T - Series "Smart" Pressure Transmitter

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 74-02*

The Anderson "T" series pressure transmitter is a microprocessor-based sensor specifically designed for sanitary fluid process applications in the Pharmaceutical and Bio-technology industry. This product provides an extremely high level of performance combined with the flexibility of digital communication via the "HART" protocol. The "T" 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 required 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, and carry the "CE" mark. The units may be ordered with any of our wide variety of sanitary process fittings.

The "T" 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 sensors, the "T" 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%.

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Complete Product Ordering Matrix

Key Model #

Style
- 0 Standard, Direct Mount Housing
- 2 High Temp (direct mount)
- 3 High Temp (remote mount)[1]

Sensor Type
- 1 PSIG[2]
- 2 PSIA

Upper Range Limit (URL)
- 1 50 psig/psia
- 2 100 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&H "H" Line (male)
010	1-1/2" APC "K"	028	2" G&H "H" Line (male)
011	2" APC "K"	123	1-1/2" CPM Flushmount

Custom Configuration
- 000 Standard Configuration
- XXX Custom Configuration

Display

0	No Display	B	BAR
G	PSIG[4]	R	mA
A	PSIA	Q	Percent (%)

Mounting
- 1 Direct mount (Style 0 or 2)

Options listed below apply to Style 3 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] Compound Range Ordering Examples:
For 30-0-50 psig, select 50 psig URL
For 30-0-60 psig, select 100 psig URL

[3] Not available with Style 2 or 3

[4] Vacuum shown as (-) PSIG for compound ranges

GENERAL SPECIFICATIONS (For Detailed Specifications & Dimensions, refer to Form AIC 3706.)

Ranges: Defined by Upper Range Limit (URL)

Rangeability (Turn-down): 10:1 via Hand Held Terminal

Over Pressure Limit: 2X URL

Mechanical Trim Adjustments: Internally adjustable
± 5% of span (zero);
± 20% of span (span)

Output: 4-20mA, Two-wire, Linear, Digital Process variable superimposed on 4-20mA signal, available to any "HART" protocol conforming host.

Power Supply: 13-40 volts, D.C.
18-45 volts D.C. with display

Indication: Optional, cap-mounted, LCD Indication accuracy ±1% F.S.

Temperature Limits (Process):

Standard/Direct Mount:	-18 to 135°C (0 to 275°F)
High Temp./Direct Mount:	-18 to 177°C (0 to 350°F)**
High Temp./Remote Mount:	-18 to 204°C (0 to 400°F)**
Temperature Limit (Ambient):	-18 to 49°C (0 to 120°F)

Hazardous Locations Compliance:
UL Compliance with Class 1, Div. 1, Groups A thru D for intrinsically safe apparatus, when connected with approved barrier system (See instruction manual).

CE Compliance:
Transmitter complies with all CE requirements.
Optional LCD display accuracy = ±2% when subjected to a radiated transmission field of 150 to 180 MHz, and 230 to 350 MHz (field strength of 10V/m 80% AM 1KHz).

Standards: Designed and manufactured to sound engineering practices in accordance with Article 3.3 of the PED 97/23/EC

Process Temperature Effect:
Less than 0.2% of full scale output/10°F change

Performance Specifications:

Accuracy* (psig ranges): ±0.2% of URL
(psia, compound vacuum): ±0.2% URL(above atmospheric zero); ±1.0% URL (below atmospheric zero)

* Accuracy includes repeatability, hysteresis and linearity.

Repeatability: ± 0.06%
Hysteresis: ± 0.07%
Linearity (BFSL): ± 0.07%
(± 0.17% for psia, compund and vacuum ranges)
Stability: ± 0.3% OF URL/6 months

Physical Specifications:

Wetted Material Surface Finish: Electropolished to $R_a$max = 8 microinches (.2 microns)
Wetted Material: 316 "L" Stainless Steel
Housing Material: 304 Stainless Steel
Housing Ratings: NEMA 4X, IP-66
Electrical Connections:
1/2-14NPT conduit with screw terminals and integral test loops for HART interface

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

M E E T S O R E X C E E D S C G M P ' S O F T H E P H A R M A C E U T I C A L I N D U S T R Y

HART® FIELD COMMUNICATIONS PROTOCOL

Form AIC3705 © 3/04
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