



**BURNS<sup>®</sup>**  
ENGINEERING

Temperature Measurement Experts



## Quick Connect

RTDs, Cordsets and Transmitter with M12 Connections



# Temperature Measurement Experts®

Since 1960, Burns Engineering has been an industry leader in the design and manufacture of temperature sensors to meet a multitude of measurement applications. Accuracy, reliability and consistency are hallmarks of the Burns brand. At Burns, we focus on the measurement. We understand the subtleties of temperature measurement, from selection through installation, and how they impact your processes and ultimately your success. We worry about the details so you don't have to. When you select Burns you're getting more than a sensor, you're getting your own team of Temperature Measurement Experts.

## Quick Connect RTDs

Burns time tested models S01, S03, S20, S40, SNI, SNS, SFM 200A, 200G, 200L, 300A, 300G and 300L are now available with Quick Connect M12 connections for fast, reliable and trouble-free installation. Paired with our M12 transmitter and Series C cordsets they create a robust sensor system with plug and play simplicity. Incorrect wiring and questionable connections are a thing of the past with our Quick Connect designs.



If you don't see something that meets your needs, give us a call and we'll customize for your specific application.

## Get a Web Quote:

Visit [BurnsEngineering.com](http://BurnsEngineering.com) to configure your sensor today.

Here's how:

1. Register or sign-in
2. Search for any of the Quick Connect models using the search box (upper right) or click on the Product/Quote tab and select the Quick Connect model of interest.
3. Click on 'configure my part'.
4. Select the parameters to support your application
5. Click "Finish" to send to your Quote Request Cart
6. Update the quantities if necessary
7. Submit Quote Request for Confirmation – We'll be in touch shortly.

# Quick Connect Family of Temperature Products



Various Sensor Styles  
and Process Connections



Straight and 90° Molded  
Cordset Connections



TP12 Programming Kit  
for Field Adjustability



T12 Transmitter Connects  
Directly to the Sensor.



T12 Transmitter Showing  
Sensor Connection



T12 Transmitter Showing  
Cable Connection

# Specifications

## Quick Connect Configurable Models

### Series S

Series S sensors are designed to meet strict sanitary requirements and provide performance in a wide variety of applications. Most are 3-A Authorized and ASME-BPE compliant.

### Series 200

The Series 200 design consists of a proprietary element constructed with high purity platinum and minimal stress to assure accurate readings and long life expectancy. The high purity materials, durable sheath design and unique construction techniques provide excellent vibration and shock resistance to ensure accuracy in tough applications over a wide temperature range.

### Series 300

The Series 300 incorporates a high purity platinum element specifically developed to stringent Burns criteria and fully supported in a 316 stainless steel sheath to provide ultimate vibration resistance, durability, and stability in an RTD. Even under the harshest conditions the Series 300 delivers reliable performance.

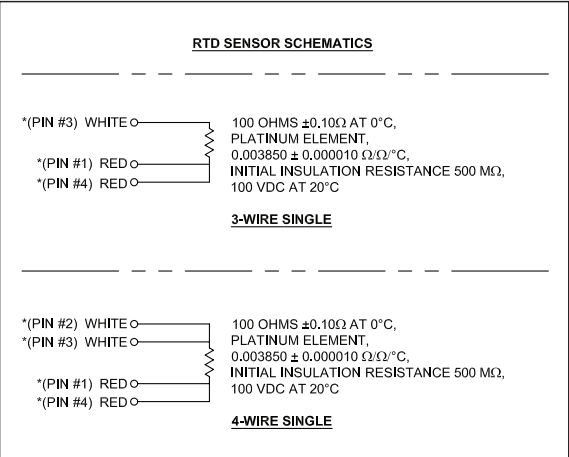
Performance Specification:	Series 200	Series 300	Series S Models
Element Resistance: at 0°C nominal	100 ohms	100 ohms	100 ohms
Temperature Coefficient: nominal	0.00385 ohms/ohm/°C	0.00385 ohms/ohm/°C	0.00385 ohms/ohm/°C
Temperature Range: (Operating range)	-200°C to 500°C	-50°C to 200°C	-50°C to 200°C
Burns Tolerance Class: (% of resistance at 0°C)	Code 10: ±.10% Code 05: ±.05%	Code 10: ±.10%	Code 10: ±.10%
Alpha Tolerance:	0.00385 ± 0.000005 ohms/ohm/°C.	0.00385 ±0.0000135 ohms/ohm/°C	0.00385 ±0.0000135 ohms/ohm/°C
Insulation Resistance:	500 megohms @ 500 VDC, 20°C	500 megohms @ 250 VDC	100 megohms @ 100 at 25°C

For additional product details, configurations, options, and performance specifications, see the full catalog:

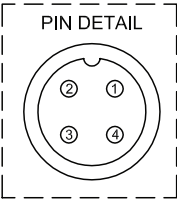
[Series 200/300 Industrial RTDs](#)

[Series S Sanitary Sensors](#)

### Wiring Diagrams:



### Quick Connect Sensor: Pin-out Diagram



Note: \* Pin numbers are for M12 Connection option only.



### Models: (Note 1)

#### Series S Sanitary RTD Sensors

- S01, 1/8" Direct Immersion, (pg 5)
- S03, 1/4" Direct Immersion, (pg 6)
- S20, Fast Response Direct Immersion, (pg 7)
- S40, Heavy Duty Direct Immersion, (pg 8)
- SNI, Sanitary Non-Intrusive, (pg 9)
- SNS, Short Style Sanitary Non-Intrusive, (pg 10)
- SFM, Sanitary Flush Mount, (pg 11)

#### Series 200/300 RTD Sensors

- 200A & 300A, Direct Immersion with Hex Fitting, (pg 12)
- 200G & 300G, Direct Immersion, (pg 13)
- 200L & 300L, Spring Loaded for use in a Thermowell, (pg 14)

### In-line RTD Transmitter: T12, (pg 15)

Quick Connect to Sensor and Cordset

Accuracy:  $\pm(0.05^{\circ}\text{C} + 0.05\% \text{ of span})$

Matching Capable to Sensor Calibration Data

PC Programmable with TP12 Programming Module

### Quick Connect Cord Sets:

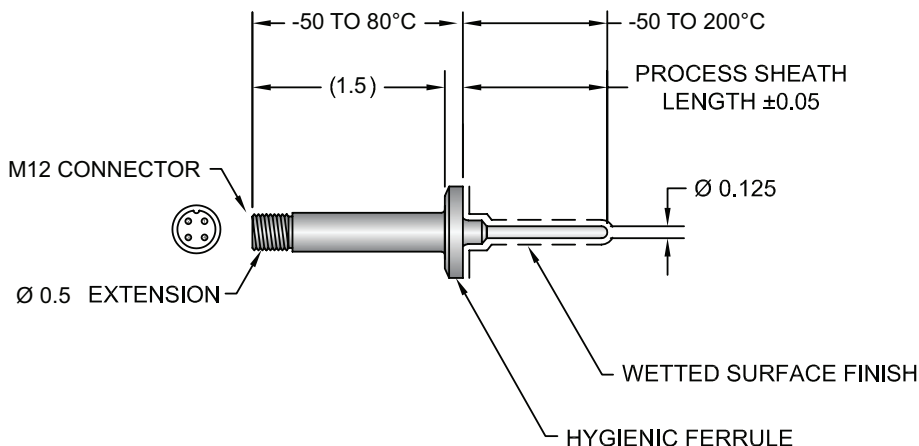
The Series C supports Quick Connect sensors with a variety of cordset configurations to meet your cabling and connector needs. Models include molded and field configurable cordsets as well as M12 male/female and angled connectors to customize your installation.

