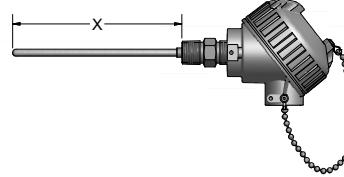
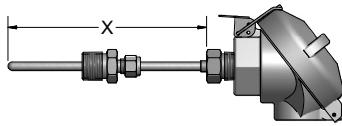


# SENSORS WITH CONNECTION HEADS

## Configuration Code GP02 Fixed-Sheath Thermocouple Assemblies with General-Purpose Connection Heads

Fixed-Sheath Thermocouple Assemblies with General-Purpose Connection Heads have head mounting fittings that are welded or brazed to the sheath for direct immersion into a process. To order an assembly with an optional 4 to 20 mA transmitter, select the assembly below and the transmitter from the back of this section. The MgO-insulated thermocouple assemblies are offered in a variety of calibrations, sheath diameters, and sheath materials.



### ORDER CODES

**Example Order Number:**

1-0 1-1 1-2 1-3      2-0      3      4-0 4-1 4-2  
**J 3 8 U - 012 - 01A - 9HP 49, T-** Select Type and Range from back of section

#### 1-0 Thermocouple Types

CODE	
SINGLE	DUPLEX
E	EE
J	JJ
K	KK
T	TT

#### 1-1 Sheath Diameters

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

#### 1-2 Sheath Materials

CODE	MATERIAL	STANDARD AVAILABLE TYPES
3	Alloy 600	K
4	310 SS	K
5	446 SS	K <sup>[1]</sup>
8	316 SS	E, J, K, T

[1] All sensors with 446SS sheaths must have an ungrounded measuring junction.

#### 1-3 Measuring Junctions

CODE	DESCRIPTION
G	Grounded junction
U	Ungrounded junction
E	Exposed junction

#### 2-0 'X' Dimension

Insert three digit "X" length in inches
Sheath lengths over 72" will be shipped in a coiled configuration unless otherwise specified.

#### 3-0 No Fitting

CODE	00			
<b>3-1 One-Time Adjustable Fittings</b>				
CODE	TYPE	NPT SIZE (inches)	PRESSURE-RATED	AVAILABLE SHEATH DIAMETERS (inches)
01A	303 SS	1/8	NO	1/8, 3/16, 1/4
05A	316 SS	1/8	YES	1/8, 3/16, 1/4
05B	316 SS	1/4	YES	1/8, 3/16, 1/4, 3/8
05C	316 SS	1/2	YES	1/8, 1/4, 3/8
15A	Brass	1/8	NO	1/8, 3/16, 1/4
15B	Brass	1/4	NO	3/16, 1/4, 3/8
15C	Brass	1/2	NO	1/4, 3/8
14	Brass/Steel	Flange	NO	1/8, 3/16, 1/4, 3/8

#### 3-2 Re-Adjustable Compression Fittings

CODE	TYPE	NPT SIZE (inches)	AVAILABLE SHEATH DIAMETERS (inches)
10A	303 SS	1/8	1/8, 3/16
10B	303 SS	1/4	1/4, 3/8
10C	303 SS	1/2	1/4, 3/8
12A	316 SS	1/8	1/8, 3/16, 1/4
12B	316 SS	1/4	1/8, 3/16, 1/4, 3/8
12C	316 SS	1/2	1/8, 1/4, 3/8
11A	Brass	1/8	1/8, 3/16, 1/4
11B	Brass	1/4	1/8, 3/16, 1/4, 3/8
11C	Brass	1/2	1/4, 3/8
19C	Spring-loaded SS well fitting	1/2	3/16, 1/4

#### 3-3 Fixed Bushings<sup>[1]</sup>

CODE	MOUNTING THREAD NPT (inches)	AVAILABLE SHEATH DIAMETERS (inches)
316 SS		
8A __ <sup>[2]</sup>	1/8	1/8, 3/16, 1/4
8B __ <sup>[2]</sup>	1/4	1/8, 3/16, 1/4, 3/8
8C __ <sup>[2]</sup>	1/2	1/8, 3/16, 1/4, 3/8
8D __ <sup>[2]</sup>	3/4	1/8, 3/16, 1/4, 3/8

[1] Requires Table 4, Option 9HP Selection

[2] When ordering fixed bushings, specify order code above plus insert length "U", as measured from hot tip to bottom of threaded bushing. EXAMPLE: order code 8A06 is 1/8" NPT, 316 SS bushing located 6" from hot tip.

#### 4-0 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

#### 4-1 Head and Sheath Terminations

CODE	DESCRIPTION
22	3" Individual Teflon® leads with terminal pins
31	Aluminum screw-cover head
34	Cast iron screw-cover head
35T-642A	(4 to 20) mA HART® Field Transmitter with aluminum general-purpose housing
49	Flip-top aluminum head
63	White polypropylene screw-cover head
91	316 L stainless steel screw-cover head

#### 4-2 Options

W <sup>[1]</sup>	Epoxy Coating
GS	Ground screw
I	Stainless tag
NB	1/2" NPT nylon conduit reducer bushing
SB	1/2" NPT conduit reducer bushing
T-441	(4 to 20) mA isolated head-mounted transmitter
T-442	(4 to 20) mA isolated Hart® head-mounted transmitter

See transmitter ordering information in back of section.

[1] Available with option 31 only.

