Технические характеристики на комплект для монтажа передатчиков TDY, TDZ3, STZ, TFZ, THZ, TPZ, RIY & TIY Moore Industries RTI-2

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RTI-2

Ready-to-Install TDY, TDZ³, STZ, TFZ, THZ, TPZ, RIY & TIY
Temperature Transmitter & Display Assemblies

Your One Stop Temp Shop for Complete Temperature Assemblies

Why waste valuable time searching around for temperature assembly pieces and parts? Our ready-to-install temperature transmitter with display assemblies feature:

- Universal TDY PC-Programmable, TDZ³ Smart HART®, STZ Functional Safety, TFZ FOUNDATION Fieldbus™, TPZ PROFIBUS PA and RIY & TIY Site-ProgrammableTemperature Transmitters with Displays.
- General location, hazardous area, and explosion-proof/flameproof connection heads.
- STZ was designed and built according to IEC 61508 requirements and is exida approved SIL 3 capable for use in Safety Instrumented Systems.
- Wide variety of RTD and thermocouple sensors.
- Spring-loaded fittings allow you to easily separate the sensor and transmitter from the thermowell.
- Industrial-strength stainless steel thermowells, flanges, and fittings in the sizes and configurations you need most.
- Remarkable accuracy of up to ±0.014°C (±0.025°F) using a TDZ³ or STZ and our state-of-the-art Calibration Suite.
- Complete NIST-traceable calibration records available from our state-of-the-art Calibration Suite.

One Ordering Number

Specify your complete temperature transmitter assembly using one simple table and ordering number.

Certifications

Approvals for Hazardous 'Classified' Areas including Explosion-Proof/Flameproof, Intrinsically-Safe, Non-Incendive Type "n" and Functional Safety IEC 61508 are available. Consult the individual temperature transmitter data sheets for specific information for each certifying agency.

NOTE: Certifications apply to the temperature transmitter and connection head combination. Sensor and sensor assembly components are not included in FM, CSA and IECEx certifications. Complete temperature transmitter assemblies including sensors are available with ATEX and ANZEx certifications.

Selection Guide	
Temperature Transmitter Assemblies with Sensors and Thermowells	Pages 2-3
Temperature Transmitter Assemblies with Fixed Immersion Sensors	Pages 4-6
Temperature Transmitter Specifications	Pages 7
Sensor Specifications	Pages 7

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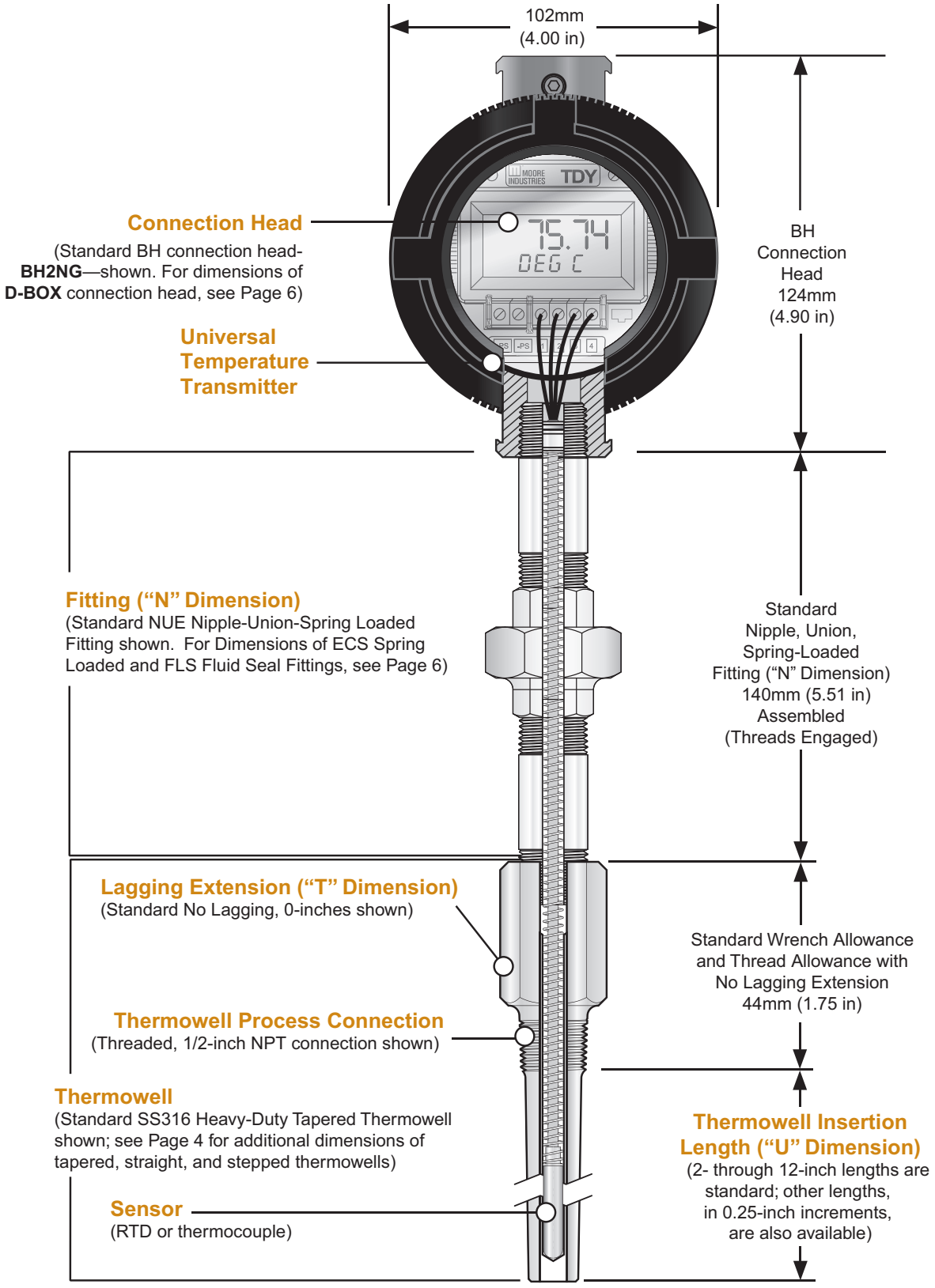
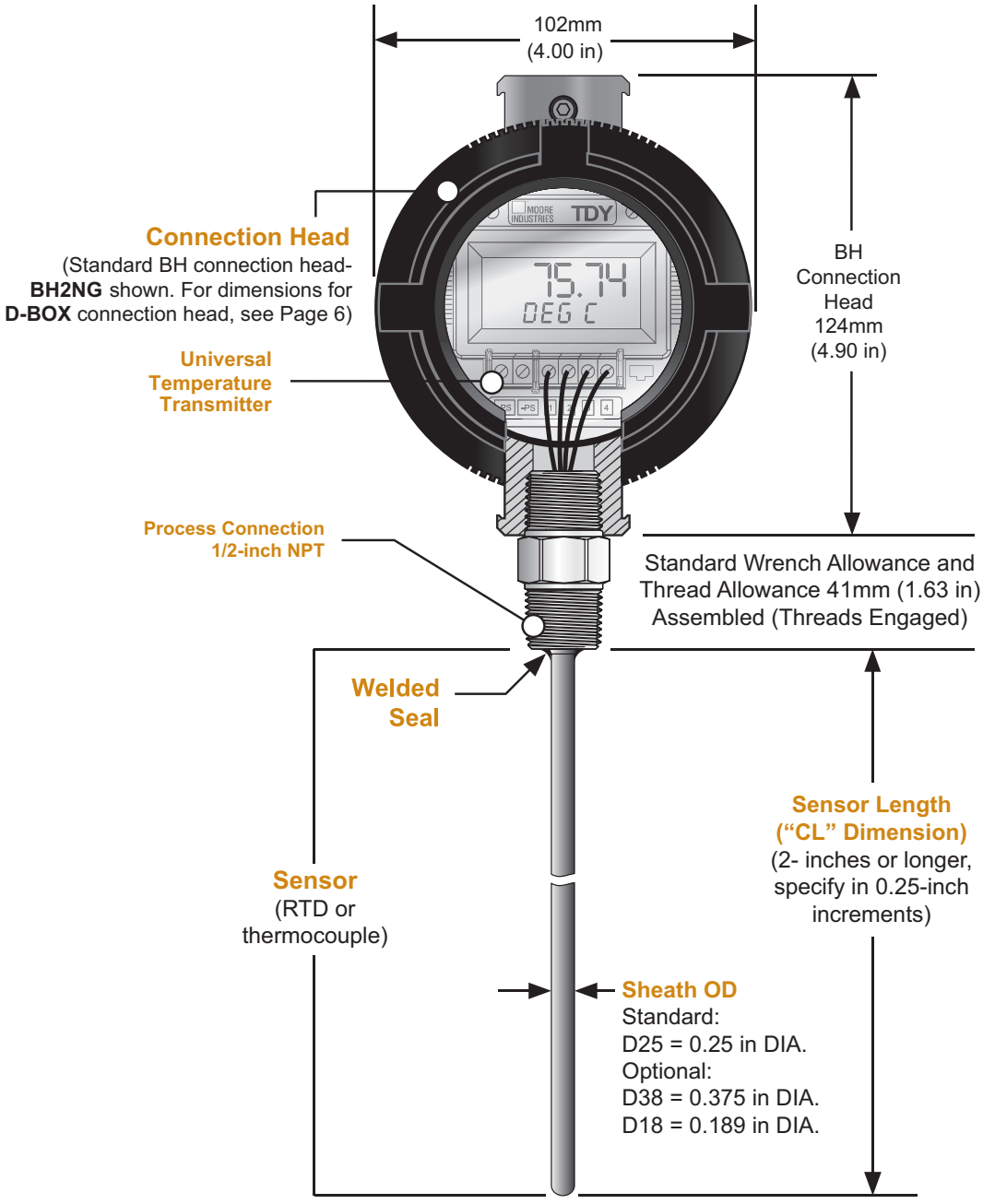
HART is a registered trademark of FieldComm Group.

