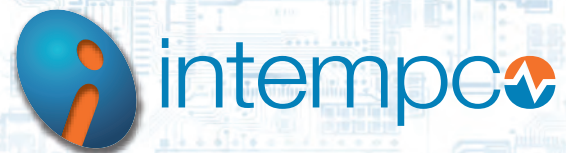


RTD SANITARY SERIES

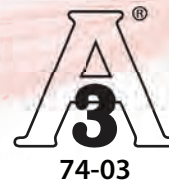


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Temperature

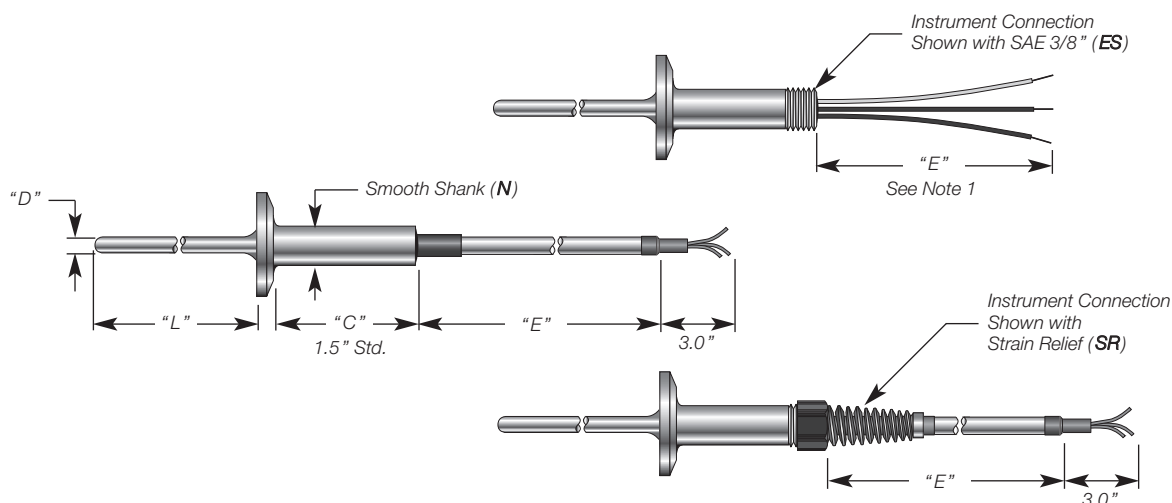
3-A Approval

Hygienically Designed Process Measurement RTD's

Standard Hygienic Clamp Union Style Connection (Tri-Clamp)

Custom and OEM Designs Available

Best Value and Easy Installation



Custom Builder

MODEL 1 2 3 4 5 6 7 8 9 9 11 12 13

RS01 - [] - [] - [] - [] - [] - [] - [] - [] - [] - [] - [] - []

BOX1 CODE	Temperature Range
L	Low Temp. -50 to 200°C

BOX2 CODE	Element Type
P	100Ω @ 0°C, α = 0.00385 DIN EN 60751

Other elements available. Consult factory.

BOX3 CODE	Element Tolerance
1	±0.12% (±0.3°C) @ 0°C, Class B
2	±0.06% (±0.15°C) @ 0°C, Class A
3	±0.04% (±0.1°C) @ 0°C, Class AA

Other tolerances available. Consult factory.

BOX4 CODE	RTD Circuit Type
S2	Single, 2 wire
S3	Single, 3 wire
S4	Single, 4 wire
D2	Dual, 2 wire
D3	Dual, 3 wire

BOX5 CODE	Probe Diameter "D"
B	1/8"
40	0.156" (4.0mm)
C	3/16"
D	1/4"

Other diameters available. Consult factory.

BOX6 CODE	Probe Material
S	Stainless steel 316/316L

Other materials available. Consult factory.

BOX7 CODE	Probe Length "L"
---	In 0.1" increments Ex.: 020 = 2.0" long

BOX8 CODE	Extension Length "C"
N --	In 0.1" increments (1.5" Std.) Ex.: N15 = 1.5" long

BOX9 CODE	Instrument Connection
N	None, smooth shank
SR	Strain Relief
ES	SAE/MS 3/8"-24

Other connections available. Consult factory.

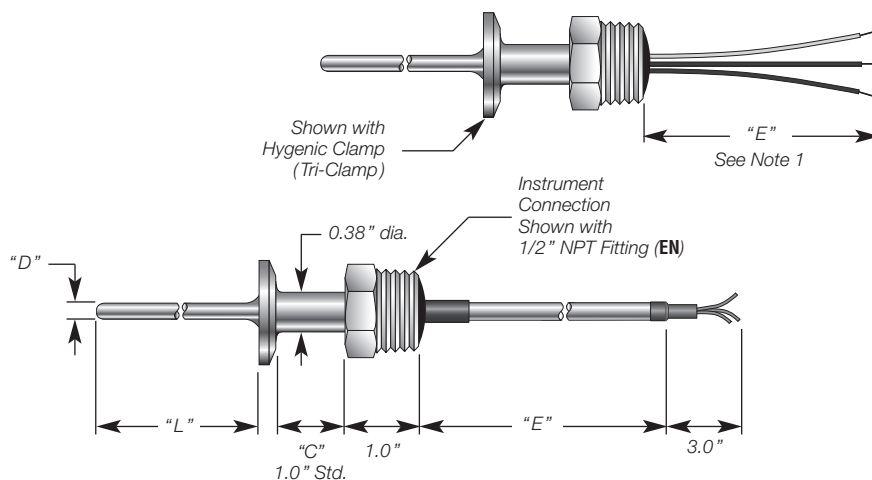
BOX10 CODE	Process Fitting Type/Size
T12	Hygienic clamp union, 1/2"
T34	Hygienic clamp union, 3/4"

BOX11 CODE	Extension Cable Type
PV	PVC insulation, 90°C (195°F) max.
TF	Teflon® insulation, 200°C (392°F) max.
TA	Teflon® with SS armor, 200°C (392°F) max.
TP	Teflon® with SS armor and polyolefin shrink, 90°C (195°F) max.
TT	Teflon® with SS armor and Teflon® shrink, 200°C (392°F) max.

Note : 1. Leads "E" length 12" and less are single conductor Teflon® insulation, 22 AWG
2. See **Leadwire Configuration Section** for Lead Options and modify Box 11 & 12 accordingly
Ex.: TA-120AB060 = Teflon® wire 120" long, closed #6 lug, SS armor 60" long. Consult factory for pricing.

BOX12 CODE	Extension Cable Length "E"
---	In inches Ex.: 060 = 60" long

BOX13 CODE	Surface Finish
SF	32 μ-in (0.8 μm) Ra max. or better
F1	20 μ-in (0.5 μm) Ra max. w/o EP
F4	15 μ-in (0.4 μm) Ra max. with EP



Custom Builder

MODEL	1	2	3	4	5	6	7	8	9	10	11	12	13
RS03	-	-	-	-	-	-	-	-	-	-	-	-	-

BOX1 CODE	Temperature Range
L	Low Temp. -50 to 200°C

BOX2 CODE	Element Type
P	100Ω @ 0°C, α = 0.00385 DIN EN 60751

Other elements available. Consult factory.

BOX3 CODE	Element Tolerance
1	±0.12% (±0.3°C) @ 0°C, Class B
2	±0.06% (±0.15°C) @ 0°C, Class A
3	±0.04% (±0.1°C) @ 0°C, Class AA

Other tolerances available. Consult factory.

BOX4 CODE	RTD Circuit Type
S2	Single, 2 wire
S3	Single, 3 wire
S4	Single, 4 wire
D2	Dual, 2 wire
D3	Dual, 3 wire

BOX5 CODE	Probe Diameter "D"
B	1/8"
40	0.156" (4.0 mm)
C	3/16"
D	1/4"

Other diameters available. Consult factory.

BOX6 CODE	Probe Material
S	Stainless steel 316/316L

Other materials available. Consult factory.

BOX7 CODE	Probe Length "L"
---	In 0.1" increments Ex.: 020 = 2.0" long

BOX8 CODE	Extension Length "C"
N --	In 0.1" increments (1.0" Std.) Ex.: N10 = 1.0" long

BOX9 CODE	Instrument Connection
EN	1/2" NPT male
EE	1/2" NPS male

Other connections available. Consult factory.

BOX10 CODE	Process Fitting Type/Size
T12	Hygienic clamp union, 1/2"
T34	Hygienic clamp union, 3/4"

BOX11 CODE	Extension Cable Type
PV	PVC insulation, 90°C (195°F) max.
TF	Teflon® insulation, 200°C (392°F) max.
TA	Teflon® with SS armor, 200°C (392°F) max.
TP	Teflon® with SS armor and polyolefin shrink, 90°C (195°F) max.
TT	Teflon® with SS armor and Teflon® shrink, 200°C (392°F) max.

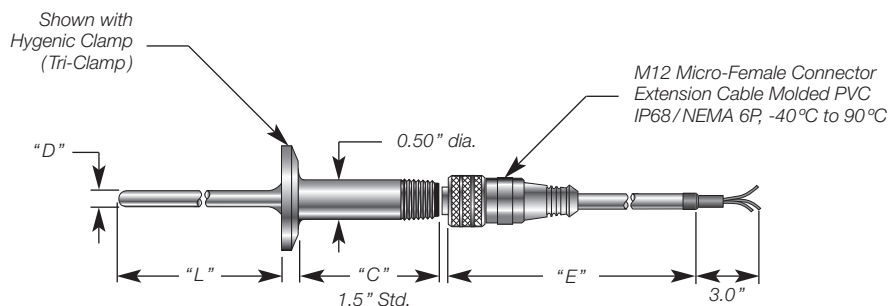
Note : 1. Leads "E" length 12" and less are single conductor Teflon® insulation, 22 AWG

2. See **Leadwire Configuration Section** for Lead Options and modify Box 11 & 12 accordingly

Ex.: TA-120AB060 = Teflon® wire 120" long, closed #6 lug, SS armor 60" long. Consult factory for pricing.

