Pressure Transmitter Series TST

Pressure Range -1 ... +1 bar, 0 ... 600 mbar, 0 ... 4000 bar
Output Signals 4 ... 20 mA, 0 ... 10 V

Construction

- Stainles steel diaphragm, vacuum-proof
- Piezo-resistive, pressure range resistor (Poly-Si on SiO_2)
- Stainless steel casing
- Pressure port G 1/4", Form E
- Electrical connection MVS BFC DIN EN 175301-803
- Accuracy class 0,5 % FS (RT) Standard

Application

- Hydraulics
- Air conditioning and heating
- Process control
- Water technology
- Pneumatics

Properties

- Resistant to pressure peaks
- Shock- and vibration-proof
- Protection class IP 65 acc. to DIN EN 60529
- Ambient temperature -40 °C to +105 °C

On request

- Various pressure ports
- Various output signals
- Various electrical connections
- Applicability for high media temperature
- Mulit-function transmitters (pressure and temperature)
- Electronic pressure switches
- Miniature construction type
- Diaphragm front-end aligned
- Transmitter for differential pressure
- Transmitter for temperature

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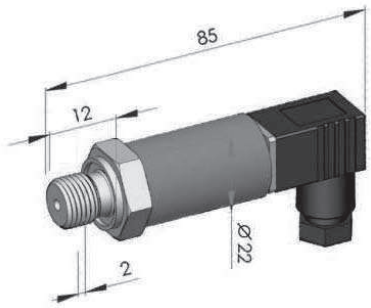
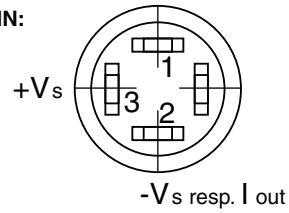
Pressure Transmitter TST 10.0

Standard Pressure Range 0,6 ... 2000 bar
Output signal 4 ... 20 mA (2-wire)



Standard pressure ranges (bar)			
0 ...	0,6	0 ...	40
0 ...	1,0	0 ...	60
0 ...	1,6	0 ...	100
0 ...	2,5	0 ...	160
0 ...	4,0	0 ...	250
0 ...	6,0	0 ...	400
0 ...	10,0	0 ...	600
0 ...	16,0	0 ...	1000
0 ...	25,0	0 ...	1600

Connection-PIN:



type designation example:
TST 10.0, 16 bar, G1/4"E, SW22, MVS/C

Technical data		Typ: TST 10.0
Overload range	(bar)	2-times ≤350 bar, 1,5-times >350 bar, 1,2-times from 700 bar
Bursting pressure	(bar)	3-times ≤350 bar, 2-times >350 bar, 1,5-times from 700 bar
Pressure type		Relative pressure
Pressure port (Standard)		G 1/4“ Form E (others on request)
Gasket ring		FKM-Viton
Diaphragm		stainless steel on media side
Materials used		
Material of parts with contact to measuring medium:		CrNiCuNb 17-4 PH /1.4542
Casing:		stainless steel
Electrical parameters		
Output signal		4 to 20 mA
Operating voltage	Ub	12 to 32 V
Recommended max. load resistor	RI	(Ub - 12 V) / 20 mA
Response time	(10...90 %) Z	< 1 ms
Insulating resistance at 50 V		100 M Ω
Protection system acc. tot		DIN EN 175 301 - 803 BF C, IP 65 (Standard)
Linearity error at RT (% F.S.) (B.F.S.L.)*		± 0,5 max. (optional 0,25)
Ambient values		
Reproducibility stability per year, permitted		
	- Ambient temperature (°C)	-40 ... +105 °C
	- Media temperature (°C)	-40 ... +125 °C
	- Storage temperature (°C)	-40 ... +125 °C
Total error **	max. ±	- 20 °C... + 85 °C 1% typ. < 0,7 %
Electromagnetic compatibility EMV		
Radiation acc. to DIN EN 55011		< 30 dB µ V/m
Resistance acc. to DIN EN 61000-4-3		25 V/m
Shock resistance (IEC 68-2-32)		1 m (free fall onto steelplate)
Vibration resistance (IEC 68-2-6 and IEC 68-2-36)		20 g

*) **Integral linearity deviation (F.S.= Full Scale ; B.F.S.L. = Best Fit Straight Line)**
) **Total error includes nonlinearity, hysteresis, repeatability and temperature influence.
Other designs of pressure ranges, pressure connections and electrical connections available.

