

Eight Channel USB Thermocouple Data Acquisition Module

TC-08



- ✔ Measures from -270 to 1820°C (-454 to 3308°F)
- ✔ Accepts Thermocouple Types J, K, T, E, R, S, B and N
- ✔ Automatic Cold Junction Compensation
- ✔ High Accuracy and Resolution
- ✔ Multiple Units Can Be Run On a Single PC
- ✔ 10 Readings Per Second
- ✔ Windows Software Included: TC-08 Recorder and TC-08 Player
- ✔ USB Interface

The TC-08 thermocouple data acquisition module is designed to measure a wide range of temperatures using any thermocouple that terminates in a miniature size thermocouple connector. Additionally the TC-08 can also measure other sensors using a ± 70 mV range. Featuring built-in cold junction compensation (CJC), the TC-08 has an effective measuring range of -270 to 1820°C (the actual temperature range depends on the thermocouple type being used).

The TC-08 can be used with thermocouple types J, K, T, E, R, S, B and N and outputs can be viewed in degrees F, C or mV. The unit is accurate to 0.2 percent ± 0.5 degrees C and has a resolution of better than 0.1 degrees C for most thermocouple types.



TC-08, shown with 5SRTC-TT-K-24-36 thermocouples, package of 5, both shown smaller than actual size.

The TC-08 connects to the USB port of a Windows based PC and enables the host PC to automatically detect the TC-08 avoiding the need for any complex setup procedures. The USB connection also allows the TC-08 to be powered directly by the USB bus eliminating the need for an external power supply and making the TC-08 ideal for measuring temperatures both in the lab and in the field.

The TC-08's USB connectivity allows up to 20 TC-08 USB data acquisition modules to be used simultaneously on one PC making the TC-08 ideal for use as a large multi-channel temperature acquisition system with a cost per channel significantly lower than other systems of this size.

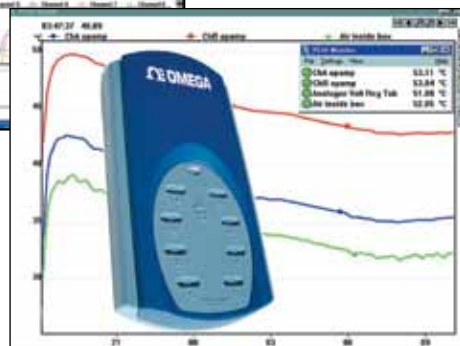
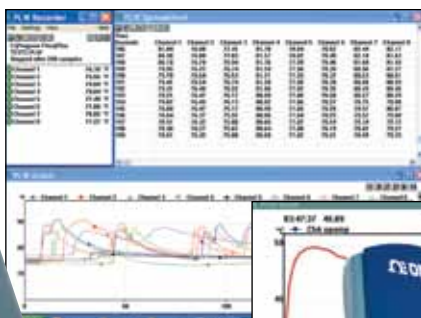
The low conversion time of the TC-08 means up to 10 temperature measurements can be taken every second, while the high (20 bit) resolution ensures that the TC-08 can detect minute changes in temperature.

With the TC-08 thermocouple data acquisition module your measurements can be made both fast and accurately. Simply plug the TC-08 into a USB port on your computer, connect your thermocouples, and you are ready to measure temperatures. With the included TC-08 Recorder software, you can configure multiple (USB) TC-08s, set the sampling interval from 0.1 seconds to several hours and set the maximum number of readings. You can also tell TC-08 Recorder what to do once the thermocouple readings have been taken - either: Stop; Repeat Immediately (start again); Scroll (oldest recordings disappear); or Repeat After Delay (where the delay is set by the user). Mathematical operations can also be performed on the thermocouple outputs: for example to output one temperature relative to another.

Using the TC-08 Recorder software, data can be viewed in a spreadsheet and/or in a graph as it is being recorded. Data collected from previous recordings can also be viewed in the TC-08 Player.



TC-08, shown with 5SRTC-TT-K-24-36 thermocouples, package of 5, both shown smaller than actual size



TC-08 Windows software displays data in graphical or tabular format

Resolution

Thermocouple Type	Overall Range	0.1°C Resolution	0.025°C Resolution
B	20 to 1820°C (68 to 3308°F)	150 to 1820°C	600 to 1820
E	-270 to 910°C (-454 to 1670°F)	-270 to 910°C	-260 to 910
J	-210 to 1200 (-346 to 192°F)	-210 to 1200°C	-210 to 1200
K	-270 to 1370 (-454 to 2498°F)	-270 to 1370°C	-250 to 1370
N	-270 to 1300 (-454 to 2372°F)	-260 to 1300°C	-230 to 1300
R	-50 to 1760 (-58 to 3200°F)	-50 to 1760°C	20 to 1760
S	-50 to 1760 (-58 to 3200°F)	-50 to 1760°C	20 to 1760
T	-270 to 400 (-454 to 752°F)	-270 to 400°C	-250 to 400

Specifications

Number of Channels: 8

Conversion Time: 100 ms
(thermocouple and cold junction compensation)

Temperature Accuracy:
Sum of $\pm 0.2\%$ of reading and $\pm 0.5^\circ\text{C}$

Voltage Accuracy:
Sum of $\pm 0.2\%$ of reading and $\pm 10\ \mu\text{V}$

Overload Protection: $\pm 30\text{V}$

Maximum Common Mode Voltage: $\pm 7.5\text{V}$

Input Impedance: 2 M Ω

Input Range (Voltage): $\pm 70\ \text{mV}$

Resolution: 20-bits

Noise Free Resolution: 16.25-bits

Thermocouple Types:

B, E, J, K, N, R, S, T

Input Connectors:

Miniature thermocouple

Output Connector:

USB cable supplied 1.8 m (6')

PC Connection:

USB 1.1

Power Supply:

From USB port

Dimensions: 201 x 104 x 34 mm
(7.91 x 4.09 x 1.34")

Included Software:

TC-08 Recorder and Player

PC REQUIREMENTS

Processor: Pentium class processor or equivalent

Memory: 32 MB minimum

Disk Space: 10 MB minimum

Operating System: 32-bit or 64-bit versions of WIN XP (SP2 or above)/VISTA/WIN 7

Ports: USB 1.1 or USB 2.0 compliant port. Must be connected direct to the port or a powered USB hub

To Order

Model No.	Description
TC-08	8-channel thermocouple data acquisition module

Comes complete with Windows software, USB cable and operator's manual on CD.

Ordering Example: TC-08 8-channel thermocouple data acquisition module.