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WE BUILD DATA LOGGERS

Product Information Card

TCTemp1000

Part Number	TCTemp1000
Internal Channel Temperature Sensor	Semiconductor
Internal Channel Temperature Resolution	0.1°C
Internal Channel Calibrated Accuracy	±0.5°C
Remote Channel Temperature Sensor Range, Resolution & Accuracy	*See Table for Details
Cold Jct. Compensation	Automatic
Memory	16,383/channel
Sample Rate	2 seconds up to 12 hours
LED Indicator	None
Channels	1 Internal & 1 Remote
Required Interface	IFC110 or IFC200
Baud Rate	2,400
Typical Battery Life	1 year
Operating Environment	-40 to +80°C 0 to 100%RH
Material	303 stainless steel
Dimensions	7.4" x 1.2" x dia. (188mm x 31mm dia.)
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).

TCTemp1000
Rugged Thermocouple Based Temperature Data Logger

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Product Notes

Getting Started

To access the COM Port for the interface cable, unscrew the key-ring end cap. Screw the end cap onto the data logger until the o-ring cannot be seen, before deploying it.

Submergibility

The TCTemp1000 is fully submergible and is rated IP68. It can be placed in environments with up to 140 feet (42m) of water.

O-Rings

O-ring maintenance is a key factor when properly caring for the TCTemp1000. The o-rings ensure a tight seal and prevent liquid from entering the inside of the device.
Please refer to the application note "O-Rings 101: Protecting Your Data", found on the MadgeTech website, for information on how to prevent O-ring failure.

Thermocouple Type

To change the thermocouple type in the MadgeTech software:
- 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.**

Changing the Thermocouple

- Loosen the dome nut on the cable gland
- Unscrew the large diameter end cover
- Unplug the thermocouple and pull it through the cable gland
- Plug in the new thermocouple and screw the cover back onto the device
- Tighten the dome nut on the cable gland to ensure the device is secure.

Installation Guide

Installing the Interface cable

- IFC200: Insert the device into a USB port. The drivers will install automatically.
- IFC110: Plug the serial cable into the port and verify it is secure.

Installing the software

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

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**.

Note: For additional installation instructions refer to your "Data Logger & Software Operating Manual".

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 onto the PC.

Device Maintenance

Battery Replacement

Materials:
Small Needle Nose Pliers
Replacement Battery (TLH-5902)

- Carefully unscrew the sensor end cap and pull the electronics out.
- The battery is the purple cylinder on the circuit board. Gently pull out the old battery.
- Insert the new battery one lead at a time, using pliers to fully push the leads into the sockets. *Note: The battery should be flat against the circuit board, and the positive lead should be closest to the communications jack.*
- Ensure the circuit board is inserted into the white plastic bushing. The sensor cable should not be twisted, or kinked. From the connection to the circuit board, it should run up towards the battery, then down to the sensor.
- Insert the electronics back into the tube and carefully screw the cap on.

Recalibration

The TCTemp1000 standard calibration is one point at 25°C for the internal channel and 0mV for the thermocouple channel.