BOX12 CODE	Extension Cable Length "E"
---	In inches Ex.: 060 = 60" long

BOX13 CODE	Surface Finish
SF	32 μ-in (0.8 μm) Ra max. or better
F1	20 μ-in (0.5 μm) Ra max. w/o EP
F4	15 μ-in (0.4 μm) Ra max. with EP



Custom Builder

MODEL 1 2 3 4 5 6 7 8 9 10 11 12 13

RS05 - - - - - - - - - - - - - -

BOX1 CODE	Temperature Range
L	Low Temp. -50 to 200°C

BOX2 CODE	Element Type
P	100 Ω @ 0°C, α = 0.00385 DIN EN 60751

Other elements available. Consult factory.

BOX3 CODE	Element Tolerance
1	± 0.12 % (± 0.3°C) @ 0°C, Class B
2	± 0.06 % (± 0.15°C) @ 0°C, Class A
3	± 0.04 % (± 0.1°C) @ 0°C, Class AA

Other tolerances available. Consult factory.

BOX4 CODE	RTD Circuit Type
S2	Single, 2 wire
S3	Single, 3 wire
S4	Single, 4 wire
D2	Dual, 2 wire
D3	Dual, 3 wire

BOX5 CODE	Probe Diameter "D"
B	1/8"
40	0.156" (4.0mm)
C	3/16"
D	1/4"

Other diameters available. Consult factory.

BOX6 CODE	Probe Material
S	Stainless steel 316/316L

Other materials available. Consult factory.

BOX7 CODE	Probe Length "L"
---	In 0.1" increments Ex.: 020 = 2.0" long

BOX8 CODE	Extension Length "C"
N --	In 0.1" increments (1.5" Std.) Ex.: N15 = 1.5" long

BOX10 CODE	Process Fitting Type/Size
T12	Hygienic clamp union, 1/2"
T34	Hygienic clamp union, 3/4"

BOX11 CODE	Connector Type
MC	M12 Micro-Male Connector

Other types of connectors available. Consult factory.

BOX12 CODE	Extension Cable "E"
N	None
A2	Straight, 2 meters
A5	Straight, 5 meters
B2	Right angle, 2 meters
B5	Right angle, 5 meters

BOX13 CODE	Surface Finish
SF	32 μ-in (0.8 μm) Ra max. or better
F1	20 μ-in (0.5 μm) Ra max. w/o EP
F4	15 μ-in (0.4 μm) Ra max. with EP



Applications and Uses

Intempco RS22 assemblies are an excellent choice for easy installation into a “tee”, “cross”, or directly into a sanitary tube. Cable extension options include PVC, Teflon®, Teflon® with stainless steel armor and Teflon® with stainless overbraid. Armor cable can be protected with Polyolefin or Teflon® shrink tubing. The probes can be ordered up to 1/2” in diameter for applications where long robust probes are required. Where space is an issue, or wiring can be made simpler, RS22 can be ordered as a bent probe after the sanitary fitting.

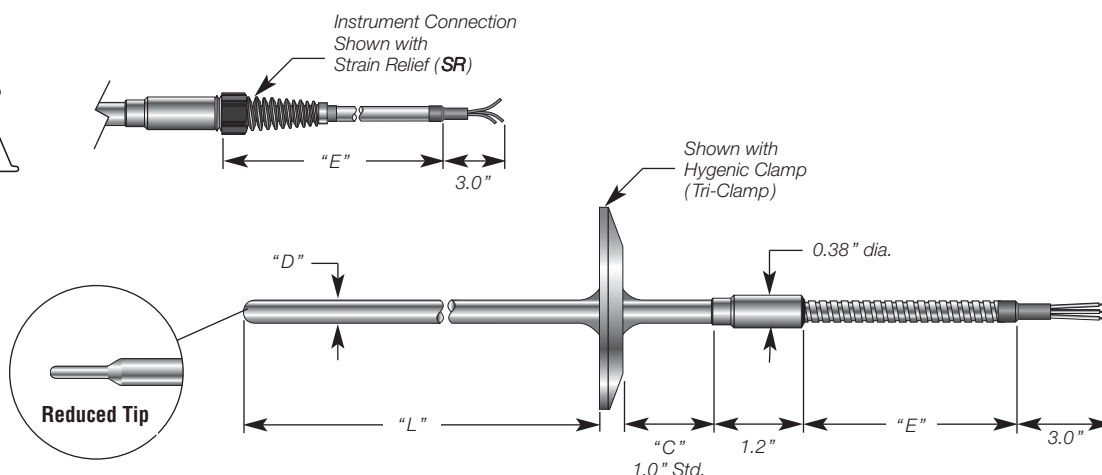
Stock Items

Intempco stocks the most commonly used RS22 style sanitary sensor assemblies with the following features :

- *Operating temperature range of -50 to 200 °C (-58 to 392 °F)*
- *RTD element 100 Ω DIN EN 60751, $\alpha = 0.00385 (\Omega / \Omega) / ^\circ\text{C}^{-1}$, Class A, single, 4 wire*
- *1.5” and 2” hygienic clamp union sizes available (Tri-Clamp)*
- *1/4” probe diameter, stainless steel 316*
- *Immersion lengths available are 2.5”, 4” and 6”*
- *Cable supplied is a jacketed or Teflon® armored, 22 AWG stranded 3-conductor, copper silver plated, 6 ft long (3M)*

Ordering Information (Order stock items using Intempco inventory number)

Inventory Number (Teflon® Jacket)	Inventory Number (Armored Jacket)	Immersion Length “L”	Hygienic Clamp Union Size
RS22L-T15025TF	RS22L-T15025TA	2.5”	1.5”
RS22L-T15040TF	RS22L-T15040TA	4.0”	1.5”
RS22L-T15060TF	RS22L-T15060TA	6.0”	1.5”
RS22L-T20025TF	RS22L-T20025TA	2.5”	2.0”
RS22L-T20040TF	RS22L-T20040TA	4.0”	2.0”
RS22L-T20060TF	RS22L-T20060TA	6.0”	2.0”



Custom Builder

MODEL 1 2 3 4 5 6 7 8 9 10 11 12 13

RS22 - - - - - - - - - - - - -

BOX1 CODE	Temperature Range
L	Low Temp. -50 to 200°C
M	Med. Temp. -50 to 400°C

BOX2 CODE	Element Type
P	100Ω @ 0°C, α = 0.00385 DIN EN 60751

Other elements available. Consult factory.

BOX3 CODE	Element Tolerance
1	±0.12% (±0.3°C) @ 0°C, Class B
2	±0.06% (±0.15°C) @ 0°C, Class A
3	±0.04% (±0.1°C) @ 0°C, Class AA

Other tolerances available. Consult factory.

BOX4 CODE	RTD Circuit Type
S2	Single, 2 wire
S3	Single, 3 wire
S4	Single, 4 wire
D2	Dual, 2 wire
D3	Dual, 3 wire

BOX5 CODE	Probe Diameter “ D ”	
D	1/4 ”	
F	3/8 ”	
H	1/2 ”	
CODE	Sheath O.D.	Tip O.D.
DB	1/4 ”	1/8 ”
FC	3/8 ”	3/16 ”
HC	1/2 ”	3/16 ”
HD	1/2 ”	1/4 ”
JD	5/8 ”	1/4 ”

Other diameters available. Consult factory.

BOX6 CODE	Probe Material
S	Stainless steel 316/316L

Other materials available. Consult factory.

BOX7 CODE	Probe Length "L"
---	In 0.1" increments Ex.: 065 = 6.5" long Ex.: 120 = 12" long

BOX8 CODE	Extension Length "C"
N --	In 0.1" increments (1.0" Std.) Ex.: N10 = 1.0" long

BOX9 CODE	Instrument Connection
N	None, smooth shank
SR	Strain Relief

Other connections available. Consult factory.

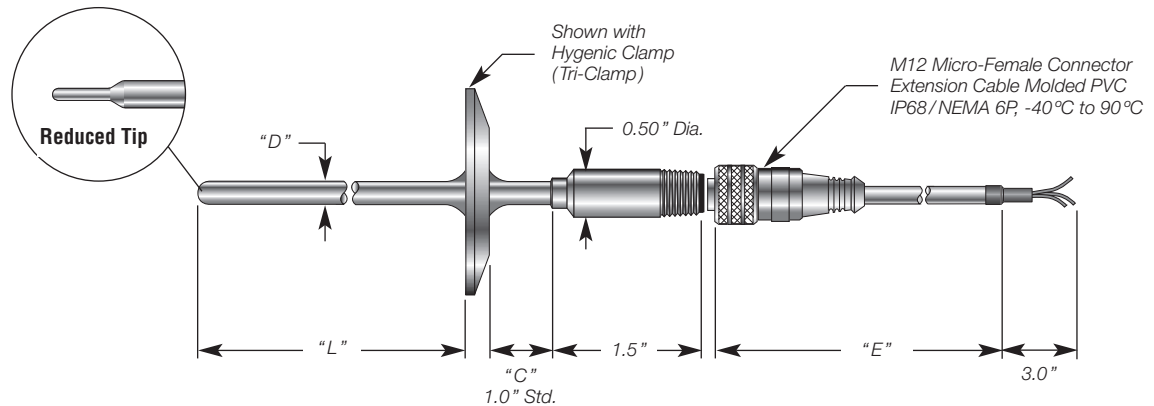
BOX10 CODE	Process Fitting Type/Size
T10	Hygienic clamp union, 1"
T15	Hygienic clamp union, 1.5"
T20	Hygienic clamp union, 2"
T25	Hygienic clamp union, 2.5"
T30	Hygienic clamp union, 3"

Other fittings available. Consult factory.

