

TSTA SANITARY PRESSURE TRANSMITTER



Sanitary TSTA with M12 4-Pin

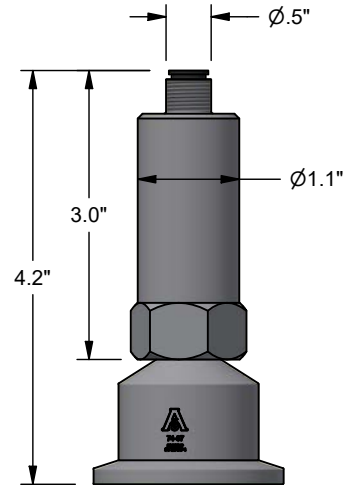


FEATURES / BENEFITS

- 3-A, Tri-Clamp® Sanitary Connection
- 316 Stainless Wetted Parts
- Designed for "Clean-in-Place" (CIP) and "Sterilize-in-Place" (SIP)
- Media Temperatures up to 750°F
- ± 0.5% Accuracy (3/4" Tri-clamp® ±1.0%)
- Excellent Long-Term Stability

SPECIFICATIONS

Output Signal	4-20mA, 2-Wire (Standard) 0-5V, 0-10V, (3-Wire) Additional Outputs Upon Request
Measuring Principle	High-stability Silicon Piezoresistive
Pressure Ranges	Vacuum, Compound, Pressure to 1,000psi
Proof Pressure	2 x Range, Up to a Maximum of the "Clamp" Pressure Rating
Burst Pressure	Determined By Customer's "Clamp" Pressure Rating Up to a Max of 2,000 psi
Accuracy NLH at 77°F (BSL)	±0.5% (3/4" Tri-Clamp® ±1.0%)
Input	11-28 VDC (4-20mA, 0-5V) 15-28 VDC (0-10V)
Temperature Effect	1.5" or 2" Tri-Clamp®: ±0.1% of Span/10°F (for Zero and Span) or ±0.02 psi/10°F (Greater of) Note: 3/4" Tri-Clamp® Not Recommended for Temperature Variations. Effect is ≤ ±0.9 psi/10°F
Weight	Approximately ≤ 9.5 oz Tri-Clamp® Weight Additional.
Environmental Rating	IP65 (Hirschmann, M12) IP68 (Cable)



TSTA (1.5" Tri-Clamp®)

Note: Dimensions are nominal and may vary. Check with Reotemp sales if dimensions are critical. Other case styles available.

Diaphragm Seal Suitability Guide

		Total Span* (in psi)									
		Tri-Clamp	2	3	5	10	15	30	60	100	150+
TSTA	3/4"	X	X	X	S	S	S	T	T		
	1.5"	X	X	T	T	T	T				
	2"	X	X	T	T						
	2.5"	X	X	T							
	3"	X	X								

*Total span is additive of negative and positive pressures. Example: -15 /0 /30 psi = 45 psi total span

- Assembly will function correctly with minimal accuracy degradation.
- T Assembly will function correctly given stable process temperature.
- S Assembly is highly sensitive to orientation and temperature variance. Reotemp cannot guarantee a stated accuracy.
- X Assembly not offered.

Tri-Clamp® is a registered trademark of Alpha Laval Inc.

TSTA SANITARY PRESSURE TRANSMITTER

HOW TO ORDER: Choose options to build a part number. For example: **TSTA1P181AB00TC15DWD-AG-PM**

