32-Channel AD592 Sensor Temperature Measurement Board

CIO-DAS-TEMP

3 YEAR WARRANTY **CE**

The CIO-DAS-TEMP shown smaller than actual size.
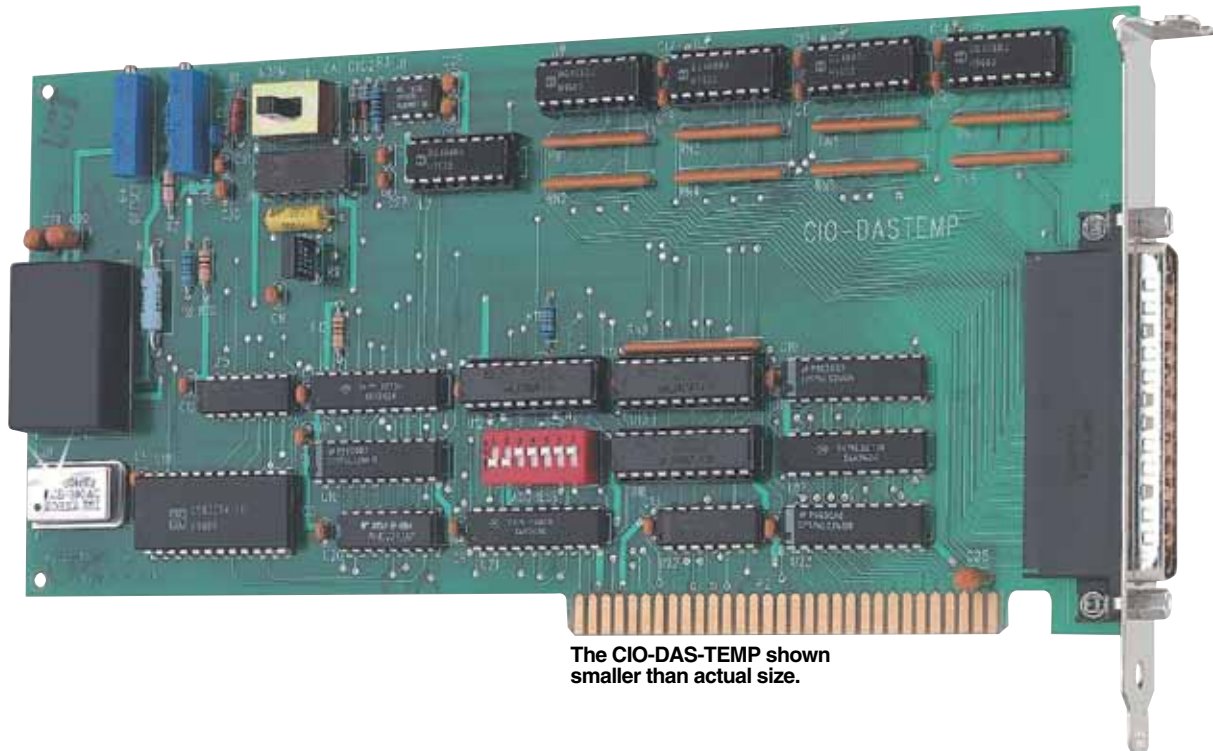
- ✔ **Connect up to 32 AD592 Temperature Sensors**
- ✔ **0.015°C Resolution Max**
- ✔ **0.1°C Accuracy**
- ✔ **Up to 200 Samples Per Second**
- ✔ **Extremely Noise Immune Current Source Sensors**

The CIO-DAS-TEMP is a temperature, measurement board designed for use with the AD592 semiconductor temperature sensor. The AD592 is a current output device, and the on-board signal conditioning is optimized for the output from that sensor. A voltage-to-frequency converter translates the reading from the sensor into a value proportional to temperature. Software functions in the Universal Library convert the proportional value into a temperature reading on which you can base a control system, or simply log for later analysis.

The AD592 semiconductor temperature sensor is ideally suited for measurements in the ambient range. If you are designing an HVAC system, or want to monitor the efficiency of an existing system, the CIO-DAS-TEMP provides the best value and accuracy in the ambient range. More accurate than thermocouples and less expensive than RTD's, the AD592 sensor is available from OMEGA Engineering in a stainless steel probe.

