

Pressure and temperature transmitter TST-TPSE

Pressure measuring range 0 ... 600 bar

Temperature measuring range -40 ... +125 °C (temporary -50 ... +200 °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 external temperature probe
- Pressure measuring range 0 ... 4 bar up to 0 ... 600 bar
- Temperature measuring range -40 ... +125 °C (temporary -50 ... +200 °C)
- No internal transfer medium
- Protection class IP67
- Compact and robust stainless steel housing
- High reliability

Standard pressure ranges									
Measuring range	P(bar)	4	6	10	40	60	100	400	600
Overload pressure	P(bar)	20	20	20	200	200	200	840	840
Bursting Pressure	P(bar)	30	30	30	300	300	300	1050	1050

Technical data		Type: TST-TPSE
Electrical parameters		Pressure signal
Output signal*	4 ... 20 mA (2- or 3-wire)	0 ... 10 V DC (3-wire)
Operating voltage U_B	10 ... 32 V DC	12 ... 32 V DC
Permitted max. load R_A	$R_A > (U_B - 9 V) / 20 \text{ mA}$	
Recommended max. load resistor R_L		$R_L > 5 \text{ k}\Omega$
Response time* (10 ... 90%)	< 1 ms	
		Temperature signal
Output signal*	4 ... 20 mA (2-wire)	
Operating Voltage U_B	9 ... 32 V DC	
Response time* (10 ... 90%)	10 - 20 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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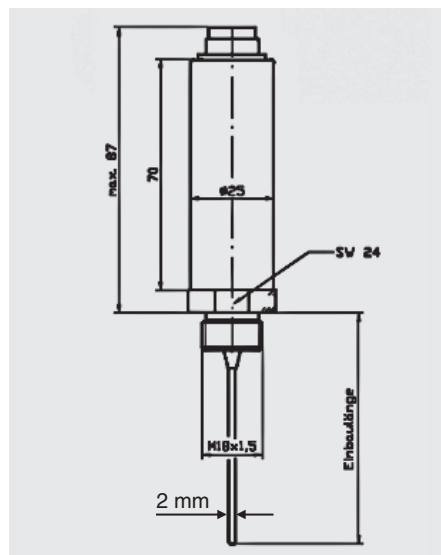
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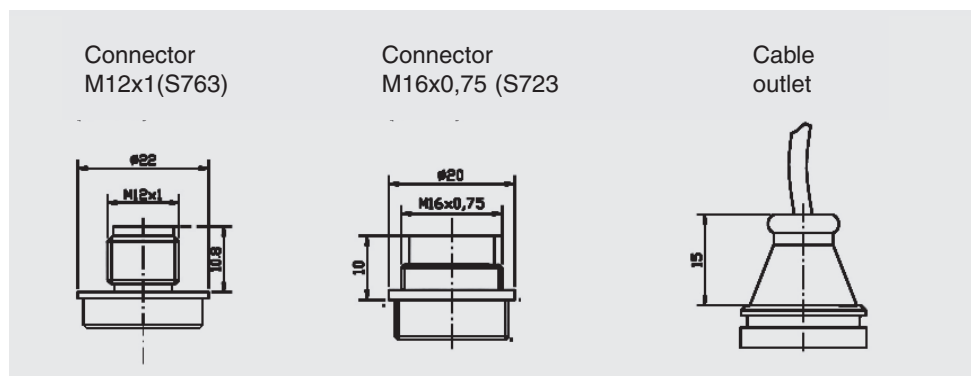


Technical data	Type: TST-TPSE
Temperature ranges	
Media temperature, permanent	-40 ... +125 °C
Media temperature, up to max. 15 min	-50 ... +200 °C
Ambient temperature	-40 ... +105 °C
Storage temperature	-40 ... +125 °C
Compensated temperature range	-20 ... +85 °C
Temperature coefficient zero point	$\leq \pm 0,15 / 10K$ % 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 1/2" E, G 1/4" A, M18x1,5, others on request
Electrical connection	Connector M12x1, M16x0,75, others on request
Weight	~ 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



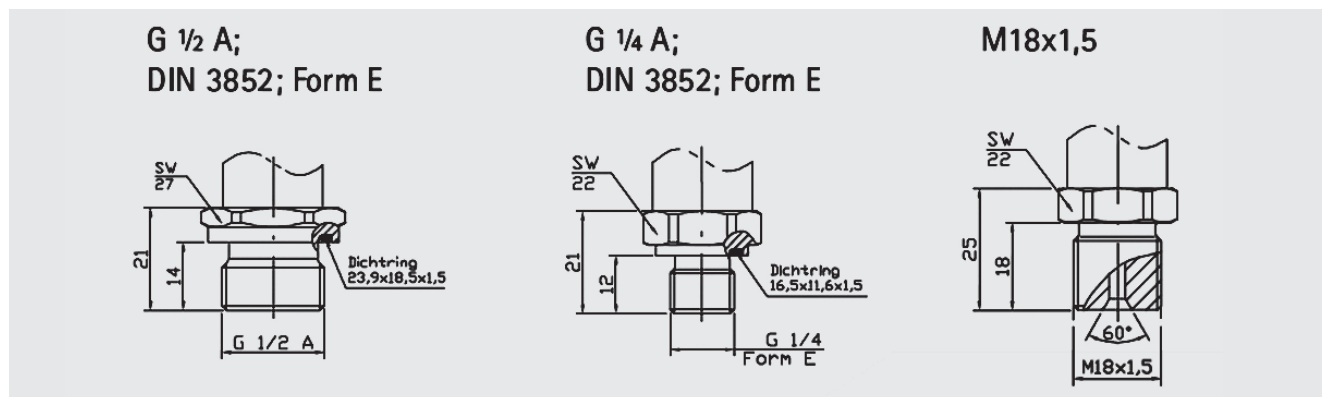
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Process connectors



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
current output · P / T 1: P+ 2: T+ 3: P - 4: nc 5: T-	current output · P / T rt : P+ sw: P- gn: T+ ws: T- ws/bl: nc	current output · P / T 1: P- 2: T+ 3: P+ 4: nc 5: T-	current output P / T 1: P- 2: T+ 3: nc 4: nc 5: T- 6: P+ 7: nc 8: nc
current output - P voltage output - T 1: UB+ 2: T+ 3: UB- 4: P out 5: T-	current output - P voltage output - T rt : UB+ sw: UB- ws: P out gn: T+ ws/bl: T-	current output - P voltage output - T 1: P out 2: T+ 3: UB+ 4: UB- 5: T-	current output - P voltage output - T 1: UB- 2: T+ 3: nc 4: P out 5: T- 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.