

SQC - Sanitary Quick Connect Temperature Sensors

A family of Quick Disconnect Sanitary Temperature Sensors for high accuracy applications in Biotech, Pharma, Medical Device and Food and Beverage Industry.

What will your Sanitary Temperature Solution BE?

Burns Sanitary RTD and thermocouple designs offer flexibility for various installations, standard and precision accuracy, and decades of experience across the sanitary industries.

All Burns Sanitary products are designed with the criteria relevant to the industry in mind; ASME-BPE, 3-A; 74, SIP, CIP, and electro-polished cleanability.

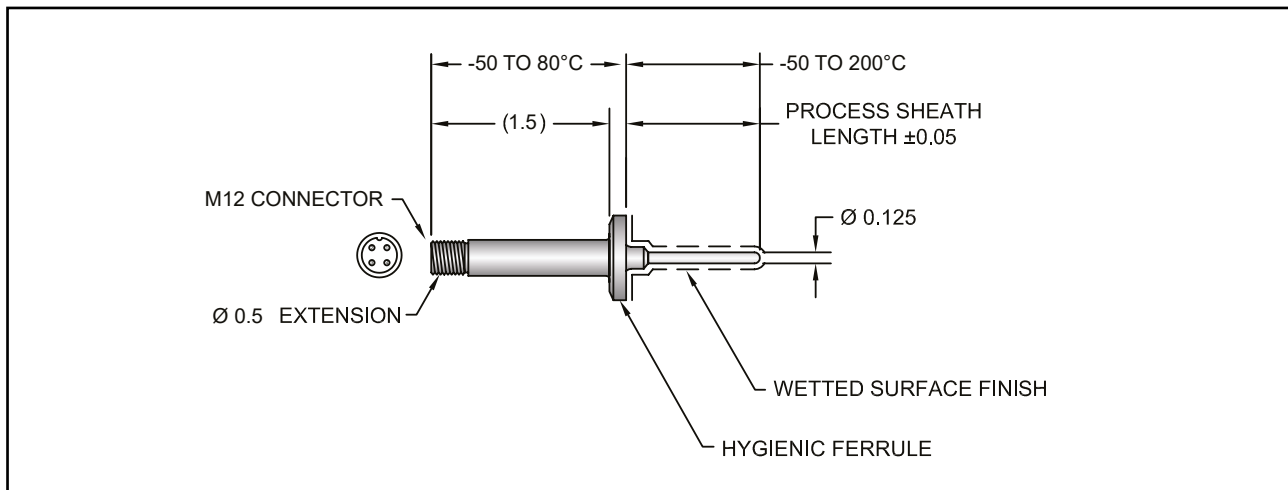
Series S - Sanitary RTD and Sanitary Thermocouple are highly accurate and reliable temperature sensors. Perfect for applications in pharmaceutical, biotech, and food and beverage markets.

Sanitary sensors, various styles, with M12 connectors for easy and confident signal connections. Compact size support space saving integration in an application/installation.

Talk to us and start measuring with confidence.



