

I/A Series[®] Temperature Products
Model PRMTA
Configurable Sensors

Give instrument Model Code when ordering.
*Parts preceded by an asterisk are recommended spare parts.
See Recommended Spare Parts Summary section for quantities.

TO ORDER PARTS, CALL 1-866-746-6477.

MODEL CODE

<u>Description</u>	<u>Model</u>
Model PRMTA Configurable Sensor	PRMTA
<u>Element</u>	
Single	-1
Duplex (a)	-2
<u>Sensor Type</u>	
Bare sensor	B
Sensor for Thermowell mount	T
<u>Input Measurement Type</u>	
Thermocouple, Type E	E
Thermocouple, Type J	J
Thermocouple, Type K	K
Thermocouple, Type N	N
Thermocouple, Type T	T
3-wire RTD, 100 ohm platinum IEC 751 (ASTM-B standard accuracy)	Q
4-wire RTD, 100 ohm platinum IEC 751 (ASTM-B standard accuracy)	4
3-wire RTD, 100 ohm platinum IEC 751 (ASTM-A high accuracy)	A
4-wire RTD, 100 ohm platinum IEC 751 (ASTM-A high accuracy)	6
3-wire RTD, Callendar-van Dusen	W
<u>Not Used</u>	
None	N
<u>Sheath (0.25 inch OD) (b)</u>	
Inconel	F
316 Stainless Steel	S
<u>Insertion Length (A-length or U-length) (c)</u>	
2.0 inches (50.8 mm)	0020
2.5 inches (63.5 mm)	0025
3.0 inches (76.2 mm)	0030
3.5 inches (88.9 mm)	0035
4.0 inches (101.6 mm)	0040
4.5 inches (114.3 mm)	0045
5.0 inches (127.0 mm)	0050
5.5 inches (139.7 mm)	0055
6.0 inches (152.4 mm)	0060
6.5 inches (165.1 mm)	0065
7.0 inches (177.8 mm)	0070
7.5 inches (190.5 mm)	0075
...	XXXX
36.0 inches (914.4 mm)	0360
<u>Lagging Length (T-length) (d) (e)</u>	
0 inches (0 mm) ^(d)	000
2.0 inches (50.8 mm)	020
2.5 inches (63.5 mm)	025
3.0 inches (76.2 mm)	030
3.5 inches (88.9 mm)	035
4.0 inches (101.6 mm)	040