Standard Temperature Assemblies with Sensor and Thermowell



Standard Temperature Assemblies **with Fixed Immersion Sensor**



Thermowell Selection

Figure 1. Heavy-Duty Threaded, Tapered Thermowells (Standard) *are convenient to install and replace. Being heavy-duty, they will withstand a high force and high velocity factor from process fluid flow. They are easy to weld or braze for applications which require sealing.*

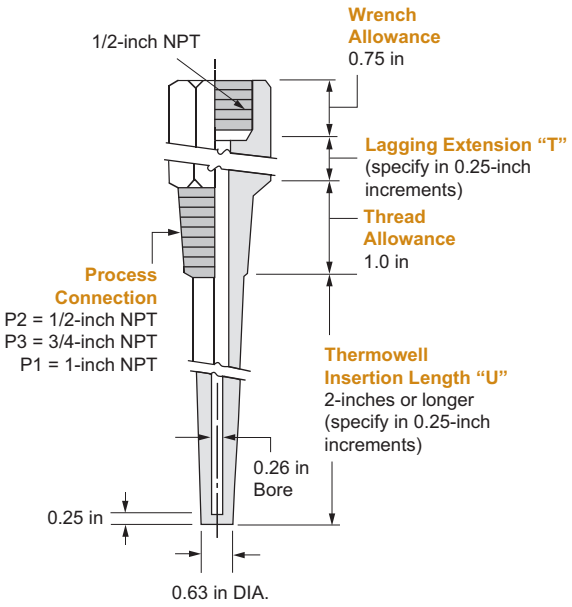


Figure 2. Standard-Duty Threaded, Stepped Thermowells (Standard), *convenient to install and replace, deliver a faster response time than tapered or straight wells, but less strength and capability to withstand high force and high velocity from the process fluid flow. They are easy to weld or braze for applications which require sealing.*

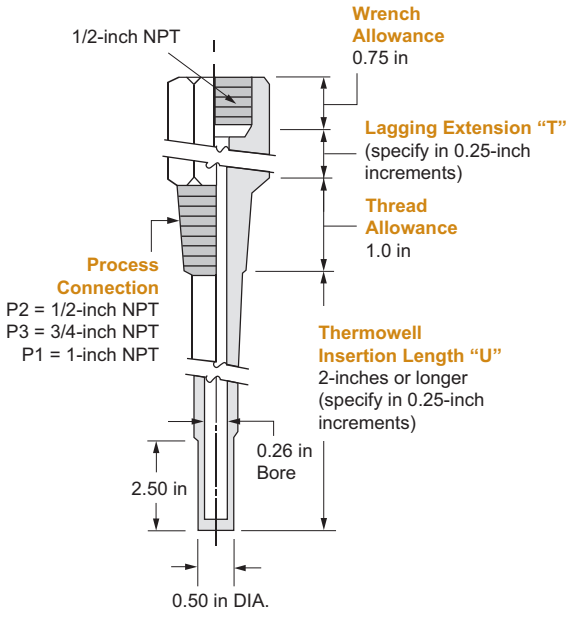


Figure 3. Standard-Duty Threaded, Straight Thermowells (Standard), *convenient to install and replace, will withstand a high force and high velocity factor from the process fluid flow, but less than that of the heavy duty well because of lower natural frequency. They are easy to weld or braze for applications which require sealing.*

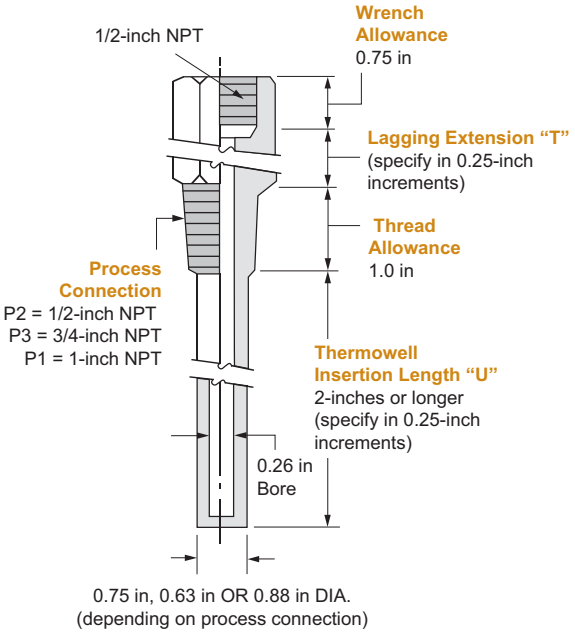


Figure 4. Flanged Thermowells *provide easy removal and high pressure resistance (shown with a Straight Thermowell). Tapered and Stepped Thermowell can also be ordered as Flanged Wells. See Table 1 for available process connection flange sizes.*

