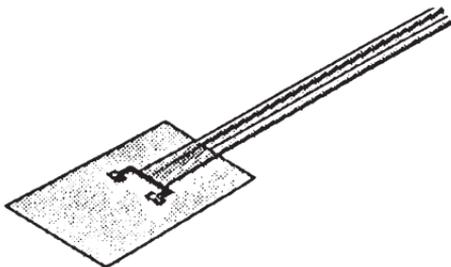


1 YEAR
WARRANTY

MADE IN
USA



User's Guide



Shop online at

omega.com[®]

Ω OMEGA[®]

omega.com

e-mail: info@omega.com

**For latest product manuals:
omegamanual.info**

ISO 9001
CERTIFIED
CORPORATE QUALITY
STAMFORD, CT

ISO 9001
CERTIFIED
CORPORATE QUALITY
MANCHESTER, UK

SRTD-1 and SRTD-2 **Surface Mount RTD Temperature Sensors**

omega.com®

ΩΩMEGA™

OMEGAnet® On-Line Service
omega.com

Internet e-mail
info@omega.com

Servicing North America:

U.S.A.: ISO 9001 Certified

OMEGA Engineering, Inc.
One Omega Drive, P.O. Box 4047
Stamford, CT 06907-0047 USA
Toll-Free: 1-800-826-6342
FAX: (203) 359-7700

TEL: (203) 359-1660
e-mail: info@omega.com

Canada:

976 Bergar
Laval (Quebec), Canada H7L 5A1
Toll-Free: 1-800-826-6342 TEL: (514) 856-6928
FAX: (514) 856-6886 e-mail: info@omega.ca

For immediate technical or application assistance:

U.S.A. and Canada:

Sales Service: 1-800-826-6342/1-800-TC-OMEGA®
Customer Service: 1-800-622-2378/1-800-622-BEST®
Engineering Service: 1-800-872-9436/1-800-USA-WHEN®

Mexico:

En Español: 001 (203) 359-7803
FAX: (001) 203-359-7807
info@omega.com.mx
e-mail: espanol@omega.com

Servicing Europe:

Benelux:

Managed by the United Kingdom Office
Toll-Free: 0800 099 3344 TEL: +31 20 347 21 21
FAX: +31 20 643 46 43 e-mail: sales@omega.nl

Czech Republic:

Frystatska 184, 733 01 Karviná, Czech Republic
Toll-Free: 0800-1-66342 TEL: +420-59-6311899
FAX: +420-59-6311114 e-mail: info@omegashop.cz

France:

Managed by the United Kingdom Office
Toll-Free: 0800 466 342 TEL: +33 (0) 161 37 29 00
FAX: +33 (0) 130 57 54 27 e-mail: sales@omega.fr

Germany/Austria:

Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
Toll-Free: 0 800 6397678 TEL: +49 (0) 7059 9398-0
FAX: +49 (0) 7056 9398-29 e-mail: info@omega.de

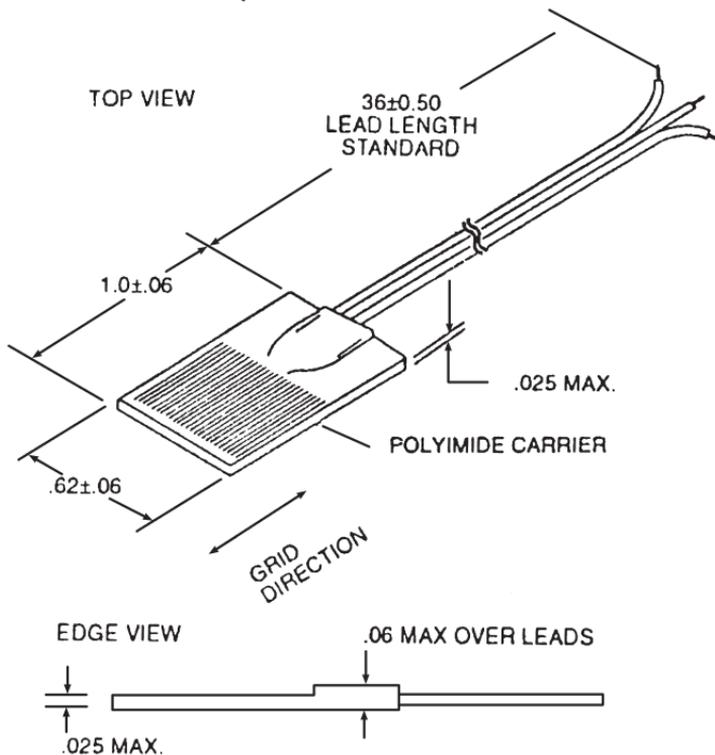
United Kingdom:

ISO 9001 Certified
OMEGA Engineering Ltd.
One Omega Drive, River Bend Technology Centre
Northbank, Irlam, Manchester M44 5BD England
Toll-Free: 0800-488-488
TEL: +44 (0)161 777-6611
FAX: +44 (0)161 777-6622
e-mail: sales@omega.co.uk

It is the policy of OMEGA Engineering, Inc. to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification. The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING: These products are not designed for use in, and should not be used for, human applications.