BOX11 CODE	Extension Cable Type
PV	PVC insulation, 90°C (195°F) max.
TF	Teflon® insulation, 200°C (392°F) max.
TA	Teflon® with SS armor, 200°C (392°F) max.
TP	Teflon® with SS armor and polyolefin shrink, 90°C (195°F) max.
TT	Teflon® with SS armor and Teflon® shrink, 200°C (392°F) max.

BOX12 CODE	Extension Cable Length "E"
---	In inches Ex.: 060 = 60" long

BOX13 CODE	Surface Finish
SF	32 μ-in (0.8 μm) Ra max. or better
F1	20 μ-in (0.5 μm) Ra max. w/o EP
F4	15 μ-in (0.4 μm) Ra max. with EP



Custom Builder

MODEL	1	2	3	4	5	6	7	8	9	10	11	12	13
RS25	-	-	-	-	-	-	-	-	0	-	-	-	-

BOX1 CODE	Temperature Range
L	Low Temp. -50 to 200°C
M	Med. Temp. -50 to 400°C

BOX2 CODE	Element Type
P	100Ω @ 0°C, α = 0.00385 DIN EN 60751

Other elements available. Consult factory.

BOX3 CODE	Element Tolerance
1	±0.12 % (±0.3°C) @ 0°C, Class B
2	±0.06 % (±0.15°C) @ 0°C, Class A
3	±0.04 % (±0.1°C) @ 0°C, Class AA

Other tolerances available. Consult factory.

BOX4 CODE	RTD Circuit Type
S2	Single, 2 wire
S3	Single, 3 wire
S4	Single, 4 wire
D2	Dual, 2 wire
D3	Dual, 3 wire

BOX5 CODE	Probe Diameter "D"	
D	1/4"	
F	3/8"	
H	1/2"	
CODE	Sheath O.D.	Tip O.D.
DB	1/4"	1/8"
FC	3/8"	3/16"
HC	1/2"	3/16"
HD	1/2"	1/4"
JD	5/8"	1/4"

Other diameters available. Consult factory.

BOX6 CODE	Probe Material
S	Stainless steel 316/316L

Other materials available. Consult factory.

BOX7 CODE	Probe Length "L"
---	In 0.1" increments Ex.: 065 = 6.5" long Ex.: 120 = 12" long

BOX8 CODE	Extension Length "C"
N --	In 0.1" increments (1.0" Std.) Ex.: N10 = 1.0" long

BOX10 CODE	Process Fitting Type / Size
T10	Hygienic clamp union, 1"
T15	Hygienic clamp union, 1.5"
T20	Hygienic clamp union, 2"
T25	Hygienic clamp union, 2.5"
T30	Hygienic clamp union, 3"

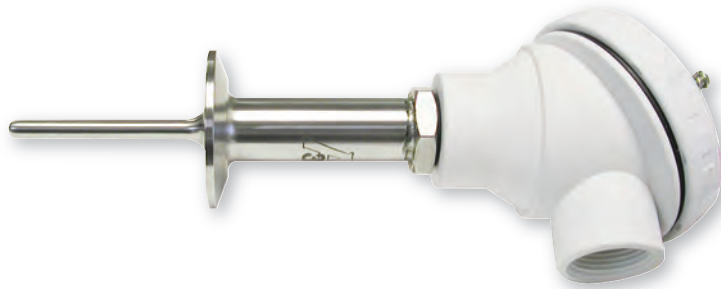
Other fittings available. Consult factory.

BOX11 CODE	Connector Type
MC	M12 Micro-Male Connector

Other types of connectors available. Consult factory.

BOX12 CODE	Extension Cable "E"
N	None
A2	Straight, 2 meters
A5	Straight, 5 meters
B2	Right angle, 2 meters
B5	Right angle, 5 meters

BOX13 CODE	Surface Finish
SF	32 μ-in (0.8 μm) Ra max. or better
F1	20 μ-in (0.5 μm) Ra max. w/o EP
F4	15 μ-in (0.4 μm) Ra max. with EP



Applications and Uses

Intempco RS80 series hygienic clamp union style assemblies are an excellent choice for easy installation into a “tee”, “cross”, or directly into a sanitary tube. Connection head options include polypropylene, stainless steel, bakelite, Teflon® and others. The probes can be ordered up to 1/2 inch in diameter for applications where long structurally robust probes are required. Many different mechanical configurations derived from this basic RS80 series are available. Review the complete sanitary RTD brochure to find an assembly appropriate for your application or contact Intempco and we will provide a complete customized solution.

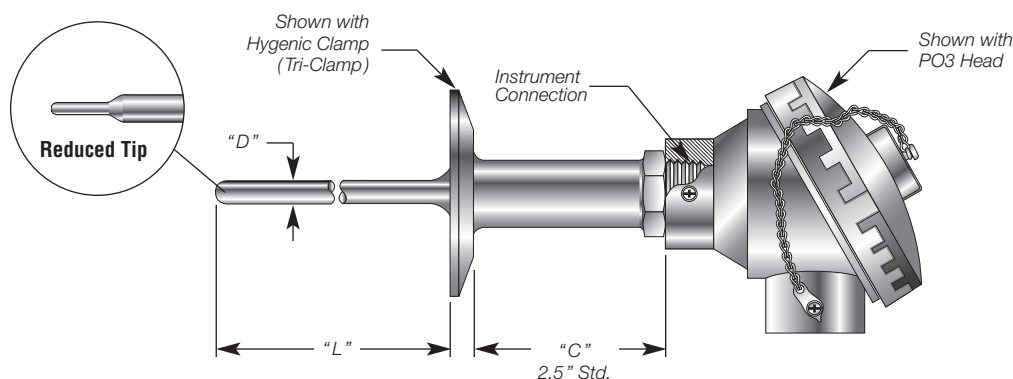
Stock Items

Intempco stocks the most commonly used R80 style sanitary sensor assemblies with the following features :

- *Operating temperature range of -50 to 200°C (-58 to 392°F)*
- *RTD element 100 Ω DIN EN 60751, $\alpha = 0.00385 (\Omega / \Omega) / ^\circ\text{C}^{-1}$, Class A, single, 4 wire*
- *1.5” and 2” hygienic clamp union sizes available*
- *1/4” probe diameter, stainless steel 316*
- *Immersion lengths available are 2.5”, 4” and 6”*
- *FDA approved white polypropylene enclosure with 3/4” electrical conduit connection.*

Ordering Information (Order stock items using Intempco inventory number)

Catalog Number	Inventory Number	Immersion Length “L”	Hygienic Clamp Union Size
RS80-L-P-2-S4-D-S-025-N25-EE-T15-P03-SF	RS80L-T15025P03	2.5”	1.5”
RS80-L-P-2-S4-D-S-040-N25-EE-T15-P03-SF	RS80L-T15040P03	4.0”	1.5”
RS80-L-P-2-S4-D-S-060-N25-EE-T15-P03-SF	RS80L-T15060P03	6.0”	1.5”
RS80-L-P-2-S4-D-S-025-N25-EE-T20-P03-SF	RS80L-T20025P03	2.5”	2.0”
RS80-L-P-2-S4-D-S-040-N25-EE-T20-P03-SF	RS80L-T20040P03	4.0”	2.0”
RS80-L-P-2-S4-D-S-060-N25-EE-T20-P03-SF	RS80L-T20060P03	6.0”	2.0”



Custom Builder

MODEL	1	2	3	4	5	6	7	8	9	10	11	12
RS80	-	-	-	-	-	-	-	-	-	-	-	-

BOX1 CODE	Temperature Range
L	Low Temp. -50 to 200 °C
M	Med. Temp. -50 to 400 °C

BOX2 CODE	Element Type
P	100 Ω @ 0 °C, α = 0.00385 DIN EN 60751

Other elements available. Consult factory.

BOX3 CODE	Element Tolerance
1	± 0.12 % (± 0.3 °C) @ 0 °C, Class B
2	± 0.06 % (± 0.15 °C) @ 0 °C, Class A
3	± 0.04 % (± 0.1 °C) @ 0 °C, Class AA

Other tolerances available. Consult factory.

BOX4 CODE	Output RTD Circuit Type
S2	Single, 2 wire
S3	Single, 3 wire
S4	Single, 4 wire
D2	Dual, 2 wire
D3	Dual, 3 wire

BOX4 CODE	Output Transmitter Type (Installed)
TA	Model RT810, 4-20mA
TB	Model RT820, 4-20mA
TX	Other, specify model type

Specify temp. range at the end of part number.
Ex.: RS80-L-P-2-TA...SF, (0/100 °C)
Model RT810 transmitter, range 0/100 °C

BOX5 CODE	Probe Diameter “ D ”	
D	1/4 ”	
F	3/8 ”	
H	1/2 ”	
CODE	Sheath O.D.	Tip O.D.
DB	1/4 ”	1/8 ”
FC	3/8 ”	3/16 ”
HC	1/2 ”	3/16 ”
HD	1/2 ”	1/4 ”
JD	5/8 ”	1/4 ”

Other diameters available. Consult factory.

BOX6 CODE	Probe Material
S	Stainless steel 316/316L

Other materials available. Consult factory.