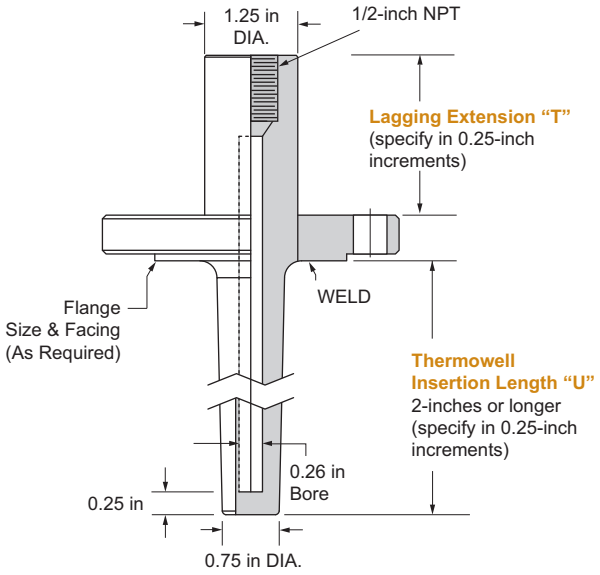


Figure 5. PTB-P2, P1, P3 Heavy Duty Protection Tube - *for heavy wall construction applications.*

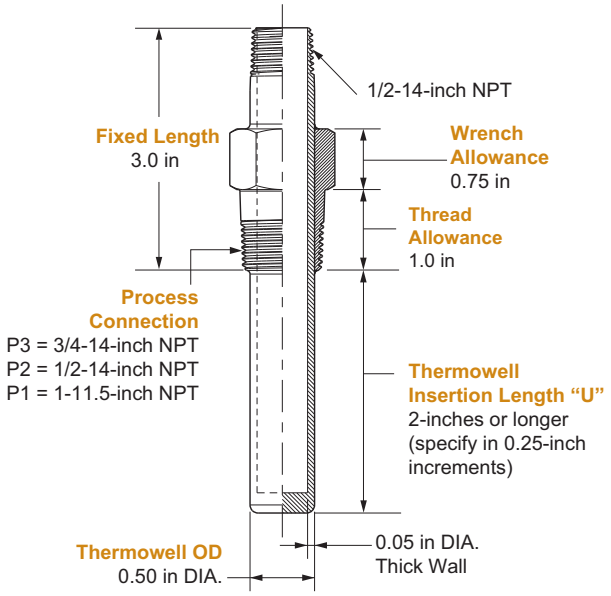


Figure 6. PTB-P2C, P1C, P3C WORM Sensor Protection Tube - *for use in light duty applications with standing liquid or slow-moving gas.*

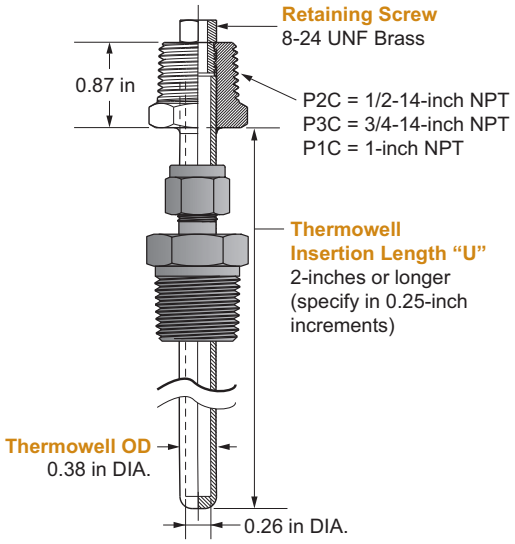


Figure 7. SW1, SW2 and SW3 Heavy Duty Tapered Stem - *for weld in socket-welding fitting.*

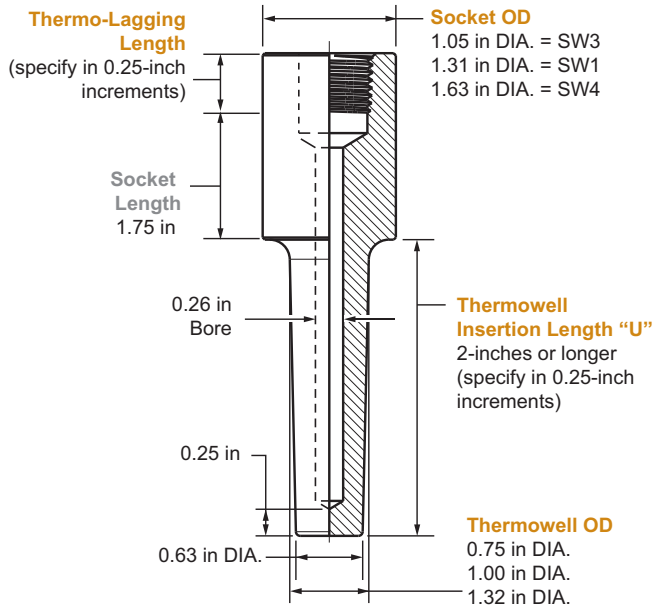


Figure 8. Sanitary Wells - *Cap sizes D75 through D4; SS316 low carbon material with a high polish.*