S01 with Quick Connect Sanitary Direct Immersion Ordering Information



All dimensions in inches

| | | |
|---|--|------------|
| Sensor Type | | |
| S01- | Ø 0.125 Direct Immersion (Note 1) | |
| RTD Accuracy | | |
| 10 | Standard +/-0.10% of Resistance at 0 Degrees C | |
| Sensor Element Lead Construction | | |
| A | Three Wire Single | |
| B | Four Wire Single | |
| Process Sheath Length (Min. Length = 1.0, Max. Length = 8.5) | | |
| 0110 | 1.1 Inches | |
| 0250 | 2.5 Inches | |
| 0300 | 3.0 Inches | |
| 0350 | 3.5 Inches | |
| **** | Specify Process Sheath in Length | |
| Connection | | |
| -M12 | M12 Connector (Note 2) | |
| Process Type | | |
| P | Hygienic Ferrule (Tri-Clamp Style) | |
| Process Connection Size (Used with Tube Sizes) | | |
| 05 | 1/2" | 1/2", 3/4" |
| 12 | 1 1/2" | 1", 1 1/2" |
| 20 | 2" | 2" |
| 25 | 2 1/2" | 2 1/2" |
| 30 | 3" | 3" |
| 40 | 4" | 4" |
| Wetted Surface Material | | |
| 03 | 316 Stainless Steel | |
| 06 | 316L Stainless Steel | |
| Wetted Surface Finish | | |
| M32 | 32 Ra Mechanical Finish, Max. | |
| M25 | 25 Ra Mechanical Finish, Max. | |
| M20 | 20 Ra Mechanical Finish, Max. | |
| M15 | 15 Ra Mechanical Finish, Max. | |
| E32 | 32 Ra Mechanical Finish, Max, with Electropolish | |
| E25 | 25 Ra Mechanical Finish, Max, with Electropolish | |
| E20 | 20 Ra Mechanical Finish, Max, with Electropolish | |
| E15 | 15 Ra Mechanical Finish, Max, with Electropolish | |
| E10 | 10 Ra Mechanical Finish, Max, with Electropolish | |

| | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|
| S01- | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|

Basic Order Codes

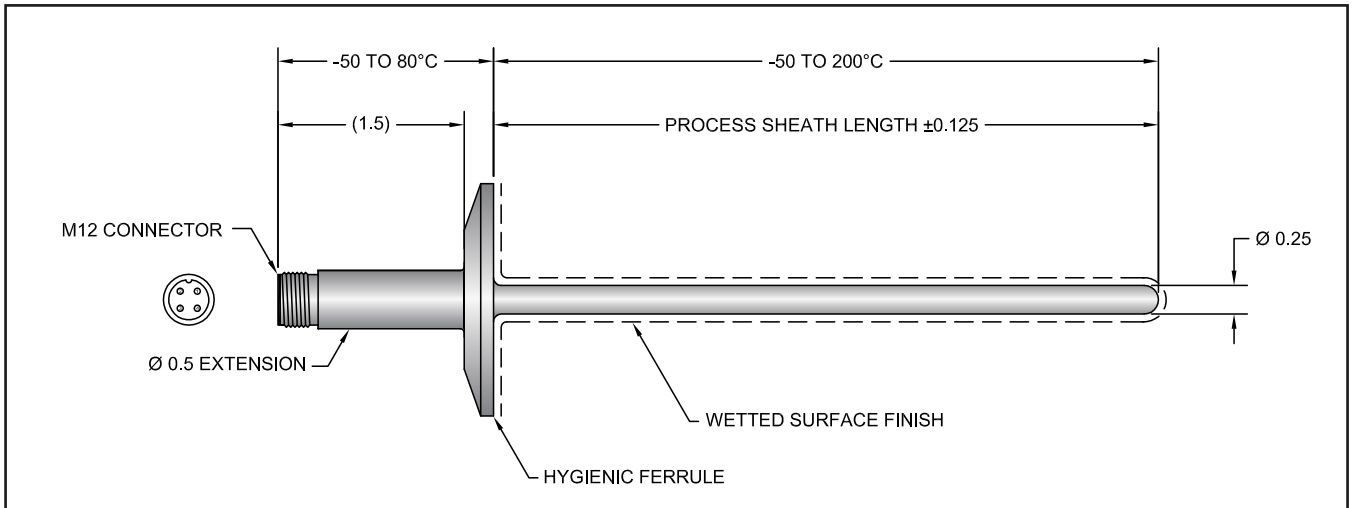
Example Part # S01-10A0110-M12T1506M32

Note 1: See Burns "Series S" catalog for additional product details.