- C01, M12 Cordset, Molded, PVC Insulated in 2, 5, and 10 Meter Lengths, (pg 16)
- C02, M12 Cordset Assembly in Custom Lengths, (pg 17)
- C03, M12 Connectors (no cable) in Straight and 90° Styles, (pg 18)

Note 1: Various options are available for these models. Select options during configuration or contact Burns Customer Service for assistance.

# S01 with Quick Connect Sanitary Direct Immersion

## Ordering Information



All dimensions in inches

<b>Sensor Type</b>		
S01-	Ø 0.125 Direct Immersion (Note 1)	
<b>RTD Accuracy</b>		
10	Standard +/-0.10% of Resistance at 0 Degrees C	
<b>Sensor Element Lead Construction</b>		
A	Three Wire Single	
B	Four Wire Single	
<b>Process Sheath Length (Min. Length = 1.0, Max. Length = 8.5)</b>		
0110	1.1 Inches	
0250	2.5 Inches	
0300	3.0 Inches	
0350	3.5 Inches	
****	Specify Process Sheath in Length	
<b>Connection</b>		
-M12	M12 Connector (Note 2)	
<b>P Process Type</b>		
T	Hygienic Ferrule (Tri-Clamp Style)	
<b>Process Connection Size (Used with Tube Sizes)</b>		
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"
<b>Wetted Surface Material</b>		
03	316 Stainless Steel	
06	316L Stainless Steel	
<b>Wetted Surface Finish</b>		
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	

Basic Order Codes

Example Part # S01-10A0110-M12T1506M32

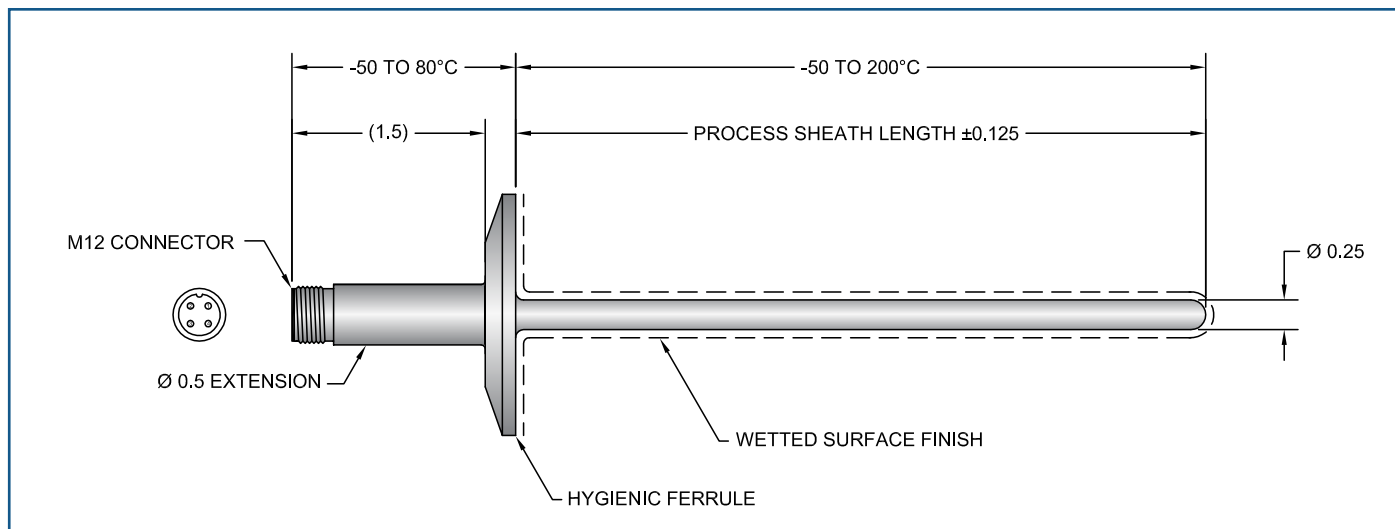
Note 1: See Burns "Series S" catalog for additional product details.

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)	
<b>RTD Accuracy</b>		
10	Standard +/-0.10% of Resistance at 0 Degrees C	
05	Precision +/-0.05% of Resistance at 0 Degrees C	
<b>Sensor Element Lead Construction</b>		
A	Three Wire Single	
B	Four Wire Single	
<b>Process Sheath Length (Min. Length = 3.5, Max. Length = 40.0)</b>		
0350	3.5 Inches	
0500	5.0 Inches	
1200	12.0 Inches	
2400	24.0 Inches	
****	Specify Process Sheath in Length	
<b>Connection</b>		
-M12	M12 Connector (Note 2)	
<b>P Process Type</b>		
T	Hygienic Ferrule (Tri-Clamp Style)	
<b>Process Connection Size (Used with Tube Sizes)</b>		
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"
<b>Wetted Surface Material</b>		
03	316 Stainless Steel	
06	316L Stainless Steel	
<b>Wetted Surface Finish</b>		
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	

Basic Order Codes

S03- [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Example Part # S03-05A1200-M12T1506M32

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

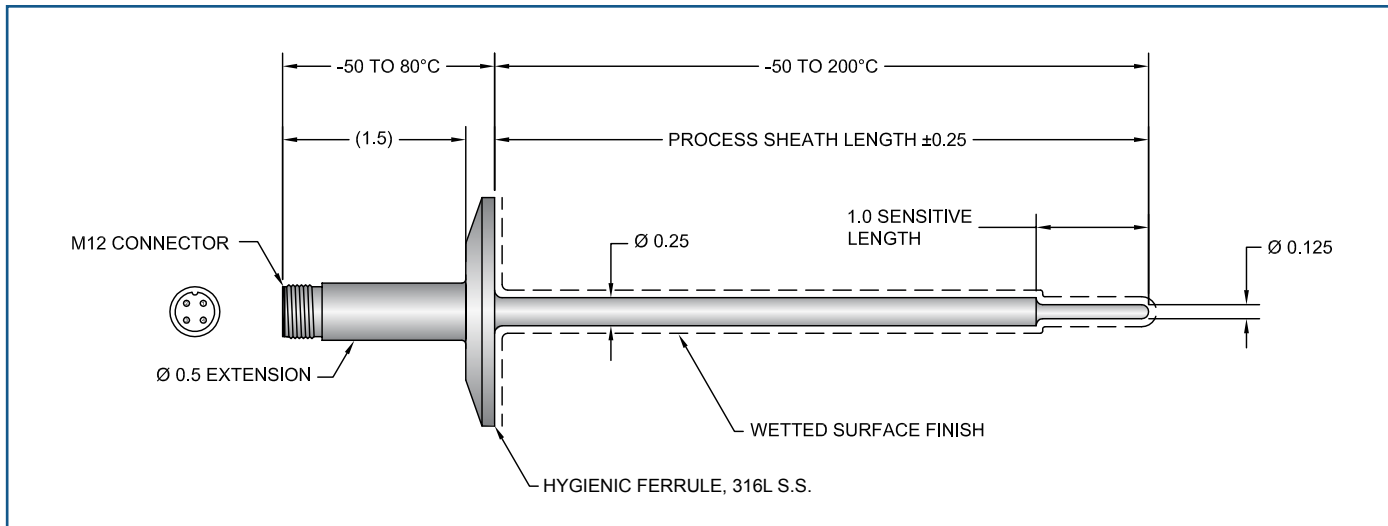
Note 2: Currently available with 3-wire and 4-wire only. For mating cordsets see models C01, C02, and C03



