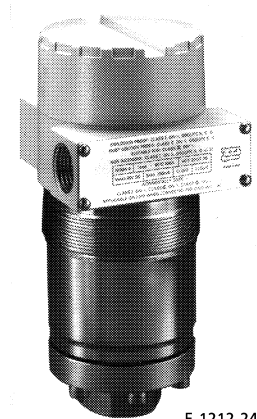


- 7-Year Warranty
- $\pm 0.2\%$ of Span Accuracy
- Spans from 10 to 6,000 psig
- Outstanding Temperature Stability
- Rugged, Lightweight Design
- Excellent Profile for Mounting in Enclosures

The 420T Series Electronic Pressure Transmitter is a two-wire, 24V dc transmitter with a 4 to 20 mA dc output signal linear to the input pressure. The transmitter employs a ceramic capacitance sensor and unique, hermetically sealed, thick-film hybrid circuit. Each hybrid circuit is dynamically laser trimmed to match the performance characteristics of the sensor to create a high-performance, high-reliability transmitter. Combined accuracy, temperature, and pressure stability are unmatched by other electronic pressure transmitters.



E-1212-24

SPANS AND RANGES

Transmitter	Span Limits		Range Limits		Overpressure Limits (w/o Damage to Element)
	Minimum	Maximum	Lower	Upper	
422T	10 psig (70 kPa)	40 psig (275 kPa)	-14.7 psig (-100 kPa)	40 psig (275 kPa)	120 psig (825 kPa)
423T	40 psig (275 kPa)	160 (1,100 kPa)	-14.7 psig (-100 kPa)	160 psig (1,100 kPa)	480 psig (3,300 kPa)
424T	150 psig (1,150 kPa)	600 psig (4,200 kPa)	-14.7 psig (-100 kPa)	600 psig (4,200 kPa)	1,500 psig (10,000 kPa)
425T	500 psig (3,500 kPa)	2,000 psig (14,000 kPa)	-14.7 psig (-100 kPa)	2,000 psig (14,000 kPa)	5,000 psig (34,000) kPa
426T	2,000 psig (14,000 kPa)	6,000 psig (40,000 kPa)	-14.7 psig (-100 kPa)	6,000 psig (40,000 kPa)	6,000 psig (40,000 kPa)

Zero Elevation/Suppression: Zero is infinitely adjustable provided that the calibrated range is within the span/range limits above.

Warranty: ABB Instrumentation, Inc., Rochester, NY, warrants the 400T Series Transmitter for 7 years from date of shipment. Contact ABB Instrumentation Inc., for complete information.

PERFORMANCE SPECIFICATIONS

Electrical Classification

Agency approvals and certifications as listed in Ordering Information.

Temperature Limit

Primary

Silicone¹ Fill Fluid -40 to 250° F (-40 to 121° C)

Fluorolube² Fill Fluid 0 to 250° F (-18 to 121° C)

Primary Peak

275° F (135° C) for 30 minutes

Ambient

-40 to 185° F (-40 to 85° C)

Storage

-65 to 200° F (-54 to 93° C)

Operating Voltage

Maximum: 45V dc

Minimum: 12V dc (13.4V dc with surge protection)

Load Limitations

Drive Impedance: $\frac{\text{Supply V dc} - 12}{0.020}$

Maximum Drive Impedance:

1,650 ohms

1,580 ohms with surge protection

Relative Humidity: 0 to 100% RH

Vacuum Service: Full vacuum

Service: Liquid, gas, or steam

Accuracy (Includes effects of linearity, hysteresis, and repeatability)

422T thru 425T: 0.2%

426T:

At spans above 3000 psi: $\left(\frac{\text{span}}{10,000} - 0.1\% \right)$

At spans from 2000 psi to 3000 psi: 0.2%

Optional Surge Protection

Up to 2500V pulse (5K amp discharge current) of 8 μ s rise time and 20 μ s decay to half value.

Hysteresis and Dead Band Combined

Better than 0.05%

Repeatability: Better than 0.05%

Ambient Temperature Effect

On Zero: $\pm 0.5\%$ per 100° F (56° C) at maximum span

Total: $\pm 1.0\%$ per 100° F (56° C) at maximum span

Overpressure Effect

$\pm 0.25\%$ of upper range limit (URL) on zero

Output Signal: 4 to 20 mA dc

Long-Term Stability

Better than $\pm 0.25\%$ of URL after 6 months

Supply Voltage Effect: Less than 0.005% per V dc

Load Effect: None

Mounting Position Effect

No effect if mounted in plane of diaphragm

Vibration Effect

$\pm 0.1\%$ URL/2g at 15 to 150 Hz

$\pm 0.1\%$ URL/g at 151 to 2,000 Hz

Response Time: 0.2 seconds

RFI Effect

Meets SAMA Standard PMC 33.1- 1978. Tested over a full frequency range of 20 to 1,000 MHz.