Note 2: Currently available with 3-wire and 4-wire only. For mating cordsets see models C01, C02, and C03



S03 with Quick Connect Sanitary Direct Immersion Ordering Information



All dimensions in inches

| | | |
|--|--|------------|
| Sensor Type | | |
| S03- | Ø 0.25 Direct Immersion (Note 1) | |
| RTD Accuracy | | |
| 10 | Standard +/-0.10% of Resistance at 0 Degrees C | |
| 05 | Precision +/-0.05% of Resistance at 0 Degrees C | |
| Sensor Element Lead Construction | | |
| A | Three Wire Single | |
| B | Four Wire Single | |
| Process Sheath Length (Min. Length = 3.5, Max. Length = 40.0) | | |
| 0350 | 3.5 Inches | |
| 0500 | 5.0 Inches | |
| 1200 | 12.0 Inches | |
| 2400 | 24.0 Inches | |
| **** | Specify Process Sheath in Length | |
| Connection | | |
| -M12 | M12 Connector (Note 2) | |
| Process Type | | |
| T | Hygienic Ferrule (Tri-Clamp Style) | |
| Process Connection Size (Used with Tube Sizes) | | |
| 05 | 1/2" | 1/2", 3/4" |
| 12 | 1 1/2" | 1", 1 1/2" |
| 20 | 2" | 2" |
| 25 | 2 1/2" | 2 1/2" |
| 30 | 3" | 3" |
| 40 | 4" | 4" |
| Wetted Surface Material | | |
| 03 | 316 Stainless Steel | |
| 06 | 316L Stainless Steel | |
| Wetted Surface Finish | | |
| M32 | 32 Ra Mechanical Finish, Max. | |
| M25 | 25 Ra Mechanical Finish, Max. | |
| M20 | 20 Ra Mechanical Finish, Max. | |
| M15 | 15 Ra Mechanical Finish, Max. | |
| E32 | 32 Ra Mechanical Finish, Max, with Electropolish | |
| E25 | 25 Ra Mechanical Finish, Max, with Electropolish | |
| E20 | 20 Ra Mechanical Finish, Max, with Electropolish | |
| E15 | 15 Ra Mechanical Finish, Max, with Electropolish | |
| E10 | 10 Ra Mechanical Finish, Max, with Electropolish | |

| | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|
| S03- | | | | | | | | | |
|------|--|--|--|--|--|--|--|--|--|

Basic Order Codes



Example Part # S03-05A1200-M12T1506M32

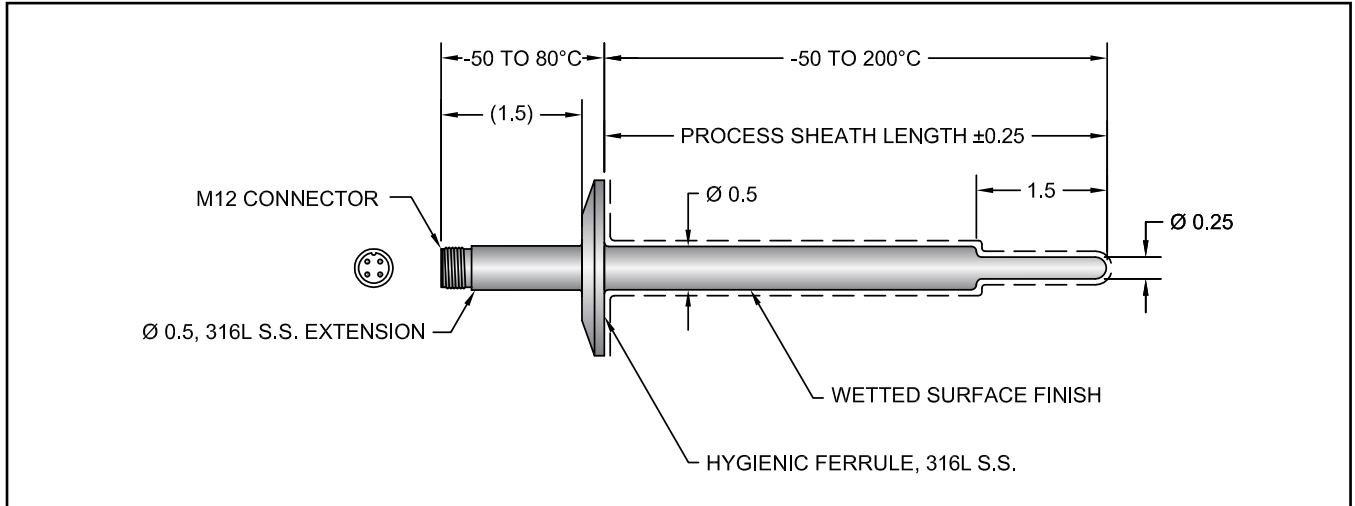
Note 1: See Burns "Series S" catalog for additional product details.