# S20 with Quick Connect

## Sanitary Fast Response Direct Immersion

### Ordering Information



All dimensions in inches

#### Sensor Type

S20-  $\varnothing 0.25$  Fast Response Direct Immersion (Note 1)

#### RTD Accuracy

10 Standard  $\pm 0.10\%$  of Resistance at 0 Degrees C  
05 Precision  $\pm 0.05\%$  of Resistance at 0 Degrees C

#### Sensor Element Lead Construction

A Three Wire Single  
B Four Wire Single

#### Process Sheath Length (Min. Length = 3.0, Max. Length = 24.0)

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"
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

S20- [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Basic Order Codes

Example Part # S20-05A1200-M12T1506M32



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

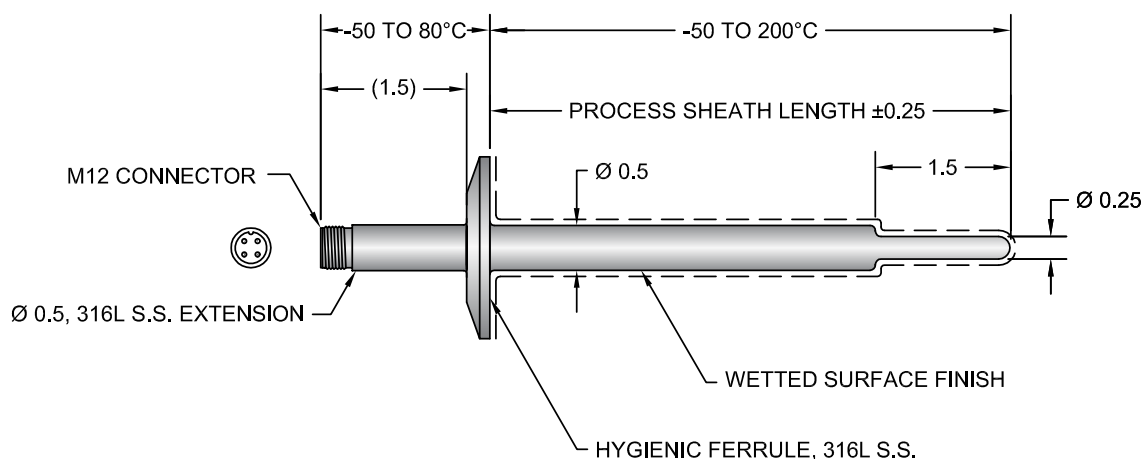
Note 2: Currently available with 3-wire and 4-wire only. For mating cordsets see models C01, C02, and C03



# 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
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

S40- Basic Order Codes

Example Part # S40-05A1200-M12T1506M32

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

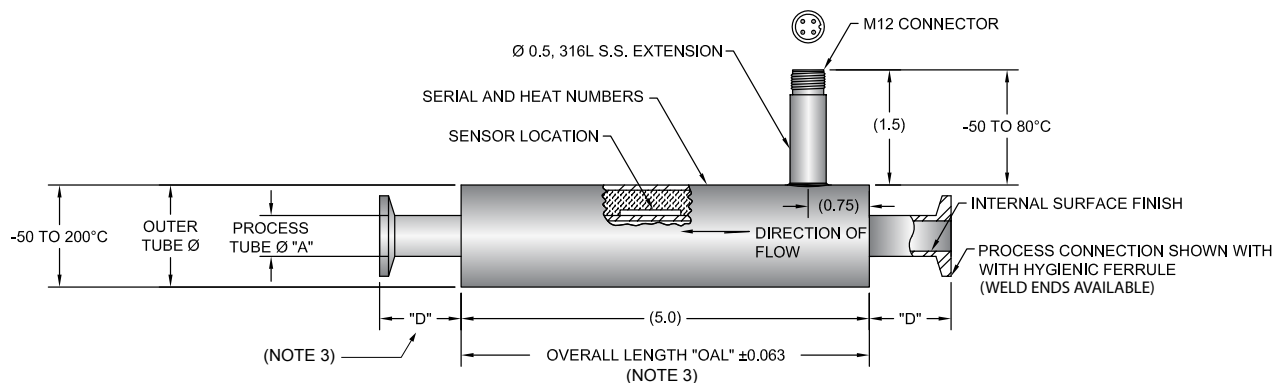
Note 2: Currently available with 3-wire and 4-wire only. For mating cordsets see models C01, C02, and C03



# 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  $\pm 0.10\%$  of Resistance at 0 Degrees C  
05 Precision  $\pm 0.05\%$  of Resistance at 0 Degrees C

#### Sensor Element Lead Construction

A Three Wire Single  
B Four Wire Single

#### Connection

-M12 M12 Connector (Note 2)

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"	1.75"
0500	0.500"	0.065"	1.25"	1.75"
0750	0.750"	0.065"	2.0"	1.75"
1000	1.000"	0.065"	3.0"	1.75"
1250	1.250"	0.065"	3.0"	1.75"
1500	1.500"	0.065"	3.0"	1.75"
2000	2.000"	0.065"	4.0"	1.75"
2500	2.500"	0.065"	4.0"	1.75"
3000	3.000"	0.065"	6.0"	2.00"
4000	4.000"	0.085"	6.0"	2.13"

#### 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

Process Connection Size "C"	Compatible W/ Tube Sizes
050	1/2"
150	1 1/2"
200	2"
250	2 1/2"
300	3"
400	4"
Weld Ends, No Process Connection, Leave Blank	

