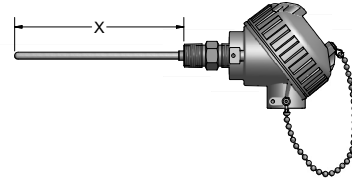
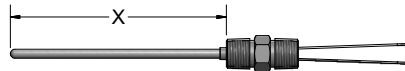
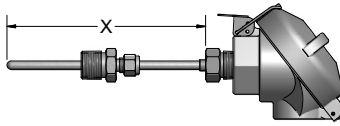


SENSORS WITH CONNECTION HEADS

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 | Select Type and Range from back of section |
| J | 3 | 8 | U | - 012 - | 01A - | 9HP | 49, | T- | |

1-0 Thermocouple Types

| CODE | SINGLE | DUPLEX | TRIPLEX |
|------|--------|--------|---------|
| E | EE | - | - |
| J | JJ | JJJ | - |
| K | KK | KKK | - |
| 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 ^[1] |
| 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 | DESCRIPTION |
|------|-------------|
| 00 | No fitting |

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, 3/16, 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, 3/16, 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 |

FEP gland standard 204 °C [400 °F] max.

3-3 Fixed Bushings^[1]

| CODE | MOUNTING THREAD NPT (inches) | AVAILABLE SHEATH DIAMETERS (inches) |
|----------------------|------------------------------|-------------------------------------|
| 316 SS | | |
| 8A __ ^[2] | 1/8 | 1/8, 3/16, 1/4 |
| 8B __ ^[2] | 1/4 | 1/8, 3/16, 1/4, 3/8 |
| 8C __ ^[2] | 1/2 | 1/8, 3/16, 1/4, 3/8 |
| 8D __ ^[2] | 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) |
| 8RND | 3/4" x 1/2" NPT stainless steel hex nipple |

4-1 Head and Sheath Terminations

| CODE | DESCRIPTION |
|-----------|--|
| 22 | 3" Individual fluoropolymer 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 |
| 36T82-D10 | (4 to 20) mA dual input HART® transmitter with digital display and general-purpose aluminum housing with glass lid |
| 37T-662A | (4 to 20) mA HART® dual cavity field temperature transmitter with general-purpose aluminum housing |
| 49 | Flip-top aluminum head |
| 63 | White polypropylene screw-cover head |
| 91 | 316 L stainless steel screw-cover head |

4-2 Options

| | |
|------------------|--|
| W ^[1] | 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 |
| T82-00 | (4 to 20) mA dual input HART® head-mounted transmitter |

See transmitter ordering information in back of section.

[1] Available with option 31 only.

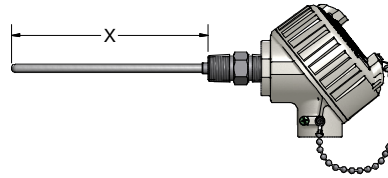
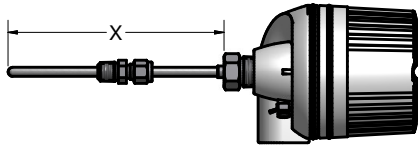
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SENSORS WITH CONNECTION HEADS

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 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: **J 2 8 U** - **012** - **01A** - **9HP 74, T** - Select Type and Range from back of section

1-0 Thermocouple Type

| CODE | | |
|--------|--------|---------|
| SINGLE | DUPLEX | TRIPLEX |
| E | EE | - |
| J | JJ | JJJ |
| K | KK | KKK |
| 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 ^[1] |
| 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 | DESCRIPTION |
|------|-------------|
| 00 | No fitting |

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 |

FEP gland standard 204 °C [400 °F] max.

3-3 Fixed Bushings^[1]

| CODE | MOUNTING THREAD NPT (inches) | AVAILABLE SHEATH DIAMETERS (inches) |
|----------------------|------------------------------|-------------------------------------|
| 8A __ ^[1] | 1/8 | 1/8, 3/16, 1/4 |
| 8B __ ^[1] | 1/4 | 1/8, 3/16, 1/4, 3/8 |
| 8C __ ^[1] | 1/2 | 1/8, 3/16, 1/4, 3/8 |
| 8D __ ^[1] | 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 |
|-----------|--|
| 74 | Dual conduit DIN form B aluminum explosion-proof/flame-proof head, NEC, IEC, Atex approved |
| 75T-642C | (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 aluminum housing, Group A |
| 77T-662C | (4 to 20) mA HART® Field Transmitter with dual cavity explosion-proof aluminum housing, Group A |
| 93 | Aluminum explosion-proof/flame-proof head, NEC, IEC, Atex approved |
| 94 | 316L stainless steel explosion-proof/flame-proof head, NEC, IEC, Atex approved |

4-2 Options

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