Mistakes and changes due to technical improvements reserved

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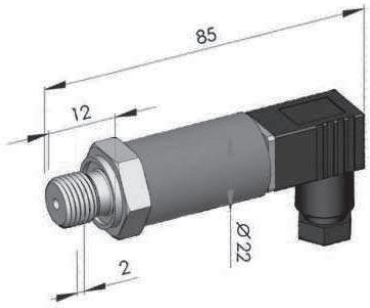
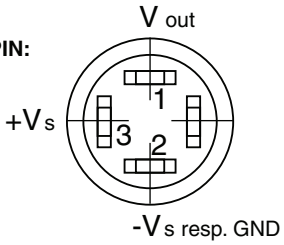
Pressure Transmitter TST 20.0

Standard pressure ranges 0,6 ... 1600 bar
Output signal 0 ... 10 V (3-wire)



Standard pressure ranges (bar)			
0 ...	0,6	0 ...	40
0 ...	1,0	0 ...	60
0 ...	1,6	0 ...	100
0 ...	2,5	0 ...	160
0 ...	4,0	0 ...	250
0 ...	6,0	0 ...	400
0 ...	10,0	0 ...	600
0 ...	16,0	0 ...	1000
0 ...	25,0	0 ...	1600

Connection-PIN:



type designation example:
TST 20.0, 16 bar, G1/4"E, SW22, MVS/C

Technical data		Typ: TST 20.0
Overload range	(bar)	2-times ≤350 bar, 1,5-times >350 bar, 1,2-times from 700 bar
Bursting pressure	(bar)	3-times ≤350 bar, 2-times >350 bar, 1,5-times from 700 bar
Pressure type		Relative pressure
Pressure port (Standard)		G 1/4“ Form E (others on request)
Gasket ring		FKM-Viton
Diaphragm		stainless steel on media side
Materials used		
Material of parts with contact to measuring medium:		CrNiCuNb 17-4 PH /1.4542
Casing:		stainless steel
Electrical parameters		
Output signal		0 to 10 mA
Operating voltage	Ub	12 to 32 V
Recommended max. load resistor	Rl	≥ 5 kΩ
Response time	(10...90 %) Z	< 1 ms
Insulating resistance at 50 V		100 M Ω
Protection system acc. tot		DIN EN 175 301 - 803 BF C, IP 65 (Standard)
Linearity error at RT (% F.S.) (B.F.S.L.)*		± 0,5 max. (optional 0,25)
Ambient values		
Reproducibility stability per year, permitted		
	- Ambient temperature (°C)	-40 ... +105 °C
	- Media temperature (°C)	-40 ... +125 °C
	- Storage temperature (°C)	-40 ... +125 °C
Total error **	max. ±	- 20 °C... + 85 °C 1% typ. < 0,7 %
Electromagnetic compatibility EMV		
Radiation acc. to DIN EN 55011		< 30 dB µ V/m
Resistance acc. to DIN EN 61000-4-3		25 V/m
Shock resistance (IEC 68-2-32)		1 m (free fall onto steelplate)
Vibration resistance (IEC 68-2-6 and IEC 68-2-36)		20 g

*) **Integral linearity deviation (F.S.= Full Scale ; B.F.S.L. = Best Fit Straight Line)**
) **Total error includes nonlinearity, hysteresis, repeatability and temperature influence.
Other designs of pressure ranges, pressure connections and electrical connections available.

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Pressure Transmitter TST-ST

Pressure range 0 ... 4000 bar
Output signal 4 ... 20 mA

Applications

- Hydraulic pumps
- High-pressure pumps
- Special machinery
- Water-beam technology

Standard pressure ranges (bar)			
0 ...	2500	0 ...	4000

type designation example:
TST-ST 10.0, 4000 bar, M16 x 1,5, SW22, MVS/A

Pressure sensors

Technical data		Typ: TST-ST
Overload range	(bar)	1,2-times
Bursting pressure	(bar)	2-times
Pressure type		Relative pressure
Pressure port (Standard)		M16 x 1,5 w / sealing taper
Diaphragm		stainless steel on media side
Materials used		
Material of parts with contact to measuring medium:		CrNiCuNb 17-4 PH /1.4542
Casing:		stainless steel
Electrical parameters		
Output signal		4 to 20 mA
Operating voltage	Ub	12 to 32 V
Recommended max. load resistor	Rl	(Ub - 12 V) / 20 mA
Response time	(10...90 %) Z	< 1 ms
Insulating resistance at 50 V		100 M Ω
Protection system acc. tot		DIN EN 175 301 - 803 BF C, IP 65 (Standard)
Linearity error at RT (% F.S.) (B.F.S.L.)*		± 0,5 max. (optional 0,25)
Ambient values		
Reproducibility stability per year, permitted		
	- Ambient temperature (°C)	-40 ... +105 °C
	- Media temperature (°C)	-40 ... +125 °C
	- Storage temperature (°C)	-40 ... +125 °C
Total error **	max. ±	- 20 °C... + 85 °C 1% typ. < 0,7 %
Electromagnetic compatibility EMV		
Radiation acc. to DIN EN 55011		< 30 dB µ V/m
Resistance acc. to DIN EN 61000-4-3		25 V/m
Shock resistance (IEC 68-2-32)		1 m (free fall onto steelplate)
Vibration resistance (IEC 68-2-6 and IEC 68-2-36)		20 g