Note 2: Currently available with 3-wire and 4-wire only. For mating cordsets see models C01, C02, and C03

S40 with Quick Connect

Sanitary Heavy Duty Direct Immersion

Ordering Information



All dimensions in inches

Sensor Type

S40- Heavy Duty Direct Immersion (Note 1)

RTD Accuracy

| | |
|----|---|
| 10 | Standard +/-0.10% of Resistance at 0 Degrees C |
| 05 | Precision +/-0.05% of Resistance at 0 Degrees C |

Sensor Element Lead Construction

| | |
|---|-------------------|
| A | Three Wire Single |
| B | Four Wire Single |

Process Sheath Length (Min. Length = 4.0, Max. Length = 48.0)

| | |
|------|----------------------------------|
| 0350 | 3.5 Inches |
| 0500 | 5.0 Inches |
| 1200 | 12.0 Inches |
| 2400 | 24.0 Inches |
| **** | Specify Process Sheath in Length |

Connection

-M12 M12 Connector (Note 2)

P Process Type

T Hygienic Ferrule (Tri-Clamp Style)

Process Connection Size (Used with Tube Sizes)

| | | |
|----|--------|------------|
| 05 | 1/2" | 1/2", 3/4" |
| 15 | 1 1/2" | 1", 1 1/2" |
| 20 | 2" | 2" |
| 25 | 2 1/2" | 2 1/2" |
| 30 | 3" | 3" |
| 40 | 4" | 4" |

Wetted Surface Material

| | |
|----|----------------------|
| 03 | 316 Stainless Steel |
| 06 | 316L Stainless Steel |

Wetted Surface Finish

| | |
|-----|--|
| M32 | 32 Ra Mechanical Finish, Max. |
| M25 | 25 Ra Mechanical Finish, Max. |
| M20 | 20 Ra Mechanical Finish, Max. |
| M15 | 15 Ra Mechanical Finish, Max. |
| E32 | 32 Ra Mechanical Finish, Max, with Electropolish |
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| E20 | 20 Ra Mechanical Finish, Max, with Electropolish |
| E15 | 15 Ra Mechanical Finish, Max, with Electropolish |
| E10 | 10 Ra Mechanical Finish, Max, with Electropolish |