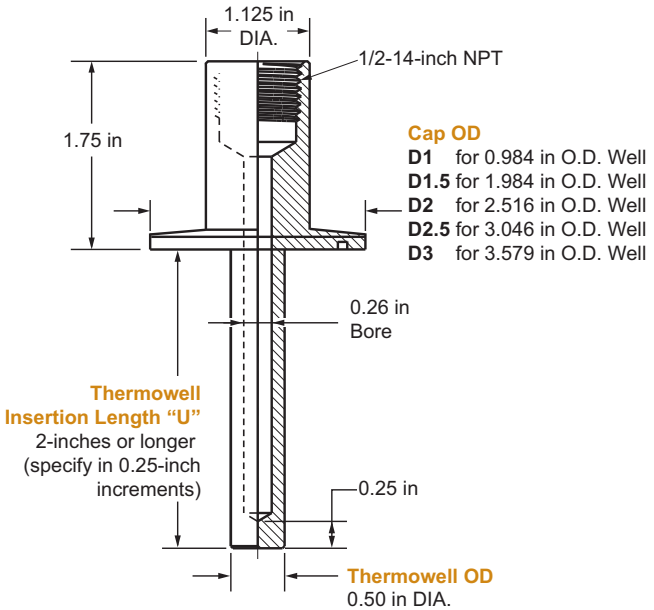


***Figure 9. Dimensions for D2LC** Polypropylene, NEMA 4 Connection Head.*

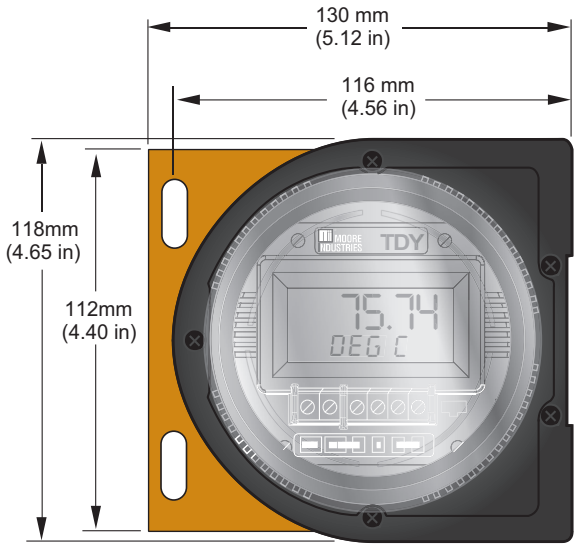


***Table 1.** Process Connection Flange Sizes.*

Ordering Code	Flange Size
F1	1-Inch, 150#, Flat Facing
F2	1-Inch, 150#, Raised Facing
F3	1-Inch, 150#, Ring Type Joint
F4	1 1/2-Inch, 150#, Flat Facing
F5	1 1/2-Inch, 150#, Raised Facing
F6	1 1/2-Inch, 150#, Ring Type Joint
F7	2-Inch, 150#, Flat Facing
F8	2-Inch, 150#, Raised Facing
F9	2-Inch, 150#, Ring Type Joint
F10	1-Inch, 300#, Flat Facing
F11	1-Inch, 300#, Raised Facing
F12	1-Inch, 300#, Ring Type Joint
F13	1 1/2-Inch, 300#, Flat Facing
F14	1 1/2-Inch, 300#, Raised Facing
F15	1 1/2-Inch, 300#, Ring Type Joint
F16	2-Inch, 300#, Flat Facing
F17	2-Inch, 300#, Raised Facing
F18	2-Inch, 300#, Ring Type Joint
F19	1-Inch, 400-600#, Flat Facing
F20	1-Inch, 400-600#, Raised Facing
F21	1-Inch, 400-600#, Ring Type Joint
F22	1 1/2-Inch, 400-600#, Flat Facing
F23	1 1/2-Inch, 400-600#, Raised Facing
F24	1 1/2-Inch, 400-600#, Ring Type Joint
F25	2-Inch, 400-600#, Flat Facing
F26	2-Inch, 400-600#, Raised Facing
F27	2-Inch, 400-600#, Ring Type Joint
F28	1-Inch, 900-1500#, Flat Facing
F29	1-Inch, 900-1500#, Raised Facing
F30	1-Inch, 900-1500#, Ring Type Joint
F31	1 1/2-Inch, 900-1500#, Flat Facing
F32	1 1/2-Inch, 900-1500#, Raised Facing
F33	1 1/2-Inch, 900-1500#, Ring Type Joint
F34	2-Inch, 900-1500#, Flat Facing
F35	2-Inch, 900-1500#, Raised Facing
F36	2-Inch, 900-1500#, Ring Type Joint

Fitting Selection

***Figure 10. NUE, NUN and NUR Nipple, Union, Spring-Loaded Fitting (Standard) -** Combination fitting is used with the WORM sensor. It uses a union to allow easy assembly of the entire system. It can be adjusted as many times as required.*

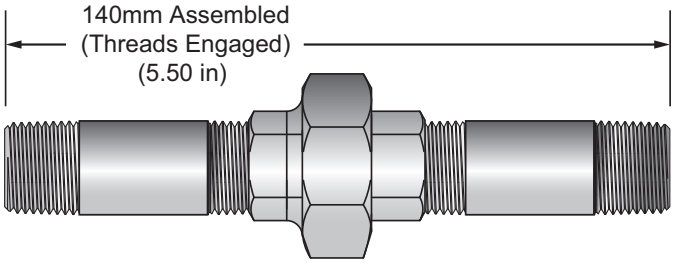


***Figure 11. FLS Fluid Seal Fitting** and OS Spring-Loaded Oil Seal are used for transmitter assemblies with thermowells and assemblies with fixed immersion sensors (it is not used with WORM sensors). It prevents fluid leak along the sensor sheath so it's ideal for using temperature sensitive paste or heat transfer fluid in the thermowell. It can also be used in air ducts and other applications. Although the FLS provides adjustment precision, it crimps the sensor sheath, and can therefore be adjusted only once (up to 0.50 in).*

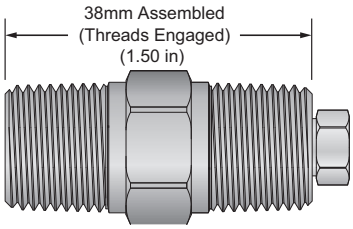
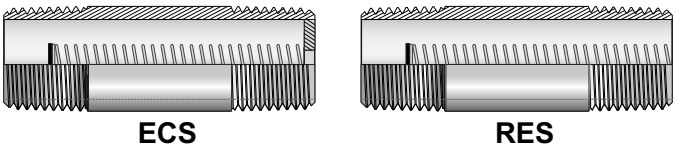
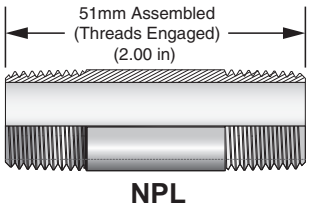


***Figure 12. ECS and RES Spring-Loaded Fittings and NPL Nipple** assure a good thermal connection between the sensor and thermowell offering a quick response time. This fitting is not used with the WORM sensors. For the WORM, use the **NPL** fitting.*





Temperature Transmitter Specifications

Basic RIY & TIY Specifications:

Temperature Assemblies Come with Transmitter Model Number:
RIY / RO / 4-20MA / 12-42DC / [HOUSING CHOICE]
TIY / J1 / 4-20MA / 12-42DC / [HOUSING CHOICE]
Input: See Table 2
Output: 4-20mA output is accurate to within ±0.05% of input span
Power: 12-42Vdc (loop-powered)
RJC Accuracy (TIY T/C only): ±0.25°C
Isolation: RIY: 1000Vdc input to output to case;
TIY: 500Vrms between input and output terminals
RFI/EMI Protection: RIY: 20V/m when tested to SAMA 33.1 ABC 0.1%/Ω; TIY: 10V/m - ABC ≤ 0.1% of maximum span
Operating and Storage Range: –40°C to +82°C (–40°F to +180°F)
Ambient Temperature Effect on Accuracy: RIY: ±0.006% of span/°C change ±10ppm of ohm reading/°C; TIY: ±0.01% of span/°C
Ambient Temperature Effect on RJC (TIY T/C only):
±0.75°C/.50°C change temperature
For detailed specifications, see the RIY or TIY Data Sheets

Table 2. RIY & TIY Input Specifications

Input Type	Range	Accuracy
RIY Site-Programmable Temperature Transmitter		
PT14 Platinum RTD; 3- and 4-Wire; 100 ohm, α = 0.00385 (standard)	–200 to +850°C (–328 to +1562°F)	±0.20°C ±0.36°F
PT104 Platinum RTD; 3- and 4-Wire; 1000 ohm, α = 0.00385 (standard)	–200 to +630°C (–328 to +1166°F)	±0.10°C ±0.18°F
CU4 Copper RTD; 3- and 4-Wire; 10 ohm, α = 0.00427 @ 0°C	–50 to +250°C (–58 to +482°F)	±1.60°C ±2.88°F
N4 Nickel RTD; 3- and 4-Wire; 120 ohm, α = 0.00672 @ 0°C	–80 to +320°C (–112 to +608°F)	±0.14°C ±0.25°F
TIY Site-Programmable Temperature Transmitter		
TCJU J-Type T/C; Ungrounded (standard)	–50 to +760°C (–58 to +1400°F)	±0.25°C ±0.45°F
TCKU K-Type T/C; Ungrounded (standard)	–50 to +1370°C (–58 to +2498°F)	±0.30°C ±0.54°F

Sensor Specifications

Lead Wires:
Standard WORM (WS) Sensors: Teflon insulated, hermetically sealed for measurements up to 232°C (450°F)

High Temperature WORM (WH) Sensors: Braided fiberglass for measurements ranging from 232°C (450°F) up to 427°C (800°F).

