

Multi-function Combined Pressure & Temperature Transducers

HT-TPSI Series

- 2 sensors in 1 compact body
- Ranges of Vacuum to 1000 bar
- Temperatures up to 150°C
- Wide choice of connectors
- 3 wire voltage or ratiometric outputs
- Cost & space saving solution



This multi-function transducer enables measurement of both pressure and temperature independently within a single compact sensor, avoiding the need for two separate packages. The HT-TPSI series features an internally mounted temperature sensor and provides two independent voltage outputs.

Plant Engineering
Industrial machinery
Chemical & Process
Hydraulics & Pneumatics
Automotive

Multifunction Pressure & Temperature Transducers

HT-TPSI Series

TECHNICAL SPECIFICATIONS

Standard pressure ranges & signal outputs

Measuring range *(bar)	1	1.6	2	2.5	4	6	10
Overload pressure	6	6	6	10	10	20	20
Burst pressure	9	9	9	15	15	30	30
Measuring range (bar)	16	20	25	40	60	100	160
Overload pressure	40	40	100	100	200	200	400
Burst pressure	60	60	150	150	300	300	600
Measuring range (bar)	200	250	400	600	1000		
Overload pressure	400	750	750	840	1200		
Burst pressure	600	1000	1000	1050	1500		

*Gauge ranges shown - vacuum and absolute ranges available on request

Electrical	3 wire	Ratiometric
Output signal (pressure)	0-10 Vdc	0.5 - 4.5 Vdc
Output signal (temperature)	0.25 - 4.75 Vdc (ratiometric)	0.25 - 4.75 Vdc
Supply voltage	12-32Vdc	5 ± 10% Vdc

Temperature measurement

- Internal temperature sensing element
- Media temperature -40°C to +125°C (-50°C to +150°C 15 mins duration max)
- Compensated range -20°C to +85°C
- Ambient temperature -40°C to +105°C

Performance

- Accuracy: Non-linearity, hysteresis and non-repeatability at room temperature according to IEC 61298-2 (or BSFL/Best Fit Straight Line) <0.5% FS range (<0.25% BFSL) Optional <0.25% FS range - pressure only (<0.15% BFSL)
- Temperature effects: Zero/Span typical thermal coefficients <0.15% FS range/ 10°C
- Total Error Band: 2% FS from room temperature to -40°C or +105°C
- Long term stability: <0.1% FS range/year
- Response time: <1 mS (from 10% to 90% FS range)
- Vibration resistance: 20g (according to IEC 68-2-6 and IEC 68-2-36)
- Shock resistance: 1000g (according to IEC to 68-2-32)

Physical

- Material: body - stainless steel, pressure inlet port - stainless steel
- Process connection: G 1/4 A, G1/4B, G1/2B, M20 x 1.5 1/4 NPT Other connections available on request
- Electrical connection: integral cable, M12 x 1 male socket, M16 x 0.75 Other connectors available on request
- Weight: approximately 80-120g (dependent upon configuration)
- Ingress protection: IP65 (for connector versions with their mating plug fitted)

Options

- (1) Improved accuracy <0.25% FS (<0.15% BFSL)
 - (2) additional 1m cable (specify length)
- For further options or customised products please contact us.

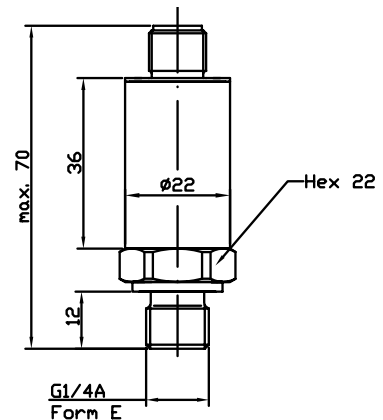
Related products

Hydrotechnik manufactures a wide range of sensors, test and measurement equipment. Contact us for further information or visit www.hydrotechnik.co.uk