BOX7 CODE	Probe Length "L"
---	In 0.1" increments Ex.: 065 = 6.5" long Ex.: 120 = 12" long

BOX8 CODE	Extension Length "C"
N --	In 0.1" increments (2.5" Std.) Ex.: N25 = 2.5" long

BOX9 CODE	Instrument Connection
EN	1/2" NPT male
EE*	1/2" NPS male

* Code EE is standard when ordering with a head.

BOX10 CODE	Process Fitting Type/Size
T10	Hygienic clamp union, 1"
T15	Hygienic clamp union, 1.5"
T20	Hygienic clamp union, 2"
T25	Hygienic clamp union, 2.5"
T30	Hygienic clamp union, 3"

Other fittings available. Consult factory.

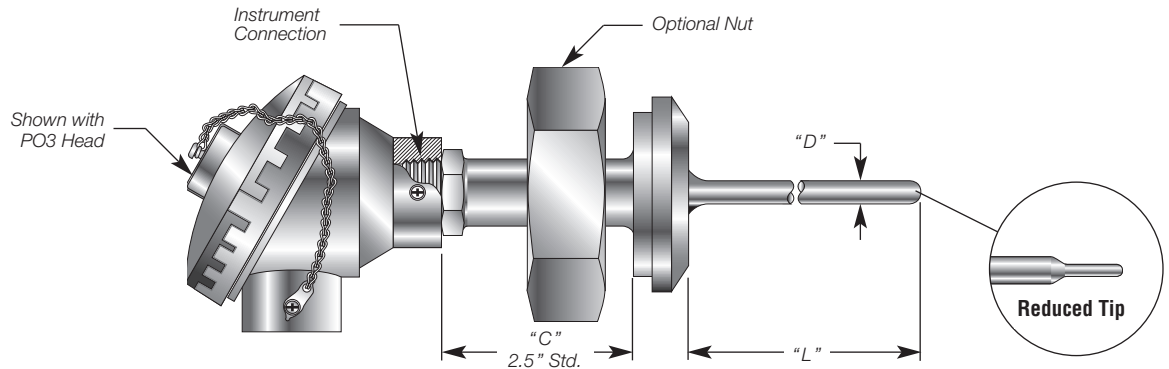
BOX11 CODE	Head/Termination
0	No head, supplied with 6" single Teflon® leads
PO*	White polypropylene screw cover, meets NEMA 4X/IP65 requirements
BA2	Bakelite screw cover, meets NEMA 4X/IP65 requirements
SS2	Machined & polished stainless steel 316/316L screw cover, meets NEMA 4X/IP66 requirements
CS*	Cast stainless steel 316 screw cover, meets NEMA 4X/IP66 requirements
CX*	Cast stainless steel, explosion proof, CSA, FM Approval Class I, Div. 1, Gps. B, C & D Class II, Div. 1, Gps. E, F & G, NEMA 4X

*2 = 1/2" NPT Conduit *3 = 3/4" NPT Conduit

BOX12 CODE	Surface Finish
SF	32 μ-in (0.8 μm) Ra max. or better
F1	20 μ-in (0.5 μm) Ra max. w/o EP
F4	15 μ-in (0.4 μm) Ra max. with EP

RS81

Sanitary RTD
w/Sanitary Fittings & Connection Head



Custom Builder

MODEL	1	2	3	4	5	6	7	8	9	10	11	12
RS81	-	-	-	-	-	-	-	-	-	-	-	-

BOX1 CODE	Temperature Range
L	Low Temp. -50 to 200°C
M	Med. Temp. -50 to 400°C

BOX2 CODE	Element Type
P	100Ω @ 0°C, α = 0.00385 DIN EN 60751

Other elements available. Consult factory.

BOX3 CODE	Element Tolerance
1	±0.12 % (±0.3°C) @ 0°C, Class B
2	±0.06 % (±0.15°C) @ 0°C, Class A
3	±0.04 % (±0.1°C) @ 0°C, Class AA

Other tolerances available. Consult factory.

BOX4 CODE	Output RTD Circuit Type
S2	Single, 2 wire
S3	Single, 3 wire
S4	Single, 4 wire
D2	Dual, 2 wire
D3	Dual, 3 wire

BOX4 CODE	Output Transmitter Type (Installed)
TA	Model RT810, 4-20mA
TB	Model RT820, 4-20mA
TX	Other, specify model type

Specify temp. range at the end of part number.
Ex.: RS81-L-P-2-TA...SF, (0/100 °C)
Model RT810 transmitter, range 0/100 °C

BOX5 CODE	Probe Diameter "D"
D	1/4"
F	3/8"
H	1/2"

CODE	Sheath O.D.	Tip O.D.
DB	1/4"	1/8"
FC	3/8"	3/16"
HC	1/2"	3/16"
HD	1/2"	1/4"
JD	5/8"	1/4"

Other diameters available. Consult factory.

BOX6 CODE	Probe Material
S	Stainless steel 316/316L

Other materials available. Consult factory.

BOX7 CODE	Probe Length "L"
---	In 0.1" increments Ex.: 065 = 6.5" long Ex.: 120 = 12" long

BOX8 CODE	Extension Length "C"
N --	In 0.1" increments (2.5" Std.) Ex.: N25 = 2.5" long

BOX9 CODE	Instrument Connection
EN	1/2" NPT male
EE*	1/2" NPS male

*Code EE is standard when ordering with a head.

BOX10 CODE	Process Fitting Type /Size
A**	Cherry-Burrell (16A1-141), male std.
B**	Cherry-Burrell (16A1-141), female
C**	Bevel Seat (16A) with 13H nut
D**	Bevel Seat (16A) without nut
E**	Bevel Seat (16A) female
F**	John Perry (JP16A) with 13H nut
G**	John Perry (JP16A) without nut
**	10 = 1.0" 20 = 2.0" 30 = 3.0" 15 = 1.5" 25 = 2.5" 40 = 4.0"

Other fittings available. Consult factory.

BOX11 CODE	Head/Termination
0	No head, supplied with 6" single Teflon® leads
PO*	White polypropylene screw cover, meets NEMA 4X/IP65 requirements
BA2	Bakelite screw cover, meets NEMA 4X/IP65 requirements
SS2	Machined & polished stainless steel 316/316L screw cover, meets NEMA 4X/IP66 requirements
CS*	Cast stainless steel 316 screw cover, meets NEMA 4X/IP66 requirements
CX*	Cast stainless steel, explosion proof, CSA, FM Approval Class I, Div. 1, Gps. B, C & D Class II, Div. 1, Gps. E, F & G, NEMA 4X
*2 = 1/2" NPT Conduit *3 = 3/4" NPT Conduit	

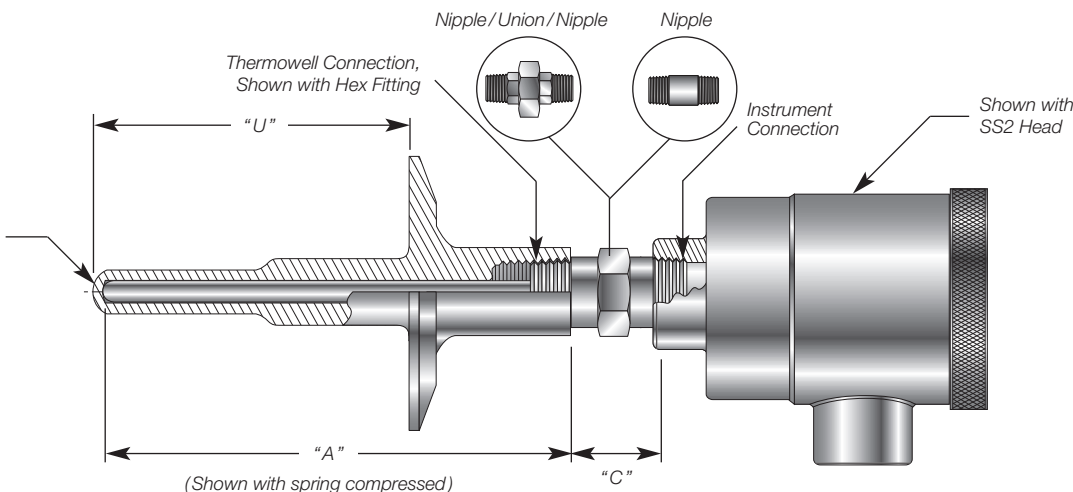
BOX12 CODE	Surface Finish
SF	32 μ-in (0.8 μm) Ra max. or better
F1	20 μ-in (0.5 μm) Ra max. w/o EP
F4	15 μ-in (0.4 μm) Ra max. with EP

RS85

Sanitary RTD w/Connection Head
Spring Loaded Probe for Sanitary Thermowell



Sanitary Thermowell
ordered separately



Custom Builder

MODEL 1 2 3 4 5 6 7 8 9 10 11 12

RS85 - [] - [] - [] - [] - [] - [] - [] - [] - [] - [] - [] - 0

BOX1 CODE	Temperature Range
L	Low Temp. -50 to 200 °C
M	Med. Temp. -50 to 400 °C

BOX2 CODE	Element Type
P	100 Ω @ 0 °C, α = 0.00385 DIN EN 60751

Other elements available. Consult factory.

BOX3 CODE	Element Tolerance
1	$\pm 0.12\%$ (± 0.3 °C) @ 0 °C, Class B
2	$\pm 0.06\%$ (± 0.15 °C) @ 0 °C, Class A
3	$\pm 0.04\%$ (± 0.1 °C) @ 0 °C, Class AA

Other tolerances available. Consult factory.