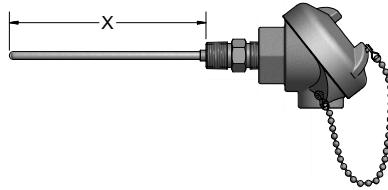
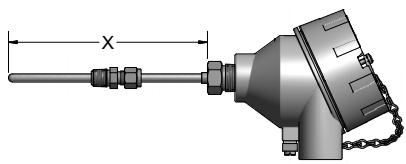
Teflon® is a registered trademark of E. I. du Pont de Nemours and Company.

Hart® is a registered trademark of Hart Scientific Foundation.

# SENSORS WITH CONNECTION HEADS

Fixed-Sheath Thermocouple Assemblies with Explosion-Proof Connection Heads are provided with head mounting fittings that are welded or brazed to the sheath for direct immersion into a process. To order an assembly with an optional 4 to 20 mA transmitter, select the assembly below and the transmitter from the back of this section. The MgO-insulated thermocouple assemblies are offered in a variety of calibrations, sheath diameters, and sheath materials.

## Configuration Code GP02 Fixed-Sheath Thermocouple Assemblies with Explosion-Proof Connection Heads



## ORDER CODES

**Example Order Number:** **J 2 8 U - 012 - 01A - 9HP 81, T-** Select Type and Range from back of section

### 1-0 Thermocouple Types

CODE	SINGLE	DUPLEX
E	EE	
J	JJ	
K	KK	
T	TT	

### 1-1 Sheath Diameters

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

### 1-2 Sheath Materials

CODE	MATERIAL	STANDARD AVAILABLE TYPES
3	Alloy 600	K
4	310 SS	K
5	446 SS	K <sup>[1]</sup>
8	316 SS	E, J, K, T

[1] All sensors with 446SS sheaths must have an ungrounded measuring junction.

### 1-3 Measuring Junctions

CODE	DESCRIPTION
G	Grounded junction
U	Ungrounded junction
E	Exposed junction

### 2-0 'X' Dimension

Insert three digit "X" length in inches

Sheath lengths over 72" will be shipped in a coiled configuration unless otherwise specified.

### 3-0 No Fitting

CODE 00

### 3-1 One-Time Adjustable Fittings

CODE	TYPE	NPT SIZE (inches)	PRESSURE-RATED	AVAILABLE SHEATH DIAMETERS (inches)
01A	303 SS	1/8	NO	1/8, 3/16, 1/4
05A	316 SS	1/8	YES	1/8, 3/16, 1/4
05B	316 SS	1/4	YES	1/8, 3/16, 1/4, 3/8
05C	316 SS	1/2	YES	1/8, 1/4, 3/8
15A	Brass	1/8	NO	1/8, 3/16, 1/4
15B	Brass	1/4	NO	3/16, 1/4, 3/8
15C	Brass	1/2	NO	1/4, 3/8
14	Brass/Steel	Flange	NO	1/8, 3/16, 1/4, 3/8

### 3-2 Re-Adjustable Compression Fittings

CODE	TYPE	NPT SIZE (inches)	AVAILABLE SHEATH DIAMETERS (inches)
10A	303 SS	1/8	1/8, 3/16
10B	303 SS	1/4	1/4, 3/8
10C	303 SS	1/2	1/4, 3/8
12A	316 SS	1/8	1/8, 3/16, 1/4
12B	316 SS	1/4	1/8, 3/16, 1/4, 3/8
12C	316 SS	1/2	1/8, 1/4, 3/8
11A	Brass	1/8	1/8, 3/16, 1/4
11B	Brass	1/4	1/8, 3/16, 1/4, 3/8
11C	Brass	1/2	1/4, 3/8
19C	Spring-loaded SS well fitting	1/2	3/16, 1/4

Teflon® gland standard 204 °C [400 °F] max.

### 3-3 Fixed Bushings<sup>[1]</sup>

CODE	MOUNTING THREAD NPT (inches)	AVAILABLE SHEATH DIAMETERS (inches)
316 SS		
8A <sup>[1]</sup>	1/8	1/8, 3/16, 1/4
8B <sup>[1]</sup>	1/4	1/8, 3/16, 1/4, 3/8
8C <sup>[1]</sup>	1/2	1/8, 3/16, 1/4, 3/8
8D <sup>[1]</sup>	3/4	1/8, 3/16, 1/4, 3/8

[1] Requires Table 4, Option 9HP Selection

[2] When ordering fixed bushings, specify order code above plus insert length "U", as measured from hot tip to bottom of threaded bushing. EXAMPLE: order code 8A06 is 1/8" NPT, 316 SS bushing located 6" from hot tip.

### 4-0 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

### 4-1 Head Terminations

CODE	DESCRIPTION
71	Cast iron/aluminum explosion-proof head, Group C
72	DIN form B aluminum explosion-proof head, Group B
74	DIN form B aluminum explosion-proof head, Group A
81	316L stainless steel explosion-proof head, Group C
82	DIN form B 316 stainless steel explosion-proof head, Group B

### 4-2 Options

SB	1/2" NPT conduit reducer bushing
I	Stainless tag
T-441 <sup>[1]</sup>	(4 to 20) mA isolated head-mounted transmitter
T-442 <sup>[1]</sup>	(4 to 20) mA isolated Hart® head-mounted transmitter

See transmitter ordering information in back of section.

[1] Not available with 71 or 81

Teflon® is a registered trademark of E. I. du Pont de Nemours and Company.

Hart® is a registered trademark of Hart Scientific Foundation.