

Keysight E2307A Thermocouple Bead Probe Keysight E2308A Thermistor Probe

Notices

Copyright Notice

© Keysight Technologies 2003–2016
No part of this manual may be reproduced in any form or by any means (including electronic storage and retrieval or translation into a foreign language) without prior agreement and written consent from Keysight Technologies as governed by United States and international copyright laws.

Manual Part Number

E2307-90002

Edition

Edition 2, September 23, 2016

Printed in:

Printed in Malaysia

Published by:

Keysight Technologies
Bayan Lepas Free Industrial Zone,
11900 Penang, Malaysia

Technology Licenses

The hardware and/or software described in this document are furnished under a license and may be used or copied only in accordance with the terms of such license.

Declaration of Conformity

Declarations of Conformity for this product and for other Keysight products may be downloaded from the Web. Go to <http://www.keysight.com/go/conformity>. You can then search by product number to find the latest Declaration of Conformity.

U.S. Government Rights

The Software is “commercial computer software,” as defined by Federal Acquisition Regulation (“FAR”) 2.101. Pursuant to FAR 12.212 and 27.405-3 and Department of Defense FAR Supplement (“DFARS”) 227.7202, the U.S. government acquires commercial computer software under the same terms by which the software is customarily provided to the public. Accordingly, Keysight provides the Software to U.S. government customers under its standard commercial license, which is embodied in its End User License Agreement (EULA), a copy of which can be found at <http://www.keysight.com/find/sweula>. The license set forth in the EULA represents the exclusive authority by which the U.S. government may use, modify, distribute, or disclose the Software. The EULA and the license set forth therein, does not require or permit, among other things, that Keysight: (1) Furnish technical information related to commercial computer software or commercial computer software documentation that is not customarily provided to the public; or (2) Relinquish to, or otherwise provide, the government rights in excess of these rights customarily provided to the public to use, modify, reproduce, release, perform, display, or disclose commercial computer software or commercial computer software documentation. No additional government requirements beyond those set forth in the EULA shall apply, except to the extent that those terms, rights, or licenses are explicitly required from all providers of commercial computer software pursuant to the FAR and the DFARS and are set forth specifically in writing elsewhere in the EULA. Keysight shall be under no obligation to update, revise or otherwise modify the Software. With respect to any technical data as defined by FAR 2.101, pursuant to FAR 12.211 and 27.404.2 and DFARS 227.7102, the U.S. government acquires no greater than Limited Rights as defined in FAR 27.401 or DFAR 227.7103-5 (c), as applicable in any technical data.

Warranty

THE MATERIAL CONTAINED IN THIS DOCUMENT IS PROVIDED “AS IS,” AND IS SUBJECT TO BEING CHANGED, WITHOUT NOTICE, IN FUTURE EDITIONS. FURTHER, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, KEYSIGHT DISCLAIMS ALL WARRANTIES, EITHER EXPRESS OR IMPLIED, WITH REGARD TO THIS MANUAL AND ANY INFORMATION CONTAINED HEREIN, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. KEYSIGHT SHALL NOT BE LIABLE FOR ERRORS OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE FURNISHING, USE, OR PERFORMANCE OF THIS DOCUMENT OR OF ANY INFORMATION CONTAINED HEREIN. SHOULD KEYSIGHT AND THE USER HAVE A SEPARATE WRITTEN AGREEMENT WITH WARRANTY TERMS COVERING THE MATERIAL IN THIS DOCUMENT THAT CONFLICT WITH THESE TERMS, THE WARRANTY TERMS IN THE SEPARATE AGREEMENT SHALL CONTROL.

Safety Information

CAUTION

A CAUTION notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Keysight E2307A Thermocouple Bead Temperature Probe

- Exposed welded thermocouple junction with PTFE insulation wire, 36 inches (0.9 m) long, terminated in a 0.75 inch dual-banana plug.
- *Thermocouple type*: #24 gage ANSI-K type calibration.
- *Accuracy*: –260 °C to –110 °C (–436 °F to –200 °F) 2% of reading
 –110 °C to 260 °C (–200 °F to 500 °F) ± 2.2 °C (± 4 °F)
- *Maximum temperature*: 260 °C (500 °F)
- *For use with*: Keysight 973A or any other device that accepts type-K thermocouples and a dual-banana plug.

