

Pressure and temperature transmitter TST-TPSI

Pressure measuring range 0 ... 1000 bar

Temperature measuring range -40 ... +125 °C (temporary -50 ... +150 °C)



Applications

- Hydraulics and pneumatics
- Climate and refrigeration technology
- Plant engineering and automation technology

Description

- Parallel and independent pressure and temperature measuring
- Temperature measuring by internal temperature probe
- Pressure measuring range 0 ... 1 bar up to 0 ... 1000 bar
- Temperature measuring range -40 ... +125 °C (temporary -50 ... +150 °C)
- No internal transfer medium
- Protection class IP67
- Compact and robust stainless steel housing
- High reliability

Standard pressure ranges											
Measuring range	P(bar)	1,0	1,6	2,0	2,5	4,0	6,0	10,0	16,0	20	25
Overload pressure	P(bar)	6	6	6	10	10	20	20	40	40	100
Bursting Pressure	P(bar)	9	9	9	15	15	30	30	60	60	150
Measuring range	P(bar)	40	60	100	160	200	250	400	600	1000	
Overload pressure	P(bar)	100	200	200	400	400	750	750	840	1200	
Bursting Pressure	P(bar)	150	300	300	600	600	1000	1000	1050	1500	

Technical data	Type: TST-TPSI	
Electrical parameters	Pressure signal	
Output signal*	0,5 ... 4,5 V DC ratiometric	0 ... 10 V DC (3-wire)
Operating voltage U_B	5 V DC \pm 10 %	12 ... 32 V DC
Recommended max. load resistor R_L	$R_L > 4,7 \text{ k}\Omega$	$R_L > 5 \text{ k}\Omega$
Response time* (10 ... 90%)	< 1 ms	
	Temperature signal	
Output signal*	0,25 ... 4,75 V DC (if pressure signal is ratiometric, temperature signal will also be ratiometric)	
Response time* (10 ... 90%)	120 s	
Electric strength	350 V DC	
Accuracy specifications	Pressure / temperature	
BFSL (Best Fit Straight Line)	$\leq \pm 0,15 \%$ of range	
Total error at RT	$\leq \pm 0,50 \%$ of range - including nonlinearity, hysteresis, zero point and full scale error (according to IEC 61298-2). Optional total error $\leq \pm 0,25 \%$ of range available	
Stability per year	$\leq \pm 0,10 \%$ of range	

* Other output signals and other response times upon request.

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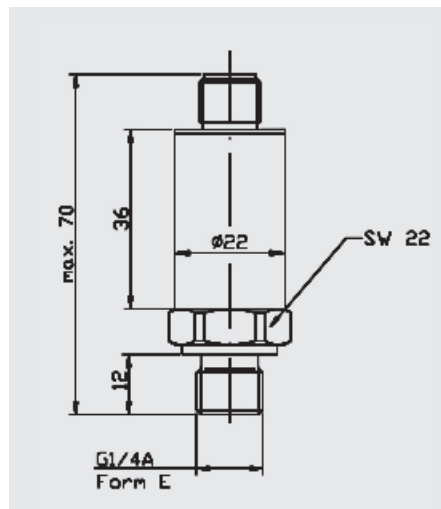
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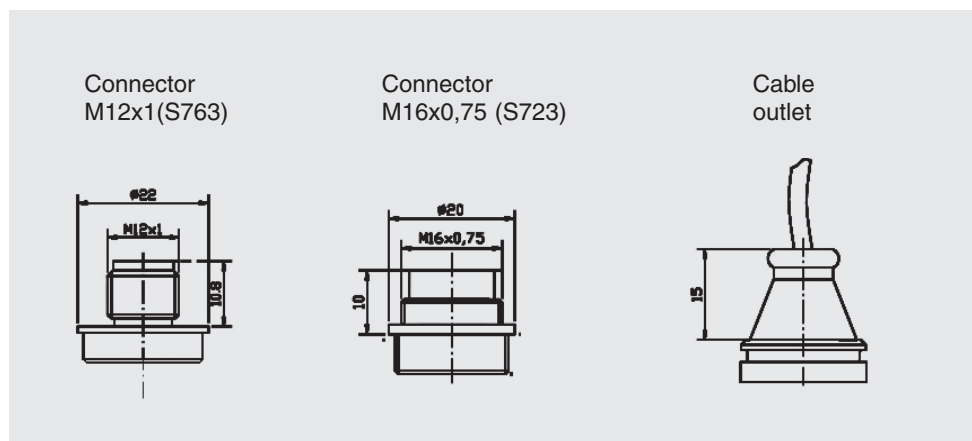