S40- [] [] [] [] [] [] [] [] []
Basic Order Codes

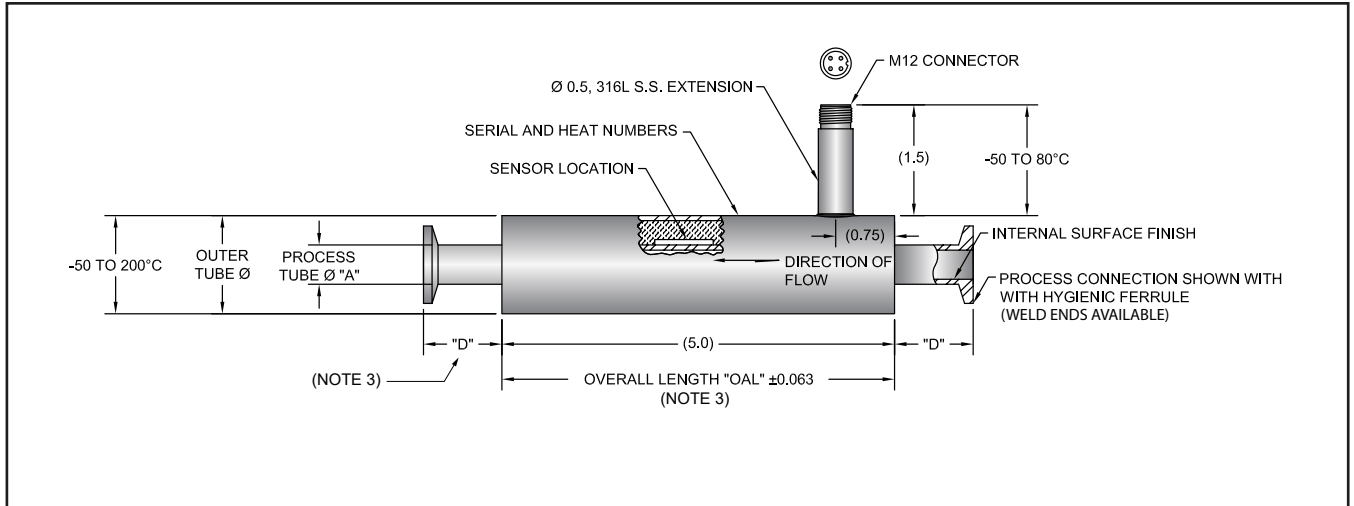
Example Part # S40-05A1200-M12T1506M32



Note 1: See Burns "Series S" catalog for additional product details.

Note 2: Currently available with 3-wire and 4-wire only. For mating cordsets see models C01, C02, and C03