#### Process Connection Material

-06 316L S.S.  
-20 AL6XN  
Weld Ends, Leave Blank

SNI

Basic Order Codes

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

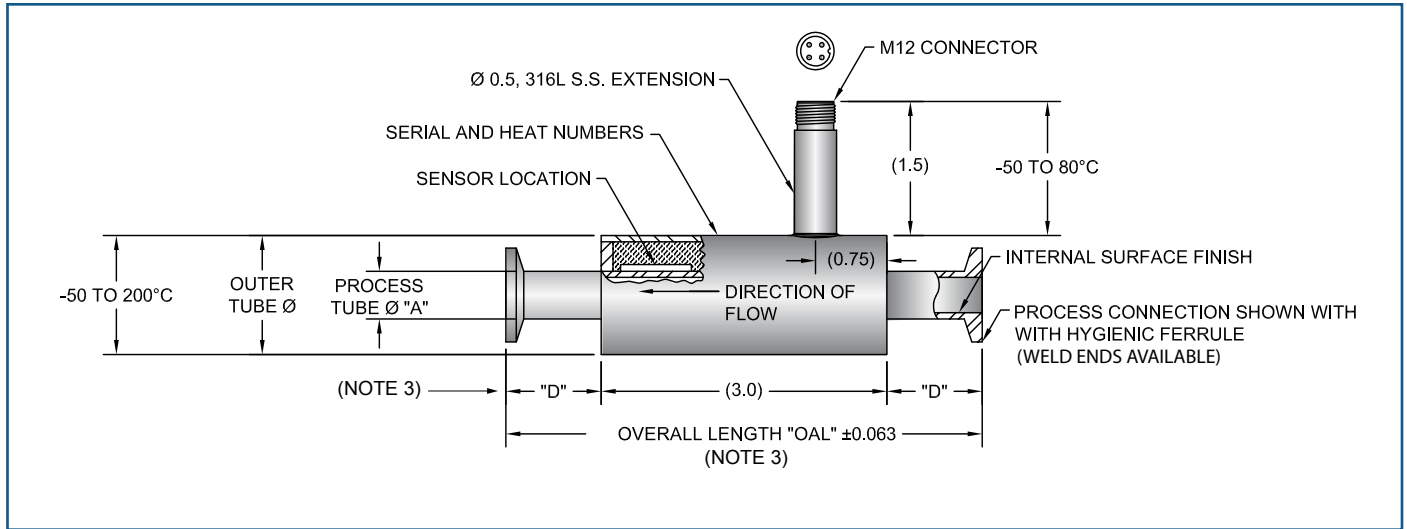
Note 3: For assemblies with hygienic ferrules, the "OAL" length is 8.0 inches and the "D" length is 1.5 inches



# SNS with Quick Connect

## Sanitary Non-Intrusive - Short

### Ordering Information



All dimensions in inches

#### Sensor Type

SNS Sanitary Non-Intrusive Short (Note 1)

#### RDT Accuracy

- 10 Standard  $\pm 0.10\%$  of Resistance at 0 Degrees C  
05 Precision  $\pm 0.05\%$  of Resistance at 0 Degrees C

#### Sensor Element Lead Construction

- A Three Wire Single  
B Four Wire Single

#### Connection

-M12 M12 Connector (Note 2)

	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"	1.75"	6.50"
0500	0.500"	0.065"	1.25"	1.75"	6.50"
0750	0.750"	0.065"	2.0"	1.75"	6.50"
1000	1.000"	0.065"	3.0"	1.75"	6.50"
1250	1.250"	0.065"	3.0"	1.75"	6.50"
1500	1.500"	0.065"	3.0"	1.75"	6.50"
2000	2.000"	0.065"	4.0"	1.75"	6.50"
2500	2.500"	0.065"	4.0"	1.75"	6.50"
3000	3.000"	0.065"	6.0"	2.00"	7.00"
4000	4.000"	0.085"	6.0"	2.13"	7.25"

#### 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

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
Weld Ends, No Process Connection, Leave Blank		

#### Process Connection Material

- 06 316L S.S.  
-20 AL6XN  
Weld Ends, Leave Blank

SNS Basic Order Codes

Example Part # SNS-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

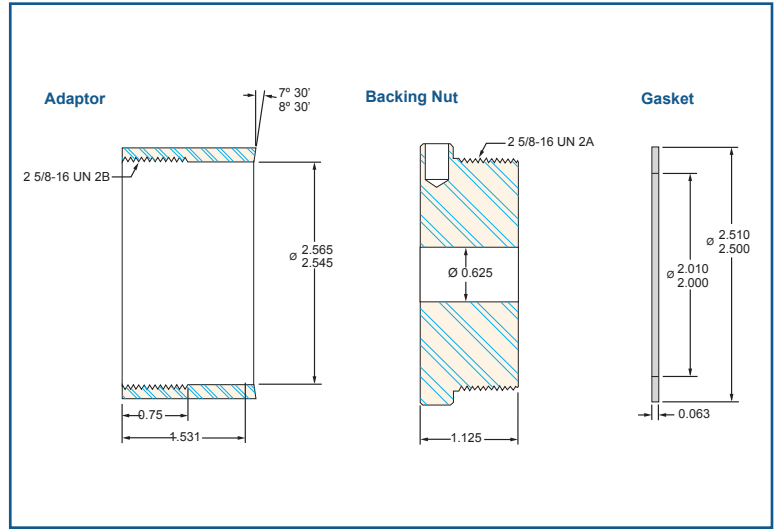
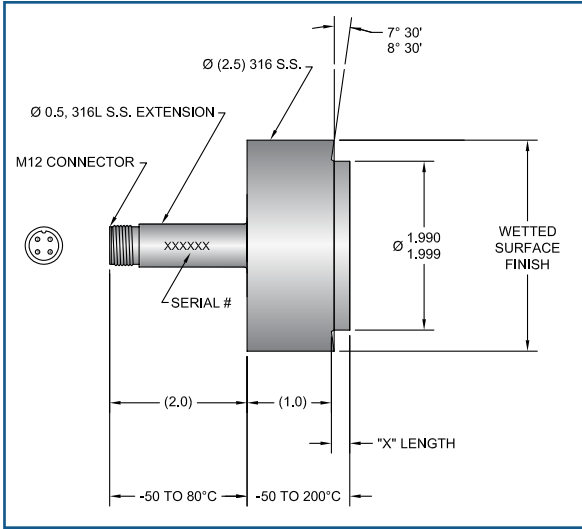
Note 3: For assemblies with hygienic ferrules, the "OAL" length is 5.0 inches and the "D" length is 1.5 inches



# SFM with Quick Connect

## Sanitary Flush Mount

### Ordering Information



All dimensions in inches

#### Sensor Type

SFM Flush Mount, Ø 2.5 (Note 1)

#### RTD Accuracy

- 10 Standard  $\pm 0.10\%$  of Resistance at 0 Degrees C  
05 Precision  $\pm 0.05\%$  of Resistance at 0 Degrees C

#### Sensor Element Lead Construction

- A Three Wire Single  
B Four Wire Single

#### "X" Length

- 0218 0.218 Inches  
0399 0.399 Inches  
0486 0.486 Inches  
\*\*\*\* Specify "X" Length in Inches

#### Connection

- M12 M12 Connection (Note 2)

