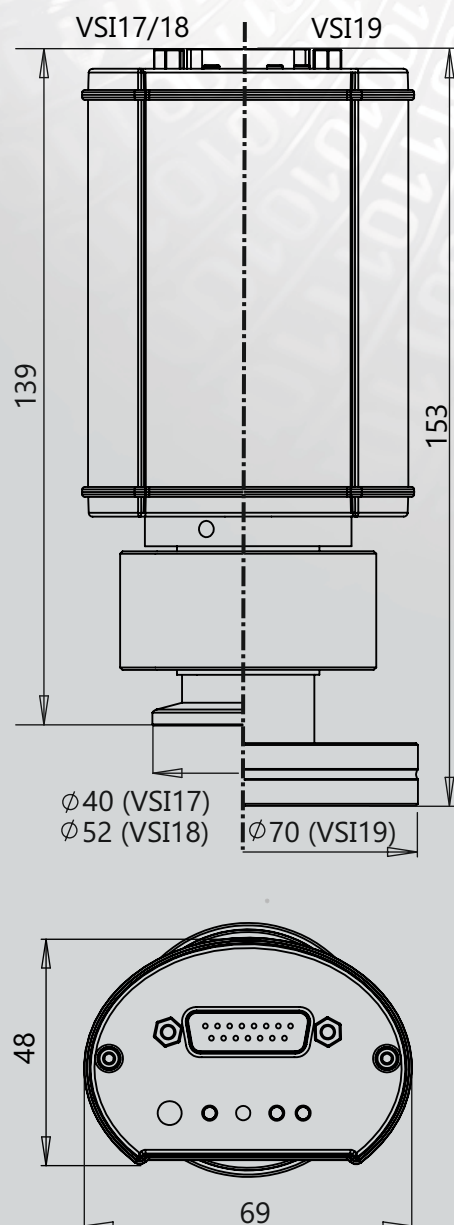
Measurement Principle	Cold cathode (inverted magnetron), depending on gas type
Measurement Range	$2\text{e-}3$ - $5\text{e-}9$ mbar ($1.5\text{e-}3$ - $5\text{e-}9$ Torr)
Overload	10 bar abs. optional: 16 bar abs. (with CERT31P)
Accuracy	$2\text{e-}3$ - $2\text{e-}8$ mbar: 25% f. r.
Materials with Vac. Contact	Stainl. steel 1.4307, tungsten, nickel, glass, molybdenum, Al_2O_3 ceramic
Anode Material	Molybdenum
Anode Voltage	< 2.5 kV
Reaction Time	50 ms (switch-on cold cathode < 2s)
Operating Temperature	+5...+60°C (Profinet +5...+50°C)
Storage Temperature	-40...+65°C
Bake Out Temperature	Max. 160 °C at the flange (voltage supply switched-off)
Voltage Supply	20 - 30 VDC
Power Consumption	Max. 3 W, add. 0.8 W for EtherCAT / relays /LCD, 1.6 W for Profinet
Output Signal	0-10 VDC, min. 10 k Ω , measuring range 2.199 to 7.801 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 25 ISO-KF (VSI17), DN 40 ISO-KF (VSI18), DN 40 CF-F (VSI19)
Protection Class	Up to IP54 (SubD with XB15SL05 adaptor)
Weight	Approx. 555 g (VSI17)

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Dimensions in mm



Model designations

- VSI17D DN 25 KF, 0-10 V and RS485
- VSI18D DN 40 KF, 0-10 V and RS485
- VSI19D DN 40 CF, 0-10 V and RS485

- VSI17DL DN 25 KF, 0-10 V and RS485, with LCD display
- VSI18DL DN 40 KF, 0-10 V and RS485, with LCD display
- VSI19DL DN 40 CF, 0-10 V and RS485, with LCD display

- VSI17E DN 25 KF, EtherCAT and RS485
- VSI18E DN 40 KF, EtherCAT and RS485
- VSI19E DN 40 CF, EtherCAT and RS485

- VSI17PN DN 25 KF, Profinet and RS485
- VSI18PN DN 40 KF, Profinet and RS485
- VSI19PN DN 40 CF, Profinet and RS485

Accessories

- CERT31P: overpressure stability 16 bar, incl. testing certificate 3.1
- Replacement sensor heads: B_VSM77A, B_VSM78A, B_VSM79A
- 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.