

Connector-Transmitter for OMEGA™

RTDs and Thermocouples

Replace Other Style Transmitters
with a Connector-Transmitter

The Smart Connector™

SPRTX Series



Dual locking clips included.

Shown actual size.

Standard-Size
RTD Connector-
Transmitter

Just Plug Your
Probe in and
You're "Wired"!

PR-13-2-100-(3/16)-12-E
RTD probe sold
separately, visit
OMEGA for details.

- ✓ 2-Wire, 4 to 20 mA Output
- ✓ Models for 100 Ω, 0.00385 3-Wire RTDs and J, K, or T Thermocouples
- ✓ Encapsulated Electronics Housing
- ✓ High Accuracy, Repeatability, and Stability
- ✓ Factory Calibrated—No Adjustments Required
- ✓ Provides "Open Sensor Wire" Signal Indication
- ✓ RTD Model Compensates for Long Lead Wires

Loop Powered!

The Omega 2-wire connector-transmitters are high-performance, low-cost, industrial RTD and thermocouple transmitters. Both feature an encapsulated micro miniature signal conditioner built into the connector housing. The SPRTX signal conditioner converts the resistive change of a 100 Ω, 0.00385 RTD sensor or probe across a dedicated temperature range into an industry-standard 2-wire, 4 to 20 mA analog output. The STCTX signal conditioner amplifies the non-linear millivolt output of a thermocouple sensor

or probe across a dedicated temperature range, providing an amplified, industry-standard, 2-wire 4 to 20 mA analog output.

Specifications SPRTX Series

Supply Voltage:
9 to 24 Vdc @ 30 mA max

Output: Linearized 4 to 20 mA

Accuracy: ±0.5% of FS @ 23°C (73°F) ambient

Repeatability: ±0.25°C (±0.5°F)

Temperature Effect:
±0.0022 mA/°C (±0.0012 mA/°F)

Max Load:
 $R_{max}(\Omega) = (V_{supply} - 9V)/0.02 A$

Omega Exclusive!

Miniature 2-wire RTD
connector-transmitter,
shown close to actual size.

Each connector-transmitter
comes fully assembled,
complete with connector,
built-in transmitter and
3 m (10') of cable.

Contact Sales
for Quantity
Discounts!

Max Input Lead Resistance: 50V
Transmitter Operating Temp:
-40 to 85°C (-40 to 185°F)
Output Connection: 2-wire,
shielded cable [3 m (10') included]
Approvals: CE marked
Weight: 110 g (0.25 lb) max with cable

UNIVERSAL CONNECTOR ON THERMOCOUPLE MODELS

Female connector fits
both standard and
miniature probe
connectors.

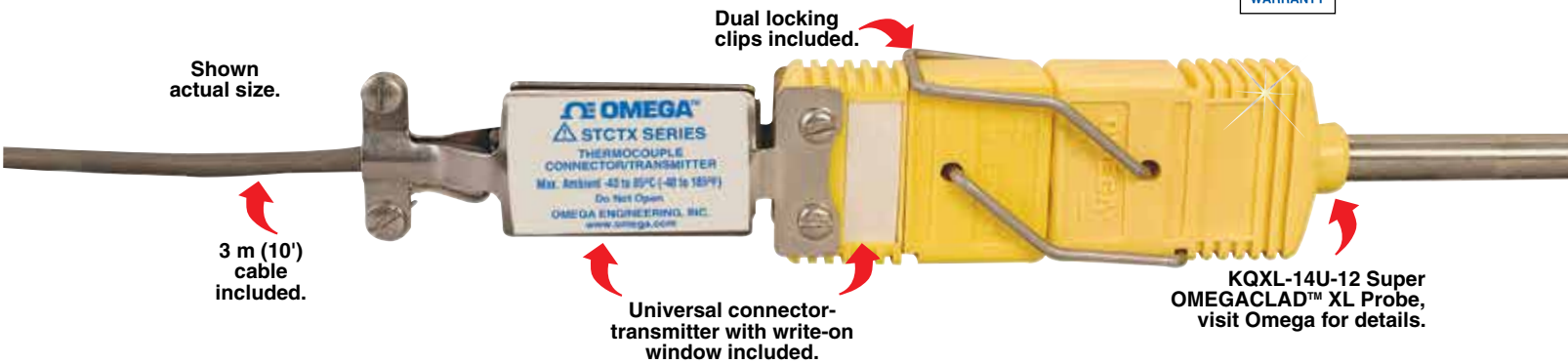
"FITS ALL"

Actual size.



