

# SR2300

## RTD INPUT, FIELD RANGEABLE TWO-WIRE TRANSMITTER

### FEATURES

- Provides DC Output Proportional to an RTD Input
- 3-Wire or 2-Wire, 10 ohms to 1000 ohms RTDs
- Test Points for Loop Current Monitoring without Breaking Loop Circuit
- Linearized for Platinum RTDs
- Unlimited\* Choice of Input Ranges via Interchangeable Range Cards
- Reverse Polarity-Protected
- 50 mm Diameter Case - 33 mm Mounting Hole Spacing
- NEMA-4 Connection Head and Explosion-Proof Housing Available
- Low Cost
- Intrinsically Safe Design with FM and CSA Approvals Pending
- 5 Year Warranty

### DESCRIPTION

The SR2300 is a low-cost, reliable, RTD input two-wire transmitter for field or panel mounting in various industrial housings and enclosures. It provide a DC output current (4/20 mA) proportional to an RTD input.

All Wilkerson products are designed with RFI filters and lightning protection to reduce susceptibility to electrical noise and damage by

lightning. Ranging is accomplished via plug-in card which characterizes the input for the desired RTD type and sets the temperature range. Linearization is provided for platinum RTDs.

The SR2300 utilizes a single constant current source to excite the RTD. An accurate and stable leadwire compensation circuit uses the third lead of a 3-wire RTD to compensate for the RTD lead resistance. The output ZERO and SPAN controls are

accessible through the top of the case. A Zero is adjustable  $\pm 20\%$  and Span  $\pm 15\%$ . Terminations are made to screw terminal connectors on the top of the case.

Test points located on the SR2300 front panel allow verification of loop current value, using a millammeter, without breaking the loop current.

### TYPICAL APPLICATIONS

Remote temperature data aquisition.

### SPECIFICATIONS

#### RTD INPUT

3-Wire or 2-Wire,  
10 ohms to 1000 ohms  
Pt, Ni, Cu

#### INPUT RANGE

select any range from  
-100°C to +850°C  
(min span 20°F/10°C)

#### EXCITATION CURRENT

2.4 mA (10 ohms to 500 ohms)  
0.24 mA (> 500 ohms)

#### OUTPUT RANGE

4/20 mA  
Current limited = 35 mA

#### MAX LOAD RESISTANCE

$= [(V_{supply} - 10)/20 \text{ mA}]$  kilohms

#### RESPONSE TIME

Step Change  
150 ms for 99% of final value

#### ACCURACY

$\pm 0.1\%$  of span or 0.02 ohms,  
whichever is greater

#### LINEARITY

(Pt RTD, output vs. temp)  
 $\pm 0.03\%$  of span  
(fullscale temp < 400°C)  
 $\pm 0.075\%$  of span  
(fullscale temp > 400°C)  
(Others, output vs. resistance)  
 $\pm 0.01\%$  of span

#### COMMON MODE REJECTION

120 dB, DC to 60 Hz

#### OPERATING TEMPERATURE

-13°F to 176°F / -25°C to 80°C

#### TEMPERATURE STABILITY

$\pm 0.02\%$  of span per °C

#### POWER

10 to 36 VDC, polarity-protected

#### SUPPLY VOLTAGE EFFECT

0.02% of span max, 10 to 36 V

\* Within specified range limits.

**ORDERING INFORMATION**

**INPUT**

**Select Units**

Deg C  Deg F

**Enter Input**

Zero Scale

Full Scale

**Select Sensor**

- 100 ohm Pt., .00385 Alpha
- 100 ohm Pt., .00392 Alpha
- 100 ohm Pt., .00375 Alpha
- 1000 ohm Pt., .00385 Alpha
- 1000 ohm Pt., .00392 Alpha
- 10 ohm Cu.
- Other - Specify in Notes

**OPTIONS**

Conformal Coating

**TAGS**

**Specify Tag Numbers**

Tag number is typed on product label at no charge.

**Enter Tag Number(s)**

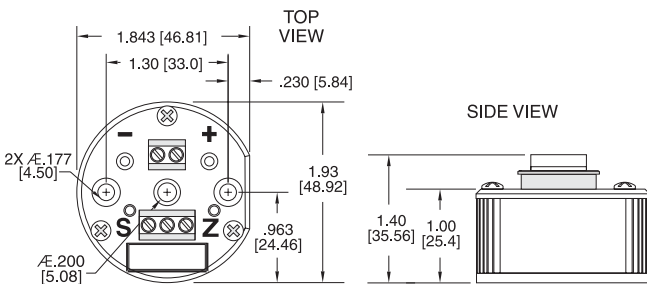
**ACCESSORIES**

**SR2300**

DMP2000	Mounting Plate, DIN-Rail & Surface (SR2000 & TW300)	QTY _____
TSH-A6L	NEMA-4 Aluminum Connection Head (SR2000 & TW300)	QTY _____
SR-CARD	Silver Series Transmitter Range Card (SR2000)	QTY _____
DR1	DIN-Rail, 35 mm Symmetrical, 39 inches (1 meter)	QTY _____
XJAY	Explosion-Proof Housing (SR2000 & TW300 Series)	QTY _____

**DIMENSIONS**

Inches [mm]



**CONNECTIONS**