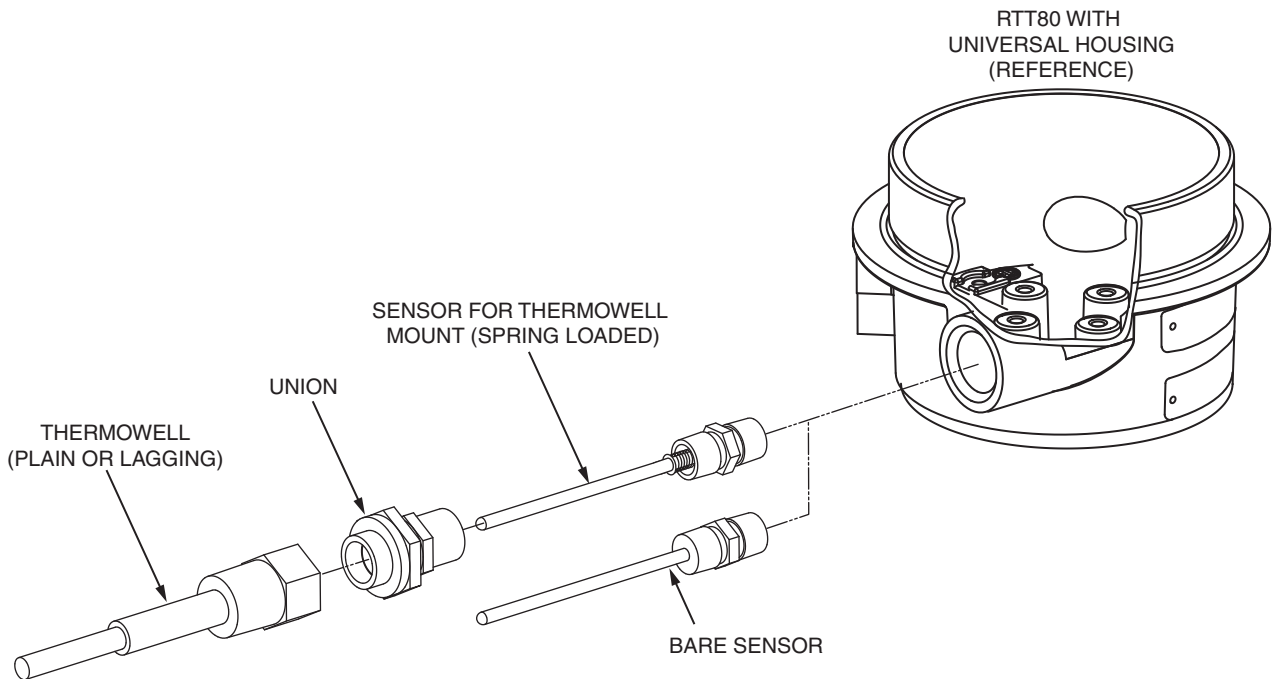
PARTS

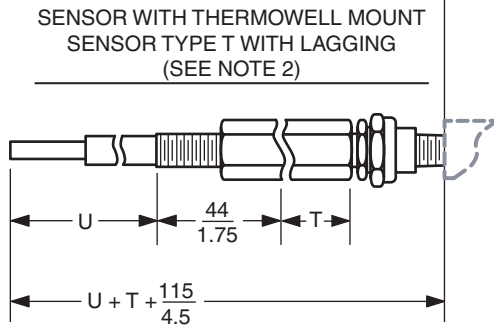
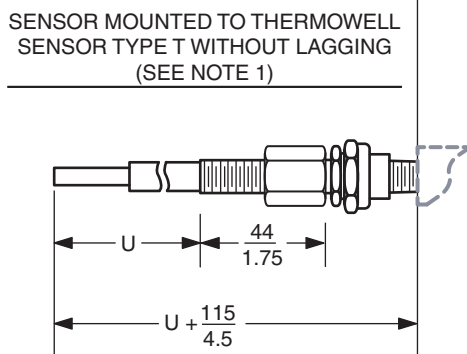
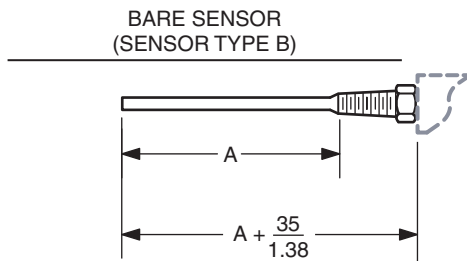
Description	Model
Optional Features	
Three-Point Calibration with Certificate	-C1
Cleaned and Prepared for Oxygen Service (f)	-C5

- a. Note that not all duplex sensor types may be able to connect to one temperature transmitter. Consult transmitter product literature for allowable connections.
- b. Sheath material (Inconel and stainless steel) represents an electrically isolated sensor when pertaining to thermocouples.
- c. Insertion length represents the U-length for sensors with thermowells (Sensor Type T) and the A-length for bare sensors (Sensor Type B). Specify the desired insertion length in increments of 0.5 inches up to a maximum of 36.0 inches (914.4 mm). Substitute numerical values for the four character positions, where the last character position is a "0" or "5" and represents the digit after the decimal point. For example, "0165" represents a 16.5 inch insertion length.
- d. For sensors with thermowells (Sensor Type T), the lagging length defined for the PRMTA must match the lagging length defined for the thermowell. For bare sensors (Sensor Type B), select zero lagging length (Selection 000).
- e. Specify the desired lagging length in increments of 0.5 inches from 2.0 inches (50.8 mm) up to a maximum of 4.0 inches (101.6 mm). Substitute numerical values for the three character positions, where the last character position is a "0" or "5" and represents the digit after the decimal point. For example, "035" indicates a 3.5 inch lagging length.
- f. Optional Selection -C5, Cleaned and Prepared for Oxygen Service, provides cleaning and preparation of materials for oxygen and chlorine service, and only applies to replacement sensors. For certification of cleaning, order Cert G in the Auxiliary Specifications section.