SNI with Quick Connect Sanitary Non-Intrusive Ordering Information



All dimensions in inches

| Sensor Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-----------------------------|---|------------------------------|---|------------------------------|------|--------|------------|-------|-------|------|--------|--------|-------|-------|------|--------|--------|------|-------|------|--------|--------|------|-------|------|--------|--------|------|-------|------|--------|--------|------|-------|------|--------|--------|------|-------|------|--------|--------|------|-------|------|--------|--------|------|-------|------|--------|--------|------|-------|
| SNI | Sanitary Non-Intrusive (Note 1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RTD Accuracy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Standard +/-0.10% of Resistance at 0 Degrees C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 05 | Precision +/-0.05% of Resistance at 0 Degrees C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sensor Element Lead Construction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | Three Wire Single | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | Four Wire Single | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Connection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -M12 | M12 Connector (Note 2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Process Tube Ø "A"</th> <th>Wall Thickness</th> <th>Outer Tube Ø</th> <th>Process Connection Length "D" for Weld Ends</th> <th>Overall Length for Weld Ends</th> </tr> </thead> <tbody> <tr><td>0250</td><td>0.250"</td><td>0.032"</td><td>1.25"</td><td>8.50"</td></tr> <tr><td>0500</td><td>0.500"</td><td>0.065"</td><td>1.25"</td><td>8.50"</td></tr> <tr><td>0750</td><td>0.750"</td><td>0.065"</td><td>2.0"</td><td>8.50"</td></tr> <tr><td>1000</td><td>1.000"</td><td>0.065"</td><td>3.0"</td><td>8.50"</td></tr> <tr><td>1250</td><td>1.250"</td><td>0.065"</td><td>3.0"</td><td>8.50"</td></tr> <tr><td>1500</td><td>1.500"</td><td>0.065"</td><td>3.0"</td><td>8.50"</td></tr> <tr><td>2000</td><td>2.000"</td><td>0.065"</td><td>4.0"</td><td>8.50"</td></tr> <tr><td>2500</td><td>2.500"</td><td>0.065"</td><td>4.0"</td><td>8.50"</td></tr> <tr><td>3000</td><td>3.000"</td><td>0.065"</td><td>6.0"</td><td>9.00"</td></tr> <tr><td>4000</td><td>4.000"</td><td>0.085"</td><td>6.0"</td><td>9.25"</td></tr> </tbody> </table> | Process Tube Ø "A" | Wall Thickness | Outer Tube Ø | Process Connection Length "D" for Weld Ends | Overall Length for Weld Ends | 0250 | 0.250" | 0.032" | 1.25" | 8.50" | 0500 | 0.500" | 0.065" | 1.25" | 8.50" | 0750 | 0.750" | 0.065" | 2.0" | 8.50" | 1000 | 1.000" | 0.065" | 3.0" | 8.50" | 1250 | 1.250" | 0.065" | 3.0" | 8.50" | 1500 | 1.500" | 0.065" | 3.0" | 8.50" | 2000 | 2.000" | 0.065" | 4.0" | 8.50" | 2500 | 2.500" | 0.065" | 4.0" | 8.50" | 3000 | 3.000" | 0.065" | 6.0" | 9.00" | 4000 | 4.000" | 0.085" | 6.0" | 9.25" |
| Process Tube Ø "A" | Wall Thickness | Outer Tube Ø | Process Connection Length "D" for Weld Ends | Overall Length for Weld Ends | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0250 | 0.250" | 0.032" | 1.25" | 8.50" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0500 | 0.500" | 0.065" | 1.25" | 8.50" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0750 | 0.750" | 0.065" | 2.0" | 8.50" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1000 | 1.000" | 0.065" | 3.0" | 8.50" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1250 | 1.250" | 0.065" | 3.0" | 8.50" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1500 | 1.500" | 0.065" | 3.0" | 8.50" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2000 | 2.000" | 0.065" | 4.0" | 8.50" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2500 | 2.500" | 0.065" | 4.0" | 8.50" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3000 | 3.000" | 0.065" | 6.0" | 9.00" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4000 | 4.000" | 0.085" | 6.0" | 9.25" | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Process Tube Material | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -06 | 316L Stainless Steel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -20 | AL6XN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Internal Finish | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A | 32 Ra Mechanical Finish | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| B | 10 Ra Electropolish | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| N | Standard Pipe Finish, Mechanical, Not Available with 3A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| External Finish | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Sand Blasted | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Bright Mechanical (32 Ra Surface Finish) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Process Connection Fitting (Note 3) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C | Hygienic Ferrule | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| N | Weld Ends No Process Connection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Process Connection Size "C"</th> <th>Compatible W/ Tube Sizes</th> </tr> </thead> <tbody> <tr><td>050</td><td>1/2"</td><td>0500, 0750</td></tr> <tr><td>150</td><td>1 1/2"</td><td>1000, 1500</td></tr> <tr><td>200</td><td>2"</td><td>2000</td></tr> <tr><td>250</td><td>2 1/2"</td><td>2500</td></tr> <tr><td>300</td><td>3"</td><td>3000</td></tr> <tr><td>400</td><td>4"</td><td>4000</td></tr> </tbody> </table> | Process Connection Size "C" | Compatible W/ Tube Sizes | 050 | 1/2" | 0500, 0750 | 150 | 1 1/2" | 1000, 1500 | 200 | 2" | 2000 | 250 | 2 1/2" | 2500 | 300 | 3" | 3000 | 400 | 4" | 4000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Process Connection Size "C" | Compatible W/ Tube Sizes | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 050 | 1/2" | 0500, 0750 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | 1 1/2" | 1000, 1500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | 2" | 2000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 250 | 2 1/2" | 2500 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | 3" | 3000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 400 | 4" | 4000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Process Connection Material | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -06 | 316L S.S. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -20 | AL6XN | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Weld Ends, Leave Blank | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Example Part # SNI-05AM120500-06A2C050-06

Note 1: See Burns "Series S" catalog for additional product details.

