壓力傳送器

INDUSTRIAL PRESSURE TRANSMITTER

LOW PRESSURE
starting from 10 mbar on

VACUUM APPLICATIONS
(-1 … 0 bar)

ACCURACY ACC. TO IEC 60770:
0,35% / 0,5% FSO
(BFSL: 0,175% / 0,25% FSO)

PRESSURE TRANSMITTER TGP 343

The TGP 343 is a pressure transmitter created for low pressure applications from 10 mbar gauge on and also for vacuum applications (-1 … 0 bar).
Permissible media are gases, pressure air and thin, non-aggressive fluids.

The TGP 343 converts pressure to a proportional electrical signal.
Basic elements of the pressure transmitter TGP 343 are the pressure sensors TGP 201. These sensors are Silicon sensors mounted on a ceramic substrate.

Due to the compact design with threaded pressure ports and standardized electrical connectors together with the stainless steel housing it is especially suitable for use in rough atmosphere or under rough mechanical conditions.

Special features are excellent thermal and outstanding long-term stability.
A wide range of standardized output signals together with different mechanical ports and various electrical connectors covers most applications.

Typical areas of use are:

- *Process Control, Pressure-Current-converter*
- *Pneumatic Control Systems*
- *Heating and Air Conditioning*
- *Biomedical Equipment (Infusion, Pumps, Respiratory Equipment)*
- *Computer Peripherals and Systems.*

- *Pressure ranges between 0 ... 10 mbar and 0 ... 1 bar, also –1…0 bar*
- *Customer-designed pressure ranges e.g. –25 mbar ... +25 mbar*
- *Output signals 4 ... 20 mA / 2w , 0 ... 20 mA / 3w 0 ... 10 V / 3w and other voltage outputs*
- *wide range of pressure ports and electrical connections*
- *suitable for non-aggressive gas and dry, clean air; thin, non-aggressive fluids*
- *excellent linearity*
- *small thermal effect*
- *short reaction time*
- *excellent long term stability*
- *high resistance against electrical faults caused by incorrect wiring, short-circuit and over-voltage*
- *rugged and reliable under most conditions*

Optional Ex: II 1 G EEx ia IIC T4 (TÜV 99 ATEX 1504 X)

Customer-designed applications

FlowMaster

壓力傳送器

TECHNICAL DATA — TGP 343

INPUT PRESSURE RANGE

Nominal pressure P_N gauge	[mbar]	-1000..0	0..10	0..25	0..40	0..60	0..100	160	0..250	0..400	0..600	0..1000
Overpressure P_{max}	[mbar]	3000	60		300			1000			3000	

SUPPLY

Voltage	[VDC]	12 ... 36

OUTPUT SIGNAL

Standard:	2-wire-system	Current: 4 ... 20 mA
	3-wire-system	Current: 0 ... 20 mA Voltage: 0 ... 10 V / 0 ... 5 V others on request

PERFORMANCE

Accuracy according to IEC 60770 – Limit point adjustment(Nonlinearity, Hysteresis, Repeatability):	Nominal pressure up to 100 mbar: ≤ ± 0.5% FSO (BFSL: ≤ ± 0.25% FSO) Nominal pressure over 100 mbar: ≤ ± 0.35% FSO (BFSL: ≤ ± 0.175% FSO)
Permissible load	2-wire : Current [U_B (V) – 12V] / 0.02 A 3-wire : Current □ 500Ω Voltage > 1 MΩ
Influence effects	Supply: ≤ ± 0.05% FSO /10 V Load: ≤ ± 0.05% FSO /kΩ
Long-term stability	≤ ±0.2% FSO / Year
Reaction time	< 5 ms

THERMAL EFFECTS

Nominal pressure P_N	0 ... 10 up to 0 ... 100 mbar	0 ... 250 mbar up to 0 ... 1 bar and –1 ... 0 bar
Tolerance band offset + span [% FSO]	≤ ± 1,5	≤ ± 0,75
Compensated range [°C]	0...60	0...60

ELECTRICAL PROTECTION

Insulation resistance	>100 MΩ
Short-circuit protection	permanent
Miswiring	No damage, but also no function
Overvoltage protection	–120 ... 150 VDC (1 sec. At 25°C)
Electromagnetic compatibility : Emission according to EN 50081-2; Immunity according to EN 50082-2	
Error in electromagnetic RF-field 10 V/m	≤ ±0.5 % FSO
Error with induced RF-Current (Capacitive Coupling) 10 V	≤ ±1.0 % FSO
Optional Intrinsic safety Type DX12- DMP 343	II 1 G EEx ia IIC T4 (only with 4...20mA/2w) / Safety technical data: U_i = 28 V, I_i = 93 mA, P_i = 660 mW

PERMISSIBLE TEMPERATURES

Media	[°C]	–25 ... + 90
Electronic	[°C]	–25 ... + 85
Storage	[°C]	–40 ... +125

MECHANICAL STABILITY

Vibration	10 g RMS (20 ... 2000 Hz)
Shock	100 g / 11 ms

ELECTRICAL CONNECTION

Standard IP 65	Male and female plug DIN 43650
Optional IP 67	Male plug Binder series 723 (5-pin) Male plug M 12x1 (4-pin) / cable gland incl. 2m cable
Optional IP 68	Male plug Bulgin series Buccaneer [1]
Others	On request

MECHANICAL CONNECTION

Standard	G 1/2 " DIN 3852
Optional	G 1/2 " DIN EN 837-1/-3 [2] / G 1/4 " DIN 3852 / G 1/4 " DIN EN 837-1/-3 [2]
Others	On request

