Product Information - TPP

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TP - Series "Smart" Pressure Transmitter

Introduction

The Anderson-Negele "TP" series pressure transmitter is a microprocessor-based sensor specifically designed for sanitary fluid process applications in the Life Sciences industry. This product provides an extremely high level of performance combined with the flexibility of digital communication via the "HART" protocol.

The "TP" series can be specified in several configurations including high temperature models that are available in direct or remote mount variations. The high temperature direct mount is also recommended for applications where a horizontal orientation is re-quired for display viewing, such as tank tops and overhead lines. All models comply with UL, "intrinsically safe" requirements for Class 1, Div. 1, Groups A-D. The units may be ordered with any of our wide variety of sanitary process fittings.

The "TP" series simultaneously outputs an analog 4-20 mA signal while communicating digitally with a hand-held communicator or other "HART" host device. This allows configuration of parameters such as range, engineering units, tagging info, and other device specific information, from any accessible point in the output loop. The analog output can even be "trimmed" or calibrated while online, if required. Also retained are internal, non-interactive zero and span analog adjustments. This provides the user with the immediate performance enhancements of this new product, with future compatibility with the "HART" protocol.

As with all Anderson-Negele sensors, the "TP" series is designed to be cleaned and steam sterilized in place. The optional LCD display can be factory scaled to linear process engineering units, mA output, or 0-100%.

Features

- New options and mounting configurations for high temperature applications, up to 204°C (400°F)
- Standard 4-20 mA Output with "HART" Protocol for Digital Communications
- Micro-based Design provides best performance of any sanitary transmitter
- Widest choice of sanitary clamp and flushmount "CPM" fittings
- Optional LCD Display now available for vertical or horizontal viewing
- 3-A compliant; Third party verified in accordance with standard 74-03



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Specifications

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Ranges: Rangeability	Defined by Upper Range Limit (URL)		Article 3.3 of the PED 97/23/EC CSA B51-03
(Turn-down):	10:1 via Hand Held Terminal		CRN# CSA0F9754.5C
Over Pressure Limit:	2X URL	Process Temperature	
Over Pressure Output	: Sensor Style 1 & 2: Above 110% of	Effect:	Less than 0.2% of full scale output/10°F
·	calibrated range - 3.8 mA		change
	Sensor Style 3 & 4: No specified over	PERFORMANCE SPEC	
	pressure output	Accuracy* (psig range	es): ±0.2% of URL
MECHANICAL TRIM AD	1 1	(psia, compound vacuum): ±0.2% URL (above atmospheric zero);	
	Internally adjustable	(1, 1	±1.0% URL (below atmospheric zero)
	± 5% of span (zero); ± 20% of span (span)	* Accuracy includes i	repeatability, hysteresis and linearity.
Output:	4-20mA, Two-wire, Linear, Digital Process	Repeatability:	± 0.06%
	variable superimposed on 4-20mA signal,	Hysteresis:	± 0.07%
	available to any "HART" protocol conforming	Linearity (BFSL):	± 0.07%
	host.		(± 0.17% for psia, compund and vacuum
Power Supply:	13-40 volts, D.C.		ranges)
	18-45 volts D.C. with display	Stability:	± 0.3% OF URL/6 months
Indication:	Optional, cap-mounted, LCD Indication	PHYSICAL SPECIFICATIONS:	
	accuracy ±1% F.S.	Wetted Material Surf	ace Finish:
TEMPERATURE LIMITS (PROCESS):			Electropolished to Ramax = 8
Standard/Direct Mou	nt: -18 to 135°C (0 to 275°F)		microinches (.2 microns)
High Temp./Direct Mount: -18 to 177°C (0 to 350°F)**		Wetted Material:	316 "L" Stainless Steel
High Temp./Remote Mount: -18 to 204°C (0 to 400°F)**		Housing Material:	304 Stainless Steel
Temperature Limit (Ambient): -18 to 49°C (0 to 120°F)		Actuating Fill:	100% mineral oil. Meets FDA
Hazardous Locations	Compliance: UL Compliance with Class 1,		requirements
	Div. 1, Groups A thru D for intrinsically safe		(21 CFR, 172.878 and 178.3620(a))
	apparatus, when connected with approved	Housing Ratings:	NEMA 4X, IP-66
	barrier system (See instruction manual). For	Electrical Connectior	ns: 1/2-14NPT conduit with screw terminals
	sensor type 1 & 2 ONLY		and integral test loops for HART interface
Standards:	Designed and manufactured to sound		
	engineering practices in accordance with	** Process vacuum in ex maximum temperatu	xcess of 24" Hg may require slight de-rating of re (consult factory)

Process vacuum in excess of 24" Hg may require slight de-rating of ** maximum temperature (consult factory).

Order Information

2 High Temp (direct mount) ⁴ 3 High Temp (remote mount) ^{1.4} 4 High Temp (direct mount) w/QDR* 4 5 High Temp (remote mount) w/QDR* 4 SENSOR TYPE 1 PSIG 2 PSIA 3 PSIG (overpress./shift high) 4 PSIA (overpress./shift high) UPPER RANGE LIMIT (URL) 1 50 psig/psia 2 100 psig/psia 3 200 psig/psia 3 200 psig/psia 4 300 psig/psia 5 500 psig 6 1000 psig PROCESS CONNECTION 002 3/4" Tri-Clamp 3 016 1-1/2" CB "I" (male) 004 1-1/2" Tri-Clamp 017 2" CB "I" (male) 005 2" Tri-Clamp 027 1-1/2" G& "I" (male) 010 1-1/2" APC "K" 028 2" G& "I" (male)	O No Display B BAR G PSIG ² R mA A PSIA Q Percent (%) MOUNTING 1 Direct mount (Style 0, 1, 2 or 4) Options listed below apply to Style 3 & 5 ONLY: A 5' Poly L 5' SS B 10' Poly M 10'SS C 15' Poly N 15' SS D 20' Poly P 20' SS E 25' Poly Q 25' SS DIAPHRAGM MATERIAL 1 316L Stainless Steel (Standard) 2 Hastelloy "C" (Not Available in Connection 002) ¹ Pipe/Wall mount bracket included with remote mount option (Style 3) ² Vacuum shown as (-) PSIG for compound ranges ³ Not available with Process Connection 002 NOTE: Compound Range Ordering Examples:
011 2" APC "K" 123 1-1/2" CPM Flushmount	For 30-0-50 psig, select 50 psig URL For 30-0-60 psig, select 100 psig URL * UL Certification for Intrinsic Safety Pending

ANDERSON INSTRUMENT COMPANY 156 Auriesville Road Fultonville, NY 12072

Phone 800-833-0081 Fax 518-922-8997 info@anderson-negele.com

Tech. Support: techservice@anderson-negele.com Phone 800-833-0081