Technical data	Type: TST-TPSI
Temperature ranges	
Media temperature, permanent	-40 ... +125 °C
Media temperature, up to max. 15 min	-50 ... +150 °C
Ambient temperature	-40 ... +105 °C
Storage temperature	-40 ... +125 °C
Compensated temperature range	-20 ... +85 °C
Temperature coefficient zero point	$\leq \pm 0,15 / 10K$ % of range
Temperature coefficient range	$\leq \pm 0,15 / 10K$ % of range
Total error	At -40 °C - 2,00 % of range
	At +105 °C - 2,00 % of range
Mechanical parameters	
Sensor element	Stainless steel on media side
Material of parts with contact to measuring medium	Stainless steel (316L)
Housing	Stainless steel
Process connection	G 1/4" E, G 1/4" B, 1/4" NPT, others on request
Electrical connection	Connector M12x1, M16x0,75, others on request
Weight	80 ... 120 g according to layout
Shock resistance	1000 g according to IEC 68-2-32
Vibration resistance	20 g according to IEC 68-2-6 and IEC 68-2-36
CE conformity	EMC directive 2004 / 108 / EC
IP protection class	Corresponding to the used and connected mating connector

Dimensional drawing



Connector variants



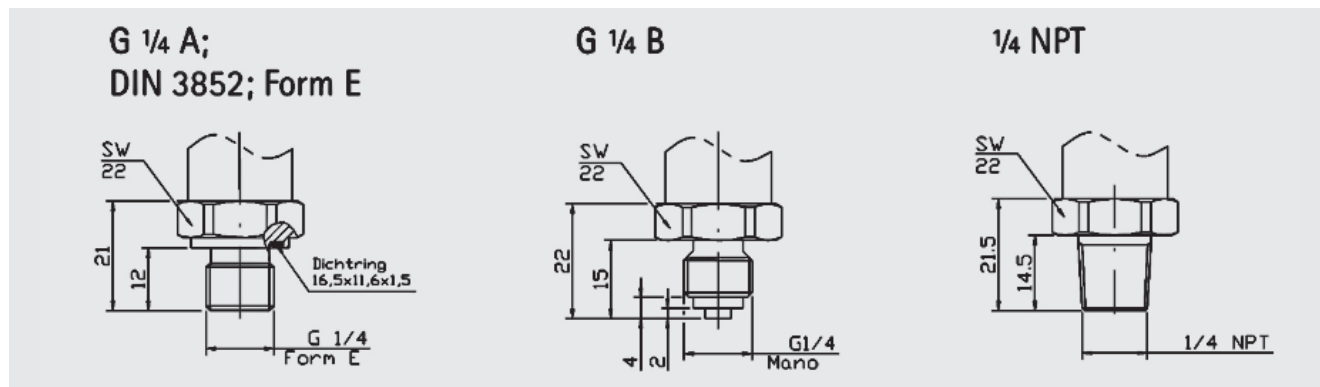
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Process connectors



PIN assignment

nc = not connected
P = Pressure
T = Temperature

Connector M12x1 5-pin	Cable outlet	Connector M16x0,75 5-pin	Connector M16x0,75 8-pin
Voltage 1: UB+ 2: nc 3: UB- 4: P out 5: T out	Voltage rt: UB+ sw: UB- ws: P out gn: T out ws/bl: nc	Voltage 1: P out 2: T out 3: UB+ 4: UB- 5: nc	Voltage 1: UB- 2: nc 3: nc 4: P out 5: T out 6: UB+ 7: nc 8: nc

Assembled cable and connection accessories



Type	Length	Specification	Part No.:	
			straight	angled
M12x1 (S763) 4-pin	-	connector M12x1 for self-connection	1070039	1070038
	-	connector M12x1 self-connection, shielded	1070030	1070031
	2 m	cable: PUR	1070044	-
	5 m	cable: PUR, halogen-free	1070023	1070025
	5 m	cable: PUR, shielded, halogen-free	1070032	1070033
MVS / C, 3-pin +PE	3 m	cable: PUR, connector MVS / C	-	1070021

Special types upon request.