#### Wetted Surface Finish

- M32 32 Ra Mechanical Finish, Max.  
M20 20 Ra Mechanical Finish, Max

#### Adaptor (All adaptor surfaces are non-wetted)

- 1 304 Stainless Steel, 2 1/2" Schedule 40 pipe, 2 5/8-16 UN 2B  
2 316L Stainless Steel, 2 1/2" Schedule 40 pipe, 2 5/8-16 UN 2B  
N None

#### Backing Nut (All nut surfaces are non-wetted)

- 1 Backing Nut, 303 Stainless Steel. 2 5/8-16 UN 2A  
N None

#### Gasket (Includes certificate of conformance)

- 2 Teflon® Gasket, FDA 21 CFR, Paragraph 177,1550  
3 Inertex® SQ-S, USP Class VI  
N None

SFM [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

Example Part # SFM-10A0218-M12M32112

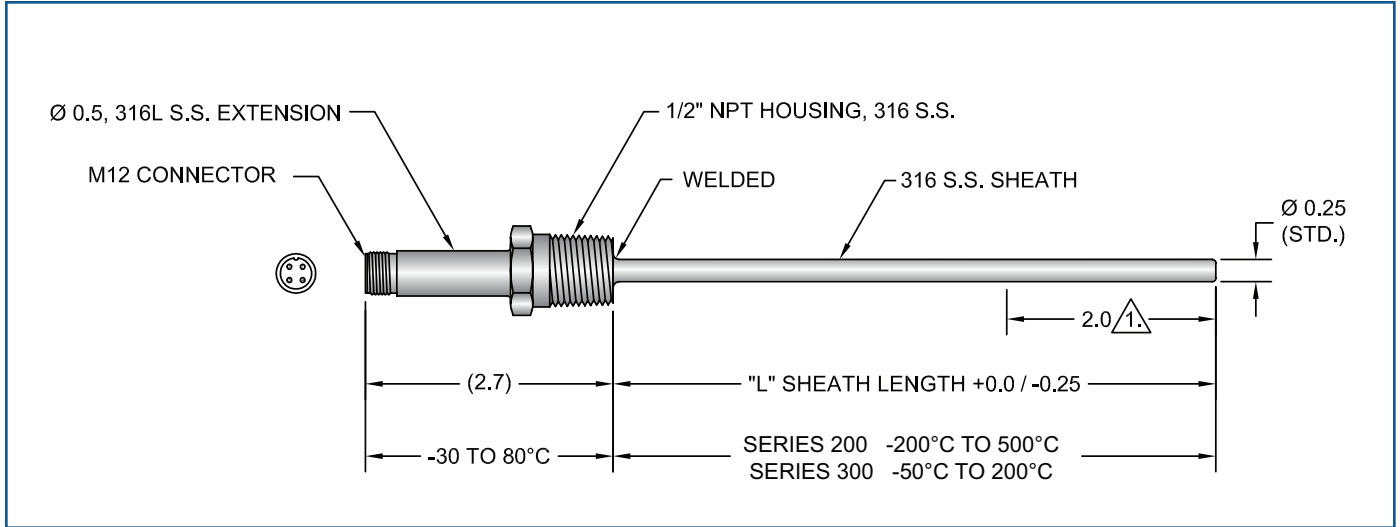
Note 1: See Burns "Series S" catalog for additional product details.

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



# 200A & 300A with Quick Connect 'A' Style Direct Immersion

## Ordering Information



All dimensions in inches

200	Series 200
300	Series 300
<b>Sensor Style</b>	
A Direct Immersion (Note 1)	
<b>RTD Accuracy</b>	
10	Standard +/- 0.10% of Resistance at 0 Degrees C
05	Precision +/- 0.05% of Resistance at 0 Degrees C (not available with the Series 300 model)
<b>RTD Element Lead Configuration</b>	
A	Three Wire Single
B	Four Wire Single
<b>Connection</b>	
-M12	M12 Connection (Note 2)
<b>'L' Sheath Length</b>	
035	3.5 Inch (minimum)
055	5.5 Inch
085	8.5 Inch
115	11.5 Inch
175	17.5 Inch
LLL	Specify 'L' Length in Inches for 'L' ≤ 99.9" (LLLL for 'L' > 99.9". ex: 150"=1500)
<b>Sheath Material</b>	
	316 SS
	316 SS
<b>Basic Order Codes</b>	

Example Part # 200A10AM12085 or 300A10BM12115

Note 1: See Burns "Series 200 & 300" catalog for additional product details.

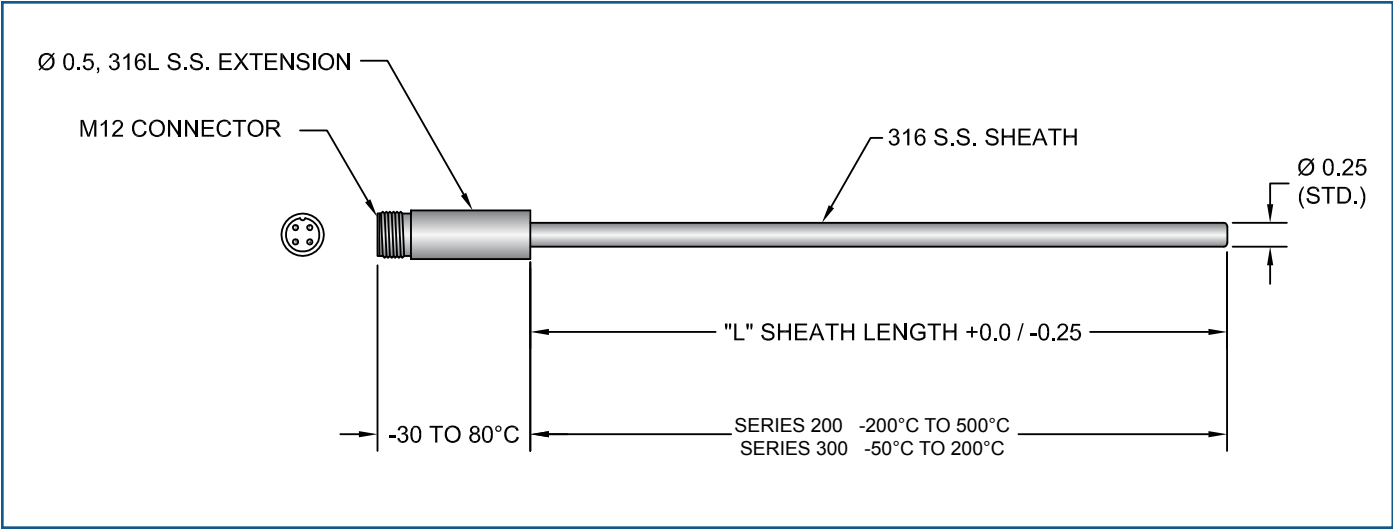
Note 2: Currently available with 3-wire and 4-wire only. For mating cordsets see models C01, C02, and C03