BOX4 CODE	Output RTD Circuit Type
S2	Single, 2 wire
S3	Single, 3 wire
S4	Single, 4 wire
D2	Dual, 2 wire
D3	Dual, 3 wire

BOX4 CODE	Output Transmitter Type (Installed)
TA	Model RT810, 4-20 mA
TB	Model RT820, 4-20 mA
TX	Other, specify model type

Specify temp. range at the end of part number.
Ex.: RS85-L-P-2-TA...SF₁ (0/100 °C)
Model RT810 transmitter, range 0/100 °C

BOX5 CODE	Probe Diameter "D"
D	1/4"
6	6 mm (0.236")

BOX6 CODE	Probe Material
S	Stainless steel 316/316L

Other materials available. Consult factory.

BOX7 CODE	Probe Length "A"
---	In 0.1" increments Ex.: 065 = 6.5" long Ex.: 120 = 12" long

BOX8 CODE	Extension Type & Length "C"
H --	Hex fitting, C = 1" only (Ex.: H10)
N --	Nipple, C = 2" std. (Ex.: N20)
U --	Nipple/Union/Nipple C = 3" min. & std. (Ex.: U30)

Dim. "C" in 0.1 inch increments.

BOX9 CODE	Instrument Connection
EN	1/2" NPT male
EE*	1/2" NPS male

* Code EE is standard when ordering with a head.

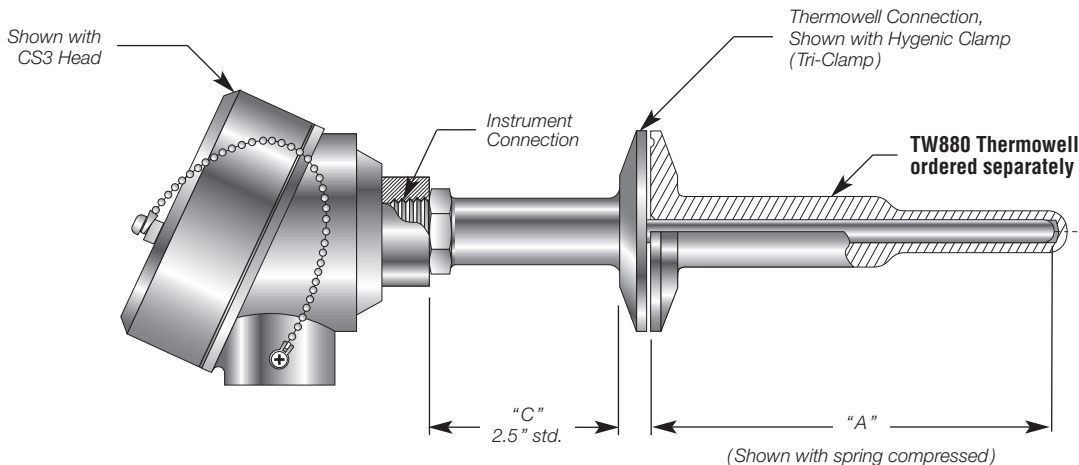
BOX10 CODE	Thermowell Connection Fitting Type/Size
EN	1/2" NPT male (std.)
FN	3/4" NPT male
FE	1/2" NPS male
PA	1"-20 male thread
UA	1-1/4"-18 male thread

BOX11 CODE	Head/Termination
0	No head, supplied with 6" single Teflon® leads
P0*	White polypropylene screw cover, meets NEMA 4X/IP65 requirements
BA2	Bakelite screw cover, meets NEMA 4X/IP65 requirements
SS2	Machined & polished stainless steel 316/316L screw cover, meets NEMA 4X/IP66 requirements
CS*	Cast stainless steel 316 screw cover, meets NEMA 4X/IP66 requirements
CX*	Cast stainless steel, explosion proof, CSA, FM Approval Class I, Div. 1, Gps. B, C & D Class II, Div. 1, Gps. E, F & G, NEMA 4X

*2 = 1/2" NPT Conduit *3 = 3/4" NPT Conduit

RS89

Spring Loaded Sanitary RTD w/Connection Head
& Hygienic Clamp Union Style - Quick Connect for Weld-In Thermowell



Custom Builder

MODEL	1	2	3	4	5	6	7	8	9	10	11	12
RS89	-	-	-	-	-	-	-	-	-	-	-	0

BOX1 CODE	Temperature Range
L	Low Temp. -50 to 200°C
M	Med. Temp. -50 to 400°C

BOX5 CODE	Probe Diameter "D"
D	1/4"
6	6mm (0.236")

BOX10 CODE	Thermowell Connection Fitting Type/Size
T15	Hygienic clamp union, 1.5"
T20	Hygienic clamp union, 2"

BOX2 CODE	Element Type
P	100Ω @ 0°C, α = 0.00385 DIN EN 60751

BOX6 CODE	Probe Material
S	Stainless steel 316/316L

Other materials available. Consult factory.

BOX11 CODE	Head/Termination
0	No head, supplied with 6" single Teflon® leads
PO*	White polypropylene screw cover, meets NEMA 4X/IP65 requirements
BA2	Bakelite screw cover, meets NEMA 4X/IP65 requirements
SS2	Machined & polished stainless steel 316/316L screw cover, meets NEMA 4X/IP66 requirements
CS*	Cast stainless steel 316 screw cover, meets NEMA 4X/IP66 requirements
CX*	Cast stainless steel, explosion proof, CSA, FM Approval Class I, Div. 1, Gps. B, C & D Class II, Div. 1, Gps. E, F & G, NEMA 4X

BOX3 CODE	Element Tolerance
1	±0.12% (±0.3°C) @ 0°C, Class B
2	±0.06% (±0.15°C) @ 0°C, Class A
3	±0.04% (±0.1°C) @ 0°C, Class AA

BOX7 CODE	Probe Length "A"
---	In 0.1" increments Ex.: 065 = 6.5" long Ex.: 120 = 12" long

BOX8 CODE	Extension Length "C"
N --	In 0.1" increments (2.5" Std.) Ex.: N25 = 2.5" long

BOX9 CODE	Instrument Connection
EN	1/2" NPT male
EE*	1/2" NPS male

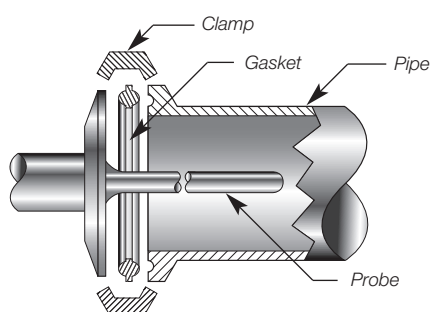
* Code EE is standard when ordering with a head.

BOX4 CODE	Output RTD Circuit Type
S2	Single, 2 wire
S3	Single, 3 wire
S4	Single, 4 wire
D2	Dual, 2 wire
D3	Dual, 3 wire

BOX4 CODE	Output Transmitter Type (Installed)
TA	Model RT810, 4-20mA
TB	Model RT820, 4-20mA
TX	Other, specify model type

Specify temp. range at the end of part number.
Ex.: RS89-L-P-2-TA...SF (0/100 °C)
Model RT810 transmitter, range 0/100 °C

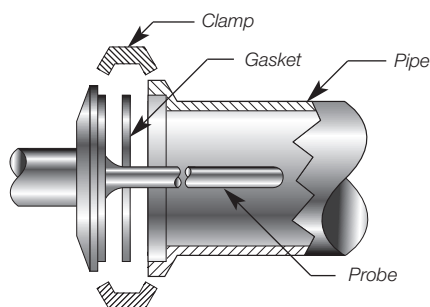
Hygienic clamp union connection



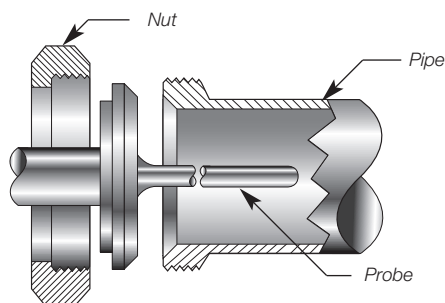
Clamp for hygienic connection



Cherry-Burrell connection



Bevel Seat connection



Intempco Sanitary Series

Intempco offers a complete line of hygienically designed process measurement devices which are perfectly suited for use in food, dairy, chemical, and pharmaceutical industries. Intempco sensors are designed and manufactured to meet the requirements of 3-A Sanitary Standards for Sensors and Sensors Fittings and Connections Number 74-03.

Intempco sanitary sensors are easily installed into a “tee”, “cross”, or directly into a sanitary tube and feature all stainless steel construction. All popular sanitary connection styles available. Wetted surfaces are machined and polished to meet 3-A standards and are free of pits and crevices that might shelter bacteria or impurities. Assemblies are hermetically sealed and built to withstand industrial washdowns.

Intempco sanitary sensors contain an encapsulated platinum RTD element providing high accuracy, repeatability and vibration resistance.

Assemblies are available with a variety of connection heads (including stainless steel, polypropylene and Bakelite) for easy wiring and for housing a “hockey puck” style 4-20mA transmitter.

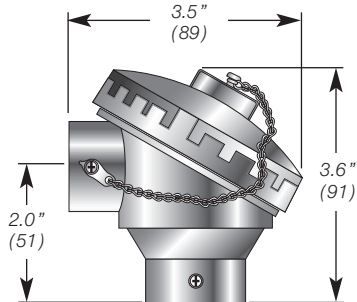
A wide variety of options are available, including dual elements and reduced tips which improve time response without compromising the mechanical strength of the sensor.

MIST™ Series Sanitary Sensors have an integrated transmitter with a variety of output options such as 4-20mA loop powered or 3 wire voltage output with 0-5Vdc, 1-5Vdc and 0-10Vdc options. See the MIST Sanitary Brochure.