Continuing development can necessitate specification changes without notice

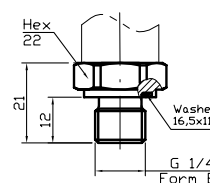
Dimensions

TPSI with M12x1

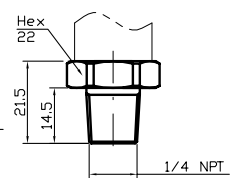


Mechanical Connections

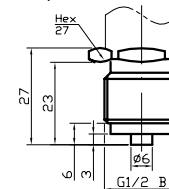
G 1/4 A; DIN 3852; Form E



1/4 NPT

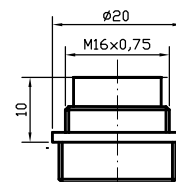


G 1/2 B

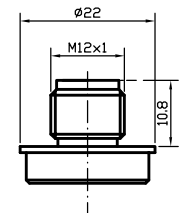


Electrical Connections

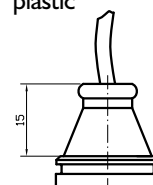
Male socket
M16 x 0.75
(S723)



Male socket
M12 x 1
(S763)



Cable output plastic



HT-TPSI ORDER CODES

Series	Output Signal	Pressure Range	Unit	Pressure Type	Process Connection	HEX	Electr. Connection	Extras
HT-TPSI	31.4	0040000	MPA	(sr)	G14E	22	M12	-

Pressure 0 ... 10 V	20.35
Temperature 0.25 ... 4.75 V	
Pressure 0.5...4.5 V ratiom	31.4
Temperature 0.25 ... 4.75 V	
Others	AAA

bar	BAR
kPa	KPA
MPa	MPA
PSI	PSI
kg/cm2	KGC
m WC	MWS
in WC	IWS
others	CCC

Relative Pressure	(g)
Sealed Reference	(sr)

-I 0	9000100		
-I....+I	9000900		
0 ... 1.0	0000100	0 ... 10	0001000
0 ... 1.6	0000160	0 ... 16	0001600
0 ... 2.0	0000200	0 ... 20	0002000
0 ... 2.5	0000250	0 ... 25	0002500
0... 6	0000600	0 ... 60	0006000
		0 ... 100	0010000
		0 ... 160	0016000
		0 ... 200	0020000
		0 ... 250	0025000
		0 ... 400	0040000
		0 ... 600	0060000
		0 ... 1000	0100000
		0 ... 1600	0160000
		0 2000	0200000
		Others	BBB

G 1/8 A Shape A	G18A	22
G 1/4 A Shape A	G14A	22
G 1/4 A Shape E	G14E	22
G 1/4 B (Manom.)	G14B	22
G 1/2 B (Manom.)	G12B	27
G 1/2 A Shape E	G12E	27
1/8 NPT	I8NP	22
1/4 NPT	I4NP	22
7/16-18 UNF-2A	U72M	22
7/16-20 UNF-2A/C	U72C	22
7/16-20 UNF-2B	U72F	22
3/8-24 UNF-2A	U38M	22
3/8-24 UNF-2A/C	U38C	22
1/2-20 UNF-2A	U12M	22
M 8x1 male	M08M	22
M 10x1 Shape A	M10A	22
M 12x1 Shape E	M12E	22
M 12x1 konical	M12C	22
M 12x1,5 Ct-Ring	M12S	22
M 14x1,5 Shape A	M14A	22
M 14x1,5 Shape E	M14E	22
M 14x1,5 ISO	M14O	22
M 16x1,5 Shape A	M16A	22
M 16x1,5 female	M16F	22
M 18x1,5 male	M18M	22
M 20x1,5 Manom	M20B	22
R 1/4 male	R14M	22
Others	DDDD	EE

Male Socket M12/ S763	M12
Male Socket M16/ S723	M16
Male Socket M18/ S714	M18
Flying Leads 1,0*	FLI
Cable Gland Plastic 1,0*	CPI
Cable Steel 1,0*	KSI
Cable Plastic 1,0*	KPI
Others	FFF

* e.g. with cable length 1 metre

Total Error 0.25% Only for Pressure	F25
Others (see below.)	GGG