

# Connector-Transmitter for RTDs and Thermocouples

## Replace Other Style Transmitters with a Connector-Transmitter

### The Smart Connector™

SPRTX/STCTX  
Series  
Starts at  
**\$75**



Dual locking clips included.

Standard-Size RTD  
Connector-Transmitter

PR-13-2-100-(\*)-12-E  
RTD probe, sold  
separately, \$77,  
see [omega.com](http://omega.com)

Shown actual size.

- ✓ 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 a patented 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

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

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:** ±0.00022 mA/°C (±0.00012 mA/°F)

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

**OMEGA® Exclusive!**

Covered by U.S. and International patents and patents pending

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:** 50 V

**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

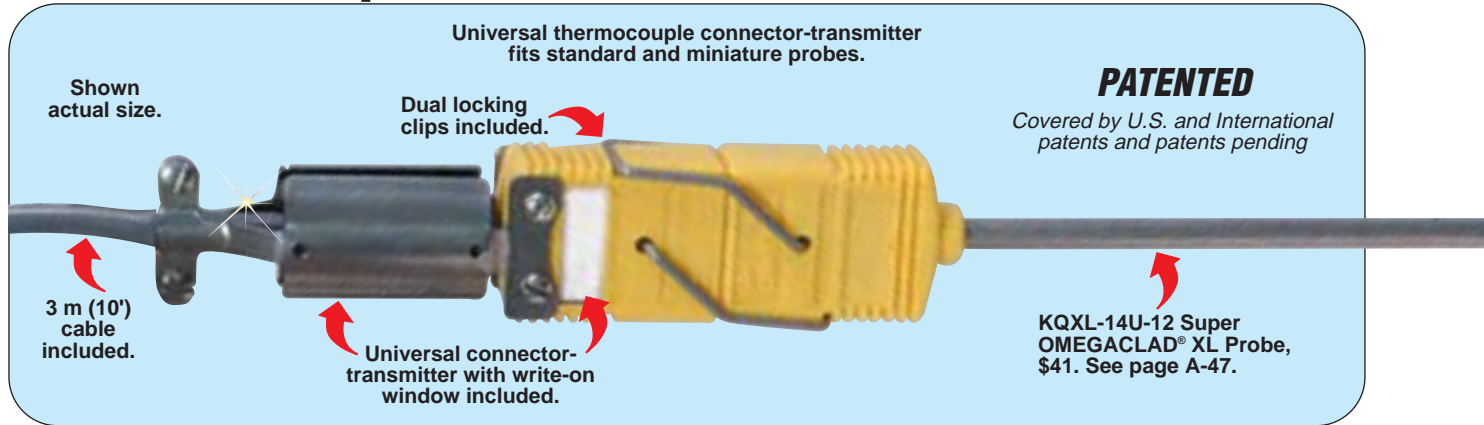
#### UNIVERSAL CONNECTOR ON THERMOCOUPLE MODELS

Patented female connector fits both standard and miniature probe connectors.



**“FITS ALL”**

# Two-Wire Transmitter Built into a Thermocouple Connector!



## SPRTX Series for RTDs

### Range:

- SPRTX-M1, SPRTX-S1:**  
-99 to 208°C (-146 to 406°F)
- SPRTX-M2, SPRTX-S2:**  
2 to 569°C (36 to 1056°F)

**Input:** 3-wire, PT100 (a = 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:

- SPRTX-M1, SPRTX-M2:**  
3-prong miniature connector (MTP-U-F)
- SPRTX-S1, SPRTX-S:**  
3-prong standard-size connector (OTP-U-F)

### Dimensions:

- SPRTX-M1, SPRTX-M2:**  
24 H x 18 W x 79 mm L  
(0.96 x 0.70 x 3.12")
- SPRTX-S1, SPRTX-S2:**  
36 H x 18 W x 83 mm L  
(1.43 x 0.70 x 3.25")

## 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:** ±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:** ±0.002 mA/°C

### Max Loop Load:

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

### Transmitter Operating Temp:

-40 to 85°C (-40 to 185°F)

**Approvals:** CE marked

**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, \$240, see [omega.com](http://omega.com)

## MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)		
Model No.	Price	Description
SPRTX-(*)1	\$75	RTD connector-transmitter, range: -99 to 208°C (-146 to 406°F)
SPRTX-(*)2	75	RTD connector-transmitter, range: 2 to 569°C (36 to 1056°F)
STCTX-(**)	75	Thermocouple connector-transmitter, with universal connector

## Accessories

Model No.	Price	Description
TX2-100	\$28.50	2-conductor shielded cables, 30 m (100')
PSR-24S	60	Regulated power supply, 24 Vdc, 400 mA, screw terminal
PSR-24L	60	Regulated power supply, 24 Vdc, 400 mA, UL, stripped leads
PSR-24L-230	60	Regulated power supply, 24 Vdc, 400 mA, stripped leads, 230 Vac input, CE
CAL-3	75	NIST-traceable calibration with data
CAL-3-SYSTEM	125	CAL-3 calibration with probe

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

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

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

**Ordering Example:** SPRTX-S2, RTD standard size connector-transmitter with high temperature range, PSR-24L power supply, \$75 + 60 = \$135.

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### • Heaters

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