*) **Integral linearity deviation (F.S.= Full Scale ; B.F.S.L. = Best Fit Straight Line)**
) **Total error includes nonlinearity, hysteresis, repeatability and temperature influence.
Other designs of pressure ranges, pressure connections and electrical connections available.

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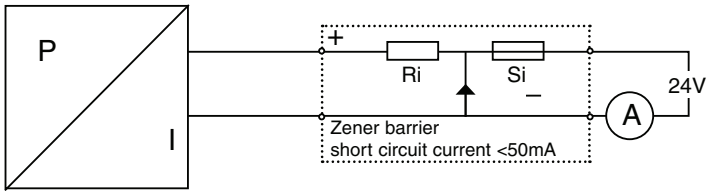
Pressure Transmitter TST-SMX

Protection class II 2G EEx ia IIC T4

Standard pressure ranges (bar)			
0 ...	0,6	0 ...	40
0 ...	1,0	0 ...	60
0 ...	1,6	0 ...	100
0 ...	2,5	0 ...	160
0 ...	4,0	0 ...	250
0 ...	6,0	0 ...	400
0 ...	10,0	0 ...	600
0 ...	16,0	0 ...	1000
0 ...	25,0	0 ...	1600

Circuit diagram



type designation example:
TST-SMX 10.0, 16 bar, 1/4"E, SW22, MVS/C

Technical data		Typ: TST-SMX Ex
Overload range		1,5-times / from 500 bar 1,2-times
Bursting pressure		3-times / from 500 bar 1,5-times
Pressure type		Relative pressure
Pressure port (Standard)		G 1/4“ Form E (others on request)
Materials used		
Material of parts with contact to measuring medium:		CrNiCuNb 17-4 PH /1.4542
Casing:		X5CrNi18-10
Diaphragm		stainless steel on media sidel
Electrical parameters		
Output signal		4 to 20 mA
ATEX-certified power supply	Output voltage	max. 24 V DC
	Output current	max. 50 mA
Response time	RI	(at 24 V) 510 Ω
	(10...90 %) Z	< 1 ms
Insulating resistance at 50 V		100 M Ω
Protection system acc. tot		DIN EN 175 301 - 803 BF C, IP 65 (Standard)
Linearity error at RT (% F.S.) (B.F.S.L.)*		± 0,5 max. (optional 0,25)
Ambient values		
Reproducibility stability per year, permitted		
	- Ambient temperature (°C)	-40 ... +105 °C
	- Media temperature (°C)	-40 ... +125 °C
	- Storage temperature (°C)	-40 ... +125 °C
Total error **	max. ±	- 20 °C... + 85 °C
		1% typ. < 0,7 %
Electromagnetic compatibility EMV		
Radiation acc. to DIN EN 55011		< 30 dB µ V/m
Resistance acc. to DIN EN 61000-4-3		25 V/m
Shock resistance (IEC 68-2-32)		1 m (free fall onto steelplate)
Vibration resistancet (IEC 68-2-6 und IEC 68-2-36)		20 g
Ex-licensing	Ignition protection	**II 2G EEx ia IIC T4** (IBExU 04 ATEX 1182)
	According standards	EN 50014, EN 50020
	Maximum contact	30 V, 50 mA, 1 W
	Temperature range	T4 (Ambiance -40...+85 °C)

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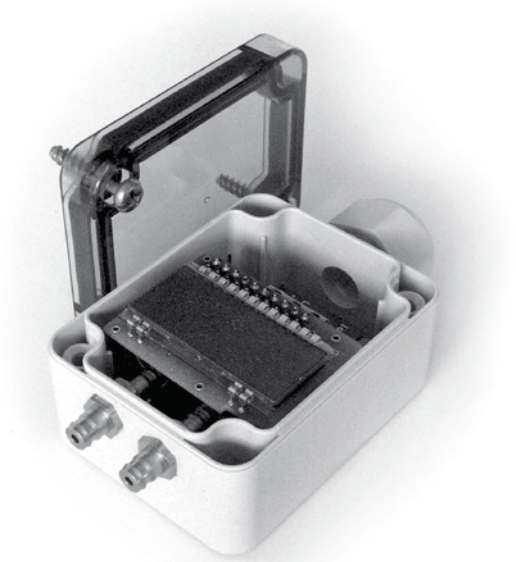
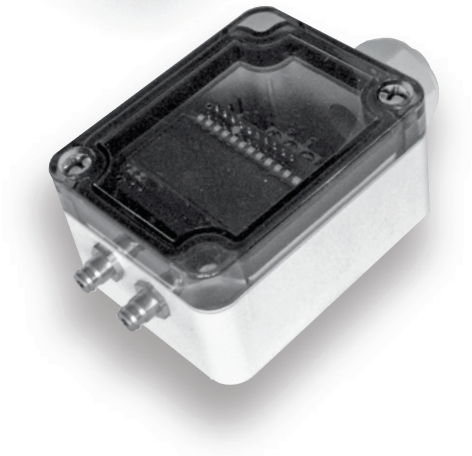
Differential pressure transmitter TST-DD