Volumetric Displacement: Virtually zero

PHYSICAL SPECIFICATIONS

Process Diaphragm

Type 316L SST

Process Flanges

Type 316 SST

Flange Bolts

Alloy steel ASTM A354, Grade BD
316 SST Strain Hardened

Fill Fluid

Silicone 200¹ fluid

Fluorolube²; 0 to 250° F (-18 to 121° C) process limit

Flange Gasket

Teflon³ silicate-ceramic filled

Transmitter Housing

Low copper cast aluminum with baked epoxy ester, urea formaldehyde melamine finish; (NEMA 4X/CSA ENC 4/IP 66)

Type 304 SST

¹Trademark of Dow Corning Corp.

²Trademark of Occidental Chemical Corp.

NACE (National Association of Corrosion Engineers)

Interpretation of NACE Specification MR-01-75, latest Revision, is that it applies only to process-wetted parts. Flange bolts, although not process-wetted, are also available in NACE-compatible materials, if required. NACE qualified selections are clearly identified under Ordering Information.

Weight

4.1 lb (1.9 kg) approx.

Process Connection

1/2 in. Int. NPT

1/2 in. Ext. NPT

Electrical Connection

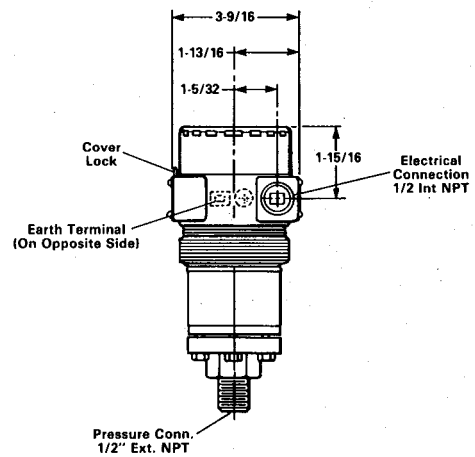
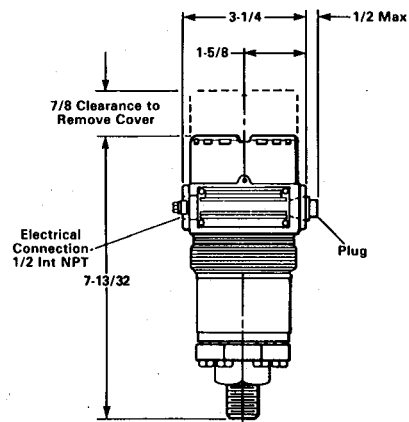
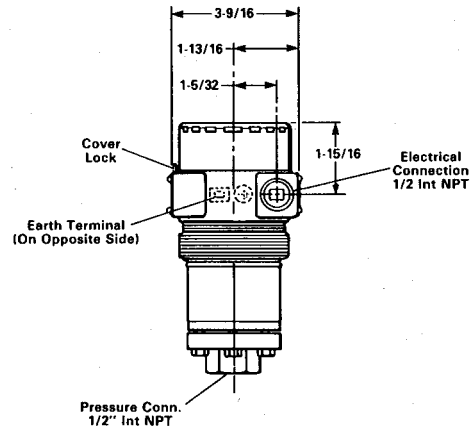
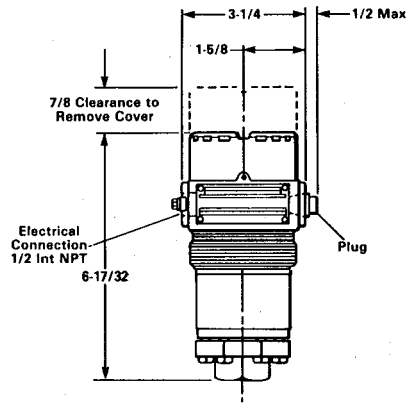
1/2 in. Int. NPT

1/2 in. NPTM x ISO M20 x 1.5

Adapters provided with Electrical Code 08

³Trademark of E. I. du Pont de Nemours & Co., Inc.

