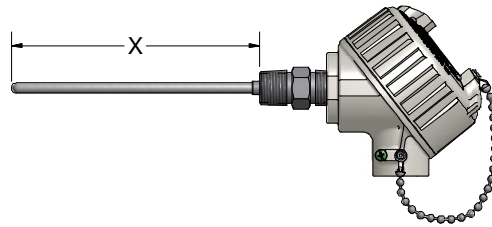


Explosion-Proof, Fixed-Element RTDs are made for use in U.S. and Canadian hazardous areas. They are designed to extinguish flames inside the device, eliminating the potential for ignition of flammable mixtures in the surrounding atmosphere. FM and CSA approved assemblies, dependent on connection head type, meet XP Class I, Division 1, Group A, B, C and D; DIP Class II, Division I, Groups E, F, G, and Class III, Division 1. They may be installed directly in the process without being inserted into a thermowell. The assemblies feature 316 stainless steel sheaths in various diameter sizes. They are available with or without process mountings and with aluminum or stainless steel explosion-proof connection heads.



## ORDER CODES

**Example Order Number:**

1-0      2-0      2-1   2-2      3-0      4-0      5-0      5-1      5-2  
**XP - R1T185L 48 3 - 012 - 00 - 8HN 94, T-** Select Type and Range from back of Section

### 1-0 Agency Approval

CODE	DESCRIPTION
XP	FM/CSA explosion-proof-approved assembly

### 2-0 100 Ω Platinum RTD Elements $\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$

CODE		TOLERANCE <sup>[1]</sup>
LOW RANGE WIRE WOUND (-200 to 200) °C		
<b>SINGLE</b>	<b>DUPLEX</b>	
R1T185L	R1T285L	Grade B
R5T185L	R5T285L	(1/5) Class B
LOW RANGE THIN FILM (-50 to 200) °C		
RBF185L	RBF285L	Class B
RAF185L	RAF285L	Class A
HIGH RANGE WIRE WOUND (-200 to 600) °C		
R1T185H	R1T285H	Grade B
RAT185H	RAT285H	Class A

[1] Refer to RTD tolerance information in the General Information section for calculations to determine specific tolerance at temperature.

### 2-1 Sheath Diameters 316 SS

CODE	DIAMETERS (inches)
28 <sup>[1]</sup>	1/8
38	3/16
48	1/4
68	3/8

[1] Not available in duplex

### 2-2 Element Connection

CODE	DESCRIPTION
2	2-wire element
3	3-wire element
4 <sup>[1]</sup>	4-wire element

[1] Not available in duplex or with 440 Series Transmitter

### 5-1 Head Terminations

CODE	DESCRIPTION
74	DIN form B aluminum explosion-proof head, Group A
75T-642B	(4 to 20) mA HART® Field Transmitter with aluminum explosion-proof housing, Group A
76T82-D10	(4 to 20) mA dual input HART® Field Transmitter with digital display and explosion-proof housing, Group A
93	Aluminum explosion-proof head, Group B
94	316L stainless steel explosion-proof head, Group A

### 5-2 Options

SB	1/2" NPT conduit reducer bushing
I	Stainless steel tag
T-440 <sup>[1]</sup>	(4 to 20) mA head-mounted transmitter
T-441	(4 to 20) mA isolated head-mounted transmitter
T-442	(4 to 20) mA HART® isolated head-mounted transmitter
T82-00	(4 to 20) mA dual input, isolated HART® head-mounted transmitter

See transmitter ordering information in back of section.

[1] Not available with option 74

### 5-0 Head Mounting Fittings

CODE	DESCRIPTION
6HN	1/2" x 1/2" NPT steel hex nipple 1" "E" length
8HN	1/2" x 1/2" NPT stainless steel hex nipple 1" "E" length
9HP	1/2" NPT stainless steel bushing (no process threads)
8RNDC	3/4" x 1/2" NPT stainless steel hex nipple

### 4-0 Sheath Mounting Fittings

CODE	DESCRIPTION
00	No Fitting

### 3-0 "X" Dimensions

Insert three digit sheath length ("X" Dimension) in inches.