CODE	Process Fitting Type /Size
T12	Hygienic clamp union, 1/2" per ASME-BPE
T34	Hygienic clamp union, 3/4" per ASME-BPE
T10	Hygienic clamp union, 1" per ASME-BPE
T15	Hygienic clamp union, 1.5" per ASME-BPE
T20	Hygienic clamp union, 2" per ASME-BPE
T25	Hygienic clamp union, 2.5" per ASME-BPE
T30	Hygienic clamp union, 3" per ASME-BPE
T40	Hygienic clamp union, 4" per ASME-BPE
A15	Cherry-Burrell male "I", 1-1/2"
A20	Cherry-Burrell male "I", 2"
A25	Cherry-Burrell male "I", 2-1/2"
A30	Cherry-Burrell male "I", 3"

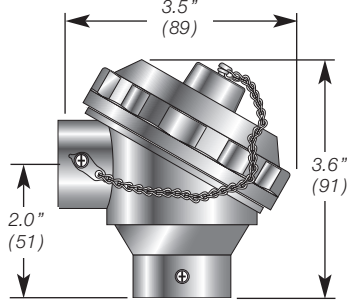
CODE	Process Fitting Type /Size
B15	Cherry-Burrell female "I", 1-1/2"
B20	Cherry-Burrell female "I", 2"
B25	Cherry-Burrell female "I", 2-1/2"
B30	Cherry-Burrell female "I", 3"
C15	Bevel Seat (w/nut), 1-1/2"
C20	Bevel Seat (w/nut), 2"
C25	Bevel Seat (w/nut), 2-1/2"
C30	Bevel Seat (w/nut), 3"
D15	Bevel Seat (w/o nut), 1-1/2"
D20	Bevel Seat (w/o nut), 2"
D25	Bevel Seat (w/o nut), 2-1/2"
D30	Bevel Seat (w/o nut), 3"
F15	John Perry (w/nut), 1-1/2"
F20	John Perry (w/nut), 2"
F25	John Perry (w/nut), 2-1/2"
F30	John Perry (w/nut), 3"
G15	John Perry (w/o nut), 1-1/2"
G20	John Perry (w/o nut), 2"
G25	John Perry (w/o nut), 2-1/2"
G30	John Perry (w/o nut), 3"
XXX	Other, specify

Polypropylene Type PO*



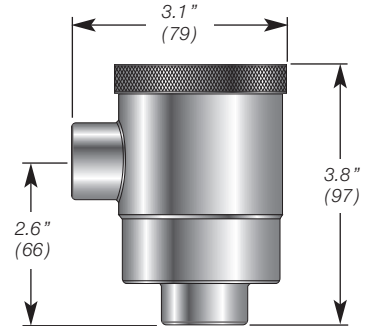
- Polypropylene molded screw cover head
- General purpose, FDA approved polypropylene
- Meets NEMA 4X and IP65 requirements
- Buna-N O-ring
- 1/2" or 3/4" NPTF conduit connection
- 1/2" NPTF instrument connection
- Temp. range: -40 to 100°C
- Stainless steel chain & hardware
- Finish : white color
- Weight : 120 grams
- Std. 33 mm & 40 mm C-C mounting

Bakelite BA2



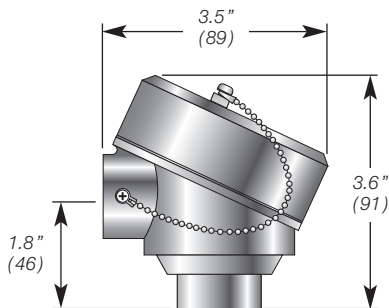
- Bakelite screw cover head
- General purpose weather proof
- Meets NEMA 4X and IP65 requirements
- Buna-N O-ring
- 1/2" NPTF conduit connection
- 1/2" NPTF instrument connection
- Temp. range : -40 to 125°C
- Stainless steel chain & hardware
- Finish : black color
- Weight : 140 grams
- Std. 33 mm & 40 mm C-C Mounting

Stainless Steel Type SS2



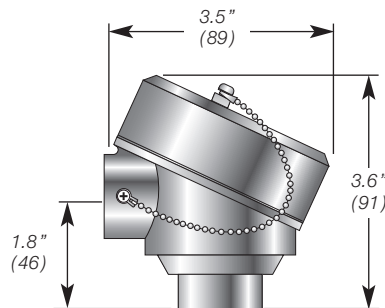
- Stainless steel 316/316L, machined head
- Hygienic
- Meets NEMA 4X and IP66 requirements
- Buna-N O-ring
- 1/2" NPTF conduit connection
- 1/2" NPTF instrument connection
- Temp. range : -50 to 125°C
- Finish : machined and polished
- Weight : 600 grams
- Std. 33 mm C-C mounting
- Max. space for transmitter : 50 mm dia. x 50 mm high

Stainless Steel Cast Type CS*



- SS316 heavy duty cast screw cover head
- Meets NEMA 4X and IP66 requirements
- Buna-N O-ring
- 1/2" or 3/4" NPTF conduit connection
- 1/2" NPTF instrument connection
- Temp. range: -40 to 125°C
- Stainless steel chain & hardware
- Finish : cast and electropolished
- Weight : 900 grams
- Std. 33 mm & 40 mm C-C mounting

Stainless Steel Cast Type CX*



- SS316 heavy duty cast screw cover head
- CSA & FM explosion proof certified Class I, Div. 1, Gps. B,C & D, Class II, Div. 1, Gps. E, F & G, NEMA 4X
- Buna-N O-ring
- 1/2" or 3/4" NPTF conduit connection
- 1/2" NPTF instrument connection
- Temp. range: -40 to 125°C
- Stainless steel chain & hardware
- Finish : cast and electropolished
- Weight : 900 grams
- Std. 33 mm & 40 mm C-C mounting

Detector Tolerance and Accuracy

The two most important factors affecting detector tolerance are deviation from the nominal resistance value at 0°C and variation in the temperature coefficient (Alpha) of the platinum wire. The first factor, deviation from R₀, is a direct result of the manufacturing method and a tolerance of ±0.01% is achievable. In the case of Alpha variation, the wire manufacturer dictates to a large extent the final values obtained. However, manufacturing processes do cause changes in the metal and it is essential to have complete control of every stage of production in order to guarantee minimum deviation from specification. Detectors supplied by Intempco have close control of manufacturing techniques and critical selection of materials resulting in typical Alpha deviation of less than ±0.000003°C⁻¹.

This ensures the very highest conformance to the temperature/resistance characteristics thus giving full confidence in detector interchangeability and allowing critical measurements, such as determination of small temperature differentials, to be made with accuracy, stability and repeatability.

Intempco builds PRT's (Platinum Resistance Thermometer) to meet DIN EN 60751. This standard defines the PRT's temperature coefficient (TC) as :

$$\alpha = [R_{100} - R_0] / [R_0 * 100^\circ\text{C}]$$

conventionally written as :

$$\alpha = 3.851 \times 10^{-3} \text{ }^\circ\text{C}^{-1}$$

Where: R₀ = Resistance at 0°C

R₁₀₀ = Resistance at 100°C

Standard R₀ values for Intempco PRT's are 100Ω and 1000Ω. Other values are available.

Intempco PRT's are available in tolerance classes as defined by DIN EN 60751 and shown in table 1.

Other standards may be available. Table 2 lists some of these standards which are less common today. Consult Intempco engineering support team for specific requirements.

Table 1 : Thermometer Tolerance Classes per DIN EN 60751

Tolerance Classes	Resistance Tolerance @ 0°C	Tolerance As a Function of Absolute Value of Temperature in Deg. C
Class AA	±0.04 % (±0.1°C)	±[0.1 + (0.0017 * t)]
Class A	±0.06 % (±0.15°C)	±[0.15 + (0.002 * t)]
Class B	±0.12 % (±0.3°C)	±[0.3 + (0.005 * t)]
Class C	±0.23 % (±0.6°C)	±[0.6 + (0.01 * t)]

Table 2 : Standard for RTD's

Organization	Standard	ALPHA : Average Temperature Coefficient of Resistance (0°C) ⁻¹	Nominal Resistance at 0°C
British Standard	BS 1904 : 1984	0.003850	100
Deutschen Institut für Normung	DIN 43760 : 1980	0.003850	100
International Electrotechnical Commission	IEC 751 : 1995 (Amend. 2)	0.00385055	100
Scientific Apparatus Manufacturers of America	SAMA RC-4-1966	0.003923	98.129
Japanese Standard	JIS C1604-1981	0.003916	100
American Society for Testing & Materials	ASTM E1137	0.00385055	100

