

Low Cost Analog Input ISA Board

CIO DAS800 SERIES

Registered
ISO 9001
Company

- **8 analog inputs, differential, or single ended**
- **12 or 16 bit converter**
- **Programmable gain available in two versions**
- **256 sample FIFO buffer**
- **8254 counter/timer chip has three 16 bit counters**
- **Four digital outputs and three digital inputs**

The CIO-DAS801, 802 and 802/16 multifunction analog and digital I/O boards with a 256 sample input FIFO buffer. The CIO-DAS802/16 has 16 bit resolution for increased accuracy.

These boards are supported by a variety of third party software including HPVEE and LabTech Notebook, plus any package supporting DAS 08. There are also comprehensive driver packages available for Turbo Pascal, Microsoft Pascal and C.

Eight analog inputs

The analog signals connect to an analog multiplexer which provides 8 channels of differential or single ended input – switch selectable on a channel by channel basis.

100KHz A/D under Windows!

The CIO-DAS802/16 employs an advanced 256 sample FIFO buffer to accumulate A/D conversions. The CIO-DAS80x requests a transfer only once every 123 samples.

Counter timer

An 8254 counter/timer chip provides the means to generate pulses, count events, measure frequency and pace the analog input trigger:

The 8254 chip has three 16 bit counters arranged as a Clock (CLK) input, a Gate which allows/inhibits the CLK input and an OUT, the pulse rate of which is a function of the divisor and the mode of operation. Signals with a frequency of up to 10MHz and of any wave shape may be connected to the CLK input. The only constraint is that the signal be between 0 and 5 volts and crosses the 2.4V TTL threshold.

Digital I/O

There are seven digital lines on a CIO-DAS80x, four are outputs and three are inputs.



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DESCRIPTION	PRODUCT CODE
CIO-DAS801 multifunction A/D board, gains 1, 10, 100, 1000 with 12bit resolution	909 763 16
CIO-DAS802 multifunction A/D board, gains 1, 2, 4, 8 with 12bit resolution	909 763 17
CIO-DAS802/16 multifunction A/D board, gains of 1, 2, 4, 8 with 16bit resolution	909 760 92
CIO VEE driver	909 760 85
Universal Library software with manual	909 447 88
LabVIEW Driver extension to Universal Library	909 763 64

The four digital outputs are controlled by writing to a single register.

Software

Each board includes InstaCal, installation, calibration and test software. There is also a wide range of software toolkits available to help programmers and non-programmers alike. The Universal Library provides programming language support for all DOS and Windows 95/98 languages. ActiveX support is now available in the form of VIX components.

If you need to simply capture the data into an Excel format, and do not wish to spend any time programming, then the DAS Wizard software is ideal, see page 97 for more details. VEE and LabVIEW drivers are available for graphical programming environments, and DASYLab support is also available for non-programmers or applications with complicated logging requirements and short time-scales.

SPECIFICATION

ANALOG INPUT

A/D Resolution	801 & 802: 12bit 802/16: 16bit
Channels	8 Differential or Single Ended
Input range	801: $\pm 10, \pm 5, \pm 0.05, \pm 0.01V$ 0-10, 0-1, 0-0.1, 0-0.02V 802 & 802/16: $\pm 10, \pm 5, \pm 2.5, \pm 1.25V$ 0-10, 0-5, 0-2.5, 0-1.25V
Conversion speed	801 & 802: 10 μ S 802/16: 15 μ S
Linearity	801 & 802: ± 1 Bit 802/16: ± 1.5 Bit
Zero drift	801 & 802: ± 5 ppm / $^{\circ}C$ 802/16: ± 5 ppm / $^{\circ}C$
Gain drift	801 & 802: ± 20 ppm / $^{\circ}C$ 802/16: ± 10 ppm / $^{\circ}C$
Input impedance	801 & 802: >100M ohm 802/16: >10M ohm

COUNTER TIMER

Type	82C54
Channels	3 Down Count
Counter size	16 Bit
I Max input	10MHz
XTAL Osc.	10 MHz divided to 1 MHz

DIGITAL I/O

Out	4 Bits
In	3 Bits
Type	LSTTL

GENERAL

Power	801/802 – 5V 1200mA max. 802/16 – 5V 235mA Typ, 358mA max. $\pm 12V$, not used $\pm 15V$, supplied by on board DC/DC
Operating Temp	0 to 50 $^{\circ}C$
Storage Temp	-20 to 70 $^{\circ}C$
Humidity	0-95% Non Cond.
Compliance	CE EMC