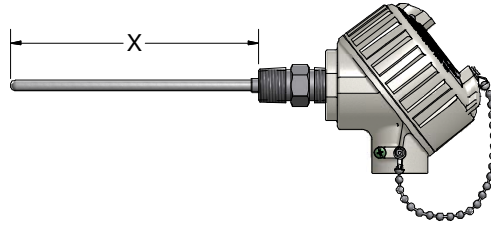
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# EXPLOSION-PROOF

## Configuration Code XP02 Hazardous Location Explosion-Proof-Approved, Fixed-Element Thermocouple Assemblies - Model 70-82

Explosion-Proof, Fixed-Element Thermocouples are made for use in U.S. and Canadian hazardous areas. They are designed to extinguish flames inside the device, eliminating the potential for ignition of flammable mixtures in the surrounding atmosphere. FM and CSA approved assemblies, dependant on connection head type, meet XP Class I, Division 1, Group A, B, C and D; DIP Class II, Division I, Groups E, F, G and Class III, Division 1. They may be installed directly in the process without being inserted into a thermowell. The assemblies feature 316 stainless steel sheaths in various diameter sizes and ungrounded isolated junctions. They are available with or without process mountings and with aluminum or stainless steel explosion-proof connection heads.



### ORDER CODES

**Example  
Order Number:**

1-0 2-0 2-1 2-2 2-3 3-0 4-0 5-0 5-1 5-2  
**XP - K 4 8 U - 012 - 00 - 8HN 93, T-** Select Type and Range from back of Section

#### 1-0 Agency Approval

CODE	DESCRIPTION
XP	FM/CSA explosion-proof-approved assembly

#### 2-0 Thermocouple Types

CODE	CODE
SINGLE	DUPLEX
E	EE
J	JJ
K	KK
T	TT

#### 2-1 Sheath Diameters

CODE	DIAMETER (inches)
2	1/8
3	3/16
4	1/4
6	3/8

#### 2-2 Sheath Materials

CODE	MATERIAL	STANDARD AVAILABLE TYPES
3	Alloy 600	K
4	310 SS	K
5	446 SS	K
8	316 SS	E, J, K, T

#### 2-3 Measuring Junction

CODE	DESCRIPTION
U	Ungrounded

#### 5-1 Head Terminations

CODE	DESCRIPTION
74	DIN form B aluminum explosion-proof head, Group B
75T-642B	(4 to 20) mA HART® Field Transmitter with aluminum explosion-proof housing, Group A
76T82-D10	(4 to 20) mA dual input HART® Field Transmitter with digital display and explosion-proof housing, Group A
93	Aluminum explosion-proof head, Group B
94	316L stainless steel explosion-proof head, Group A

#### 5-2 Options

SB	1/2" NPT conduit reducer bushing
I	Stainless steel tag
T-441	(4 to 20) mA isolated head-mounted transmitter
T-442	(4 to 20) mA HART® isolated head-mounted transmitter
T82-00	(4 to 20) mA dual input, isolated HART® head-mounted transmitter

See transmitter ordering information in back of section.

#### 5-0 Head Mounting Fittings

CODE	DESCRIPTION
6HN	1/2" x 1/2" NPT steel hex nipple
8HN	1/2" x 1/2" NPT stainless steel hex nipple
9HP	1/2" NPT stainless steel bushing (no process threads)
8RNDC	3/4" x 1/2" NPT stainless steel hex nipple

#### 4-0 Sheath Mounting Fittings

CODE	DESCRIPTION
00	No Fitting

#### 3-0 "X" Dimensions

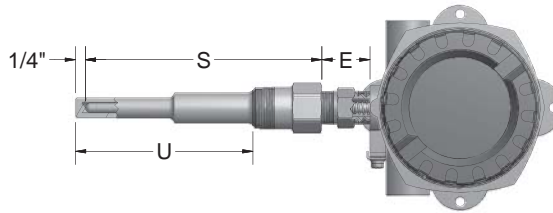
Insert three digit sheath length ("X" Dimension) in inches.

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Explosion-Proof RTD Assemblies with Thermowells are made for use in U.S. and Canadian hazardous areas. They are designed to extinguish flames inside the device, eliminating the potential for ignition of flammable mixtures in the surrounding atmosphere. FM and CSA approved assemblies, dependant on connection head type, meet XP Class I, Division 1, Group A, B, C, and D; DIP Class II, Division I, Groups E, F, G and Class III, Division 1. The required thermowell is available in standard, heavy-duty, and flanged constructions. The assemblies feature 316 stainless steel sheaths. They are available with aluminum or stainless steel explosion-proof connection heads.