# 200G & 300G with Quick Connect 'G' Style Direct Immersion

## Ordering Information



All dimensions in inches

200 300	Series 200 Series 300	Sensor Style	
		G	Capsule Style (Note 1)
		RTD Accuracy	
		10	Standard +/- 0.10% of Resistance at 0 Degrees C
		05	Precision +/- 0.05% of Resistance at 0 Degrees C (not available with the Series 300 model)
		RTD Element Lead Configuration	
		A	Three Wire Single
		B	Four Wire Single
		'L' Sheath Length	
		035	3.5 Inch (minimum)
		055	5.5 Inch
		085	8.5 Inch
		115	11.5 Inch
		175	17.5 Inch
		LLL	Specify 'L' Length in Inches for 'L' ≤ 99.9" (LLLL for 'L' > 99.9". ex: 150"=1500)
		Connection	
		-M12	M12 Connection (Note 2)
		Basic Order Codes	

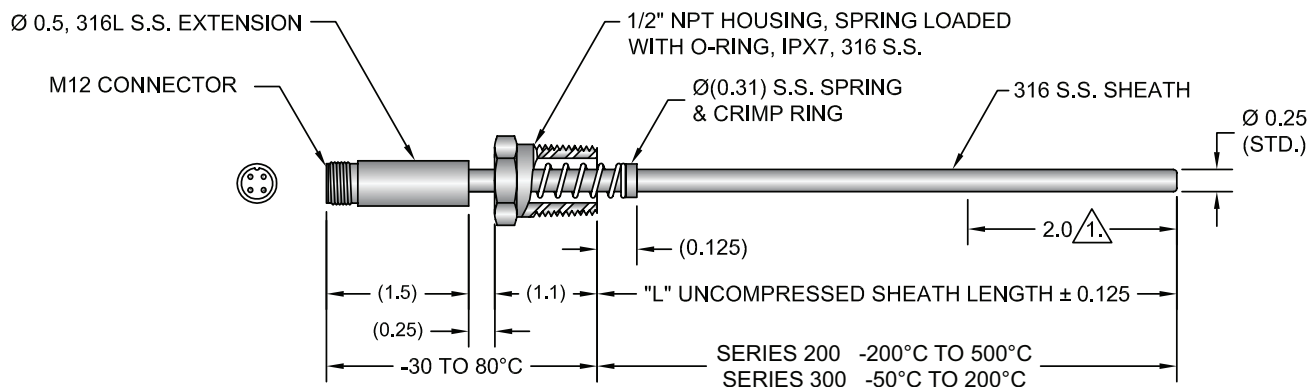
Example Part #200G10A085M12 or 300G10B175M12

Note 1: See Burns "Series 200 & 300" 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



# 200L & 300L with Quick Connect 'L' Style Spring Loaded Hex Fitting

## Ordering Information



All dimensions in inches

200 300	Series 200 Series 300
<b>Sensor Style</b>	
L Spring Loaded, Hex Fitting (Note 1)	
<b>RTD Accuracy</b>	
10	Standard +/- 0.10% of resistance at 0 degrees C
05	Precision +/- 0.05% of resistance at 0 degrees C (not currently available with the Series 300 model)
<b>RTD Element Lead Configuration</b>	
A	Three Wire Single
B	Four Wire Single
<b>Connection</b>	
-M12 M12 Connection (Note 2)	
<b>Extension Type (See Illustrations)</b>	
1C	Gavlanized Coupling Nipple
2C	304 SS Coupling Nipple
3C	316 SS Coupling Nipple
1D	Gavlanized Union Nipple
2D	304 SS Union Nipple
3D	316 SS Union Nipple
N	No Extension
<b>'L' Uncompressed Sheath Length</b>	
035	3.5 inch (minimum)
050	45.0 inch
120	12.0 inch
240	24.0 inch
***	Specify 'L' Immersion Length in Inches for < 99.9" (LLLL for > 99.9")
<b>Standard 'N' Extension Length</b>	
1C	3 inches
2C	3 inches
3C	3 inches
1D	3 inches
2D	3 inches
3D	3 inches
N	0 inches
<b>Sheath Material</b>	
10	316 SS
05	316 SS
Basic Order Codes	



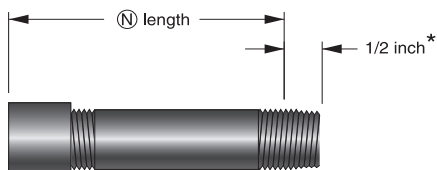
Example Part # 200L05A-M122C070 or 300L10B-M121D105

Note 1: See Burns "Series 200 & 300" catalog for additional product details.

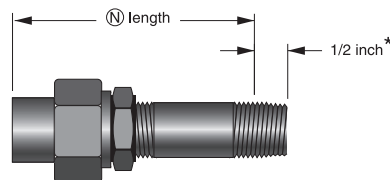
Note 2: Currently available with 3-wire and 4-wire only. For mating cordsets see models C01, C02, and C03

### Extension (\*1/2" is normal thread engagement for 1/2" NPT fittings)

#### Style "C", Coupling-Nipple Extension



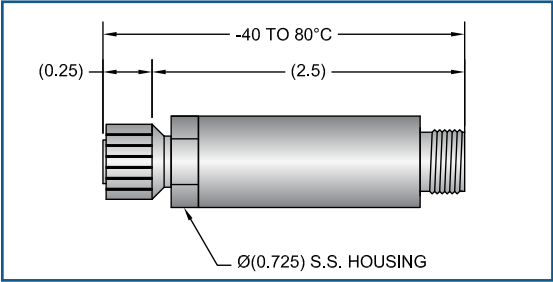
#### Style "D", Union-Nipple Extension



# Transmitter and Programming Kit for Quick Connect Sensors

## Ordering Information

### T12 Transmitter



All dimensions in inches

#### General Specification

Operating Temperature Range:	-40°C to 80°C
Input Range:	-200°C to 500°C
Accuracy:	±(0.05°C + 0.05% of span)
Open Circuit Detection:	Upscale >24mA, Downscale <2.5mA
Warm up Time:	30 Seconds to full accuracy
Environmental Rating:	NEMA 6P, IP67; M12 Connected
Communications Interface:	PC Programmable with TP12

T12- M12 Style Transmitter

**Calibration Type**  
M Matched (Only Available When Ordered with Sensor)  
Unmatched (Leave Blank)

**Transmitter Temperature Range**  
{Tmin to Tmax} Minimum Temp Reading (4mA OUTPUT)-  
Maximum Temp Reading (20 mA OUTPUT)

**Transmitter Temperature Units**  
C Degrees Celsius  
F Degrees Fahrenheit

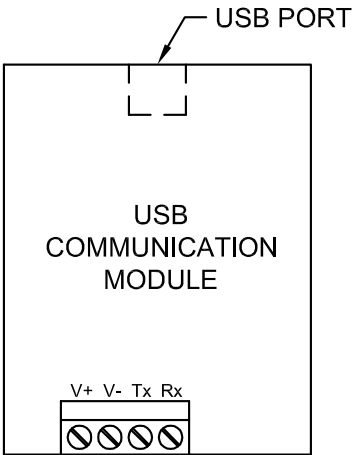
T12- [ ] [ ] [ ]