MATERIALS

Housing	Stainless steel 1.4571
Sensor	ceramics Al_2O_3 96%, silicon, RTV
Seals	FKM
Media wetted parts	Housing, sensor, seals

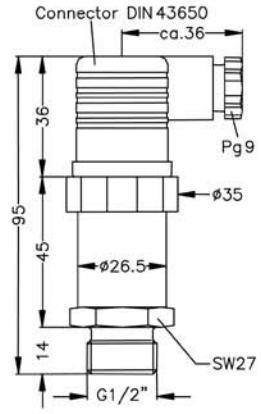
MISCELLANEOUS

Current consumption	Current output signal < 25 mA	Voltage output signal < 15 mA
Weight	ca. 200 g	
Installation position	Any	

[1] Requires a special cable with integrated air tube
[2] EN 837-1 / -3 is equivalent to formerly DIN 16288

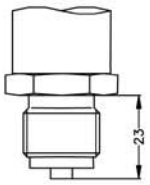
DIMENSIONS / CONNECTIONS TGP 343

Mechanical connection
Standard

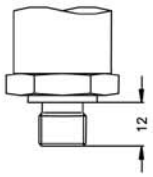


G 1/2 " DIN 3852

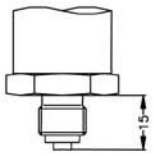
Optional



G 1/2 " DIN EN 837-1/-3 [1)]

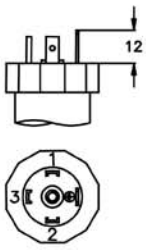


G 1/4 " DIN 3852



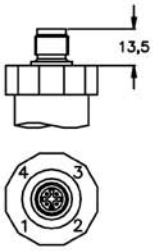
G 1/4 " DIN EN 837-1/-3 [1)]

Electrical connection
Standard

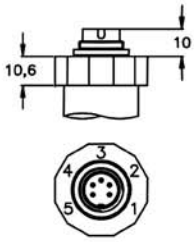


DIN 43650

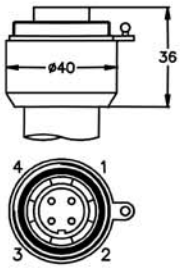
Optional



M12 x 1



Binder 723



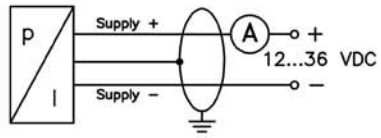
Buccaneer

Pin configuration

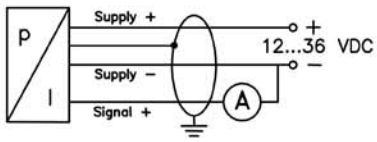
		Electrical connection				
		DIN 43650	M 12 x 1 (4-pin)	Binder 723 (5-pin)	Bulgin Buccaneer	Cable colors (DIN 47100)
2-wire-system:	Supply +	1	1	3	1	white
	Supply –	2	2	4	2	brown
	Ground	Ground pin	4	5	4	Cable shield
3-wire-system:	Supply +	1	1	3	1	white
	Supply –	2	2	4	2	brown
	Signal +	3	3	1	3	green
	Ground	Ground pin	4	5	4	Cable shield

Wiring diagram

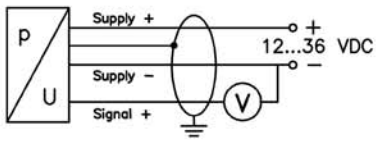
2-wire: 4...20 mA



3-wire: 0...20 mA / 4...20 mA



3-wire: 0...10V / 0...5V



[1)] EN 837-1 / -3 is equivalent to formerly DIN 16288

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ORDERING CODE — TGP 343

TGP 343 □□□ - □□□□ - □ - □□ - □ - □□□

Pressure			
	gauge [mbar]	1 0 0	
Input			
	10	0 1 0 0	
	20	0 2 0 0	
	40	0 4 0 0	
	60	0 6 0 0	
	100	1 0 0 0	
	160	1 6 0 0	
	250	2 5 0 0	
	400	4 0 0 0	
	600	6 0 0 0	
	1000	1 0 0 1	
	-1000 ... 0	X 1 0 2	
	Customer	X X X X	On request
Output			
	4 ... 20 mA / 2-wire	1	
	0 ... 20 mA / 3-wire	2	
	0 ... 10 V / 3-wire	3	
	0 ... 5 V / 3-wire	4	
	4 ... 20 mA / 3-wire	7	
	Intrinsic safety II 1 G EEx ia IIC T4 / 4 ... 20 mA / 2-wire	E	
	Customer	X	On request
Electrical connection			
	Male and female plug DIN 43650	1 0	
	Binder series 723 (5-pin) [2]	2 0	
	Cable gland incl. 2m cable	4 0	
	Series Buccaneer IP 68 [2]	5 0	
	M12 x 1 (4-pin) [2]	M 0	
	Customer	X X	On request
Mechanical connection			
	G 1/2" DIN 3852	1	
	G 1/2" DIN EN 837-1/-3 [1]	2	
	G 1/4" DIN 3852	3	
	G 1/4" DIN EN 837-1/-3 [1]	4	
	Customer	X	On request
Special versions			
	Standard	0 0 0	
	Customer	X X X	On request

Version for DS 430 □□□ - □□□□ - W - 0 0 - □ - □□□

[1] EN 837-1 / -3 is equivalent to formerly DIN 16288
[2] only the male plug is part of the supply