Operating Modes
The CIO-DAS-TEMP is designed to measure temperature and transfer data to a PC in a number of ways. Once the counters have been initialized to match the line frequency and resolution, you can read an individual channel or scan a range of channels using simple software polled I/O. Alternatively, you can initialize an interrupt service routine that continuously scans a range of channels and transfers the sensor data to your program.

Software Support
The CIO-DAS-TEMP is supplied with InstaCal software for calibration and testing. In addition, it is also supported by the optional Universal Library. The Universal Library is a set of I/O libraries and drivers for users creating their own custom programs. The Universal Library is compatible with most Windows (16-bit and 32-bit) based languages (DLL and VXD) and supports the entire CIO family of boards. An optional driver for LabVIEW is also available.

Data Display and Logging Software
The CIO-DAS-TEMP comes with a complete data display and logging application built from the Universal Library. Display up to 32 temperatures in a graphical display on your screen or log the temperatures to disk with time and channel stamps. The user can also review trends with a history graph.
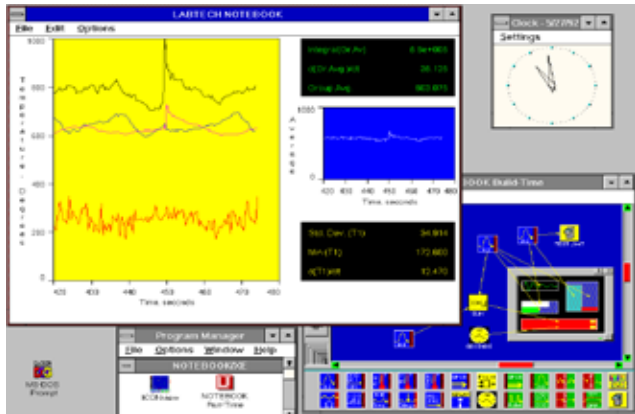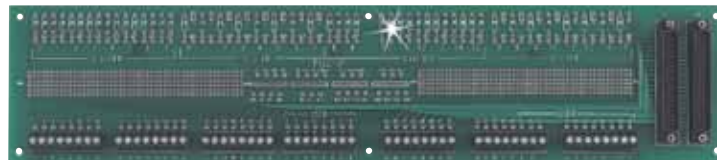
Optional Labtech Notebook Data Acquisition Software

The CIO-MINI37 shown smaller than actual size

CIO-TERMINAL shown smaller than actual size

Specifications

The CIO-DAS-TEMP performs best when the conversion rate matches the line frequency of the power to the PC power supply. Here are the recommended conversion rates and the accompanying resolutions:

Channels: 32 AD592 sensors

Speed and Resolution:
30 Samples/Sec: 0.015°C
(60 Hz Line Frequency)

25 Samples/Sec: 0.0125°C
(50 Hz Line Frequency)

200 Samples/Sec: 0.1°C
(400 Hz Line Frequency)

Counter Type: 82C54 three 16-bit counters, 10 MHz max input

Accuracy: ±0.1°C

AD592 Temperature Range:
-25 to 105°C

Accuracy at Range:
±0.8°C @ 0 to 70°C,
±1.0°C @ -25 to 105°C

Temperature Drift: ±25 ppm/°C

Power Requirements:
+5 V @ 600 mA max, derived from PC bus

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

To Order	
Model No.	**Description**
CIO-DAS-TEMP	32-channel AD592 temperature measurement board

Comes with operator's manual, test and set-up software and logging and measuring program. OMEGACARE^{SM} extended warranty is available for models shown on these pages. Ask your sales representative for full details when placing order.

Accessories

Model No.	Description
OM-2628-C1	1½ long x ¼" diameter AD592 temperature probe with 36-inch leads
OM-2628-C6	6 long x ¼" diameter AD592 temperature probe with 36-inch leads
CIO-TERMINAL	Screw terminal panel, 16 x 4" (406 x 102 mm) with prototype area (requires cable)
CIO-MINI37	Screw terminal board, 4 x 4" all signals from one 37 D connector
C37FF-2	2' ribbon cable, 37-pin, female connectors

***Ordering Example: CIO-DAS-TEMP,** five **OM-2628-C1** probes, **CIO-MINI37** terminal panel, **OMEGACARE**^{SM} 1-year extended warranty for **CIO-DAS-TEMP** (adds 1 year to standard 3-year warranty) and **C37FF-2** cable.*