Note 2: Currently available with 3-wire and 4-wire only. For mating cordsets see models C01, C02, and C03

Note 3: For assemblies with hygienic ferrules, the "OAL" length is 8.0 inches and the "D" length is 1.5 inches

RTDS

Operating Temperature Range:

-50°C to 200°C

Element Resistance:

100 ohms at 0°C nominal

Temperature Coefficient of Resistance (alpha):

0.00385 Ω/Ω/°C nominal

Accuracy:

Standard: 0.10% of resistance at 0°C

Precision: 0.05% of resistance at 0°C

Insulation Resistance:

100 megohms minimum at 100 VDC at 25°C

(Not applicable for grounded thermocouples)

Interchangeability:

For 100 ohm elements the tolerance values at any temperature for these specifications are given by:

Tolerance °C = ±(0.13 + 0.00185 |t|) for accuracy code 05

Tolerance °C = ±(0.26 + 0.0037 |t|) for accuracy code 10

(|t| = absolute value of temperature in °C)

Leadwire:

PTFE insulated nickel-plated stranded copper, 22 and 24 AWG typical

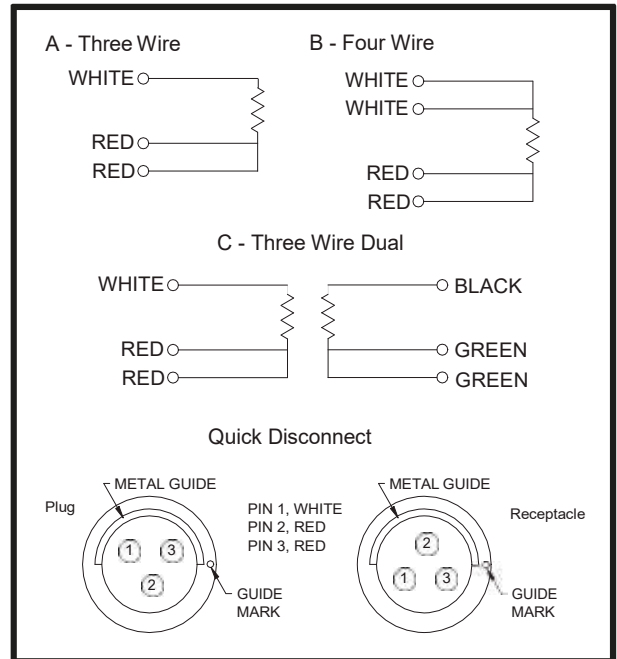
Sheath Material:

316L stainless steel typical

100% Tested:

For accuracy at 0°C and insulation resistance

Color Codes Element/Leadwire Configuration



| Temperature | | Interchangeability | | | |
|-------------|-----|--------------------|--------|---------|---------|
| °C | °F | 0.05%** | | 0.10% | |
| -50 | -58 | ±.23°C | ±.41°F | ±.45°C | ±.80°F |
| 0 | 32 | ±.13°C | ±.23°F | ±.26°C | ±.46°F |
| 100 | 212 | ±.32°C | ±.57°F | ±.64°C | ±1.15°F |
| 200 | 392 | ±.50°C | ±.90°F | ±1.00°C | ±1.80°F |

** ±0.05 accuracy is not currently available with all models. See the Ordering Information Table for each model for applicability.

Example Configuration :

Fixed Immersion Sanitary Sensor w/ Hygienic Ferrule and 1/4" Sheath

Model Code: **S03-10B0400-MT1506M32**

Sanitary Sensor = 1/4 inch Sheath Diameter, 3-A Compliant

Accuracy = RTD: 10 Standard +/-0.10% of Resistance at

0 °C Wire Configuration = B Four Wire Single

Sheath Length = [0400] 4 Inches

Connection Head = M12 M12 - Quick Connect

Hygienic Ferrule Size T15: 1.5"

Size Wetted Material = 06 316L Stainless Steel

Wetted Surface Finish = E20 20 Ra Electropolish Finish



Irish Power & Process, The Old School House, Stoneyford, Co. Kilkenny.

Tel 056 7700800/7700801, Fax 056 7700924, e: sales@irishpowerandprocess.com, w: www.irishpowerandprocess.com