PARTS

**Figure 1. PRMTA CONFIGURABLE SENSORS:
BARE SENSOR AND SENSOR FOR THERMOWELL MOUNT**





mm
in

A = Bare Sensor Length (without thermowell)
U = Thermowell Insertion Length
T = Thermowell Lagging Length

NOTES

1. When using Sensor Type T without lagging, the sensor length must equal the insertion length of the thermowell (U).
2. When using Sensor Type T with lagging, the sensor length must equal the insertion length plus the lagging length of the thermowell (U + T).





SELECTED THERMOWELLS OFFERED WITH PRMTA CONFIGURABLE SENSORS

Thermowells isolate the process and separate the temperature-measuring sensitive portion of the sensor from potentially corrosive or damaging process media. These thermowells permit ready removal of the sensor without process shutdown. A selection of plain or lagged, threaded or flanged, solid, welded, or tapered thermowells is available in a variety of sizes and materials. The thermowells are machined from industry standard materials, and a polished finish assures maximum corrosion resistance. They are manufactured in accordance with applicable ASME, ASTM, and ANSI standards.

Thermowells that can be used with PRMTA configurable sensors are available in the basic configurations listed below: Threaded (TT), Flanged (TF), Sanitary (TS), Weld-in (TW), and W-Series thermowells.

— NOTE —

For additional information and thermowell specifications, refer to PSS 3-3C1 A for W-Series thermowells, and to PSS 3-3D1 A for T-Series thermowells.

Thermowell Type	Material	Process Connection/ Flange Size
Threaded (TT) 	<ul style="list-style-type: none"> • Carbon steel • 304 ss • 316 ss • Monel • Nickel alloy (a) • Alloy 20 	<ul style="list-style-type: none"> • ½ inch NPT • ¾ inch NPT • 1 inch NPT
Flanged (TF) 	<ul style="list-style-type: none"> • Carbon steel • 304 ss • 316 ss • Monel • Nickel alloy^(a) • Alloy 20 	<ul style="list-style-type: none"> • 1 inch flange • 1½ inch flange • 2 inches flange • 3 inches flange
Sanitary (TS) 	<ul style="list-style-type: none"> • Carbon steel • 304 ss • 316 ss • Monel • Nickel alloy^(a) • Alloy 20 	<ul style="list-style-type: none"> • ¾ inch tri-clamp • 1 inch tri-clamp • 1½ inches tri-clamp • 2 inches tri-clamp • 3 inches tri-clamp
Weld-In (TW) 	<ul style="list-style-type: none"> • Carbon steel • 304 ss • 316 ss 	<ul style="list-style-type: none"> • 1.05 inch diameter, socket weld ¾ inch pipe • 1.315 inches diameter, socket weld 1 inch pipe • 1.5 inches diameter, socket weld-in

a. Equivalent to Hastelloy® C. Hastelloy is a registered trademark of Haynes International, Inc.

Thermowells available for use with the PRMTA Configurable Sensor have the following specifications:

Thermowell Internal Diameter	0.260 inch (6.6 mm)
Thermowell Shank Types	Straight, Stepped, or Tapered
Thermowell Insertion Length (U-Length)	2 inches (50.8 mm) through 36 inches (914.4 mm) in 0.5 inches increments
Thermowell Lagging Length (T-Length)	0 (no lagging) or 2.0 inches (50.8 mm) through 4.0 inches (101.6 mm) in 0.5 inches increments

OPTIONS AND ACCESSORIES

Option -C1: Calibration Certificate

A 3-point calibration with certificate is provided. For standard or special calibration curve, specify Optional Selection -C1.

Option -C5: Cleaned and Prepared for Oxygen Service

This provides cleaning and preparation of materials for oxygen and chlorine service. For certification of the cleaning, specify Cert G in the Auxiliary Specification section.

Accessory: RTD to Instrument Cable

Three wires, stranded copper, 1.0 mm² or 18 AWG. Polyethylene insulation is 8.4 mm (0.33 in). Temperature limit is 90°C (195°F). Specify Part Number R0101LY and desired length.

ORDERING INSTRUCTIONS

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The PRMTA configurable sensors are used with I/A Series Temperature Transmitters. You can order a sensor at the same time you order your temperature transmitter, and the sensor is shipped assembled to the transmitter. Alternately, you can order sensors separately as replacement parts for transmitters in the field.

