ΩEOMEGA®
omega.com

OM-CP-TC101A
Thermocouple Temperature Data Logger

Temperature Data Logger

OM-CP-TC101A
Ambient Channel
-40 to +80°C
Thermocouple Types
J, K, T, E, R, S, B, N

ΩE OMEGA®

CE

+
−
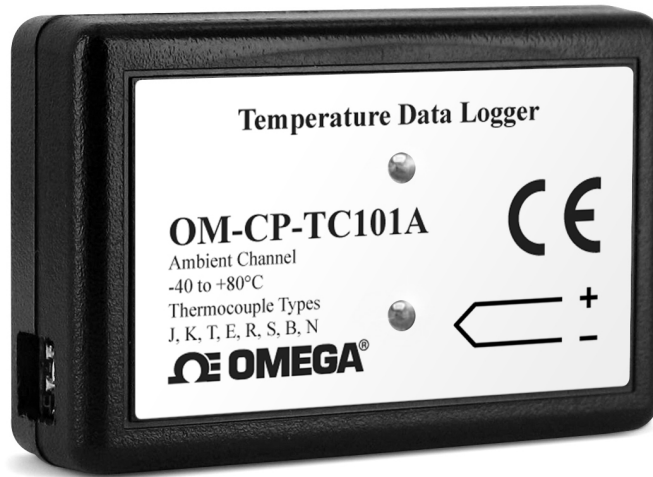
Wiring the Data Logger

MP Model Wiring
The standard connector is the SMP connection which allows for the user to insert a subminiature thermocouple plug into the connector on the device.

Product Notes

LEDs
 - Green LED blinks: 10 seconds to indicate logging and 15 seconds to indicate delay start mode
 - Red LED blinks: 10 seconds to indicate low battery and/or memory and 1 second to indicate an alarm
   condition

Thermocouple Type
To change the thermocouple type:
- Select the Device Menu, then Identify Device and Read Status.
- Select the Device Detail tab, then Thermocouple Type.
- Click on the **Change** button in the Thermocouple Type window.
- Select the correct thermocouple type from the drop down list.
- Click on the **Save** button to store the thermocouple type in the device then click **OK**.

Password Protection
An optional password may be programmed into the device to restrict access to configuration options. Data may be read out without the password.

Multiple Start/Stop Mode Activation
To start device: Press and hold the pushbutton for 5 seconds, the green LED will flash during this time. The device has started logging.
To stop the device: Press and hold the pushbutton for 5 seconds, the red LED will flash during this time. The device has stopped logging.

Alarm and Cumulative Alarm Delay
To set an alarm, click Device Menu: Identify Device and Read Status: Device Detail Tab or Device Menu: Start Device. Select Alarm Settings. Check the Enable Alarm Settings box to program the alarm. Enter the high and low values into the corresponding fields. Check the Cumulative Alarm Delay box to enable the time duration alarm. With this selected, the device will only alarm after it has recorded the same amount of data as the time duration of data entered. Note: Time durations between 12 hours to 23 hours, 59 minutes and 59 seconds may not be programmed. Only time durations up to 11 hours, 59 minutes and 59 seconds may be set in the hh:mm:ss field and the day field represents a 24 hour period.

Trigger Setting
The device can be programmed to only record based off user configured trigger settings. Choose Trigger Settings from the Device Menu: Start Device or Identify Device and Read Status. Trigger formats are available in Window and Two Point (bi-level) mode. Window allows for one range of temperature monitoring and two point mode allows for two ranges.

Device Maintenance

Battery Replacement
Materials:
Small Phillips Head Screwdriver and a Replacement Battery (OM-CP-BAT105)
- Puncture the center of the back label with the screw driver and unscrew the enclosure.
- Remove the battery by pulling it perpendicular to the circuit board.
- Insert the new battery into the terminals and verify it is secure.
- Screw the enclosure back together securely.
Note: Be sure not to over tighten the screws or strip the threads.

Installation Guide

Installing the Interface cable
 - OM-CP-IFC200: Insert the device into a USB port. The drivers will install automatically.

Installing the software
Insert the Software CD in the CD Drive. If the autorun does not appear, locate the drive on the computer and double click **Autorun.exe**. Follow the instructions in the Wizard.

Connecting the data logger
 - Once the software is installed and running, plug the interface cable into the data logger.
 - Click the Communication Menu, then Auto Configure Port.
 - After a moment, a box will appear stating that a device has been found.
 - Click **OK**. The **Device Status** box will appear. Click **OK**.
 - At this point, communications have been configured for your logger. These settings can be found under the
    Communication Menu.

Device Operation

Starting the data logger
 - Click **Device Menu** then **Start Device**.
 - Choose the desired start method.
 - Choose the start parameters by selecting a **Reading Rate** suitable for your application.
 - Enter in any other desired parameters and click **Start**.
 - A box will appear stating the data logger has been started. Click **OK**.
- Disconnect the data logger from the interface cable and place it in the environment to measure.*Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.*

Downloading data from a data logger
 - Connect the data logger to the interface cable.
 - Click the **Device Menu** then **Read Device Data**. This will offload all recorded data.

OM-CP-TC101A General Specifications

Description	OM-CP-TC101A
Internal Channel Temperature Sensor	Semiconductor
Internal Channel Temperature Resolution	0.01°C
Internal Channel Accuracy	±0.50°C
Remote Channel Temperature Sensor, Range, Resolution & Accuracy	*See Table for Details
Cold Junction Compensation	Automatic
Channels	1 internal & 1 remote
Memory	1,000,000 readings; 500,000 readings in multiple start/stop mode or trigger settings mode
Wrap Around	Yes
Sample Rate	1 second up to 24 hours
LED Indicator	Red and Green
Required Interface Package	OM-CP-IFC200
Baud Rate	115,200
Typical Battery Life	10 years at a 15 minute reading rate
Operating Environment	–40°C to +80°C (-40°F to +176°F), 0 to 95%RH non–condensing
Material	ABS plastic
Dimensions	1.4" x 2.2" x 0.6" (36mm x 56mm x 16mm)
Approvals	CE

* Remote Channel Range, Resolution & Accuracy

Thermocouple	Range (°C)	Resolution	Accuracy
J	-210 to +760	0.1°C	±0.5°C
K	-270 to +1370	0.1°C	±0.5°C
T	-270 to +400	0.1°C	±0.5°C
E	-270 to +980	0.1°C	±0.5°C
R	-50 to +1760	0.5°C	±2.0°C
S	-50 to +1760	0.5°C	±2.0°C
B	+50 to +1820	0.5°C	±2.0°C
N	-270 to +1300	0.1°C	±0.5°C

Battery Warning

WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 80°C (176°F).

Specifications subject to change.

ΩOMEGA®

Servicing North America:

U.S.A.
Headquarters:
Omega Engineering, Inc.
Toll-Free: 1-800-826-6342 (USA & Canada only)
Customer Service: 1-800-622-2378 (USA & Canada only)
Engineering Service: 1-800-872-9436 (USA & Canada only)
Tel: (203) 359-1660   Fax: (203) 359-7700
e-mail: info@omega.com

For Other Locations Visit omega.com/worldwide

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.

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.