Inconel (INC) sheathed WORM sensors: Special fiberglass insulation withstands temperatures up to 1,093°C (2,000°F)

Wire Size: Wire gauges range from 20 to 28 depending on the element type.

Accuracy: RTD: ±0.12%°C at 0°C. Consult the factory for thermo-couple tolerances.

Stability: RTD: 0.2°C after 10,000 hours at maximum temperature (1 year, 51 days, 16 hours continuous)

Response Time (typical to reach a 63.2% temperature change):
RTD: <5 seconds; Grounded Thermocouples 2.0 sec.; ungrounded Thermocouples 4.5 sec.

Vibration Options:
10G: Provides protection for sensors that are exposed to higher than normal vibration levels.

30G: Sensor is encapsulated in a waterproof epoxy to endure extreme vibration levels and full water immersion.

Spring: 302 Stainless Steel. Withstands continuous temperatures up to 1093°C (2000°F).

Basic TDY Specifications:

Temperature Assemblies Come with Transmitter Model Number:
TDY / TPRG / 4-20MA / 10-42DC / [HOUSING CHOICE]
Input: See Table 3
Output: 4-20mA output is accurate to within ±0.003% of input span
Power: 10-42Vdc (loop-powered)
RJC Accuracy (T/C inputs only): ±0.45°C
Isolation: 500Vac/1000Vdc input to output to case
RFI/EMI Protection: 20V/m @20-1000MHz
Operating and Storage Range: Transmitter: –40°C to +85°C (–40°F to +185°F); Display: –20°C to +65°C (–4°F to +149°F)
Ambient Temperature Effect on Accuracy: 0.015% of span per °C change, maximum (+0.001% of ohm reading for RTD inputs)
Amb. Temperature Effect on RJC (T/C only): ±0.005°C/°C change
For detailed specifications, see the TDY Data Sheet

Basic TDZ³ and STZ Specifications:

Temperature Assemblies Come with Transmitter Model Number:
TDZ³ / PRG / 4-20MA / 12-42DC / [HOUSING CHOICE]
STZ / PRG / 4-20MA / 12-42DC / [HOUSING CHOICE]
Input: See Table 3
Output: 4-20mA output is accurate to within ±0.015% of input span
Power: 12-42Vdc (loop-powered)
RJC Accuracy (T/C inputs only): ±0.25°C
Isolation: 500Vrms input to output
RFI/EMI Protection: 20V/m @ 80-1000MHz
Operating and Storage Range: –40°C to +85°C (–40°F to +185°F)
STZ Functional Dual Input Safety Smart HART Temperature Transmitter
Designed and built from the ground up in accordance with IEC 61508 requirements. It is exida approved and certified SIL 3 capable for use in a Safety Instrumented System.
For detailed specifications, see the TDZ³ and STZ Data Sheets

Table 3. TDY, TDZ³ & STZ Input Specifications

Input Type	Range	Accuracy
TDY PC-Programmable Temperature Transmitters		
PT14 Platinum RTD; 3- and 4-Wire; 100 ohm, α = 0.00385 (standard)	–200 to +850°C (–328 to +1562°F)	±0.21°C ±0.38°F
PT104 Platinum RTD; 3- and 4-Wire; 1000 ohm, α = 0.00385 (Standard)	–200 to +850°C (–328 to +1562°F)	±0.21°C ±0.38°F
CU4 Copper RTD; 3- and 4-Wire; 10 ohm, α = 0.00427	–50 to +250°C (–58 to +482°F)	±1.20°C ±2.16°F
N1204 Nickel RTD; 3- and 4-Wire; 120 ohm, α = 0.00672	–80 to +320°C (–112 to +608°F)	±0.16°C ±0.29°F
TCJ J-Type T/C	–180 to +770°C (–292 to +1418°F)	±0.28°C ±0.50°F
TCK K-Type T/C	–150 to +1372°C (–238 to +2502°F)	±0.30°C ±0.54°F
TDZ³ Smart HART® and STZ Functional Safety Temperature Transmitters		
PT14 Platinum RTD; 3- and 4-Wire; 100 ohm, α = 0.00385 (standard)	–200 to +850°C (–328 to +1562°F)	±0.10°C ±0.18°F
PT104 Platinum RTD; 3- and 4-Wire; 1000 ohm, α = 0.00385 (Standard)	–200 to +850°C (–328 to +1562°F)	±0.10°C ±0.18°F
N1204 Nickel RTD; 3- and 4-Wire; 120 ohm, α = 0.00618	–80 to +320°C (–112 to +608°F)	±0.10°C ±0.18°F
TCJ J-Type T/C	–180 to +760°C (–292 to +1400°F)	±0.25°C ±0.45°F
TCK K-Type T/C	–150 to +1370°C (–238 to +2498°F)	±0.30°C ±0.54°F

RTI-2

Ready-to-Install TDY, TDZ³, STZ, TFZ, THZ, TPZ, RIY & TIY
Temperature Transmitter & Display Assemblies

Select one from each category to order a Temperature Assembly with the WORM Sensor and Thermowell:

Universal Temperature Transmitter (See Page 7, and the TDY, TDZ³, STZ, TFZ, THZ, TPZ, RIY and TIY Data Sheets for Specifications)

TDY Isolated, PC-Programmable Temperature Transmitter with Display **(Standard)**
TDZ³ Isolated, Dual Input Smart HART® Temperature Transmitter with Display **(Standard)**
STZ Isolated, Functional Safety Dual Input Smart HART® Temperature Transmitter **(Standard)**
THZ Isolated, Smart HART® Temperature Transmitter with Display (Dual-Sided Housing)
TFZ Isolated, Programmable, FOUNDATION Fieldbus™ Temperature Transmitter with Display **(Standard)**
TPZ Isolated, PC-Programmable PROFIBUS PA Temperature Transmitter with Display **(Standard)**
RIY Isolated, Programmable RTD Transmitter with Display **(Standard)**
TIY Isolated, Programmable Thermocouple Transmitter with Display **(Standard)**
WEL Well Assembly Only; No Transmitter **(Standard)**

Thermowell Type (See Pages 4 and 5 for Descriptions and Dimensions)

A Heavy-Duty Threaded, Tapered Well
B Standard-Duty Threaded, Straight Well
C Standard-Duty Threaded, Stepped Well
PTB Protection Well and Tube **(Available in SS316)**
-Heavy Duty Protection Tube - Select (-P2, -P3, -P1) Process Threads
-Light Duty Protection Well - Select (-P2C, -P3C, -P1C) No Process Threads