## ORDER CODES

**Example  
 Order Number:**

**XP** - **R1T185L** **48** **3** - **SC** - **8HN** **75T-642B**, **I**

1-0      2-0      2-1    2-2      3-0      4-0      5-0      5-1      5-2  
Select Thermowell Part # from Thermowell Section      Select Type and Range from back of Section

### 1-0 Agency Approval

CODE	DESCRIPTION
XP	FM/CSA explosion-proof-approved assembly

### 2-0 100 Ω Platinum RTD Elements $\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$

CODE		TOLERANCE <sup>[1]</sup>
LOW RANGE WIRE WOUND (-200 to 200) °C		
<b>SINGLE</b>	<b>DUPLEX</b>	
R1T185L	R1T285L	Grade B
R5T185L	R5T285L	(1/5) Class B
LOW RANGE THIN FILM (-50 to 200) °C		
RBF185L	RBF285L	Class B
RAF185L	RAF285L	Class A
HIGH RANGE WIRE WOUND (-200 to 600) °C		
R1T185H	R1T285H	Grade B
RAT185H	RAT285H	Class A

[1] Refer to RTD tolerance information in the General Information section for calculations to determine specific tolerance at temperature.

### 2-1 Sheath Diameters 316 SS

CODE	DIAMETERS (inches)
48	1/4

### 2-2 Element Connection

CODE	DESCRIPTION
2	2-wire
3	3-wire
4 <sup>[1]</sup>	4-wire

[1] Not available in duplex or with 440 Series Transmitter

### 3-0 Thermowell

Select thermowell part number from Thermowell Section.

### 5-1 Head Terminations

CODE	DESCRIPTION
74	DIN form B aluminum explosion-proof head, Group A
75T-642B	(4 to 20) mA HART® Field Transmitter with aluminum explosion-proof housing, Group A
76T82-D10	(4 to 20) mA dual input HART® Field Transmitter with digital display and explosion-proof housing, Group A
93	Aluminum explosion-proof head, Group B
94	316L stainless steel explosion-proof head, Group A

### 5-2 Options

SB	1/2" NPT conduit reducer bushing
I	Stainless steel tag
T-440 <sup>[1]</sup>	(4 to 20) mA head-mounted transmitter
T-441	(4 to 20) mA isolated head-mounted transmitter
T-442	(4 to 20) mA HART® isolated head-mounted transmitter
T82-00	(4 to 20) mA dual input, isolated HART® head-mounted transmitter

See transmitter ordering information in back of section.

[1] Not available with option 74.

### 5-0 Head Mounting Fittings

CODE	DESCRIPTION	CODE	DESCRIPTION
STEEL FITTINGS		316SS FITTINGS	
6HN	1/2" x 1/2" NPT hex nipple 1" length	8HN	1/2" x 1/2" NPT hex nipple 1" length
6PN <sub>-</sub>	1/2" NPT pipe nipple (specify "E" length in inches)	8PN	1/2" NPT pipe nipple (specify "E" length in inches)
6XU <sub>-1</sub>	1/2" NPT union/nipple (specify "E" length in inches)	8XU <sub>-1</sub>	1/2" NPT union/nipple (specify "E" length in inches)

[1] 3 1/2" Minimum length required. Maximum allowable "E" length is 9"

### 4-0 Element Options

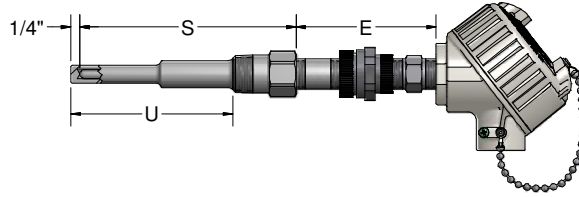
CODE	DESCRIPTION
SL <sup>[1]</sup>	Spring-loaded element
SC	Self-contained, spring-loaded element

[1] Not available with option 75T-642B

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Explosion-Proof Thermocouple Assemblies with Thermowells are made for use in U.S. and Canadian hazardous areas. They are designed to extinguish flames inside the device, eliminating the potential for ignition of flammable mixtures in the surrounding atmosphere. FM and CSA approved assemblies, dependant on connection head type, meet XP Class I, Division 1, Group A, B, C, and D; DIP Class II, Division I, Groups E, F, G and Class III, Division 1. The required thermowell is available in standard, heavy-duty, and flanged constructions. The assemblies feature 316 stainless steel sheaths and ungrounded isolated junctions. They are available with aluminum or stainless steel explosion-proof connection heads.



