

PCI 16 Channel Thermocouple Input Board

Registered
ISO 9001
Company

NEW

PCI DAS TC

- **16 Thermocouple inputs**
- **J, K, E, T, R, S, B type support**
- **On-board processor converts input into C or F**
- **Fully plug and play**
- **Includes screw terminal panel with on-board CJC**
- **DAS-Wizard Excel program included**



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The PCI-DAS-TC is a 16-channel thermocouple input board for use with PCI bus computers. An onboard microprocessor performs all system control as well as converting the raw analog input data into temperature. The board is based on a highly accurate and noise immune V/F based analog to digital converter.

The analog input section consists of a 16-channel input multiplexer; a CJC input, a programmable gain amplifier; and a high frequency V/F based A/D converter. Input sample rates may be set to frequencies of 50Hz, 60Hz, or 400Hz. To minimise input noise, match the sample rate frequency to the frequency of the mains power in your area. This will take advantage of the A/D's integrating nature and remove most errors caused by ambient electronic noise. Also note that a lower sample rate produces higher resolution and an improved signal to noise ratio.

On-board ROM

As the thermocouple inputs are scanned, the processor first acquires the raw data. It then calibrates it for gain/offset error; and linearises it based on lookup tables for each associated thermocouple type. The processor then converts the data to temperature by referring to a previously stored lookup table in ROM. Each thermocouple type has a separate table.

Calibration

The PCI-DAS-TC is shipped fully calibrated from the factory with calibration coefficients stored in non-volatile RAM. At run time, these calibration factors are loaded into system memory and are automatically retrieved each time a different range is specified. The user has the option to recalibrate with respect to the factory-measured voltage standards at any time in InstaCal.

DESCRIPTION	PRODUCT CODE
PCI-DAS-TC 16 channel thermocouple input board for PCI bus, includes cable, panel and DAS-Wizard	960 038 81
CIO VEE driver	909 760 85
Universal Library software with manual	909 447 88
LabVIEW Driver extension to Universal Library	909 763 64

Software

The PCI-DAS-TC also includes a copy of the popular DAS Wizard software package. DAS Wizard is an Excel add-in that allows you to configure and run your entire application from within Excel, and places your data directly into cells within your Excel spreadsheet. Also included is InstaCal, installation, calibration and test software. Supported by Universal Library which provides programming language support for Agilent VEE, LabVIEW and all Windows languages.

SPECIFICATION

TEMPERATURE INPUT

TC Range Resolution

J	-200 to +750 °C +/-0.1 °C
K	-200 to +1,250 °C +/-0.2 °C
E	-200 to +1,000 °C +/-0.1 °C
T	-200 to +400 °C +/-0.06 °C
R	0 to +1,768 °C +/-0.2 °C
S	0 to +1,450 °C +/-0.2 °C
B	+400 to +1,700 °C +/-0.2 °C

(the above resolutions are at 25 samples/sec).

Cold-junction error:

	+/-0.5 °C at 25 °C
	+/- 1.2 °C 0 to 70 °C

Compliance

CE EMC

Cables / Screw Terminal Included

The PCI-DAS-TC includes the CIO-TERM-TC providing an isothermal block and cold-junction sensor and a 5 foot shielded cable (C37FFS-5). The CIO-TERM-TC should be installed inside a shielded enclosure to build a low emissions/immunity system that meets the EMC Directive.