DIMENSIONS



Not for construction purposes
All dimensions in inches

E-1212-29

ORDERING INFORMATION

1. Select one character or set of characters from each category and specify complete catalog number as per sample below.
2. Specify tagging if required. Tagging information is provided on the exterior stainless steel data plate to a limit of 40 characters.
3. Specify calibration in inches H₂O, or kPa.

Code No.	Description
	BASE NUMBER - 1st thru 4th characters
422T	Electronic Gage Pressure Transmitter, Span Adjustable from 10 to 40 psi (70 to 275 kPa)
423T	Electronic Gage Pressure Transmitter, Span Adjustable from 40 to 160 psi (275 to 1 100 kPa)
424T	Electronic Gage Pressure Transmitter, Span Adjustable from 150 to 600 psi (1 050 to 4 200 kPa)
425T	Electronic Gage Pressure Transmitter, Span Adjustable from 500 to 2,000 psi (3 500 to 14 000 kPa)
426T	Electronic Gage Pressure Transmitter, Span Adjustable from 2,000 to 6,000 psi (14 000 to 40 000 kPa)
	PRIMARY FILL-FLUID AND PROCESS TEMPERATURE RANGE - 5th character
B	Silicone 200 ¹ , -40 to 250°F (-40 to 121°C)
C	Fluorolube ² , 20 to 250° F (-7 to 121° C)
	ELECTRICAL CODE - 6th and 7th characters (see SS-12-16 for details)
01	FM Approved: Non-Incendive (Division 2), Explosionproof (Division 1), Intrinsic Safety (Division 1)
02	BASEEFA Certified: Type N Protection (Zone 2) to BS4683: Part 3, Intrinsic Safety (Zone 0) to CENELEC Standard EN50020
04	CSA Certified: Non-Incendive (Division 2), Explosionproof (Division 1), Intrinsic Safety (Division 1)
08	SAA Certified: Type N Protection (Zone 2), Flameproof (Zone 1), Intrinsic Safety (Zone 0)
10	General Purpose, ABB Instrumentation Standard
45	BASEEFA Certified: Flameproof (Zone 1) to BS5501: Part 5; SFA3009
	DIAPHRAGM MATERIAL - 8th character
2	Type 316L SST - NACE
	FLANGE MATERIAL - 9th character
4	Type 316 SST - NACE
	PROCESS CONNECTION - 10th character
3	½ in. Int. NPT
4	½ in. Ext. NPT
	MODEL - 11th character
A	Design Level
0	UNUSED CHARACTER - 12th character
	MOUNTING BRACKET - 13th character
0	None
1	Bracket for 1¼ in. to 2 in. (32 mm to 50 mm) Pipe or Surface Mounting, Carbon Steel
2	Bracket for 1¼ in. to 2 in. (32 mm to 50 mm) Pipe or Surface Mounting, 316 SST
	HOUSING AND COVER MATERIAL - 14th and 15th characters
00	Aluminum without Surge Protection
01	Aluminum with Surge Protection (only available with Electrical Codes 01, 04, and 10)
10	Type 304 SST without Surge Protection
11	Type 304 SST with Surge Protection (only available with Electrical Codes 01, 04, and 10)
-	HYPHEN - 16th character
	FLANGE BOLT MATERIAL - 17th character
1	Alloy Steel, ASTM A354, Grade BD Bolts
3	316 SST, Strain Hardened ASTM/ASME A193, Class 2, Grade B8M
	SPECIAL CLEANING - 18th character
0	None
1	Cleaned for Oxygen Service (not available with Primary Fill-Fluid B or 426T)
00	UNUSED CHARACTERS - 19th and 20th characters
	424TB01243A0000 - 1000 SAMPLE CATALOG NUMBER

¹ Trademark of Dow Corning Corporation

² Trademark of Occidental Chemical Corp.



The Company's policy is one of continuous product improvement and the right is reserved to modify specifications contained herein without notice.

©1998 ABB Instrumentation

SS-12-04 98.10

ABB Kent-Taylor Ltd.
St. Neots Cambs.
England, PE19 3EU
Tel: (01480) 475321
Fax: (01480) 217948

ABB Instrumentation Inc.
P.O. Box 20550
Rochester, New York 14602-0550
Tel: (716) 292-6050
Fax: (716) 273-6207

ABB Kent-Taylor SpA
22016 Lenno
Como, Italy
Tel: (0344) 58111
Fax: (0344) 56278