Two-Wire Transmitter Built into a Thermocouple Connector!

STCTX Series



SPRXTX Series for RTDs

Range:

SPRXTX-M1, SPRXTX-S1:
-99 to 208°C (-146 to 406°F)

SPRXTX-M2, SPRXTX-S2:
2 to 569°C (36 to 1056°F)

Input: 3-wire, PT100 ($\alpha = 0.00385$)

Open Sensor Wire Indication:

Leg 1: Open = 27 mA

Leg 2: Open = 2.2 mA

Leg 3: Open = 2.2 mA

Input Connection:

SPRXTX-M1, SPRXTX-M2:
3-prong miniature connector (MTP-U-F)

SPRXTX-S1, SPRXTX-S:
3-prong standard-size connector (OTP-U-F)

Dimensions:

SPRXTX-M1, SPRXTX-M2:
24 H x 18 W x 79 mm L
(0.96 x 0.70 x 3.12")

SPRXTX-S1, SPRXTX-S2:
36 H x 18 W x 83 mm L
(1.43 x 0.70 x 3.25")

Approvals: CE marked (SPRXTX only)

STCTX Series for Thermocouples

Range by Model:

STCTX-J1, -K1, -T1: -18 to 121°C
(0 to 250°F)

STCTX-J2, -K2: -18 to 538°C
(0 to 1000°F)

STCTX-K3: -18 to 1093°C
(0 to 2000°F)

STCTX-T2: -18 to 399°C
(0 to 750°F)

Input: Thermocouple signal (ungrounded sensors only)
Type J, K or T by model

Open Sensor Indication: 22 to 27 mA

Input Connection: Universal thermocouple connector (UST Series)

Supply Voltage: 9 to 24 Vdc @ 30 mA

Output: 4 to 20 mA (2-wire)

Accuracy: $\pm 0.5\%$ of full scale millivolt input @ 23°C (73°F) plus the non-linearity of the thermocouple type (Note: The STCTX does not compensate for thermocouple non-linearity)

Ambient Temp Effect: ± 0.015 mA/°C

Max Loop Load:
 $V = (V_{\text{supply}} - 9V) / 0.020 \text{ A}$

Transmitter Operating Temp:
-40 to 85°C (-40 to 185°F)

Output Connection: 2-wire shielded cable [3 m (10') included]

Response Time: 120 ms
(0 to 63% FS)



Interfaces with Standard 4 to 20 mA Instrumentation
Model DPI8 shown smaller than actual size, visit Omega for details.

To Order

Model No.	Description
SPRXTX-(*)1	RTD connector-transmitter, range: -99 to 208°C (-146 to 406°F)
SPRXTX-(*)2	RTD connector-transmitter, range: 2 to 569°C (36 to 1056°F)
STCTX-(**)	Thermocouple connector-transmitter, with universal connector

* Insert "M" for miniature RTD connector or "S" for standard-size RTD connector.

** Add range, J1, J2, K1, K2, K3, T1 or T2.

Accessories

Model No.	Description
TX2-100	2-conductor shielded cables, 30 m (100')
PSR-24S	Regulated power supply, 24 Vdc, 400 mA, screw terminal
PSR-24L	Regulated power supply, 24 Vdc, 400 mA, UL, stripped leads
PSR-24L-230	Regulated power supply, 2stripped leads, 230 Vac input, CE
CAL-3	NIST-traceable calibration with data
CAL-3-SYSTEM	CAL-3 calibration with probe

Each connector-transmitter comes fully assembled, complete with connector, built-in transmitter and 3 m (10') of cable.

Note: The SPRXTX and STCTX Series are not for use in medical or nuclear applications, nor in flammable or explosive environments.

Ordering Example: SPRXTX-S2, RTD standard size connector-transmitter with high temperature range, PSR-24L power supply.