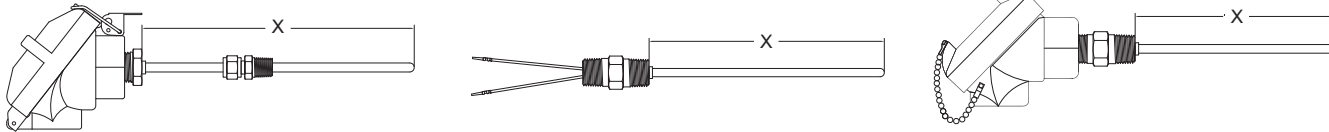


# Sensors with Connection Heads

## 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 4-20 mA transmitter, select the assembly below and the transmitter from the back of this section. The MgO insulated thermocouples assemblies are offered in a variety of calibrations, sheath diameters, and sheath materials.



### ORDER CODES

**Example Order Number:** **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	Inconel 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 or Bend Options

CODE	DESCRIPTION
00	No fitting or bend options

#### 3-1 One-Time Adjustable Compression 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

#### 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

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] When ordering fixed bushings, specify order code above plus inserting 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
53	Grey Delrin® screw cover head
62	White DIN form B polypropylene head
63	White polypropylene head
91	316 L stainless steel screw cover head
92	DIN form B 316 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 <sup>[2]</sup>	(4 to 20) mA Isolated head mounted transmitter
T-442 <sup>[2]</sup>	(4 to 20) mA Isolated Hart® head mounted transmitter

See transmitter ordering information in back of section.

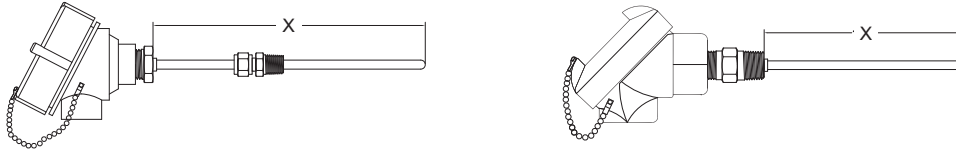
[1] Available with option 31 only.

[2] Available with option 31, 49, 62, 92 only.

# Sensors with Connection Heads

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

Fixed Sheath Thermocouple Assemblies with Explosion Proof Connection Heads are provided with head mounting fitting that are welded or brazed to the sheath for direct immersion into a process. To order an assembly with an optional 4-20 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:** **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	Inconel 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 or Bend Options

CODE	DESCRIPTION
00	No fitting or bend options

### 3-1 One-Time Adjustable Compression 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

### 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

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] When ordering fixed bushings, specify order code above plus inserting length "X", 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

CODE	DESCRIPTION
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