

High Speed 8-Channel Thermocouple Interface Card

TCIC Series



- ✓ 8 Thermocouple Channels
- ✓ Accepts Thermocouple Types J, K, T, E, R, S, or ± 500 mV Input
- ✓ High-Speed USB Interface
- ✓ Optional RS232/RS485 Communications

The TCIC Series comprises low-cost, high-speed thermocouple temperature measurement data acquisition cards with USB interface. TCIC cards use an 8-channel, high-resolution A/D converter with on-board noise filters.

On-board cold junction compensation and temperature conversion enable standalone operation. The card also has 8 opto-isolated outputs that can be activated based on individually programmable high/low limit setpoints for each thermocouple channel.

Each TCIC card is supplied with Windows software that displays temperature data in digital meter, analog meter, or strip chart format. Data for all 8 channels can be logged to an Excel-compatible file. A LabVIEW demonstration and complete programming examples in .NET are also included.

Specifications

Inputs: 8

Input Types: Each of the 8 inputs can be configured to measure ± 500 mV or type J, K, T, E, R, or S thermocouple

Millivolt Accuracy:

$\pm 0.05\%$ uncalibrated; gain drift 5 ppm/ $^{\circ}\text{C}$ typical, 10 ppm/ $^{\circ}\text{C}$ maximum

Outputs: 8 opto-isolated MOSFET outputs controlled based on individual channel high/low temperature setpoints; outputs can be programmed to operate in automatic, latching or manual modes. External 10 to 30 Vdc power supply required, 0.25 A maximum per output. Each output has an indicating LED.

Communications Interface: USB standard, RS232/RS485 (optional)

Sampling Rate: 400 Hz total throughput (50 Hz/channel)



TCIC-FULL-ENC shown smaller than actual size

Power: USB (from computer); RS232/RS485 (from included AC adaptor)

Enclosure Material: ABS plastic
Dimensions: 100 W x 160 mm L (3.94 x 6.30")



OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM covers parts, labor and equivalent loaners.



Windows software displays data in graphical or tabular format

Thermocouple Input Types and Ranges Table

Type	Range	Accuracy* ($^{\circ}\text{C}$)	Resolution ($^{\circ}\text{C}$)
J	-200 to 1200 $^{\circ}\text{C}$ (-328 to 2192 $^{\circ}\text{F}$)	± 1.5	0.019
K	-200 to 1372 $^{\circ}\text{C}$ (-328 to 2501 $^{\circ}\text{F}$)	± 1.5	0.024
T	-200 to 400 $^{\circ}\text{C}$ (-328 to 752 $^{\circ}\text{F}$)	± 1.5	0.022
E	-200 to 1000 $^{\circ}\text{C}$ (-328 to 1832 $^{\circ}\text{F}$)	± 1.5	0.015
R	-50 to 1768 $^{\circ}\text{C}$ (-58 to 3214 $^{\circ}\text{F}$)	± 2.0	0.125
S	-50 to 1768 $^{\circ}\text{C}$ (-58 to 3214 $^{\circ}\text{F}$)	± 2.0	0.143

*Total accuracy, including CJC error.

To Order Visit omega.com/tcic for Pricing and Details

Model No.	Description
TCIC-USB-ENC	Thermocouple interface card with USB interface (with enclosure)
TCIC-FULL-ENC	Thermocouple interface card with USB and RS232/RS485 interfaces (with enclosure)

Each TCIC card is supplied with complete operator's manual, Windows and utility software on CD ROM. TCIC-FULL models include AC adaptor.

Ordering Example: TCIC-USB-ENC thermocouple interface card with enclosure and USB interface and OCW-1 OMEGACARE extends standard 1-year warranty to a total of 2 years.