MODEL	RANGE	ACCURACY	OUTPUT SIGNAL	ELECTRICAL CONNECTION
TSTA1	P18	1	A	B00
TSTA1 = Sanitary Transmitter (Hirschmann DIN A, and Others)	See <i>Transmitter Technical Reference on pg. 226</i>	1 = ±0.5% Accuracy (1.5" Thru 3" Tri-Clamp® ± 1.0%) 8 = ±1.0% Accuracy (3/4" Tri-Clamp®)	A = 4-20mA (2-Wire) (Standard) B = 0-5Vdc (3-Wire) E = 0-10Vdc (3-Wire)	<i>Hirschmann (DIN 43650 Form A)</i> B00 = Hirschmann, Field Wireable BPVC05 = Hirschmann w/ 5ft PVC Shielded Cable BPVC10 = Hirschmann w/ 10ft PVC Shielded Cable BPVC16 = Hirschmann w/ 16ft PVC Shielded Cable BPVC33 = Hirschmann w/ 33ft PVC Shielded Cable BPVC?? = Hirschmann (?? = ft. of PVC Cable) <i>M12 x 1 (4-Pin)</i> M00 = M12 x 1 (4-pin) MPVC03 = M12 x 1 (4-pin) Female w/ 3ft PVC Shielded Cable MPVC10 = M12 x 1 (4-pin) Female w/ 10ft PVC Shielded Cable MPVC33 = M12 x 1 (4-pin) Female w/ 33ft PVC Shielded Cable MPVC?? = M12 x 1 (4-pin) Female w/ ??ft PVC Shielded Cable <i>Cable - PE</i> CGPE01 = 1.6 ft PE Cable, Stripped CGPE03 = 3 ft PE Cable, Stripped CGPE06 = 6 ft PE Cable, Stripped CGPE?? = Cable PE (Shielded, Screwed Cable Gland) NOTE: Additional Electrical Connections Upon Request. Contact Factory.

TRANSMITTERS

CONNECTION TYPE	TRI-CLAMP® SIZE	MOUNTING	FILL FLUID	OPTIONS
TC	15	-DWD	-AG	-PM
TC = Tri-Clamp Cl = I-Line	75 = 3/4" Tri-Clamp 15 = 1.5" Tri-Clamp 20 = 2" Tri-Clamp 25 = 2.5" Tri-Clamp 30 = 3" Tri-Clamp	-DWD = Direct Mount, Welded -RTR = 6" Cooling Tower -STW = 3" Cooling Standoff -W?? = PVC Coated SS Capillary, Welded Note: ?? = Length in feet (e.g. 05 = 5 feet)	-AG = Glycerin USP -BN = Neobee M20 -AS = Silicone DC200 -BS = Food-grade Silicone See 58 for Complete Fill Guide	-TS = Stainless Steel Tag (1-10 Characters) -PM = Positive Material Identification Certification -MC = M12 Mating Connector, Field Wireable

TSTA SANITARY PRESSURE TRANSMITTER

TRANSMITTER ONLY SPECIFICATIONS (NOT INCLUDING TRI-CLAMP/ I-LINE)

Electrical Data	Output / Supply voltage	4 - 20 mA: 11...28 VDC (24 VDC) 0 - 5 VDC: 11...28 VDC (24 VDC) 0 - 10 VDC: 15...28 VDC (24 VDC)
	Reverse Polarity Protection	Yes
Environmental Conditions	Media Temperature	-40°F to 257°F
	Storage Temperature	-40 to 176°F (Hirschmann DIN A, M12) -4 to 176°F (Cable Type - PE)
	Protection	IP65 (Hirschmann, M12), IP68 (Cable)
	Vibration	10g (55Hz ~ 2,000 Hz)
	Shock	100g / 11ms
Mechanical Data	Isolated Diaphragm (Wetted Part)	Stainless Steel 316L/ Other Alloys Available. Contact Factory
	Pressure Port (Wetted Part)	Stainless Steel 304/316L Other Alloys Available. Contact Factory
	Sealing	FKM
	Housing	Stainless Steel 304/316L
	Weight	≤ 9.5 oz

ACCURACY

Pressure Type	Range	Accuracy
Gauge	0/50 INWC to 0/3 psi	±1.0% FS
	0/5 to 0/10,000 psi	±0.5% FS (3/4" Tri-Clamp® ±1.0% FS)
Absolute A	0/15 psia to 0/300 psia	±0.5% FS (3/4" Tri-Clamp® ±1.0%)
Compound (Negative & Positive Pressure)	-14.7/0/14.7 to -14.7/0/500 psi	±0.5% FS (3/4" Tri-Clamp® ±1.0%)

Test Conditions:

Environment Temperature: 20°C ±5°C

Relative Humidity: 45% ~ 75%

Note: Ranges Above 500psi are Sealed Gauge Transmitters with a Fixed Reference Pressure.