For other R₀ values, multiply resistance value in table by R₀/100

°C	Ω	°C	Ω	°C	Ω	°C	Ω	°C	Ω	°C	Ω	°C	Ω
-200	18.52	-128	48.83	-56	77.92	16	106.24	88	133.95	160	161.05	232	187.56
-199	18.95	-127	49.24	-55	78.32	17	106.63	89	134.33	161	161.43	233	187.93
-198	19.38	-126	49.65	-54	78.72	18	107.02	90	134.71	162	161.80	234	188.29
-197	19.82	-125	50.06	-53	79.11	19	107.40	91	135.09	163	162.17	235	188.66
-196	20.25	-124	50.47	-52	79.51	20	107.79	92	135.47	164	162.54	236	189.02
-195	20.68	-123	50.88	-51	79.91	21	108.18	93	135.85	165	162.91	237	189.38
-194	21.11	-122	51.29	-50	80.31	22	108.57	94	136.23	166	163.29	238	189.75
-193	21.54	-121	51.70	-49	80.70	23	108.96	95	136.61	167	163.66	239	190.11
-192	21.97	-120	52.11	-48	81.10	24	109.35	96	136.99	168	164.03	240	190.47
-191	22.40	-119	52.52	-47	81.50	25	109.73	97	137.37	169	164.40	241	190.84
-190	22.83	-118	52.93	-46	81.89	26	110.12	98	137.75	170	164.77	242	191.20
-189	23.25	-117	53.34	-45	82.29	27	110.51	99	138.13	171	165.14	243	191.56
-188	23.68	-116	53.75	-44	82.69	28	110.90	100	138.51	172	165.51	244	191.92
-187	24.11	-115	54.15	-43	83.08	29	111.29	101	138.88	173	165.89	245	192.29
-186	24.54	-114	54.56	-42	83.48	30	111.67	102	139.26	174	166.26	246	192.65
-185	24.97	-113	54.97	-41	83.87	31	112.06	103	139.64	175	166.63	247	193.01
-184	25.39	-112	55.38	-40	84.27	32	112.45	104	140.02	176	167.00	248	193.37
-183	25.82	-111	55.79	-39	84.67	33	112.83	105	140.40	177	167.37	249	193.74
-182	26.24	-110	56.19	-38	85.06	34	113.22	106	140.78	178	167.74	250	194.10
-181	26.67	-109	56.60	-37	85.46	35	113.61	107	141.16	179	168.11	251	194.46
-180	27.10	-107	57.01	-36	85.85	36	114.00	108	141.54	180	168.48	252	194.82
-179	27.52	-106	57.41	-35	86.25	37	114.38	109	141.91	181	168.85	253	195.18
-178	27.95	-105	57.82	-34	86.64	38	114.77	110	142.29	182	169.22	254	195.55
-177	28.37	-104	58.23	-33	87.04	39	115.15	111	142.67	183	169.59	255	195.91
-176	28.80	-103	58.63	-32	87.43	40	115.54	112	143.05	184	169.96	256	196.27
-175	29.22	-102	59.04	-31	87.83	41	115.93	113	143.43	185	170.33	257	196.63
-174	29.64	-101	59.44	-30	88.22	42	116.31	114	143.80	186	170.70	258	196.99
-173	30.07	-100	59.85	-29	88.62	43	116.70	115	144.18	187	171.07	259	197.35
-172	30.49	-99	60.26	-28	89.01	44	117.08	116	144.56	188	171.43	260	197.71
-171	30.91	-98	60.66	-27	89.40	45	117.47	117	144.94	189	171.80	261	198.07
-170	31.34	-97	61.07	-26	89.80	46	117.86	118	145.31	190	172.17	262	198.43
-169	31.76	-96	61.47	-25	90.19	47	118.24	119	145.69	191	172.54	263	198.79
-168	32.18	-95	61.88	-24	90.59	48	118.63	120	146.07	192	172.91	264	199.15
-167	32.60	-94	62.28	-23	90.98	49	119.01	121	146.44	193	173.28	265	199.51
-166	33.02	-93	62.68	-22	91.37	50	119.40	122	146.82	194	173.65	266	199.87
-165	33.44	-92	63.09	-21	91.77	51	119.78	123	147.20	195	174.02	267	200.23
-164	33.86	-91	63.49	-20	92.16	52	120.17	124	147.57	196	174.38	268	200.59
-163	34.28	-90	63.90	-19	92.55	53	120.55	125	147.95	197	174.75	269	200.95
-162	34.70	-89	64.30	-18	92.95	54	120.94	126	148.33	198	175.12	270	201.31
-161	35.12	-88	64.70	-17	93.34	55	121.32	127	148.70	199	175.49	271	201.67
-160	35.54	-87	65.11	-16	93.73	56	121.71	128	149.08	200	175.86	272	202.03
-159	35.96	-86	65.51	-15	94.12	57	122.09	129	149.46	201	176.22	273	202.39
-158	36.38	-85	65.91	-14	94.52	58	122.47	130	149.83	202	176.59	274	202.75
-157	36.80	-84	66.31	-13	94.91	59	122.86	131	150.21	203	176.96	275	203.11
-156	37.22	-83	66.72	-12	95.30	60	123.24	132	150.58	204	177.33	276	203.47
-155	37.64	-82	67.12	-11	95.69	61	123.63	133	150.96	205	177.69	277	203.83
-154	38.05	-81	67.52	-10	96.09	62	124.01	134	151.33	206	178.06	278	204.19
-153	38.47	-80	67.92	-9	96.48	63	124.39	135	151.71	207	178.43	279	204.55
-152	38.89	-79	68.33	-8	96.87	64	124.78	136	152.08	208	178.79	280	204.90
-151	39.31	-78	68.73	-7	97.26	65	125.16	137	152.46	209	179.16	281	205.26
-150	39.72	-77	69.13	-6	97.65	66	125.54	138	152.83	210	179.53	282	205.62
-149	40.14	-76	69.53	-5	98.04	67	125.93	139	153.21	211	179.89	283	205.98
-148	40.56	-75	69.93	-4	98.44	68	126.31	140	153.58	212	180.26	284	206.34
-147	40.97	-74	70.33	-3	98.83	69	126.69	141	153.96	213	180.63	285	206.70
-146	41.39	-73	70.73	-2	99.22	70	127.08	142	154.33	214	180.99	286	207.05
-145	41.80	-72	71.13	-1	99.61	71	127.46	143	154.71	215	181.36	287	207.41
-144	42.22	-71	71.53	0	100.00	72	127.84	144	155.08	216	181.72	288	207.77
-143	42.63	-70	71.93	1	100.39	73	128.22	145	155.46	217	182.09	289	208.13
-142	43.05	-69	72.33	2	100.78	74	128.61	146	155.83	218	182.46	290	208.48
-141	43.46	-68	72.73	3	101.17	75	128.99	147	156.20	219	182.82	291	208.84
-140	43.88	-67	73.13	4	101.56	76	129.37	148	156.58	220	183.19	292	209.20
-139	44.29	-66	73.53	5	101.95	77	129.75	149	156.95	221	183.55	293	209.56
-138	44.70	-65	73.93	6	102.34	78	130.13	150	157.33	222	183.92	294	209.91
-137	45.12	-64	74.33	7	102.73	79	130.52	151	157.70	223	184.28	295	210.27
-136	45.53	-63	74.73	8	103.12	80	130.90	152	158.07	224	184.65	296	210.63
-135	45.94	-62	75.13	9	103.51	81	131.28	153	158.45	225	185.01	297	210.98
-134	46.36	-61	75.53	10	103.90	82	131.66	154	158.82	226	185.38	298	211.34
-133	46.77	-60	75.93	11	104.29	83	132.04	155	159.19	227	185.74	299	211.70
-132	47.18	-59	76.33	12	104.68	84	132.42	156	159.56	228	186.11	300	212.05
-131	47.59	-58	76.73	13	105.07	85	132.80	157	159.94	229	186.47		
-130	48.00	-57	77.12	14	105.46	86	133.18	158	160.31	230	186.84		
-129	48.42		77.52	15	105.85	87	133.57	159	160.68	231	187.20		

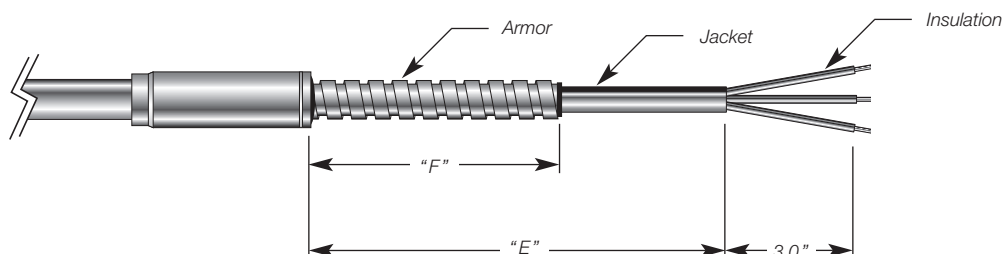
For other R₀ values, multiply resistance value in table by R₀ / 100