Basic Order Codes



Example Part # T12 {-50 to 85} F

### TP12 Programming Module: (Order item # TP12 separately)



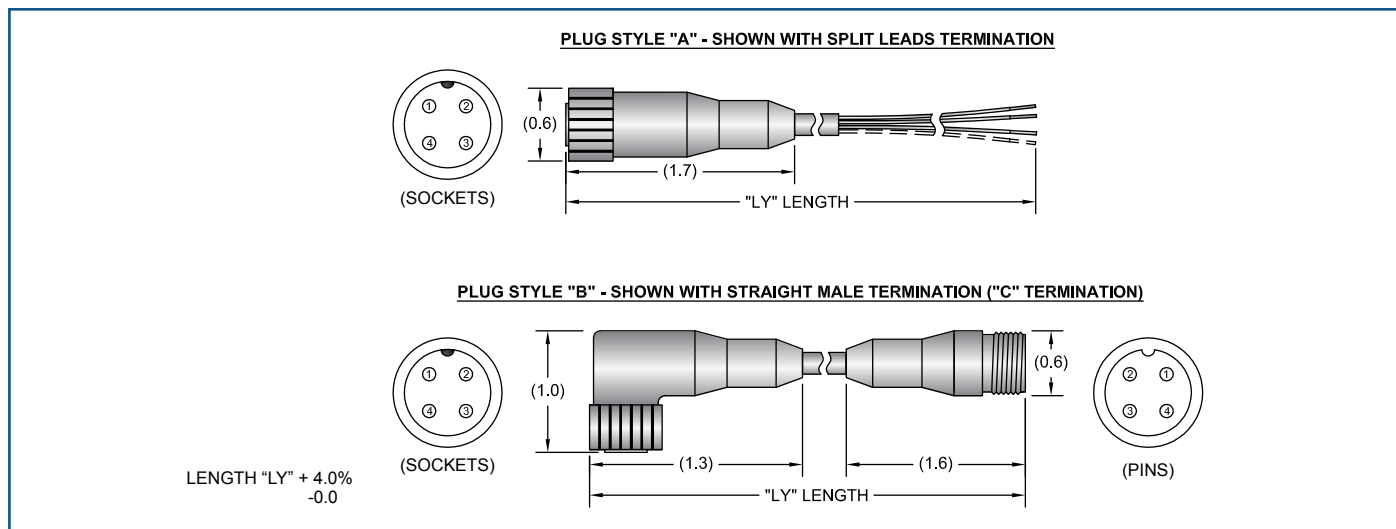
Programming Kit Contains:

- Programming Module
- USB Cable
- Software CD
- Storage Box
- M12 Cable Assembly for Connection to Transmitter.

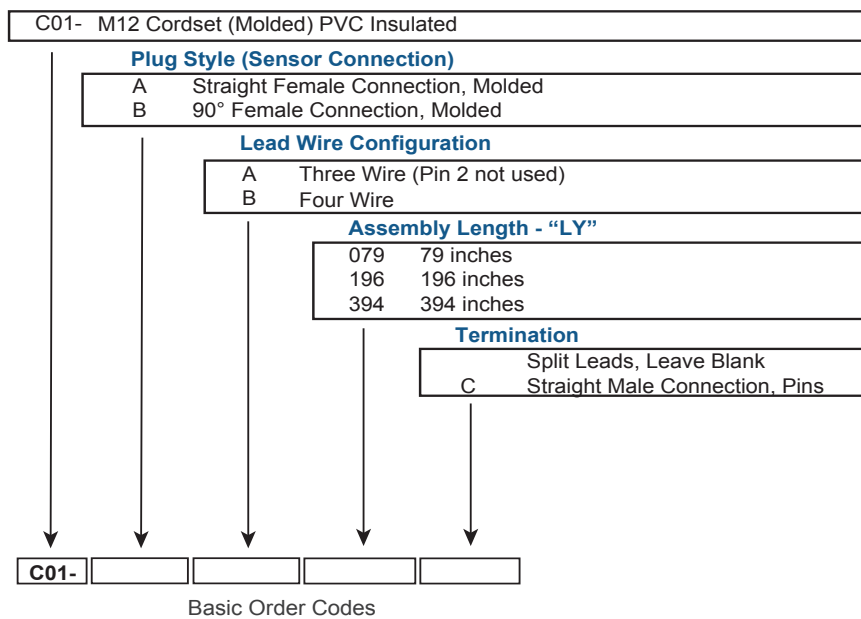
See Cordsets for four wire Assemblies.

The TP12 will be required if adjustment in the field is necessary.

## Ordering Information



All dimensions in inches



Example Part # C01-AB394

### C01 Cordset (Molded) Specification

Temperature Range: -40°C to 105°C  
Cable Jacket: PVC  
Wire Insulation: PVC  
Wire Size: 22 AWG

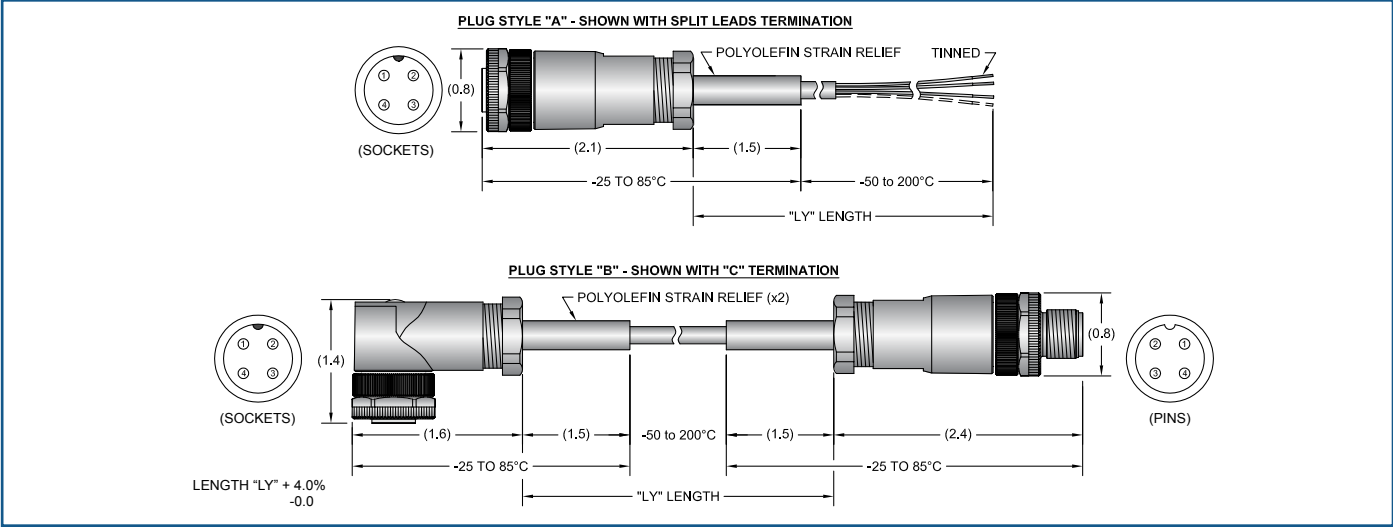
#### Lead Wire Color Codes: (Style "A")