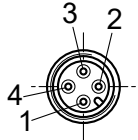

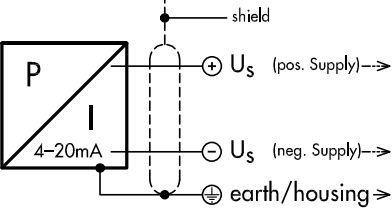
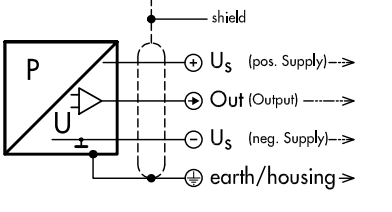
TSTA SANITARY PRESSURE TRANSMITTER

OUTPUT SIGNALS

Output Signal	Power Supply	Output Format	Load Resistance
4mA ~ 20mA DC	11V ~ 28V DC	2-Wire	$\leq(U-11)/0.02(\Omega)$
0V ~ 5V DC		3-Wire	$\leq 10k(\Omega)$
0V ~ 10V DC	15V ~ 28V DC		

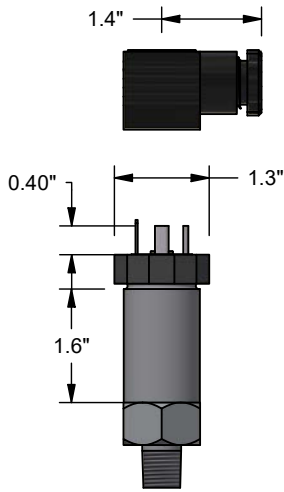
TA Electrical Connection

Protection / Electrical Connection

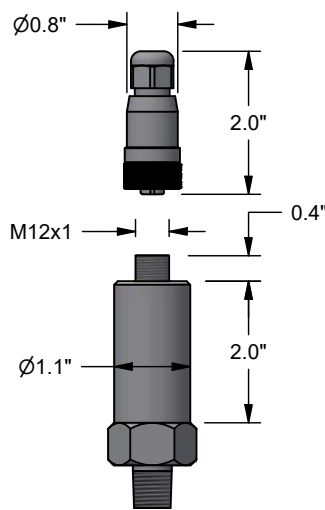
	IP65	IP65	IP68
	Hirschmann DIN A	M12x1 4-pole	Cable
			
Output Signal	 4-20mA	1 2 4	(1) Brown (3) Blue (4) Black Red Black Green
	 0/5 VDC, 1/6 VDC, 0/10VDC	1 2 3 4	(1) Brown (2) White (3) Blue (4) Black Red White Black Green

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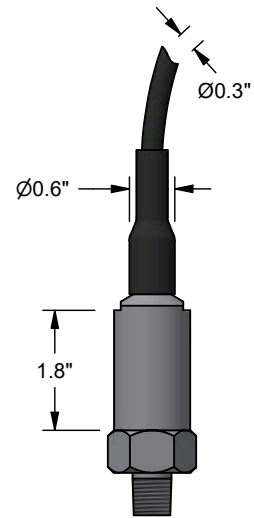
TSTA Dimension



TSTA with Standard Hirschmann (DIN 43650 Form A)

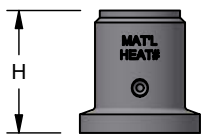


TSTA with M12 x 1 (4-Pin)



TSTA with Cable Out

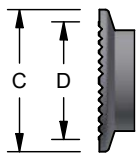
TRANSMITTERS



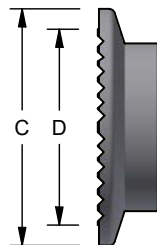
Tri-Clamp Type A



Tri-Clamp Type B



Tri-Clamp End Cap Type A



Tri-Clamp End Cap Type B

	Type A	Type B				
Process Connection	3/4"	1.5"	2"	2.5"	3"	4"
Outer Diameter (C)	1"	2"	2.5"	3.1"	3.6"	4.7"
Diaphragm (D)	0.65"	1.4"	1.9"	2.2"	2.5"	3.6"
Height (H)	1"	1.3"	1.3"	1.3"	1.3"	1.6"

*DSTC75 ONLY

Note: Height is subject to change based on the adapter required to fit instrument to seal.