## ORDER CODES

**Example Order Number:**

1-0 2-1 2-2 2-3 3-0 4-0 5-0 5-1 5-2  
**XP - J 48 U -**  **- SL - 8XU4 94, I**

### 1-0 Agency Approval

CODE	DESCRIPTION
XP	FM/CSA explosion-proof-approved assembly

### 2-1 Thermocouple Types

CODE	CODE
SINGLE	DUPLEX
E	EE
J	JJ
K	KK
T	TT

### 2-2 Sheath Diameters 316 SS

CODE	DIAMETER (inches)
48	1/4

### 2-3 Measuring Junction

CODE	DESCRIPTION
U	Ungrounded

### 3-0 Thermowell

Select thermowell from Thermowell Section.

### 4-0 Element Options

SL <sup>[1]</sup>	Spring-loaded element
SC	Self-contained spring-loaded element

[1] Not available with option 75T-642B

### 5-0 Head Mounting Fittings

CODE	DESCRIPTION	CODE	DESCRIPTION
<i>STEEL FITTINGS</i>		<i>316SS FITTINGS</i>	
6HN	1/2" x 1/2" NPT hex nipple 1" length	8HN	1/2" x 1/2" NPT hex nipple 1" length
6PN <sub>-</sub>	1/2" NPT pipe nipple (specify "E" length in inches)	8PN	1/2" NPT pipe nipple (specify "E" length in inches)
6XU <sub>-</sub> <sup>[1]</sup>	1/2" NPT union/nipple (specify "E" length in inches)	8XU <sub>-</sub> <sup>[1]</sup>	1/2" NPT union/nipple (specify "E" length in inches)

[1] 3 1/2" minimum length required.  
 Maximum allowable "E" length is 9"

### 5-1 Head Terminations

CODE	DESCRIPTION
74	DIN form B aluminum explosion-proof head, Group A
75T-642B	(4 to 20) mA HART® Field Transmitter with aluminum explosion-proof housing, Group A
76T82-D10	(4 to 20) mA dual input HART® Field Transmitter with digital display and explosion-proof housing, Group A
93	Aluminum explosion-proof head, Group B
94	316L stainless steel explosion-proof head, Group A

### 5-2 Options

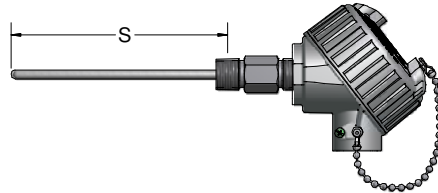
SB	1/2" NPT conduit reducer bushing
I	Stainless steel tag
T-441	(4 to 20) mA isolated head-mounted transmitter
T-442	(4 to 20) mA HART® isolated head-mounted transmitter
T82-00	(4 to 20) mA dual input, isolated HART® head-mounted transmitter

See transmitter ordering information in back of section.

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Explosion-Proof, Spring-Loaded RTDs are made for use in U.S. and Canadian hazardous areas. They are designed to extinguish flames inside the device, eliminating the potential for ignition of flammable mixtures in the surrounding atmosphere. FM and CSA approved assemblies, dependant on connection head type, meet XP Class I, Division 1, Group B, C and D; DIP Class II, Division I, Groups E, F, G and Class III, Division 1. Pyromation provides sensors for installation into your existing thermowell or provides the required thermowell as part of the assembly. Refer to the Thermowell Section of this catalog for product selection. The assemblies feature 316 stainless steel sheaths. They are available with aluminum or stainless steel explosion-proof connection heads. **Note:** The "S" dimension will measure 1/4" longer than specified when the spring is in the relaxed position. The "S" dimension is calculated when the sensor is compressed or in the installed position. This design allows 1/4" spring compression to ensure positive contact with the bottom of the thermowell.



## ORDER CODES

**Example Order Number:**

1-0 2-0 2-1 2-2 3-0 4-0 5-0 5-1 5-2  
**XP - R1T185L 48 3 - 006 - FP - 8HN 93, T-** Select Type and Range from back of Section

### 1-0 Agency Approval

CODE	DESCRIPTION
XP	FM/CSA explosion-proof-approved assembly

### 2-0 100 Ω Platinum RTD Elements $\alpha = 0.00385 \text{ } ^\circ\text{C}^{-1}$

CODE		TOLERANCE <sup>[1]</sup>
LOW RANGE WIRE WOUND (-200 to 200) °C		
<b>SINGLE</b>	<b>DUPLEX</b>	
R1T185L	R1T285L	Grade B
R5T185L	R5T285L	(1/5) Class B
LOW RANGE THIN FILM (-50 to 200) °C		
RBF185L	RBF285L	Class B
RAF185L	RAF285L	Class A
HIGH RANGE WIRE WOUND (-200 to 600) °C		
R1T185H	R1T285H	Grade B
RAT185H	RAT285H	Class A

[1] Refer to RTD tolerance information in the General Information section for calculations to determine specific tolerance at temperature.