Brown: Pin 1  
White: Pin 2  
Blue: Pin 3  
Black: Pin 4



# C02: M12 Cordset Assembly, FEP Insulated

## Ordering Information



All dimensions in inches

C02- M12 Cordset Assembly, FEP Insulated				
<b>Plug Style - Sockets (Sensor Connection)</b>				
A	Straight Female Connection			
B	90° Female Connection			
<b>Lead Wire Configuration</b>				
A	Three Wire (Pin 2 not used)			
B	Four Wire			
<b>Cable Length - "LY"</b>				
120	120 Inches			
240	240 Inches			
***	Specify in Inches			
<b>Termination</b>				
	Split Leads, Leave Blank			
C	Straight Male Connection, Pins			
D	90° Male Connection, Pins			

↓ ↓ ↓ ↓ ↓

C02-				
------	--	--	--	--

Basic Order Codes

Example Part # C02-AB120

**C02 Cordset Assembly Specification**

Temperature Range:

Connectors: -25°C to 85°C

Cable: -50°C to 200°C

Cable Jacket: FEP (White)

Wire Insulation: PTFE

Wire Size: 22 AWG

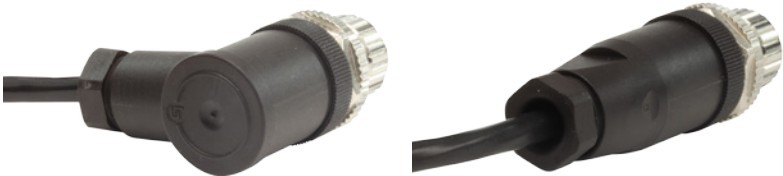
Lead Wire Color Codes: (Style "A")

White: Pin 1

White: Pin 2

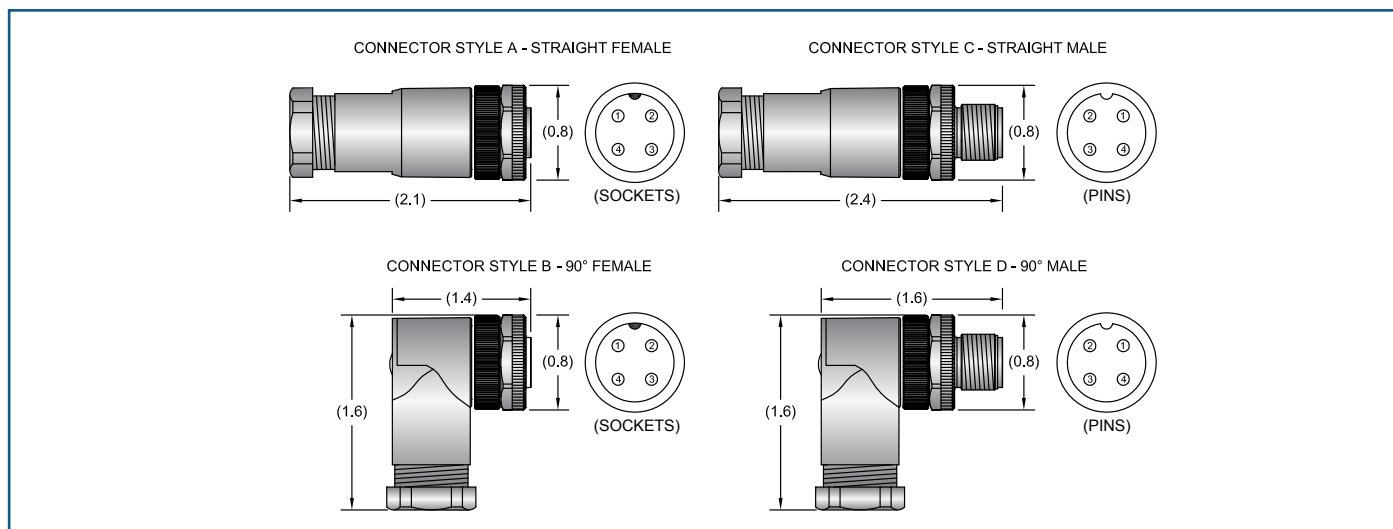
Red: Pin 3

Red: Pin 4





## Ordering Information



All dimensions in inches

C03- M12 Cordset Connector	
<b>Plug Style (Note 1)</b>	
A	Straight Female
B	90° Female
C	Straight Male
D	90° Male

C03-	
------	--

Basic Order Codes

Example Part # C03-A

C03 Cordset Connectors Specification	
Temperature Range:	
Connectors:	-25°C to 85°C
Fitting Material:	NYLON
Contact Material:	Gold Plated Brass
Cable Size:	4 wire, 22 AWG Conductor Max.
Cable Grip Range:	0.157" to 0.236" OD



Note 1: A Female connector is required to connect to the sensor and/or transmitter.

Custom solutions designed for your specific needs.

Burns Engineering has a long history of designing and building temperature sensors to meet the measurement needs of unique and varied applications. The products in this catalog were specifically developed to meet field requirements and allow for configured-to-order flexibility. Not sure what product is right for your application? Our application engineering group is here to help you select, configure, and/or custom design the right product for your specific needs.

Burns Engineering is a leading supplier of temperature measurement solutions for all your process and metrology applications.

Your processes require advanced temperature measurement solutions that you can depend on. We understand that measurement accuracy, reliability and consistency are important to your success.

Your measurement is our mission.

Turn to Burns as your  
Temperature Measurement Expert.®

What will your solution BE?

**QUICK CONNECT: VARIOUS  
SENSORS WITH M12 CONNECTORS**



## RTDology® Temperature Training Complementary Online Education



RTDology® - learn how to build confidence  
in your temperature measurements.

RTD vs.  
Thermocouple



To learn more about our  
online sessions snap or visit

**RTDology.com**

RTD Selection  
& Application



RTD Accuracy



Burns Engineering | 10201 Bren Rd. E., Minnetonka, MN 55343 | email: [info@burnsengineering.com](mailto:info@burnsengineering.com)  
Phone (Toll Free): 800-328-3871 | Phone (Local): 952-935-4400 | Fax: 952-935-8782

Product images provided by Sr. Applications Engineer and Photographer Bill Bergquist.

Trademarks contained within this catalog:  
Burns Engineering Logo, RTDology, and Temperature Measurement Experts are trademarks of Burns Engineering.  
Teflon® is a registered trademark of E.I. du Pont Nemours and Company.

Copyright 2015, Burns Engineering, Inc.  
Printed in U.S.A., Quick Connect-M12 Rev. 11/18