THERMOVAC Transmitters TTR 100 / TTR 100 S2

The Pirani Capacitance Diaphragm Gauge is the first vacuum gauge which combines ceramic capacitance diaphragm and thermal conductivity technologies. Unlike standard heat transfer technology, the Leybold TTR 100 offers superior accuracy and gas-type-independent readings between 100 mbar and 1500 mbar.

Advantages to the User

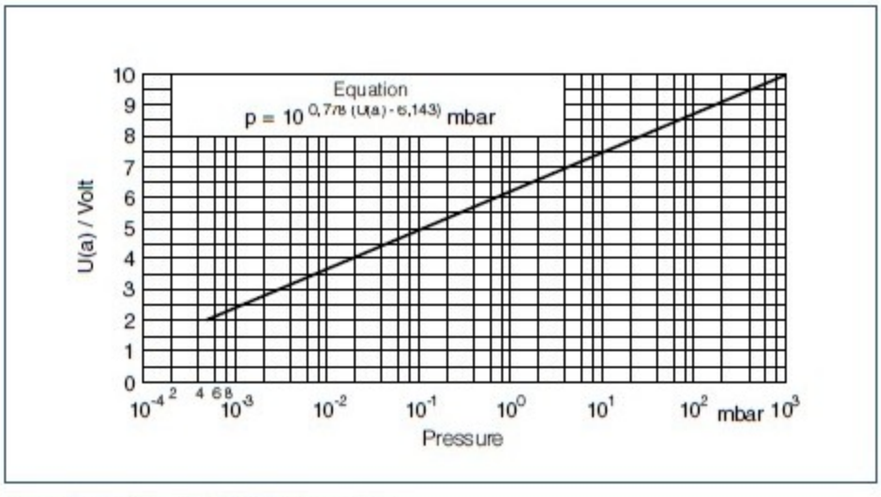
- Wide measurement range from 5×10^{-4} to 1500 mbar
- Gas-type-independent pressure measurement between 100 mbar and 1500 mbar
- Available with up to two integrated relays (TTR 100 S2)
- Mounts in any orientation
- 0 to 10.3 V analog output for easy system integration
- Compact design
- Flow independent
- Rapid cycling
- Follows true pressure in pump and vent

Typical Applications

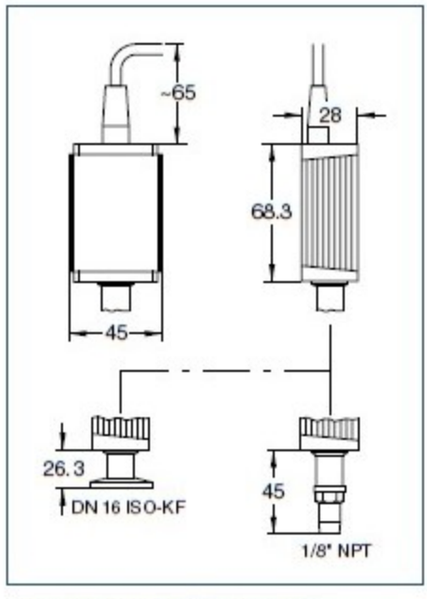
- Loadlock control
- Forevacuum pressure monitoring
- Safety circuits in vacuum systems
- General measurement and control in the medium and rough vacuum range
- Control of high vacuum ionization gauges

Option

Dust and other particles may cause increasing measurement errors and reduced lifetime. Therefore we recommend the installation of a fine filter in critical applications. Fine filters are listed in section "General", para. "Connection Accessories for Small Flanges".