Thermowell Process Connection Size (See Page 6)

P2 Threaded, ½-inch NPT (A, B, C Well)
P3 Threaded, ¾-inch NPT (A, B, C Well)
P1 Threaded, 1-inch NPT (Well)
F? Flanged Well, Replace "?" with Ordering Code from Table 1 on Page 6
SW? Welded, Replace "?" with size: SW1= 1-inch, SW2 = ½-inch, SW3 = ¾-inch, SW4 = 1¼-inch
S-D? Sanitary Well, Replace "?" with Cap Diameter, (D.5 = 0.984-inch, D.75 = 0.984-inch, D1 = 1.984-inch, D1.5 = 1.984-inch, D2 = 2.516-inch, D2.5 = 3.047-inch, D3 = 3.579-inch)
P2C Threaded, 0.5-inch NPT with Straight Stem = 0.375-inch O.D. Protection Tube (Cold Side Only and Light Duty, No Process Threads)
P3C Threaded, 0.75-inch NPT with Straight Stem = 0.375-inch O.D. Protection Tube (Cold Side Only and Light Duty, No Process Threads)
P1C Threaded, 1-inch NPT with Straight Stem = 0.375-inch O.D. Protection Tube (Cold Side Only and Light Duty, No Process Threads)

Thermowell Insertion Length ("U" Dimension) (See Pages 4 and 5)

U? Replace "?" with any Insertion Length in 0.25-inch Increments (2-inches or Longer, Specify in 0.25-inch Increments)

Lagging Extension Length ("T" Dimension) (See Pages 4 and 5)

T0 No Lagging, 0-inches **(Standard)**
T? Replace "?" with Length in 0.25-inch Increments

Thermowell Material

S304 SS304 **(Standard)**
S316 SS316 **(Standard)**
CS Carbon Steel
BR Brass
S310 Stainless Steel 310 for Thermowell Temperatures of 1093°C (2000°F)
S446 Stainless Steel 446 for Thermowell Temperatures of 1093°C (2000°F)
INC Inconel 600
(Other Materials Available - Consult Factory)

Fitting Type ("N" Dimension) (See Page 6 for Descriptions and Dimensions)

26 – NUN Nipple-Union, Nipple
26 – NPL 1/2-inch Nipple, 2.5-inches long
26 – NPL3 1/2-inch Nipple, 3-inches long

Continue on next page

Don't See What You Need?
This bulletin features just a sample of the wide range of temperature assembly choices we offer. Whatever your temperature assembly needs are, our interface solution experts are ready to help!

TDY / C – P2 / U4 – T0 / S304 / – 26 – NUN – WSPT14 -.06 –VTB [BH2NG] **(Ordering Number Example)**

Select one from each category to order a Temperature Assembly with the WORM Sensor and Thermowell:

Sensor Type (See Page 7 for Specifications)

RTD Sensors

-WSPT14	Standard Temperature, Pt 385 RTD; 4-Wire; 100 ohm (450°F maximum)
-WS2PT14	Standard Temperature Pt 385 RTD; 4-Wire; 100 ohm (Dual Sensor, 450°F maximum)
-WSPT104	Standard Temperature, Pt 385 RTD; 4-Wire; 1000 ohm (450°F maximum)
-WHPT14	High Temperature, Pt 385 RTD; 4-Wire; 100 ohm (800°F maximum)
-WH2PT13	High Temperature Pt 385 RTD; 3-Wire; 100 ohm (Dual Sensor, 800°F maximum)
-WHPT104	High Temperature WORM, Pt 385 RTD; 4-Wire; 1000 ohm, (800°F maximum)
-WSN1204	Nickel RTD; 4-Wire; 120 ohm (450°F maximum)
-WSCU4	Copper RTD; 4-Wire; 10 ohm (450°F maximum)

Thermocouple Sensors

-WSTC?G	Standard Temperature, Replace "?" with J, K, T or E T/C, Grounded (450°F maximum)
-WS2TC?G	Standard Temperature, Replace "?" with J, K, T or E T/C, Grounded (Dual Sensor, 450°F maximum)
-WSTC?U	Standard Temperature, Replace "?" with J, K, T or E T/C, Ungrounded (450°F maximum)
-WS2TC?U	Standard Temperature, Replace "?" with J, K, T or E T/C, Ungrounded (Dual Sensor, 450°F maximum)
-WHTC?G	High Temperature, Replace "?" with J, K, T or E T/C, Grounded
-WH2TC?G	High Temperature, Replace "?" with J, K, T or E T/C, Grounded (Dual Sensor)
-WHTC?U	High Temperature, Replace "?" with J, K, T or E T/C, Ungrounded
-WH2TC?U	High Temperature, Replace "?" with J, K, T or E T/C, Ungrounded (Dual Sensor)

**Note: Other RTD and T/C types are also available. Consult factory for details.*

Options (See Page 7 for Descriptions)

-.04	1/3 DIN High Accuracy RTD Sensor (.04%)
-.06	Class "A" High Accuracy RTD Sensor (.06%)
-10G	10G Low-Intensity Vibration Sensor
-30G	30G High-Intensity Vibration Sensor
-VTB	High Accuracy Temperature System Calibration with NIST Test Data Report (Add .04% or .06% Accuracy RTD)
-VTD	Standard Factory Calibration with NIST Test Data Report
-SSB?-BOOT	Replace "?" with SS Braid Length (in 1-inch Increments), 12-inch minimum (Specify Only with RM? If Required)
-FLEX?-BOOT	Replace "?" with Flexible Armored Cable Length (in 12-inch Increments)* (Specify Only with RM? If Required)
-.5NPT-FLEX?	1/2-inch Fitting Attached to FLEX Armor Cable and Threads into Well, Replace "?" With FLEX Armor Length in Inches.
-GRIP	1/2-inch NPT Cord Grip to Hold Sensor Lead Wires into Enclosure
-LL?	Special Wire Jacket Length Plus 6-8" Lead Wires, Replace "?" with Lead Wire Length (in 0.25-In. Increments)*
-WW	Wire Wound Option for Temperatures Below -10°F (For RTDs Only)
-ETR	Extended Temperature Required Above +800°F to 1000°F (RTDs only)
-RM?**	Remote-Mounted (-TB6); Replace "?" with Connection Head Type for the Terminal Block, i.e. -RMLH1NS
-TB6	6-Position Terminal Block (Specify When No Transmitter is Selected)
-TB8	8-Position Terminal Block (Mounted in Enclosure, Specify When No Transmitter)
-FS	Functional Safety (Yellow) LH2 Housing. Can Only be Ordered with LH2* Connection Head or with STZ and –RMLH2* Option

Connection Head (See Pages 2, 3 and 6 for Dimensions)

BH2NG**	Aluminum Body with Clear Glass Cover, Explosion-Proof/Flameproof; 2-Hub Connections, 1/2-inch NPT
DH2NG**	Dual-Compartment Enclosure, Explosion-Proof; used Only with THZ
D2LC**	D-Box, Low-Base Enclosure with Clear Valox Cover, NEMA 4X, IP66, 2-Hub Connections 1/2-inch NPT (Not available in STZ)
WEL	Well Only (No Sensor, Transmitter, Fitting or Connection Head)

*** Note: Add "P" Suffix to Enclosure (i.e., LH1NSP) for 2-inch Pipe-Mount Hardware.*

IMPORTANT NOTE

Specify Standard Temperature WS* WORM sensors for measurements up to 232°C (450°F)

Specify High Temperature WHPT* WORM sensors for measurements up to 427°C (800°F).

