

## Programmable Thermocouple or RTD Signal Conditioners Offer Improved Accuracy And Reliability

Watlow's SERIES 5900 temperature transmitters offer remarkably accurate temperature measurement and improved reliability which reduces downtime and costs.

The 5900 SERIES two-wire signal conditioner is constructed using surface mount technology and utilizes digital technology with non-volatile memory. It is designed to fit directly into universal aluminum or universal iron connection heads with a separate mounting kit.

The transmitter is programmed via a separate connection cable along with an easy-to-use Windows®-based software program. There is no need to use a separate thermocouple/RTD calibrator; nor are individual resistors required.

The SERIES 5900 is isolated to 1500V~(ac) and features full linearization between temperature sensor input signal and the 4-20mA output signal. Isolated transmitters provide isolation from input to output thus eliminating ground loops and other related problems to signal integrity.

Additional options include insulation resistance monitoring between sensor and ground to prevent inaccurate measurements due to insulation breakdown.

Contact our customer service department to integrate this transmitter into a Watlow Style AR or AT thermocouple sensor or a Watlow Style RR or RT RTD sensor.



### Features and Benefits

**Full temperature to thermocouple signal linearization over the complete operation temperature span**

- Ensures signal accuracy

**Full isolation from input to output**

- Eliminates ground loops for high data integrity

**Fits directly into connection head**

- Easy to install

**Programmable**

- Insures greater convenience for future changes and inventory efficiency

**User selectable input types**

- Thermocouple calibration Types B, C, E, J, K, N, R, S and T; RTD Pt100 and Pt1000 including four-wire

**Optional insulation resistance monitoring**

- Prevents inaccurate measurements due to insulation breakdown

**CE marked**

- Compliant to electromagnetic interference

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5710 Kenosha Street  
Richmond, Illinois 60071 USA  
Phone: +1 (815) 678-2211  
FAX: +1 (815) 678-3961  
Internet: [www.watlow.com/sensors](http://www.watlow.com/sensors)  
e-mail: [info@watlow.com](mailto:info@watlow.com)

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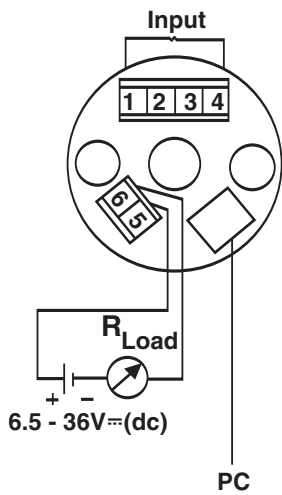


To be automatically connected to the nearest North American Technical and Sales Office call:

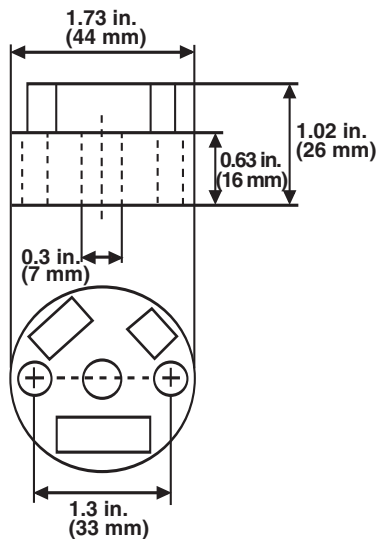
## 1-800-WATLOW2

**International Technical and Sales Offices:** Australia, +61 (39) 335-6449 • China, +86 (21) 5211-0231 • France, +33 (01) 3073-2425 • Germany, +49 (0) 7253-9400-0 • Italy, +39 (02) 458-8841 • Japan, +81 (03) 3518-6630 • Korea, +82 (02) 575-9804 • Malaysia, +60 (4) 641-5977 • Mexico, +52 (442) 217-6235 • Singapore, +65 6773-9488 • Spain, +34 91 675 12 92 • Sweden, +46 31 7014959 • Taiwan, +886 (0) 7-288-5168 • United Kingdom, +44 (0) 115-964-0777





## Standard Dimension



## Ordering Information

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15													
1-4. Series				5. Sensor Type				6. Low Temperature Sign				7-9. Low Temperature				10. High Temperature Sign				11-14. High Temperature				15. Unit of Measure (°C/°F)			
5900 = Isolated, linearized T/C or RTD				Standard plugs and jacks 200°C (400°F)				(Enter + or - sign)				Program cable and software part #5900-CABLE															
5901 = 1000Ω RTD				B = Type B T/C      R = Type R T/C				C = Type C T/C      S = Type S T/C																			
5902 = Isolated, linearized with insulation resistance monitoring				E = Type E T/C      T = Type T T/C																							
				J = Type J T/C      O = 3-Wire RTD																							
				K = Type K T/C      1 = 2-Wire RTD																							
				N = Type N T/C      2 = 4-Wire RTD																							

## Specifications

- **Isolation:** 1500V~(ac) for one minute
- **Operating voltage:** 6.5 to 36 volts (the 5900 is protected against voltage surges and reverse polarity)
- **Sensor burn out protection:** A pulsed current is continuously checking all sensor leads for disconnect. The output will go upscale or downscale.
- **Minimum input signal:** RTDs: 10°C, Thermocouples: 2mV
- **Operating temperature:** -40 to 85°C
- **Response time appr.:** 0.5 seconds
- **RFI sensitive:** 20 - 1000 MHZ, 10V/m typical <0.1 percent (of end value)
- **Permissible ripple of supply:** 4V p-p
- **Long term stability:** 0.1 percent per year
- **Calibration inaccuracy, thermocouples:** max of 20μ volts or 0.01 percent
- **Temperature effect:** cold junction compensation 0.02 percent C/C
- **Housing:** PC, ABS/VO connection polyamid / V2
- **Mounting:** DIN B

## Wiring Diagram