Characteristic of the THERMOVAC Transmitters



Dimensional drawing for the TTR 100

Technical Data	TTR Transmitter TTR 100 / TTR 100 S2
Measurement principle	Thermal conductance according to Pirani combined with capacitance diaphragm
Measurement range **(air, O_2, CO, N_2) mbar(Torr)**	5×10^{-4} to 1500 (3.8×10^{-4} to 1125)
Accuracy **1 x 10^{-3} to 50 mbar** **50 to 950 mbar** **ATM (atmospheric pressure)**	 ±15% of reading ±5% of reading ±2.5% of reading
Repeatability	±2% of reading
Trigger (only TTR 100 S2) **Setting range with potentiometer** **Relay contacts** **closed** **open** **Hysteresis** **Contact rating** **Relay status**	2 1.5×10^{-3} to 1400 mbar N.O. / potential free at low pressure (lamp lit) at high pressure or no supply (lamp off) 10% of threshold 30 V DC / 1 A active: LED, green
Output signal analog **Measurement range** **Voltage vs. pressure**	0 to 10.3 V +1.9 to +10.23 V 1.286 V / decade, logarithmic
Output impedance **Minimum load impedance** **Response time**	2 x 4.7 Ohm, short circuit-proof 10 kOhm 10 ms
Power supply **Voltage (ripple ≤1 V_{pp})** **Consumption, max.** **Fuse to be connected**	 +15 to +30 V DC 2.5 W 1 AT (slow)
Electrical connection	FCC-68, 8 way with shield
Cable length, max. m (ft)	100 (330)

DISPLAY ONE

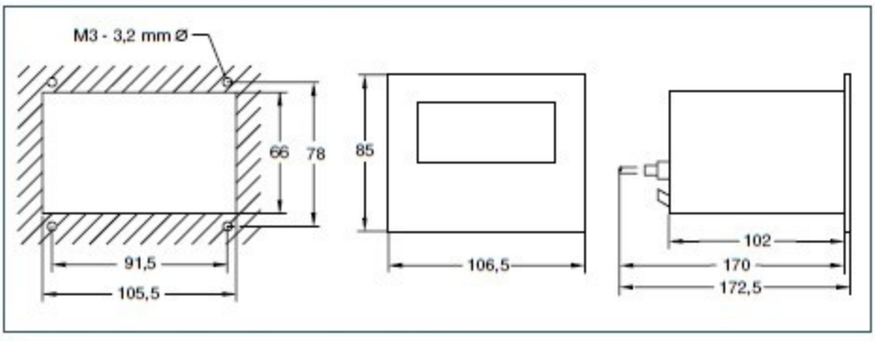
Cost-effective, compact single channel display unit for the transmitters from the THERMOVAC serie.

Advantages to the User

- Power supply voltage for the transmitters
- Two-digit mantissa in the range from 5 x 10^{-4} to 1 x 10^{3} mbar
- Readout selectable between mbar, Torr or Pascal
- 0 to 10 V chart recorder output via plug-in screw terminals
- The switching threshold of the transmitters has been looped through to plug-in terminals
- Transmitter threshold settings can be displayed by a single key press on the transmitter
- Compact bench top enclosure (1/4 19 in., 2 HU)
- For fitting into 19 in., 3 HU racks

Connectable Sensors

- TTR 211
- TTR 216 S
- TTR 90
- TTR 90 S
- TTR 91
- TTR 91 S
- TTR 96 S



Dimensional drawing and panel cut-out for the DISPLAY ONE

Technical Data	DISPLAY ONE
Number of measurement channels	1
Display for measured values	digital, 7 segment LED
Display range mbar (Torr)	5×10^{-4} to 1 x 103 (3.8×10^{-4} to 7.5×10^{2})
Unit of measurement (selectable)	mbar, Torr, Pascal
Switching thresholds	from the transmitter are run to a terminal strip
Chart recorder output (R_a > 2.5 kΩ)	0 - 10 Volt, characteristic corresponds to the connected transmitter
Main connection EU version US version	 180 V - 250 V / 50-60 Hz 90 V - 130 V / 50-60 Hz
Ordering Information	**DISPLAY ONE**
EU version, including mains cord US version, including mains cord	Part No. 230 001 Part No. 235 001
(Operating Instructions)	(GA 09.034)
THERMOVAC Transmitter TTR 91, TTR 91 S, TTR 96 S	 see section "Active Sensors/Transmitters"
Connection cable, FCC 68 on both ends, 8 way, shielded	Type A
5 m	Part No. 124 26
10 m	Part No. 230 012
15 m	Part No. 124 27
20 m	Part No. 124 28
30 m	Part No. 124 29
40 m	Part No. 124 30
50 m	Part No. 124 31
75 m	Part No. 124 32
100 m	Part No. 124 33
Adapter panel for installation in a 3 HU, 19 in. rack	 Part No. 230 005