Specify High Temperature WHTC* WORM Sensors for measurements up to 760°C (1400°F).

For temperatures up to 1093°C (2000°F), specify WHTCKG or WHTCKU with a CL2 Sheath Length and Inconel Material.

See Previous Page for detailed information

TDY/C – P2/U4 – T0/S304/-26 – NUN **– WSPT14 -.06 –VTB [BH2NG]** **(Ordering Number Example)**

RTI-2

Ready-to-Install TDY, TDZ³, STZ, TFZ, THZ, TPZ, RIY & TIY
Temperature Transmitter & Display Assemblies

Select one from each category to order a Temperature Assembly with Straight Sensor And Thermowell:

Universal Temperature Transmitter (See Page 7, and the TDY, TDZ³, STZ, TFZ, THZ, TPZ, RIY and TIY Data Sheets for Specifications)

- **TDY** Isolated, PC-Programmable Temperature Transmitter with Display **(Standard)**
- **TDZ³** Isolated, Dual Input Smart HART® Temperature Transmitter with Display **(Standard)**
- **STZ** Isolated, Functional Safety Dual Input Smart HART® Temperature Transmitter **(Standard)**
- **THZ** Isolated, Smart HART® Temperature Transmitter with Display (Dual-Sided Housing)
- **TFZ** Isolated, Programmable, FOUNDATION Fieldbus™ Temperature Transmitter with Display **(Standard)**
- **TPZ** Isolated, PC-Programmable PROFIBUS PA Temperature Transmitter with Display **(Standard)**
- **RIY** Isolated, Programmable RTD Transmitter with Display **(Standard)**
- **TIY** Isolated, Programmable Thermocouple Transmitter with Display **(Standard)**
- **WEL** Well Assembly Only; No Transmitter **(Standard)**

Thermowell Type (See Pages 4 and 5 for Descriptions and Dimensions)

- **A** Heavy-Duty Threaded, Tapered Well
- **B** Standard-Duty Threaded, Straight Well
- **C** Standard-Duty Threaded, Stepped Well

Thermowell Process Connection Size (See Page 6)

- **P2** Threaded, ½-inch NPT
- **P3** Threaded, ¾-inch NPT
- **P1** Threaded, 1-inch NPT
- **F?** Flanged Well, Replace "?" with Ordering Code from Table 1 on Page 6
- **SW?** Welded, Replace "?" with size: SW1 = 1-inch, SW2 = ½-inch, SW3 = ¾-inch, SW4 = 1¼-inch
- **S-D?** Sanitary Well, Replace "?" with Cap Diameter, (D.5 = 0.984-inch, D.75 = 0.984-inch, D1 = 1.984-inch, D1.5 = 1.984-inch, D2 = 2.516-inch, D2.5 = 3.047-inch, D3 = 3.579-inch)

Thermowell Insertion Length ("U" Dimension) (See Pages 4 and 5)

- **U?** Replace "?" with any Insertion Length in 0.25-inch increments **(2- through 12-inch lengths are Standard)**

Lagging Extension Length ("T" Dimension) (See Pages 4 and 5)

- **T0** No Lagging, 0-inches **(Standard)**
- **T?** Replace "?" with Length in 0.25-inch Increments

Thermowell Material

- **S304** SS304 **(Standard)**
- **S316** SS316 **(Standard)**
- **S310** Stainless Steel 310 for Thermowell Temperatures of 1093°C (2000°F)
- **S446** Stainless Steel 446 for Thermowell Temperatures of 1093°C (2000°F)
- **CS** Carbon Steel
- **BR** Brass
- **INC** Inconel 600

(Other Materials Available - Consult Factory)

Fitting Type ("N" Dimension) (See Page 9 for Descriptions and Dimensions)

- **26 – NUE** Nipple-Union Spring-Loaded Fitting **(Standard)**
- **26 – NUR** Nipple, Union, Removable Spring-Loaded Fitting **(Specify –VTB option)**
- **26 – ECS** Spring Loaded Fitting
- **26 – RES** Spring Loaded Fitting **(Specify when ordering –VTB option)**
- **26 – FLS** Fluid Seal Fitting
- **26 – OS** Spring-Loaded Oil Seal

Sensor Type (See Page 7 for Specifications)

- **-PT14** Platinum 385 RTD; 3- and 4-Wire; 100 ohm
- **-PT104** Platinum 385 RTD; 3- and 4-Wire; 1000 ohm
- **-CU4** Copper RTD; 3- and 4-Wire; 10 ohm
- **-N1204** Nickel RTD; 3- and 4-Wire; 120 ohm
- **-2PT14** Dual Element Pt 385 RTD; 3- and 4-wire; 100 ohm
- **-2PT104** Dual Element Pt 385 RTD; 3- and 4-wire; 1000 ohm
- **-TCJG** J-Type Thermocouple; Grounded
- **-TCJU** J-Type Thermocouple; Ungrounded
- **-TCKG** Replace "?" with other T/C type E, T, R, S, N, B or C; Grounded
- **-TCKU** Replace "?" with other T/C type E, T, R, S, N, B or C; Ungrounded
- **-2TC?G** Replace "?" with J, K, T or E T/C, Grounded (Dual Sensor)
- **-2TC?U** Replace "?" with J, K, T or E T/C, Ungrounded (Dual Sensor)

**Note: Other RTD and T/C types are also available. Consult factory for details.*

Continued on next page

TDY / C – P2 / U4 – T0 / S304 / –26 – NUE – PT14 -.06 –VTB [BH2NG] **(Ordering Number Example)**

Select one from each category to order a Temperature Assembly with Straight Sensor And Thermowell:

Options (See Page 7 for Descriptions)

-.04	1/3 DIN High Accuracy RTD Sensor (.04%)
-.06	Class "A" High Accuracy RTD Sensor (.06%)
-VTB	High Accuracy Temperature System Calibration with NIST Test Data Report (Add .04 or .06 Accuracy RTD)
-VTD	Standard Factory Calibration with NIST Test Data Report
-ETR	Extended Temperature Required Above +800°F to 1000°F (RTDs Only)
-WW	Wire Wound Option for Temperatures Below -10°F or Above 850°F to 1000°F (For RTDs Only)
-RM**	Remote-Mounted Terminal Block; Replace "?" with Connection Head Type for the Terminal Block, i.e. -RMLH1NS
-TB8	8-Position Terminal Block (Mounted in Enclosure, Specify When No Transmitter)
-FS	Functional Safety (Yellow) LH2 Housing. Can Only be Ordered with LH2* Connection Head or with STZ and –RMLH2* Option

Connection Head (See Pages 2, 3 and 6 for dimensions)

BH2NG**	Aluminum Body with Clear Glass Cover, Explosion-Proof/Flameproof; 2-Hub connections, 1/2-inch NPT
DH2NG**	Dual-Compartment Enclosure, Explosion-Proof/Flameproof; used only with THZ
D2LC**	D-Box, Low Base Enclosure with Clear Valox Cover, NEMA 4X, IP66; 2-Hub Connections 1/2-inch NPT (Not available in STZ)
WEL	Well Only (No Sensor, Transmitter, Fitting or Connection Head)