Optionally output 4…20mA or 0…10V
For air and non-agressive gases

Sensors TIVAL





Description

- Measurement of differential pressure values
- Pneumatic and process technology application
- Switchable measuring ranges
- Bar- or Pascal-style display
- Equating to zero possible
- Available with or w/o display

Type designation

TST-DD 10.0... (4... 20 mA)
TST-DD 20.0... (0... 10 V)

Further specifications

- With switching function
- With multi-function output (4…20 mA or 0…10 V and transistor)

Measuring ranges

(switchable by internal bridges)

Rated differential pressure (mbar)	Factor 0,5	Factor 2	max. over-pressure (mbar)
2	1	4	20
5	2,5	10	100
25	12,5	50	250
100	50	200	500

Other measuring ranges upon request (vacuum available)

Technical data

Type	TST-DD 20.0...	TST-DD 10.0...
Output	0…10V / three conductor cable	4…20mA / two conductor cable
Connection voltage	14... 30 V DC / 24 V AC	12... 30 V DC
Total error	+/- 1,0% FS	+/- 1,0% FS
Gesamtfehler	+/- 2,5% FS	+/- 2,5% FS
Electric connection	screw terminal inside	screw terminal inside
Process connection	hose connector 3,5mm / 5,5mm	hose connector 3,5mm / 5,5mm
Process temperature	0... +50 °C	0... +50 °C
Ambient temperature	0... +50 °C	0... +50 °C
Protection class	IP 65	IP 65
Dimensions (height x width x depth)	36 x 65 x 51 mm	36 x 65(95) x 51 mm

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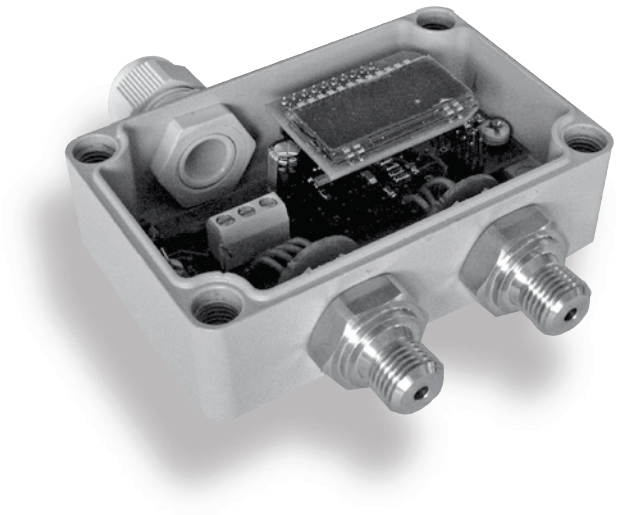
Differential pressure transmitter TST-DDM

Optionally output 4…20mA or 0…10V
For water, oil, various liquids and gases



Description

- Pressure range stages from 0,4… 1000 bar
- Overpressure safety 1,2 x nominal value
- Optionally differential pressure from 1:2 to 1:15 of nominal pressure value (please state when ordering)
- Output signal scalable to double or half differential pressure range
- Process technology and water supply application
- Available with or w/o display
- Stainless steel fluid-wetted parts
- Equating to zero possible

Type designation

TST-DDM 10.0... (4…20mA / three conductor cable)
TST-DDM 20.0... (0…10V / three conductor cable)

Technical data

Type	TST-DDM
Output	0... 10 V (14 - 30 V DC)
Output	4…20mA / three conductor cable (14 -30V DC)
Measuring range	0,4…1000bar selectable
Differential pressure	1:2 to 1:15 of nominal pressure value
Total error, typical	< ± 0,4% FS
Process connection	2 x G ¼“ (others upon request)
Cable gland	M 16
Protection class	IP 66
Dimensions (height x width x depth	45 x 100 x 65 mm

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