Dimensional Drawing (Dimensions in inches)



General Description

OMEGA's SRTD-1 and SRTD-2 are polyimide insulated surface mount RTD temperature sensors designed to provide a practical method for measuring surface temperature. These sensors are small, flexible, and their low mass has minimal thermal effect on the material being measured. They are ideally suited for applications where the sensor can be mounted to the surface being measured using adhesives or other mechanical mounting methods.

Unpacking

Remove the packing list and verify that all equipment has been received. If there are any questions about the shipment, please call OMEGA Customer Service Department at: **1-800-622-2378 or 203-359-1660**. We can also be reached on the Internet at **omega.com** e-mail: **info@omega.com**

Upon receipt of the shipment, inspect the container and equipment for any signs of damage. Take particular note of any evidence of rough handling in transit. Immediately report any damage to the shipping agent.

Mounting Considerations

The SRTD-1 and SRTD-2 "surface mount" RTD's can be bonded to most surfaces with OMEGABOND® Epoxy Adhesives #100, #101 and #200. Each epoxy has different temperature ratings, cure characteristics, and thermal conductivity factors. Information on OMEGABOND Epoxies can be found in the OMEGA Temperature Measurement Handbook and Encyclopedia®.

NOTE

When using epoxies, it is important that the surfaces to be bonded are clean. Use an appropriate solvent or detergent for cleaning.

Specifications

Operating Temperature Range:

Minimum Temperature: -320°F (-200°C)

Maximum Temperature: 500°F (260°C) continuous
550°F (288°C) short term
(less than 1500 hours)

Sensing Element: 100 ohm wire wound platinum,
 $\alpha = 0.00385 \text{ ohm/ohm/}^\circ\text{C}$ (DIN 43760)

Accuracy: SRTD-1: ± 0.50 ohms
 $\pm 0.50\%$ of temperature

Tolerance: reading SRTD-2: ± 0.22 ohms
 $\pm 0.25\%$ of temperature reading

Stability: $< 0.2^\circ\text{C}$ drift per year at rated service
temperature with proper mounting

Response Time: 70 ms to reach 63.2% of a step change in
temperature in water flowing at 3 ft/sec
transverse to the sensor (ASTM-E-644)

Self-Heating Effect: The bare sensor will rise less than 1°C while
dissipating an IR power of 3 milliwatts in still
air (ASTM-E-644)

Specifications (continued)

Insulation Resistance:

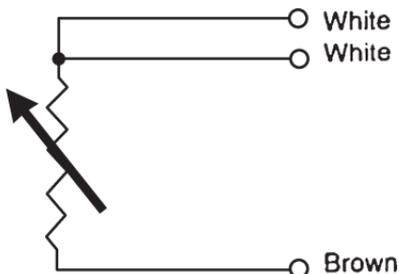
The insulation resistance between outer sensor insulation clamped between two metal plates and the common lead wire is 50 megohms minimum with 50 volts dc applied to a dry sensor at room temperature (ASTM-E-644)

Minimum Bend RADII for Mounting:

3/8" transverse to element winding,
1-1/2" longitudinal to winding

Lead Wire:

36" leads, 26 AWG stranded nickel-plated copper, TFE teflon insulated, 3-wire configuration (refer to schematic diagram)





WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

OMEGA is a registered trademark of OMEGA ENGINEERING, INC.

© Copyright 2009 OMEGA ENGINEERING, INC. All rights reserved. This document may not be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without the prior written consent of OMEGA ENGINEERING, INC.

Where Do I Find Everything I Need for Process Measurement and Control? **OMEGA...Of Course!**

Shop online at omega.comSM

TEMPERATURE

- ☑ Thermocouple, RTD & Thermistor Probes, Connectors, Panels & Assemblies
- ☑ Wire: Thermocouple, RTD & Thermistor
- ☑ Calibrators & Ice Point References
- ☑ Recorders, Controllers & Process Monitors
- ☑ Infrared Pyrometers

PRESSURE, STRAIN AND FORCE

- ☑ Transducers & Strain Gages
- ☑ Load Cells & Pressure Gages
- ☑ Displacement Transducers
- ☑ Instrumentation & Accessories

FLOW/LEVEL

- ☑ Rotameters, Gas Mass Flowmeters & Flow Computers
- ☑ Air Velocity Indicators
- ☑ Turbine/Paddlewheel Systems
- ☑ Totalizers & Batch Controllers

pH/CONDUCTIVITY

- ☑ pH Electrodes, Testers & Accessories
- ☑ Benchtop/Laboratory Meters
- ☑ Controllers, Calibrators, Simulators & Pumps
- ☑ Industrial pH & Conductivity Equipment

DATA ACQUISITION

- ☑ Data Acquisition & Engineering Software
- ☑ Communications-Based Acquisition Systems
- ☑ Plug-in Cards for Apple, IBM & Compatibles
- ☑ Data Logging Systems
- ☑ Recorders, Printers & Plotters

HEATERS

- ☑ Heating Cable
- ☑ Cartridge & Strip Heaters
- ☑ Immersion & Band Heaters
- ☑ Flexible Heaters
- ☑ Laboratory Heaters

ENVIRONMENTAL MONITORING AND CONTROL

- ☑ Metering & Control Instrumentation
- ☑ Refractometers
- ☑ Pumps & Tubing
- ☑ Air, Soil & Water Monitors
- ☑ Industrial Water & Wastewater Treatment
- ☑ pH, Conductivity & Dissolved Oxygen Instruments