Keysight E2308A Thermistor Temperature Probe

- Stainless steel encapsulated thermistor (5000 Ω @ 25 °C), 36 inch (0.9 m) leads, terminated in a 0.75 inch dual-banana plug.
- *Accuracy*: –40 °C to 0 °C (–40 °F to 32 °F) ± 0.4 °C (0.8 °F)
 0 °C to 70 °C (32 °F to 158 °F) ± 0.2 °C (0.4 °F)
 70 °C to 100 °C (158 °F to 212 °F) ± 0.3 °C (0.6 °F)
 100 °C to 150 °C (212 °F to 302 °F) ± 1 °C (2 °F)
- *Maximum temperature*: 150 °C (302 °F)
- *Time constant*: 3 seconds typical in well-stirred water
- *Isolation*: 42 volts peak max
- *Stability (for 10 months)*: 25 °C <0.01 °C
 100 °C <0.2 °C
 150 °C <1.5 °C
- *Stainless steel probe*: 1.5 in. L x 0.125 in. dia. (38 mm L x 3.2 mm dia.)
- *For use with*: Keysight 971A/972A/973A/974A and Keysight 3458A. Can also be used with the Keysight 34401A with application software.

Combined Instrument and Temperature Probe Specification

When using the Keysight E2307A and Keysight E2308A temperature probes, you must add the specifications of the instrument to the specifications of the probe. The specifications are shown below for the Keysight E2307A and E2308A probes when used with Keysight 970-Series Handheld Multimeters.

Keysight E2307A thermocouple probe

Keysight 973A	
Measurement range	–50 °C to 260 °C, –58 °F to 500 °F
Resolution	1 °C, 1 °F
Accuracy \pm (% reading + no. of degrees)	2% + 4 °C (8 °F)

NOTE

Specifications apply only when the probe is used without any extension wire.

Keysight E2308A thermistor probe

Measurement range	–40 °C to 0 °C –40 °F to 32 °F	0 °C to 70 °C 32 °F to 158 °F	70 °C to 100 °C 158 °F to 212 °F	100 °C to 150 °C 212 °F to 302 °F
-------------------	-----------------------------------	----------------------------------	-------------------------------------	--------------------------------------

Keysight 971A					
Resolution	0.1 °C, 0.2 °F				
Accuracy	\pm 1.5 °C, 3 °F	\pm 0.9 °C, 1.8 °F	\pm 0.7 °C, 1.4 °F	\pm 0.8 °C, 1.6 °F	\pm 1.5 °C, 3 °F

Keysight 972A / 973A					
Resolution	0.1 °C, 0.2 °F				
Accuracy	±1.3 °C, 2.5 °F	±0.7 °C, 1.3 °F	±0.5 °C, 0.9 °F	±0.6 °C, 1.1 °F	±1.3 °C, 2.5 °F

Keysight 974A					
Resolution	0.1 °C, 0.1 °F				
Accuracy	±1.2 °C, 2.4 °F	±0.6 °C, 1.2 °F	±0.4 °C, 0.8 °F	±0.5 °C, 1 °F	±1.2 °C, 2.4 °F

NOTE

Other temperature probes suitable for the Keysight multimeters are available for almost any application. Type-K thermocouples may be used with the Keysight 973A. Some probes may require an adapter to properly connect the probe to the instrument's dual-banana termination.

Thermistor temperature probes, 5000 Ω @ 25 °C with a 25 °C/125 °C ratio of 29.26, are suitable for the Keysight 971A/972A/973A/974A.

THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.



This information is subject to change without notice. Always refer to the English version at the Keysight website for the latest revision.

© Keysight Technologies 2003-2016
Edition 2, September 23, 2016

Printed in Malaysia



E2307-90002

www.keysight.com

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Keysight:](#)

[E2308A](#)