

# CIO-DAS08, CIO-DAS08-PGH/PGL

## Multifunction, Medium Speed Boards for IBM Compatibles



- ✓ 8 Channels of Analog Input
- ✓ Software Programmable Ranges (CIO-DAS08-PGH/PGL Only)
- ✓ Up to 31 Digital I/O Lines (for CIO-DAS08. Others have 7)
- ✓ Labview Support



CIO-DAS08



The CIO-DAS08, CIO-DAS08-PGH and CIO-DAS08-PGL low-cost multi-function boards for the IBM PC and compatibles feature eight analog input channels, seven digital I/O lines, and three counters. The CIO-DAS08 provides an additional 24 digital I/O lines through an auxiliary connector, for a total of 31 digital I/O lines. The Cio-DAS08 supports dip switch-selectable analog ranges, while the analog input ranges of the CIO-DAS08-PGH and CIO-DAS08-PGL are selectable through software.

The analog signals are brought on board by a standard 37-pin, D-type connector directly to an analog multiplexer, which provides eight channels of input and is protected against 30V max. The CIO-DAS08's input channels are single-ended. The CIO-DAS08-PGH/PGL's input channels may be single-ended or differential. The 12-bit A/D converter provides a resolution of 1/4095 parts of full scale. Speeds of up to 20,000 samples per second are possible.

The input ranges of the CIO-DAS08 of +/-5V, +/-10V and

CIO-DAS08-PGH



0-10V are selected by dip switches on the board. The programmable amplifier of the CIO-DAS08-PGH/PGL allows the input ranges of these boards to be controlled the PC software. The gains of the CIO-DAS08-PGH are 0.5, 1, 5, 10, 50, 100, 500, 1000 in both unipolar and bipolar ranges. The gains of the PGL are 0.5, 1, 2, 4 and 8 in unipolar bipolar ranges.

Three digital input and four digital output lines are accessible from the boards' main 37-pin connector. Through an auxiliary 37-pin connector, the CIO-DAS08 adds 24 more lines of digital I/O that are programmable as inputs or outputs in groups of eight. These additional I/O lines, which use an industry standard 8355 chip, require a separate terminal panel and cable. The number of CIO-DAS08 or CIO-DAS08-

PGH/PGL analog inputs can be expanded from eight up to 128 in increments of 16 or 32. The CIO-EXP series expansion multiplexer boards provide gains of up to 800, thermocouple cold junction compensation and 12-22 AWG screw terminals all on one 16" x 4" accessory board (CIO-EXP32; CIO-EXP16 measures 9" x 4"). Optional software drivers are available for users writing their own programs. The UNIV-DRVR universal library package provides support for both DOS, Windows and Windows 95 programming languages. Both 16 bit and 32 bit drivers can be used. DOS support includes QUICKBASIC 4.5, Visual Basic, Turbo C, Borland C/C++, microsoft C and Quick C. Windows support includes Microsoft C, Visual C++, Visual Basic, Borland C, C++ and Delphi. Labview Drivers are also available.



CIO-MINI37 (left)  
CIO-TERMINAL (bottom)

## SPECIFICATIONS

**Analog Channels:** 8  
single ended (or  
differential for CIO-DAS08-  
PGH/PGL)

**A/D Type:** successive  
approx. AD674

**Conversion Time:** 15microsec

**Accuracy:** 0.01% +/- 1 LSB

**Integral Linearity:** +/- 1 LSB

**Maximum Overvoltage:** +/-35 V continuous

**Input Leakage Current:** 250 na max. at 25C

**CIO-DAS08 Ranges:** +/-5 Vdc, +/-10 Vdc, 0-10  
Vdc

### CIO-DAS08-PGH Ranges:

+/-10V, +/-5V, +/-1V, +/-0.5v, +/-0.1V, +/-0.05V, +/-  
0.01V, +/-0.005V, 0-10V, 0-2V, 0-1V, 0-0.2V, 0-0.1V,  
0-0.02V, 0-0.01V.

### CIO-DAS08-PGL Ranges:

+/-10V, +/-5 V, +/-2.5V, +/-1.25V, +/-0.625V, 0-10V,  
0-5V, 0-2.5V, 0-1.25V.

### Digital IO

OP1-OP4 low	0.5V max. @ 8ma sink
OP1-OP4 high	2.7V min. @ -0.4 ma source
IP1-IP3 low	0.8V max.
IP1-IP3 high	2V max. @ 20 microamps
8255 output low	0.5V max. @2.5 ma
8255 output high	2.4V min. @ -200 microamps
8255 input low	-0.5V min.
8255 input high	2.0V min., 7V max.
8255 drive	5 LSTTL loads

### 8254 COUNTER TIMER

**Counters:** Three 16-bit count down counters, user  
accessible

**Output Drive:** 2.2ma @ 0.45Vdc, 5 LSTTL loads

**Input Load:** +/- 10 microamps TTL/DTL/CMOS

**Input Frequency:** 10 MHz max.

### ENVIRONMENTAL

**Operating Temp.:** 32 to 122F (0 to 50C), 0-90%

### To Order (*Specify Model Number*)

Model Number	Price	Description
CIO-DAS08	\$199	Multifunction Board
CIO-DAS08-PGH	349	Multifunction Board with gains of 0.5, 1, 10, 100, 500, 1000
CIO-DAS08-PGL	349	Multifunction Board with gains of 0.5, 1, 2, 4, 8
CIO-TERMINAL	99	16" x 4" screw terminal board with prototype area, requires any C37FF cable
CIO-MINI37	49	4" x 4" screw terminal board, requires any C37FF cable
C37FF-2	25	2 foot cable with female connectors
C37FFS-5	30	5-foot shielded cable, 37-pin with female connectors
C37FFS-10	40	10-foot shielded cable, 37-pin with female connectors
BP37	23	Cable assembly. Brings out rear 37-pin digital IO connector on CIO-DAS08 to back of PC. Requires any C37FF cable and CIO-MINI37
BP-CABLE	25	Brings 5Vdc power from inside PC to rear backplate of computer. Used for powering CIO-ERB24 and SSR-RACK24 relay panels
SSR-RACK24	149	24 channel solid state relay rack Requires AC or DC modules.
AC05-C	15	AC output module
ACI5-C	15	AC input module
DC05-C	15	DC output module
DCI5-C	15	DC input module
UNIV-DRVR	49	Universal Drivers for DOS or Windows
CIO-Labview-Drvr	49	Labview Drivers. Requires UNIV-DRVR

For Sales and Service

1-800-826-6342