### 2-1 Sheath Diameters 316 SS

CODE	DIAMETERS (inches)
48	1/4

### 2-2 Element Connection

CODE	DESCRIPTION
2	2-wire
3	3-wire
4 <sup>[1]</sup>	4-wire

[1] Not available in duplex or with 440 Series Transmitter

### 5-1 Head Terminations

CODE	DESCRIPTION
74	DIN form B aluminum explosion-proof head, Group A
75T-642D	(4 to 20) mA HART® Field Transmitter with aluminum explosion-proof housing, Group B
76T82-D10	(4 to 20) mA dual input HART® Field Transmitter with digital display and explosion-proof housing, Group A
93	Aluminum explosion-proof head, Group B
94	316L stainless steel explosion-proof head, Group A

### 5-2 Options

SB	1/2" NPT conduit reducer bushing
I	Stainless steel tag
T-440	(4 to 20) mA head-mounted transmitter
T-441	(4 to 20) mA isolated head-mounted transmitter
T-442	(4 to 20) mA HART® isolated head-mounted transmitter
T82-00	(4 to 20) mA dual input, isolated HART® head-mounted transmitter

See transmitter ordering information in back of section.

### 5-0 Head Mounting Fittings

CODE	DESCRIPTION
<b>316 STAINLESS STEEL FITTINGS</b>	
8HN	1/2" NPT flame-path fitting (1-1/2" "E" length)
8PU4 <sup>[1]</sup>	1/2" NPT union/nipple with flame-path fitting (specify "E" length in inches, maximum allowable 9")

[1] For longer lengths replace "4" with length in inches.

### 4-0 Element Options

FP	Spring-loaded element with flame path
----	---------------------------------------

### 3-0 "S" Dimensions

Insert three digit sheath length ("S" Dimension) in inches

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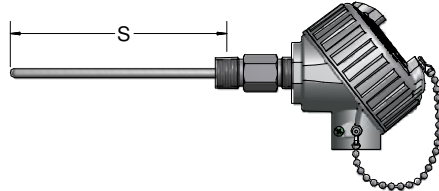


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# EXPLOSION-PROOF

## Configuration Code XP06 Hazardous Location Explosion-Proof-Approved , Spring-Loaded Thermocouple Assemblies - Model 70-81

Explosion-Proof, Spring-Loaded Thermocouples are made for use in U.S. and Canadian hazardous areas. They are designed to extinguish flames inside the device, eliminating the potential for ignition of flammable mixtures in the surrounding atmosphere. FM and CSA approved assemblies, dependant on connection head type, meet XP Class I, Division 1, Group B, C and D; DIP Class II, Division I, Groups E, F, G and Class III, Division 1. Pyromation provides sensors for installation into your existing thermowell or provides the required thermowell as part of the assembly. Refer to the Thermowell Section of this catalog for product selection. The assemblies feature 316 stainless steel sheaths and ungrounded isolated junctions. They are available with aluminum or stainless steel explosion-proof connection heads. **Note:** The "S" dimension will measure 1/4" longer than specified when the spring is in the relaxed position. The "S" dimension is calculated when the sensor is compressed or in the installed position. This design allows 1/4" spring compression to ensure positive contact with the bottom of the thermowell.