See Previous Page for detailed information

TDY / C – P2 / U4 – T0 / S304 / -26 – NUE – PT14 **–.06 –VTB [BH2NG]** **(Ordering Number Example)**

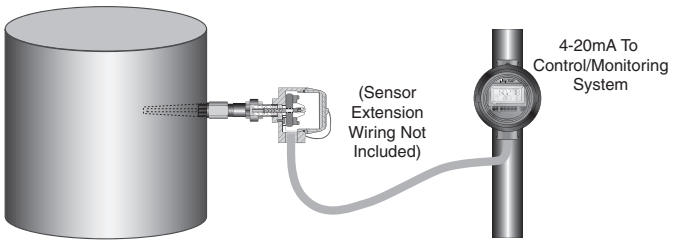
Factory Calibration Available

Sensor-to-Transmitter Trimming—Our state-of-the-art **Calibration Suite** provides exceptional accuracy by immersing the system's sensor in a precision calibration bath, then using the transmitter to "capture" the sensor's true readings. This method effectively compensates for errors caused by inherent sensor inaccuracies. The system is delivered configured, calibrated, and ready for installation. NIST traceable test data is supplied with each system. To order, specify option **–VTB** in the model number.

NIST Traceable Test Report—Moore Industries will configure the temperature transmitter and calibrate zero and span points with customer-supplied values using a precision simulated sensor input. NIST traceable test data indicating actual recorded values is supplied with each instrument. To order, specify option **–VTD** in the model number.

Remote-Mounted Terminal Block

Remove the Display From the Process—Position your sensor in the heart of your process while keeping your transmitter in an easily accessible area with our *Remote Terminal Block* option. Add the **–RM?** option to your temperature assembly and receive two housings: a transmitter in the specified connection head, and a terminal block enclosed in an additional connection head with your selected sensor and fittings attached. Sensor extension wiring (not included) connects the terminal block to the transmitter.



RTI-2

Ready-to-Install TDY, TDZ³, STZ, TFZ, THZ, TPZ, RIY & TIY
Temperature Transmitter & Display Assemblies

Select one from each category to order a **Temperature Assembly with Fixed Immersion Sensor:**

Universal Temperature Transmitter (See Page 7 and TDY, TDZ³, STZ, TFZ, THZ, TPZ, RIY & TIY Data Sheets for Specifications)

- **TDY** Isolated, PC-Programmable Temperature Transmitter with Display **(Standard)**
- **TDZ³** Isolated, Dual Input Smart HART® Temperature Transmitter with Display **(Standard)**
- **STZ** Isolated, Functional Safety Dual Input Smart HART® Temperature Transmitter **(Standard)**
- **THZ** Isolated, Smart HART® Temperature Transmitter with Display (Dual-Sided Housing) **(Standard)**
- **TFZ** Isolated, Programmable, FOUNDATION Fieldbus™ Temperature Transmitter with Display **(Standard)**
- **TPZ** Isolated, PC-Programmable PROFIBUS PA Temperature Transmitter with Display **(Standard)**
- **RIY** Isolated, Programmable RTD Transmitter with Display **(Standard)**
- **TIY** Isolated, Programmable Thermocouple Transmitter with Display **(Standard)**
- **SEN** Sensor Only; No Transmitter **(Standard)**

Sensor Length ("CL" Dimension) (See Page 3)

- **CL?** Replace "?" with any Sensor Length (e.g., CL2.75, CL6) in 0.25-inch increments **(2- through 16-inch lengths are Standard)**

Sensor Sheath Diameter

- **D12** 0.125-inch Diameter **(Consult Factory)**
- **D18** 0.187-inch Diameter **(Consult Factory)**
- **D25** 0.25-inch Diameter **(Standard)**
- **D38** 0.38-inch Diameter **(Consult Factory)**

Sensor Sheath Material

- **S316** SS316 **(Standard)**
- **INC** Inconel 600

Sensor Type (See Page 7 for Specifications)

- **PT1C4*** Platinum 385 RTD; 3- and 4-Wire; 100 ohm
- **PT10C4*** Platinum 385 RTD; 3- and 4-Wire; 1000 ohm
- **2PT14** Dual Element Pt 385 RTD; 3- and 4-Wire; 100 ohm
- **2PT104** Dual Element Pt 385 RTD; 3- and 4-Wire; 1000 ohm
- **CUC4*** Copper RTD; 3- and 4-Wire; 10 ohm
- **NC1204*** Nickel RTD; 3- and 4-Wire; 120 ohm
- **TCC?G‡** Replace "?" with J, K, T, E, R, S, N, B or C T/C, Grounded
- **TCC?U‡** Replace "?" with J, K, T, E, R, S, N, B or C T/C, Ungrounded
- **2TC?G** Replace "?" with J, K, T or E T/C, Grounded (Dual Sensor)
- **2TC?U** Replace "?" with J, K, T or E T/C, Ungrounded (Dual Sensor)

*RTD Sensors are not available with the TIY.
‡Thermocouple Sensors are not available with the RIY.

Options (See Page 7 for Descriptions)

Sensor Options

- **-.04** 1/3 DIN High Accuracy RTD Sensor (.04%)
- **-.06** Class "A" High Accuracy RTD Sensor (.06%)
- **-VTB** Standard Factory Temperature Bath Calibration with NIST Test Data
- **-VTD** High Accuracy Transmitter Calibration with NIST Test Data
- **-WW** Wire Wound Option for Temperatures Below -10°F (For RTDs only)
- **-ETR** Extended Temperature Required above +800F to 1000 Deg F (RTDs only)
- **-TB6** 6-Position Terminal Block (Mounted in Enclosure)
- **-TB8** 8-Position Terminal Block (Mounted in Enclosure, Specify When No Transmitter)

Enclosure Options

- **-RM?**** Remote-Mounted Terminal Block; Replace "?" with Connection Head Type for the Terminal Block, i.e. –RMLH2NS (Include -LL? Needed)
- **-LL?** Special Wire Jacket Length plus 6-8" Lead Wires - Replace "?" with Length up to 120" (Specify in 0.25-inch Increments)
- **-FS** Functional Safety (Yellow) LH2 Housing. Can Only be Ordered with LH2* Connection Head or with STZ and –RMLH2* Option.

Connection Head (See Pages 2, 3 and 6 for Dimensions)

- **BH2NG**** Aluminum Body with Clear Glass Cover, Explosion-Proof/Flameproof; 2-Hub connections, 1/2-inch NPT
- **DH2NG**** Dual-Compartment Enclosure, Explosion-Proof/Flameproof; used only with THZ
- **D2LC**** D-BOX, Low Base Enclosure with Clear Valox Cover, NEMA 4X, IP66; 2-Hub connections, 1/2-inch NPT (Not available in STZ)
- **WEL** Well Only (No Sensor, Transmitter, Fitting or Connection Head)

***Note: Add "P" Suffix to Enclosure (i.e., BH2NGP) for 2-inch Pipe-Mount Hardware*

TDZ³ / CL6 / D25 / S316 / -TCCJU -VTB [BH2NG] **(Ordering Number Example)**

По вопросам продаж и поддержки обращайтесь:

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