

# KPCMCIA- 12/16 Series



- Continuous gap-free acquisition
- 100kS/s sampling rate
- 8/16 channel counts
- 2K word FIFO
- Software programmable gains
- 8 digital I/O channels
- Hot swapping supported
- PCMCIA Type II cards
- Compatible with Keithley accessories
- 32-bit DriverLINX<sup>®</sup> drivers plus a suite of bundled software including ExceLINX<sup>™</sup>, VisualSCOPE<sup>™</sup>, TestPoint<sup>™</sup>, and LabVIEW<sup>™</sup> drivers

## Ordering Information

**KPCMCIA-12AI-C**  
12-bit low-gain analog  
input and digital I/O  
PCMCIA card

**KPCMCIA-16AI-C**  
16-bit low-gain analog  
input and digital I/O  
PCMCIA card

### Accessories Supplied

KCAB-AI-C interface cable with  
software and user's manual on  
CD-ROM

# 100kHz, 12/16-Bit Multifunction Boards

These multifunction data acquisition cards are for use with notebook and other PCs equipped with a PCMCIA port. They are ideal for field applications such as in-vehicle test as well as for laboratory applications where space is at a premium or portability is required. They allow you to sample raw analog data at speeds up to 100kS/s and feature 2K sample scan and sample FIFOs that allow you to acquire large amounts of data without sample loss. The KPCMCIA-12AI-C and -16AI-C respectively are 12- and 16-bit analog input PCMCIA cards with digital I/O capability. All models are capable of high-speed, gap-free data acquisition under Windows<sup>®</sup>.

These cards feature high-speed 12- or 16-bit successive approximation A/D converters for multiplexing analog inputs, which are configurable as either single-ended or differential inputs. The cards offer an integral 2K-entry channel scan list that supports full-speed, random-order channel and gain selection. They also provide a 24-bit pacer clock—with programmable divide by 8 and 64 prescalers—that can be used in conjunction with an external clock source. Each card features eight TTL-compatible digital I/O channels.

## APPLICATIONS

- Field service
- In-vehicle testing
- Field-based research
- Portable data logging
- General purpose laboratory instrumentation

## ACCESSORIES AVAILABLE

C-16MB1	Cable from 37-pin to MB-01 or MB-05 Signal Conditioning Backplane
STP-37	Screw Terminal Panel
STP-37/C	STP-37 with added bottom case
STA-U	Universal Screw Terminal Accessory
STA-MB	Universal Screw Terminal Card with Sockets for Four MB-Series Signal Conditioning Modules
TESTPOINT	TestPoint Application Software

## Connector Pin Assignments

GND	19	37	CH0+ / CH0
CH0- / CH8	18	36	CH1+ / CH1
CH1- / CH9	17	35	CH2+ / CH2
CH2- / CH10	16	34	CH3+ / CH3
CH3- / CH11	15	33	CH4+ / CH4
CH4- / CH12	14	32	CH5+ / CH5
CH5- / CH13	13	31	CH6+ / CH6
CH6- / CH14	12	30	CH7+ / CH7
CH7- / CH15	11	29	GND
N/C	10	28	GND
RESERVED	9	27	RESERVED
N/C	8	26	SSH
GND	7	25	D10 / EXT TRIGGER
D11 / GS0	6	24	D12 / EXT CLOCK
D13 / GS1	5	23	DO0 / CS0
DO1 / CS1	4	22	DO2 / CS2
DO3 / CS3	3	21	N/C
N/C	2	20	N/C
Full Power	1		

### KPCMCIA-12AI, -16AI Series PC Card Optional D-37 Output Connector

## ENVIRONMENTAL

OPERATING TEMPERATURE: 0° to 50C.

STORAGE TEMPERATURE: 0° to 70°C.

HUMIDITY (non-condensing): 0 to 95%.

WEIGHT: 1.5oz.

EMC: Conforms to European Union Directive 89/336/EEC.

SAFETY: Meets EN61010-1/IEC 1010.



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[www.keithley.com](http://www.keithley.com)

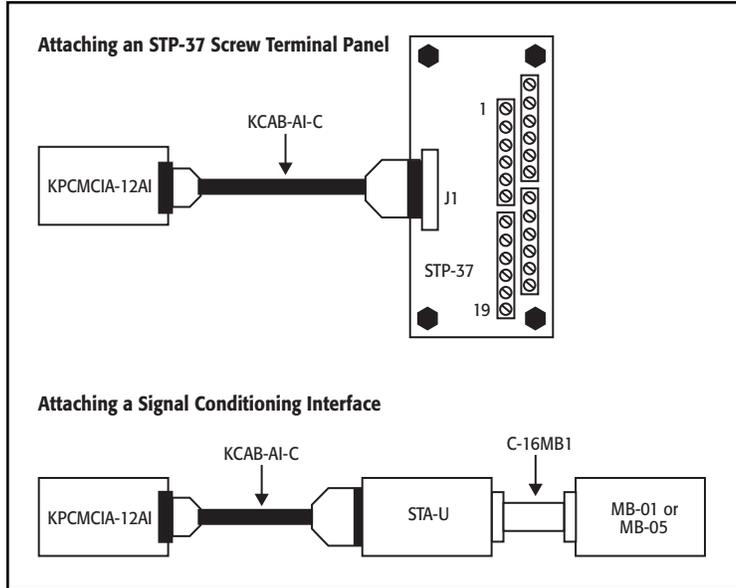
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## Configuration Guide



## Specifications

MODEL	KPCMCIA-12AI-C	KPCMCIA-16AI-C
Bus Type	PCMCIA	PCMCIA
<b>A/D</b>		
Sampling Rate	0.006Hz–100kHz w/internal clock	0.006Hz–100kHz w/internal clock
A/D Resolution (Bits)	12	16
A/D Channels		
Single Ended	16	16
Differential	8	8
A/D Conversion Time	8 $\mu$ s	8 $\mu$ s
Monotonicity	No missing codes	No missing codes
Integral Linearity Error	$\pm 1$ LSB	$\pm 3$ LSB
Differential Linearity Error	$\pm 1$ LSB	$\pm 3$ LSB
Error (Full Scale Input)	$\pm 0.5\%$	$\pm 0.5\%$
Max. Overvoltage	$\pm 30$	$\pm 30$
Input Impedance	100M $\Omega$ DC	100M $\Omega$ DC
Input Range (Volts)	$\pm 10$ , $\pm 5$ , $\pm 2.5$ , $\pm 1.25$	$\pm 10$ , $\pm 5$ , $\pm 2.5$ , $\pm 1.25$
Programmable Gain	1, 2, 4, 8	1, 2, 4, 8
Scan FIFO	2k entries	2k entries
Data FIFO	2k samples	2k samples
<b>TRIGGERING</b>		
Source	Int. Software External TTL	Int. Software External TTL
Mode	Continuous/ one shot	Continuous/ one shot
TTL Trigger	0.8V (low) 2.2V (high)	0.8V (low) 2.2V (high)
Edge	Rising/Falling	Rising/Falling
<b>PACER CLOCK</b>		
	24-bit auto reload, variable 64 prescaler, 8 divisor	24-bit auto reload, variable 64 prescaler, 8 divisor
<b>DIGITAL I/O</b>		
Digital Input Channels	4 unlatched	4 unlatched
Digital Output Channels	4 latched	4 latched
Max. Source Current	0.5mA	0.5mA
Max. Sink Current	2.5mA	2.5mA
Min. Logic "1" Level	2.4V	2.4V
Max. Logic "0" Level	0.8V	0.8V

KPCMCIA-12/16 Series Specifications

DATA ACQUISITION PRODUCTS

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