°C	Ω	°C	Ω	°C	Ω	°C	Ω	°C	Ω	°C	Ω	°C	Ω
300	212.05	372	237.40	444	262.14	516	286.29	588	309.84	660	332.79	732	355.14
301	212.41	373	237.74	445	262.48	517	286.62	589	310.16	661	333.11	733	355.45
302	212.76	374	238.09	446	262.82	518	286.95	590	310.49	662	333.42	734	355.76
303	213.12	375	238.44	447	263.16	519	287.29	591	310.81	663	333.74	735	356.06
304	213.48	376	238.79	448	263.50	520	287.62	592	311.13	664	334.05	736	356.37
305	213.83	377	239.13	449	263.84	521	287.95	593	311.45	665	334.36	737	356.67
306	214.19	378	239.48	450	264.18	522	288.28	594	311.78	666	334.68	738	356.98
307	214.54	379	239.83	451	264.52	523	288.61	595	312.10	667	334.99	739	357.28
308	214.90	380	240.18	452	264.86	524	288.94	596	312.42	668	335.31	740	357.59
309	215.25	381	240.52	453	265.20	525	289.27	597	312.74	669	335.62	741	357.90
310	215.61	382	240.87	454	265.53	526	289.60	598	313.06	670	335.93	742	358.20
311	215.96	383	241.22	455	265.87	527	289.93	599	313.39	671	336.25	743	358.51
312	216.32	384	241.56	456	266.21	528	290.26	600	313.71	672	336.56	744	358.81
313	216.67	385	241.91	457	266.55	529	290.59	601	314.03	673	336.87	745	359.12
314	217.03	386	242.26	458	266.89	530	290.92	602	314.35	674	337.18	746	359.42
315	217.38	387	242.60	459	267.22	531	291.25	603	314.67	675	337.50	747	359.72
316	217.74	388	242.95	460	267.56	532	291.58	604	314.99	676	337.81	748	360.03
317	218.09	389	243.29	461	267.90	533	291.91	605	315.31	677	338.12	749	360.33
318	218.44	390	243.64	462	268.24	534	292.24	606	315.64	678	338.44	750	360.64
319	218.80	391	243.99	463	268.57	535	292.56	607	315.96	679	338.75	751	360.94
320	219.15	392	244.33	464	268.91	536	292.89	608	316.28	680	339.06	752	361.25
321	219.51	393	244.68	465	269.25	537	293.22	609	316.60	681	339.37	753	361.55
322	219.86	394	245.02	466	269.59	538	293.55	610	316.92	682	339.69	754	361.85
323	220.21	395	245.37	467	269.92	539	293.88	611	317.24	683	340.00	755	362.16
324	220.57	396	245.71	468	270.26	540	294.21	612	317.56	684	340.31	756	362.46
325	220.92	397	246.06	469	270.60	541	294.54	613	317.88	685	340.62	757	362.76
326	221.27	398	246.40	470	270.93	542	294.86	614	318.20	686	340.93	758	363.07
327	221.63	399	246.75	471	271.27	543	295.19	615	318.52	687	341.24	759	363.37
328	221.98	400	247.09	472	271.61	544	295.52	616	318.84	688	341.56	760	363.67
329	222.33	401	247.44	473	271.94	545	295.85	617	319.16	689	341.87	761	363.98
330	222.68	402	247.78	474	272.28	546	296.18	618	319.48	690	342.18	762	364.28
331	223.04	403	248.13	475	272.61	547	296.50	619	319.80	691	342.49	763	364.58
332	223.39	404	248.47	476	272.95	548	296.83	620	320.12	692	342.80	764	364.89
333	223.74	405	248.81	477	273.29	549	297.16	621	320.43	693	343.11	765	365.19
334	224.09	406	249.16	478	273.62	550	297.49	622	320.75	694	343.42	766	365.49
335	224.45	407	249.50	479	273.96	551	297.81	623	321.07	695	343.73	767	365.79
336	224.80	408	249.85	480	274.29	552	298.14	624	321.39	696	344.04	768	366.10
337	225.15	409	250.19	481	274.63	553	298.47	625	321.71	697	344.35	769	366.40
338	225.50	410	250.53	482	274.96	554	298.80	626	322.03	698	344.66	770	366.70
339	225.85	411	250.88	483	275.30	555	299.12	627	322.35	699	344.97	771	367.00
340	226.21	412	251.22	484	275.63	556	299.45	628	322.67	700	345.28	772	367.30
341	226.56	413	251.56	485	275.97	557	299.78	629	322.98	701	345.59	773	367.60
342	226.91	414	251.91	486	276.30	558	300.10	630	323.30	702	345.90	774	367.91
343	227.26	415	252.25	487	276.64	559	300.43	631	323.62	703	346.21	775	368.21
344	227.61	416	252.59	488	276.97	560	300.75	632	323.94	704	346.52	776	368.51
345	227.96	417	252.93	489	277.31	561	301.08	633	324.26	705	346.83	777	368.81
346	228.31	418	253.28	490	277.64	562	301.41	634	324.57	706	347.14	778	369.11
347	228.66	419	253.62	491	277.98	563	301.73	635	324.89	707	347.45	779	369.41
348	229.02	420	253.96	492	278.31	564	302.06	636	325.21	708	347.76	780	369.71
349	229.37	421	254.30	493	278.64	565	302.38	637	325.53	709	348.07	781	370.01
350	229.72	422	254.65	494	278.98	566	302.71	638	325.84	710	348.38	782	370.31
351	230.07	423	254.99	495	279.31	567	303.03	639	326.16	711	348.69	783	370.61
352	230.42	424	255.33	496	279.64	568	303.36	640	326.48	712	348.99	784	370.91
353	230.77	425	255.67	497	279.98	569	303.69	641	326.79	713	349.30	785	371.21
354	231.12	426	256.01	498	280.31	570	304.01	642	327.11	714	349.61	786	371.51
355	231.47	427	256.35	499	280.64	571	304.34	643	327.43	715	349.92	787	371.81
356	231.82	428	256.70	500	280.98	572	304.66	644	327.74	716	350.23	788	372.11
357	232.17	429	257.04	501	281.31	573	304.98	645	328.06	717	350.54	789	372.41
358	232.52	430	257.38	502	281.64	574	305.31	646	328.38	718	350.84	790	372.71
359	232.87	431	257.72	503	281.98	575	305.63	647	328.69	719	351.15	791	373.01
360	233.21	432	258.06	504	282.31	576	305.96	648	329.01	720	351.46	792	373.31
361	233.56	433	258.40	505	282.64	577	306.28	649	329.32	721	351.77	793	373.61
362	233.91	434	258.74	506	282.97	578	306.61	650	329.64	722	352.08	794	373.91
363	234.26	435	259.08	507	283.31	579	306.93	651	329.96	723	352.38	795	374.21
364	234.61	436	259.42	508	283.64	580	307.25	652	330.27	724	352.69	796	374.51
365	234.96	437	259.76	509	283.97	581	307.58	653	330.59	725	353.00	797	374.81
366	235.31	438	260.10	510	284.30	582	307.90	654	330.90	726	353.30	798	375.11
367	235.66	439	260.44	511	284.63	583	308.23	655	331.22	727	353.61	799	375.41
368	236.00	440	260.78	512	284.97	584	308.55	656	331.53	728	353.92	800	375.70
369	236.35	441	261.12	513	285.30	585	308.87	657	331.85	729	354.22		
370	236.70	442	261.46	514	285.63	586	309.20	658	332.16	730	354.53		
371	237.05	443	261.80	515	285.96	587	309.52	659	332.48	731	354.84		

CODE	Leadwire/Extension Cable Terminations	
AA		Stripped and Tinned (Standard)
AB		Ring Terminal, #6
BB		Spade Terminal, #6
CA		Butt Splice
JB*		Std. 3-Pole Plug w/Strain Relief - for circuits S2, S3 - thermoset body, 205°C (400°F) max.
JF*		Std. 3-Pole Plug & Jack w/Strain Relief - 20 AWG max. wire gauge - for circuit S2, S3 - thermoset body, 205°C (400°F) max.
ME		Micro M12, 4-Pole Plug, Straight - for circuits S2, S3, S4, D2, - body nylon black, 90°C (195°F) max.
MN		Micro M12, 4-Pole Plug & Jack Straight - for circuits S2, S3, S4, D2 - body nylon black, 90°C (195°F) max.
NE		Micro M12, 4-Pole Jack, Straight - for circuits S2, S3, S4, D2 - body nylon black, 90°C (195°F) max.
NK		Micro M12, 4-Pole Jack & Plug, Straight - for circuits S2, S3, S4, D2 - body nylon black, 90°C (195°F) max.

Note : (*) For high temp. to 350 °C (660 °F) add H to code

Micro M12, 4-Pole	
Male Connector - Face View 	
Female Connector - Face View 	
Micro M12, 8-Pole	
Male Connector - Face View 	
Female Connector - Face View 	



TECHNICAL SPECIFICATIONS

Electrical Properties

RTD Element (Standard specification) :	Pt100Ω DIN EN 60751, $\alpha = 0.00385^{\circ}\text{C}^{-1}$ 2, 3 or 4 wire Single or Duplex Class AA, A, B or C
Sensor Temperature Range :	-200°C to 600°C available, see box1 code for standard ranges. Applies to sensing portion
Insulation Resistance :	> 100MΩ @ 100Vdc lead wire to sheath @ 25°C

Mechanical Properties

Cable Material :	PVC, Teflon®, SS armor over Teflon® cable , Polyolefin shrink over SS armor, Teflon® shrink over SS armor
Wetted Surface Material :	Stainless steel 316/316L, dual certified
Environmental Rating	
Head assemblies :	Refer to head enclosures specifications
Cabled probe and M12 connection :	Meets NEMA 6P (IP67), hermetically sealed
Storage Temp. Range :	-50°C to 125°C, see cable or head temperature limits
Operating Temp. Range :	-50°C to 125°C, see cable or head temperature limits
Maximum Operating Pressure :	500 PSIG (applies to sensor portion only)
Standard Surface Finish : Code "SF"	Maximum Ra of 32 μ-in (0.8 μm) or better as per 3-A 74-03
Pharmaceutical Surface Finish : Code "F1"	Per ASME BPE 2009 SF-1 20 μ-in (0.5 μm) Ra max. without electro polish
Pharmaceutical Surface Finish : Code "F4"	Per ASME BPE 2009 SF-4 15 μ-in (0.4 μm) Ra max. with electro polish
Approbations¹:	3-A symbol authorization 3-A Sanitary Standards for Sensors and Sensors Fittings & Connections Number 74-03

¹ Intempco sanitary sensors bearing the 3-A symbol meet the requirements of 3-A Sanitary Standards for Sensors and Sensor Fittings and Connections, Number 74-03, with some exceptions to section D10 for heat sterilization systems . Intempco sensors meet the requirements of section D10.1 and D10.1.1 for sterilization of the product contact surfaces, with exception made for section D10.1.2 and D10.1.3. Intempco sensors do not have a steam or other sterilization chamber surrounding the joint at the product contact surfaces between the fitting and the devices.

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

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