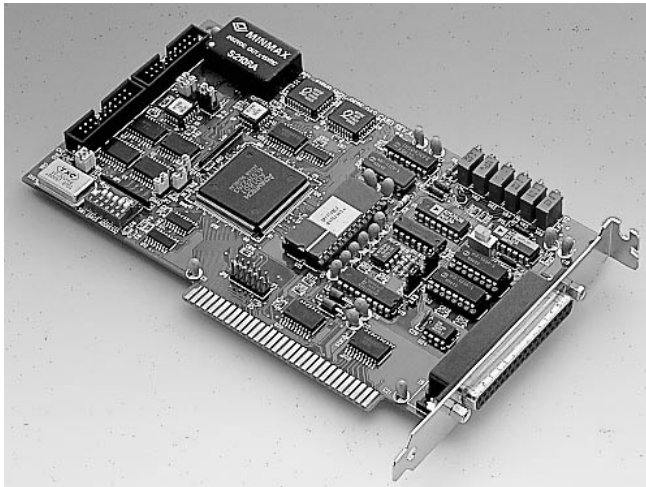
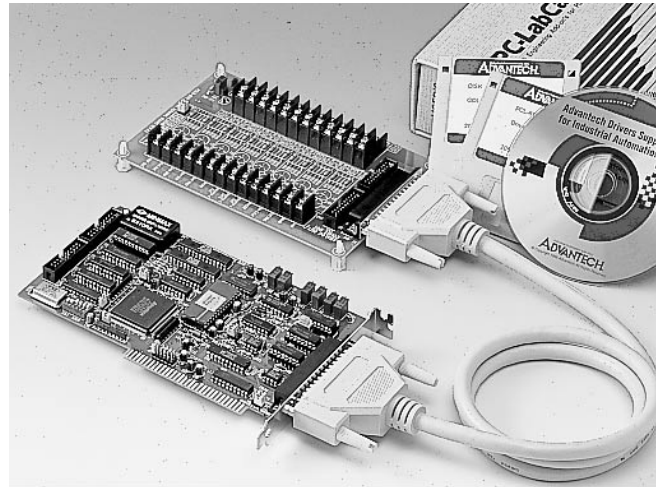


# PCL-818HD/HG

High-performance  
Multifunction Cards



CE



CE

## PCL-818HD 100 KS/s A/D at All Input Ranges

The PCL-818HD has guaranteed 100 KHz sampling and transfer speeds at all gains (x 1, 2, 4 or 8, programmable) and input ranges. It features an onboard 1 K sample FIFO (First In First Out) buffer for faster data transfer and more predictable performance under Windows.

## Specifications

### Analog Input

- **Conversion Time** 8  $\mu$ sec.
- **Input Range (V)** Bipolar:  $\pm 10$ ,  $\pm 5$ ,  $\pm 2.5$ ,  $\pm 1.25$ ,  $\pm 0.625$   
Unipolar: 0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25
- **Maximum Sampling Rate** 100 KHz for all input ranges
- **Accuracy** Gain = 0.5, 1 0.01% of FSR  $\pm 1$  LSB  
Gain = 2, 4 0.02% of FSR  $\pm 1$  LSB  
Gain = 8 0.04% of FSR  $\pm 1$  LSB

### General

- **On-board Memory** 1K samples FIFO for A/D. Can generate an interrupt when full or half full
- **Power Consumption** +5 V @ 500 mA max., +12 V @ 200 mA max
- **I/O Ports** 32 bytes with FIFO active or 16 bytes with FIFO disabled
- **A/D, D/A Connector** DB-37
- **Dimensions** 185 mm (L) x 100 mm (H) (7.3" x 3.9")

## Ordering information

- **PCL-818HD** High-performance half-size

## PCL-818HG Direct Thermocouple Measurement

The PCL-818HG offers the same functions as the PCL-818HD, but it features a special high-gain programmable instrument amplifier for reading very low level input signals (x 0.5, 1, 5, 10, 50, 100, 500 or 1000).

The PCL-818HG package includes a special wiring board (PCLD-8115) with a DB-37 connector and CJC. This combination lets you measure low-level thermocouple signals without an external signal-conditioning board.

## Specifications

### Analog Input

- **Conversion Time** 8  $\mu$ sec.
- **Input Range (V)** Bipolar:  $\pm 10$ ,  $\pm 5$ ,  $\pm 1$ ,  $\pm 0.5$ ,  $\pm 0.1$ ,  $\pm 0.05$ ,  $\pm 0.01$ ,  $\pm 0.005$   
Unipolar: 0 ~ 10, 0 ~ 1, 0 ~ 0.1, 0 ~ 0.01
- **Maximum Sampling Rate** (depends on input amplifier settling time and slew rate)

