

VSI - Smartline Vacuum Transducer Cold Cathode

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

PROFI[®]
NET

PROFI[®]
BUS

EtherCAT[®]

RS485

0-10 V



VSI at a glance

- Cold cathode sensor can be switched on and off either automatically or manually by the user
- Low magnetic stray field
- Insensitive against inrush of air due to automatic switch-off
- Overpressure stability up to 16 bar
- Exact measurement values by means of gas type correction factor

Features of the Smartline product family

- Digital RS485 interface and additional analog output signal 0 - 10 V, EtherCAT, Profibus or Profinet
- Large, integrated LCD display
- Adjustment of zero and atmospheric pressure via pushbutton or interface
- Two independent, potential-free relay switch points
- LEDs for device status and switch points
- Scalable output signal for an easy replacement of existing transducers
- Protection class up to IP54
- UHV suitable due to metal-sealed stainless steel sensor (helium leakage rate $< 5 \times 10^{-10}$ mbar l/s)
- Easy connection with PLCs
- Rugged, EMI-proof metal housing
- Digital transmission of data of up to 500 m
- Bluetooth adapter available
- Suitable for 2 / 4 channel controllers VD12 / VD14
- VacuGraph[™] Windows software to visualize, analyze and save measurements
- Easily replaceable sensor heads with stored calibration data

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Technical Data

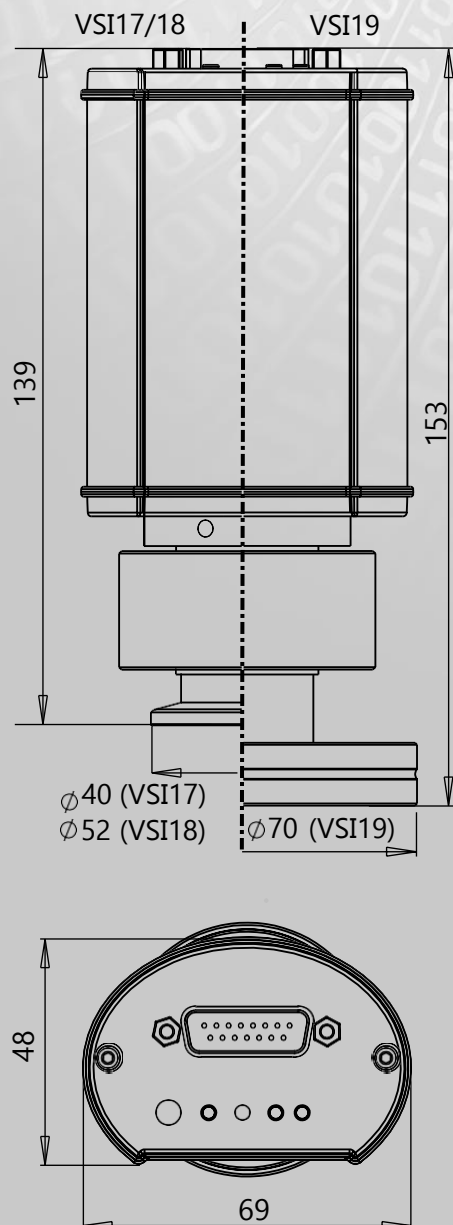
Measurement Principle	Cold cathode (inverted magnetron), depending on gas type
Measurement Range	2e-3 - 5e-9 mbar (1.5e-3 - 5e-9 Torr)
Max. Overload	10 bar abs. up to 16 bar abs. (with CERT31P)
Accuracy	2e-3 - 2e-8 mbar: 25% from reading
Materials With Vac. Contact	Stainl. steel 1.4307, tungsten, nickel, glass, molybdenum, Al ₂ O ₃ ceramic
Anode Material	Molybdenum
Anode Voltage	< 2.5 kV
Reaction Time	50 ms (switch-on cold cathode < 2s)
Operating Temperature	+5...+60°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, additionally 0.8 W f. EtherCAT / relays / LCD, add. 1 W for Profibus, 1.8 W for Profinet
Output Signal	0 - 10 VDC, min. 10 kΩ, measuring range 2.199 - 7.801 VDC, log. (default) except for EtherCAT, Profinet, Profibus
Digital Interface	RS485: 9.6 kBd to 115 kBd 8 databit 1 stopbit, no parity EtherCAT, Profinet, Profibus
Switch Points	2x relay, potential free, 50 VAC / 2 A or 30 VDC / 2 A, max. 60 VA except for EtherCAT, Profinet, Profibus
Electrical Connection	RS485/0-10V: SubD, 15-pole, male RS485/EtherCAT/Profinet: 1x M12 A / 2x M12 D, female RS485/Profibus: 1x M12 A / 1x 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	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

- VSI17PB DN 25 KF, Profibus and RS485
- VSI18PB DN 25 KF, Profibus and RS485
- VSI19PB DN 25 KF, Profibus 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_VSM77, B_VSM78, B_VSM79
- 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.

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Thyracont Vacuum Instruments GmbH

Max-Emanuel-Straße 10

94036 Passau, Germany

Phone: +49 (0)851 95986 0

Email: info@thyracont-vacuum.com

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