For example, the RTT80 temperature transmitter model code has several selections that allow you to specify how the transmitter will be used:

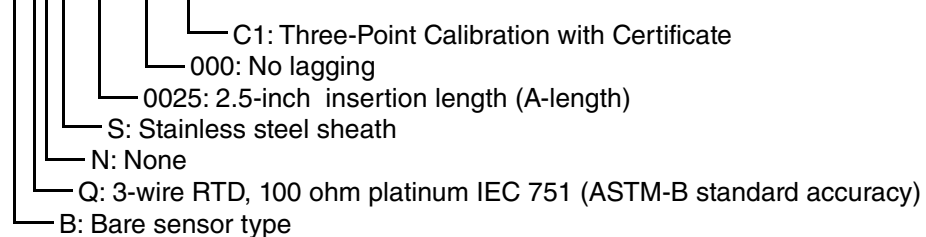
- The RTT80 Housing and Sensor Mounting selection specifies whether the transmitter will be used with a remote sensor, a bare sensor, or a sensor with thermowell mounting capabilities. A remote sensor must be ordered separately.
- The RTT80 Input Measurement Type selection configures the transmitter to use a specific measurement type. When you order an RTT80 with sensor or sensor and thermowell mounting capabilities, the RTT80 Input Measurement Type options are limited to the types of sensors that can be supplied by the factory. When you order a PRMTA sensor that will be mounted on an RTT80, the PRMTA Input Measurement Type must match the RTT80 Input Measurement Type.
- The RTT80 Thermowell Assembled to Housing selection allows you to specify whether a thermowell will be used with the transmitter, and if so, whether the thermowell will be user-supplied or will be a T- or W-Series thermowell.

Example 1

Bare sensor configuration
3-wire standard accuracy RTD sensor type
2.5 inch insertion length (A-length)
No lagging

PRMTA Model Number from PSS 3-3E1 A:

e.g., PRMTA-1BQNS0025000-C1

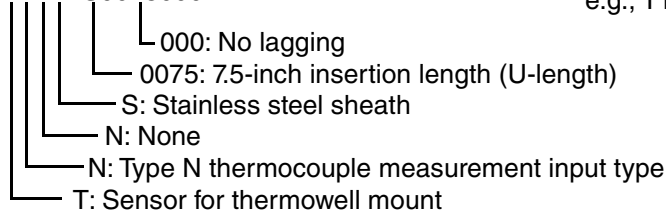


Example 2

With sensor and thermowell mounting
Type N thermocouple sensor type
7.5 inches insertion length (U-length)
No lagging

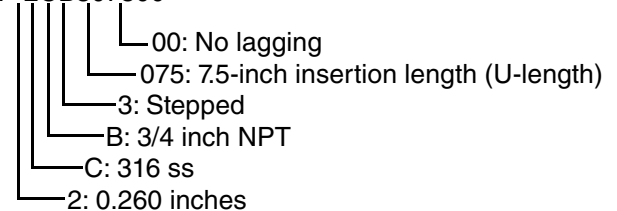
PRMTA Model Number from PSS 3-3E1 A:

e.g., PRMTA-1TNNS0075000



T-Series Thermowell Model Number from PSS 3-3D1 A:

e.g., TT-2CB307500

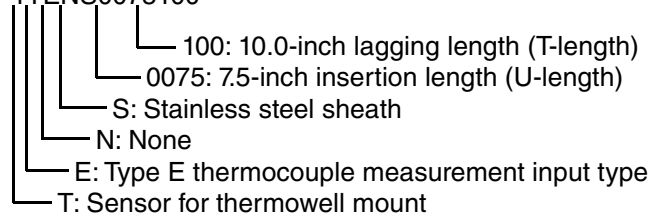


Example 3

With sensor and thermowell mounting
Type N thermocouple sensor type
7.5 inches insertion length (U-length)
10.0 inches lagging length (T-length)

PRMTA Model Number from PSS 3-3E1 A:

e.g., PRMTA-1TENS0075100



RECOMMENDED SPARE PARTS SUMMARY

PRMTA configurable sensors can be ordered with an I/A Series Temperature Transmitter or separately as replacement sensors for transmitters in the field. Use the information on "ORDERING INSTRUCTIONS" on page 7 to order replacement sensors for your transmitter.