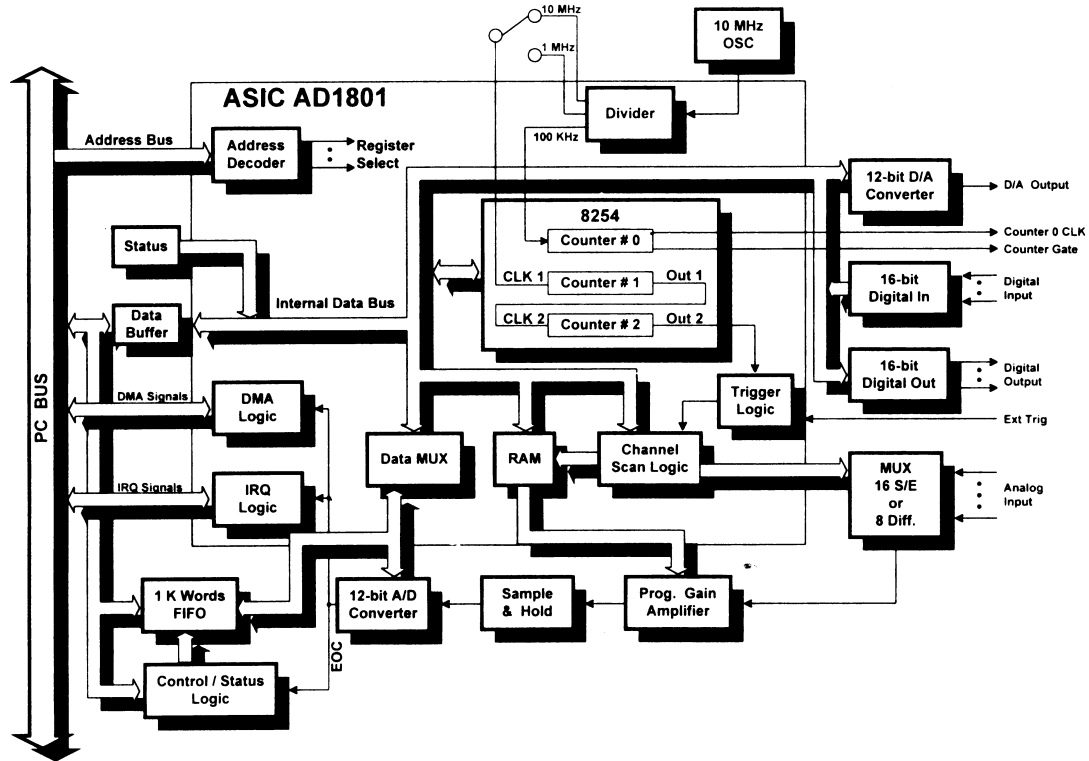
Gain	Speed	Channels
0.5, 1	100 KHz	Single (input signal $\leq 3$ V p-p)
0.5, 1, 5, 10	35 KHz	Multiple
50, 100	7 KHz	Multiple
500, 1000	1 KHz	Multiple

- **Accuracy** Gain = 0.5, 1 0.01% of FSR  $\pm 1$  LSB  
Gain = 5, 10 0.02% of FSR  $\pm 1$  LSB  
Gain = 50, 100 0.04% of FSR  $\pm 1$  LSB  
Gain = 500, 1000 0.08% of FSR  $\pm 1$  LSB

### General

See PCL-818HD

### Block Diagram (PCL-818HG)



### Ordering Information

- **PCL-818L** Low-cost high-performance half-size multifunction card, user's manual and driver CD-ROM. (cable not included)
- **PCL-818LS** PCL-818L with PCLD-8115 and DB-37 cable assembly (PCL-10137)
- **PCL-818HG** High-performance high-gain half-size multifunction card, PCLD-8115, DB-37 cable assembly (PCL-10137), user's manual and driver CD-ROM.
- **PCL-818HD** High-performance half-size multifunction card with DB-37 connector, user's manual and driver CD-ROM. (cable not included)
- **PCL-818H** High-performance half-size multifunction card with 20-pin flat cable connectors, user's manual and driver CD-ROM. (cable not included)
- **PCL-10120-1** 20-pin flat cable, 1 m
- **PCL-10120-2** 20-pin flat cable, 2 m
- **PCL-10137-1** DB-37 cable assembly, 1 m
- **PCL-10137-2** DB-37 cable assembly, 2 m
- **PCL-10137-3** DB-37 cable assembly, 3 m
- **PCLD-8115** Industrial wiring terminal board with CJC circuit

### PCL-818 Series Quick-reference Table

Model	A/D speed	Unipolar input (V)	Bipolar input (V)	Onboard memory	D/A chan.	Connector	Size	On-board DC/DC	Power consumption
PCL-818L/LS	40 KHz	-	±10, ±5, ±2.5, ±1.25, ±0.625	-	1	DB-37	155 x 100 mm	-	<1.4 W
PCL-818HD	100 KHz	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	±10, ±5, ±2.5, ±1.25, ±0.625	1 K samples FIFO	1	DB-37	185 x 100 mm	Yes	<3.0 W
PCL-818HG	100 KHz	0 ~ 10, 0 ~ 1, 0 ~ 0.1, 0 ~ 0.01	±10, ±5, ±1, ±0.5, ±0.1, ±0.05, 0.01, ±0.005	1 K samples FIFO	1	DB-37	185 x 100 mm	Yes	<2.8 W
PCL-818H	100 KHz	0 ~ 10, 0 ~ 5, 0 ~ 2.5, 0 ~ 1.25	±10, ±5, ±2.5, ±1.25, ±0.625	-	1	20-pin flat cable	185 x 100 mm	Yes	<2.8 W