### ORDER CODES

**Example Order Number:**

1-0 2-1 2-2 2-3 3-0 4-0 5-0 5-1 5-2  
**XP - J 48 U - 012 - FP - 8HN 94, T-** Select Type and Range from back of Section

#### 1-0 Agency Approval

CODE	DESCRIPTION
XP	FM/CSA explosion-proof-approved assembly

#### 2-1 Thermocouple Types

CODE	CODE
SINGLE	DUPLEX
E	EE
J	JJ
K	KK
T	TT

#### 2-2 Sheath Diameters 316 SS

CODE	DIAMETER (inches)
48	1/4

#### 2-3 Measuring Junction

CODE	DESCRIPTION
U	Ungrounded

#### 3-0 "S" Dimensions

Insert three digit sheath length ("S" Dimension) in inches

#### 5-1 Head Terminations

CODE	DESCRIPTION
74	DIN form B aluminum explosion-proof head, Group A
75T-642D	(4 to 20) mA HART® Field Transmitter with aluminum explosion-proof housing, Group B
76T82-D10	(4 to 20) mA dual input HART® Field Transmitter with digital display and explosion-proof housing, Group A
93	Aluminum explosion-proof head, Group B
94	316L stainless steel explosion-proof head, Group A

#### 5-2 Options

SB	1/2" NPT conduit reducer bushing
I	Stainless steel tag
T-441	(4 to 20) mA isolated head-mounted transmitter
T-442	(4 to 20) mA HART® isolated head-mounted transmitter
T82-00	(4 to 20) mA dual input, isolated HART® head-mounted transmitter
See transmitter ordering information in back of section.	

#### 5-0 Head Mounting Fittings

CODE	DESCRIPTION
<b>316 STAINLESS STEEL FITTINGS</b>	
8HN	1/2" NPT flame-path fitting (1-1/2" "E" length)
8PU4 <sup>(1)</sup>	1/2" NPT union/nipple with flame-path fitting (specify "E" length in inches, maximum allowable 9")
[1] For longer lengths replace "4" with length in inches.	

#### 4-0 Element Options

FP	Spring-loaded element with flame path
----	---------------------------------------

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### ORDER CODES

**Example Order Number:** <sup>1-0</sup> **75T-642B** - <sup>1-1</sup> **D** - <sup>1-2</sup> **3** <sup>1-3</sup> **85** <sup>1-4</sup> **U** - <sup>1-5</sup> **S(0-200)** <sup>1-6</sup> **C**

#### 1-0 Transmitter Type

CODE	DESCRIPTION
440 <sup>[1]</sup>	(4 to 20) mA programmable head-mounted RTD transmitter
441	(4 to 20) mA programmable head-mounted universal transmitter
442	(4 to 20) mA HART® programmable head-mounted universal transmitter
75T-642B	(4 to 20) mA HART® Field Transmitter with explosion-proof aluminum housing FM/CSA Class I, Div I, Groups A,B,C,D; Class II, Groups E,F,G: Class III
75T-642D	(4 to 20) mA HART® Field Transmitter with explosion-proof aluminum housing FM/CSA Class I, Div I, Groups B,C,D; Class II, Groups E,F,G: Class III
76T82-D10 <sup>[1]</sup>	(4 to 20) mA HART® Transmitter with digital display and explosion-proof aluminum housing FM/CSA, NI, IS, XP, DIP Class I/Div I and Div II, Groups A,B,C, and D
T82-00 <sup>[2]</sup>	(4 to 20) mA dual input, isolated HART® head-mounted transmitter
[1] Only available with 2- or 3-wire input connection and Pt100 sensor type	
[2] See transmitter section for ordering information	

#### 1-1 Options (For 642 Series only)

CODE	DESCRIPTION
T	Solid cover
D	Glass cover with digital display
Leave blank if using 440, 441, or 442	

#### 1-2 Input Type

CODE	DESCRIPTION
00 <sup>[1]</sup>	Unconfigured
1	Thermocouple (TC)
2	RTD (2-wire)
3	RTD (3-wire)
4	RTD (4-wire)
[1] Default setting supplied as 3-wire Pt100 (0-100) °C	

#### 1-6 Unit of Measure

CODE	DESCRIPTION
C	Celsius
F	Fahrenheit

#### 1-5 Range

CODE	DESCRIPTION
S	(lower limit – upper limit)

#### 1-4 Failure Mode

CODE	DESCRIPTION
U	Upscale burnout ≥ 20.5 mA
D	Downscale burnout ≤ 3.8 mA












#### 1-3 Sensor Type

CODE	DESCRIPTION
J	Type J thermocouple
K	Type K thermocouple
T	Type T thermocouple
N	Type N thermocouple
E	Type E thermocouple
85	100 ohm platinum ( $\alpha = 0.003\ 85\ ^\circ\text{C}$ )

**For complete transmitter specifications see Transmitter Section.**

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<p><i>Complete Transmitter Specifications are located in Transmitter Section.</i></p> <p><i>Complete Connection Head Specifications are located in the Accessories Section.</i></p>				Connection Heads			
				74	75	93	94
							