TRANSMITTER TECHNICAL REFERENCE

SERIES		TA	TSTA	TSA	TSB	TSC	TSTP	TSTDS	TSTC	TG1	TP	TDS	TC	TE	TH1	THX	TL1
Code	Range			VACUUM													
P01	-14.7/0 psi	✓	✓	✓	✓	✓				✓				✓	✓	✓	
P01R	-14.5/0 psi								✓				✓				
Code	Range			COMPOUND RANGES													
P02	-14.7 psi/0/15psi	✓	✓	✓	✓	✓				✓					✓	✓	
P03	-14.7/0/30 psi	✓	✓	✓	✓	✓				✓				✓	✓		
P04	-14.7/0/60 psi	✓	✓	✓	✓	✓				✓							
P05	-14.7/0/100 psi	✓	✓	✓	✓	✓				✓				✓			
P06	-14.7/0/150 psi	✓	✓	✓	✓	✓				✓						✓	
P07	-14.7/0/200 psi	✓	✓											✓			
P08	-14.7/0/300 psi	✓	✓	✓	✓	✓				✓							
P02R	-14.5/0/15 psi								✓				✓				
P03R	-14.5/0/30 psi						✓	✓	✓		✓	✓	✓				
P04R	-14.5/0/60 psi						✓	✓	✓		✓	✓	✓				
P05R	-14.5/0/100 psi						✓	✓	✓		✓	✓	✓				
P06R	-14.5/0/150 psi						✓	✓	✓		✓	✓	✓				
P07R	-14.5/0/200 psi						✓	✓	✓		✓	✓	✓				
P08R	-14.5/0/300 psi						✓	✓	✓		✓	✓	✓				
Code	Range			PRESSURE RANGES													
IN50	0/50 inH ₂ O	✓	✓						✓				✓		✓		✓
IN100	0/100 inH ₂ O	✓	✓						✓	✓			✓		✓		✓
IN200	0/200 inH ₂ O	✓	✓						✓				✓		✓		✓
L11	0/55 INWC	✓	✓			✓			✓				✓		✓		
L12	0/80 INWC	✓	✓			✓			✓				✓		✓		
L13	0/140 INWC	✓	✓	✓	✓	✓			✓	✓			✓		✓		
L14	0/280 INWC	✓	✓	✓	✓	✓			✓	✓			✓		✓		
P11	0/2 psi	✓	✓			✓			✓				✓		✓	✓	✓
P12	0/3 psi	✓	✓			✓			✓				✓		✓	✓	✓
P13	0/5 psi	✓	✓	✓	✓	✓			✓	✓			✓		✓	✓	✓
P14	0/10 psi	✓	✓	✓	✓	✓			✓	✓			✓		✓	✓	✓
P15	0/15 psi	✓	✓	✓	✓	✓			✓	✓			✓	✓	✓	✓	✓
P16	0/30 psi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P175	0/50psi	✓	✓				✓	✓	✓	✓	✓	✓	✓				
P17	0/60 psi	✓	✓	✓	✓	✓			✓				✓	✓	✓	✓	✓
P18	0/100 psi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P195	0/150 psi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
P20	0/200 psi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P21	0/300 psi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P26	0/500 psi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P23	0/600 psi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P27	0/750 psi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P25	0/1000 psi	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P30	0/1500 psi	✓								✓	✓	✓			✓		
P31	0/2000 psi	✓								✓	✓	✓			✓		
P32	0/3000 psi	✓								✓	✓	✓			✓		
P34	0/5000 psi	✓								✓	✓	✓			✓	✓	
P35	0/6000 psi	✓								✓					✓	✓	
P28	0/7500 psi	✓								✓	✓	✓			✓	✓	
P37	0/10000 psi	✓								✓					✓	✓	
P38	0/15000 psi									✓					✓	✓	✓
P39	0/20000 psi														✓		
P40	0/30000 psi														✓		
P41	0/40000 psi														✓		
P42	0/50000 psi														✓		
P43	0/60000 psi														✓		
Code	Range			ABSOLUTE RANGES													
P15A	0/15 psia	✓	✓	✓	✓					✓			✓				
P16A	0/30 psia	✓	✓	✓	✓					✓			✓				
P17A	0/60 psia	✓	✓	✓	✓					✓			✓				
P18A	0/100 psia	✓	✓	✓	✓					✓			✓				
P19A	0/150 psia	✓	✓	✓	✓					✓			✓				
P20A	0/200 psia	✓	✓	✓	✓					✓			✓				
P21A	0/300 psia	✓	✓	✓	✓					✓			✓				

TRANSMITTERS

Don't See the Range You Need? Other ranges may be available, contact REOTEMP customer service for more information.

✓ Indicates that the option is available
Note: Specifications are subject to change.