				DIN form B Aluminum Explosion-Proof Head, Group A	Aluminum Explosion-Proof Field Transmitter Housing, Group A	Aluminum Explosion-Proof Head, Group B	316L Stainless Steel Explosion-Proof Head, Group A
Temperature Transmitters							
T-440		Input: Pt100 RTD Only	Programmable head-mounted transmitter, (4 to 20) mA analog output				X
T-441		Input: Thermocouple, RTD, Other	Programmable head-mounted transmitter, isolated, (4 to 20) mA analog output	X		X	
T-442		Input: Thermocouple, RTD, Other	Programmable head-mounted transmitter, isolated, HART® protocol, (4 to 20) mA analog output	X		X	
T82-00		Input: Thermocouple, RTD, Other	(4 to 20) mA dual input, isolated HART® head-mounted transmitter	X		X	X
T-642		Input: Thermocouple, RTD, Other	Programmable field transmitter, isolated, HART® protocol, (4 to 20) mA analog output		X		
T-642 w/ display		Input: Thermocouple, RTD, Other	Programmable field transmitter, isolated, HART® protocol, (4 to 20) mA analog output with digital display		X		
76T82-D10		Input: Thermocouple, RTD, Other	(4 to 20) mA dual input HART® Field Transmitter with digital display and explosion-proof housing, Group A	Unit includes housing and transmitter.			

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Classes	Groups	Divisions	
		1	2
<b>Class I</b>	<b>Examples</b>		
Location in which flammable gases or vapors are or may be present in the air in quantities sufficient to produce explosive or ignitable mixtures.	Group A: Acetylene Group B: Hydrogen Group C: Ethylene Group D: Propane, fuels, solvents	Locations where hazardous material exists under normal operating conditions or through breakdown or repair.	Locations where hazardous materials are expected to be confined within closed containers of closed systems but may become present through a leak or process failure.
<b>Class II</b>	<b>Examples</b>		
Locations that are hazardous because of the presence of combustible dust.	E: Metal dusts F: Carbon dust G: Combustible dust, flour, grain, wood, plastic, chemicals	Combustible dust is in the air under normal operating conditions in quantities sufficient to produce explosive or ignitable mixtures or through breakdown or repair.	Combustible dust may be in the air in sufficient quantities to produce an explosion due to abnormal operations or failure of electrical equipment.
<b>Class III</b>			
Locations that are hazardous because of the presence of easily ignitable fibers or flyings, but in which such fibers or flyings are not likely to be in suspension in the air in quantities sufficient to produce ignitable mixtures.	There are no defined groups. Examples are textiles, woodworking, paper fibers.	Easily ignitable fibers or materials producing combustible flyings are handled, manufactured, or used.	Easily ignitable fibers are stored or handled other than in the process of manufacture.

Methods of Protection			
<b>Explosionproof (XP)</b> Class I, Division 1, 2	<b>Dust-Ignitionproof (DIP)</b> Class II, Division 1, 2	<b>Intrinsically Safe (IS)</b> Class I, Division 1, 2 Class II, Division 1, 2 Class III, Division 1, 2	<b>Nonincendive (NI)</b> Class I, Division 2 Class II, Division 2 Class III, Division 1, 2
Apparatus enclosed in a case that is capable of withstanding an explosion of a specified gas or vapor that may occur within it and of preventing the ignition of a specified gas or vapor surrounding the enclosure by sparks, flashes, or explosion of the gas or vapor within, and that operates at such an external temperature that a surrounding flammable atmosphere will not be ignited thereby.	Equipment enclosed in a manner that excludes dust and does not permit arcs, sparks, or heat otherwise generated or liberated inside of the enclosure to cause ignition of exterior accumulations or atmospheric suspensions of a specified dust on or in the vicinity of the enclosure.	Equipment not capable of releasing sufficient electrical or thermal energy under normal or abnormal conditions to cause ignition of a specific flammable or combustible atmospheric mixture in its most easily ignitable concentration.	Equipment having electrical circuitry that is incapable, under normal operating conditions, of causing ignition of a specified flammable gas-air, vapor-air, or dust-air mixture due to arcing or thermal means.

This material is for reference only. Refer to *The NEC® 2005 Handbook, NFPA 70: National Electrical Code® International Electrical Code® Series* (Quincy, MA, 2005) for authoritative and complete documentation.