PCIP-SCAN

**ISA-Bus 8/16 Channel
Scanner/Multiplexer**

Functional Description

The PCIP-SCAN is an 8/16-channel reed relay scanner or multiplexer interface that plugs directly into any I/O slot of an ISA-bus compatible computer. The PCIP-SCAN provides differential or single-ended input capability, configurable via an onboard switch. The standard PCIP-SCAN uses 16 Form A dry reed relays for channel switching. The PCIP-SCAN/W uses mercury wetted relays to provide a higher contact rating. The PCIP-SCAN provides easy connection to the PCIP family of boards, especially the DMMs (Digital Multimeter).
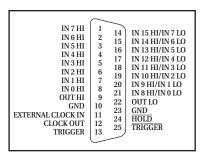
The board's control circuitry provides break-before-make switching. A 3 millisecond de-energizing action, followed by a 3 millisecond bounce settling time is provided on each relay switch change. Following the bounce settling time, a trigger pulse is produced on the external trigger pin. This can be used to trigger an external A/D converter board. The channels are selected by writing the channel number to an I/O register, or the channels can be cycled at any desired rate by an internal or external timer.

The PCIP-SCAN is simple to control by register programming using direct I/O instructions in any programming language (BASIC, C, Assembly, Pascal). As an alternative to this approach, the utility software provided includes a language-independent DOS file I/O driver that uses simple English words to control the scanner. The driver supports BASIC, C, FORTRAN, Pascal, or any other language compiled or interpreted that includes file I/O commands. To further enhance the user interface, a Pop-Up Control Panel is provided.

Connector Pin Assignments

All connections are made via a 25-pin D-type female connector that projects through the back mounting plate of the board. A 25-pin D-type male connector should be used to make connections (Keithley part number SMC-25). The pin assignments are as shown:

IN 7 HI	1	14	IN 15 HI/IN 7 LO
IN 6 HI	2	15	IN 14 HI/IN 6 LO
IN 5 HI	3	16	IN 13 HI/IN 5 LO
IN 4 HI	4	17	IN 12 HI/IN 4 LO
IN 3 HI	5	18	IN 11 HI/IN 3 LO
IN 2 HI	6	19	IN 10 HI/IN 2 LO
IN 1 HI	7	20	IN 9 HI/IN 1 LO
IN 0 HI	8	21	IN 8 HI/IN 0 LO
OUT HI	9	22	OUT LO
GND	10	23	GND
EXTERNAL CLOCK IN	11	24	HOLD
CLOCK OUT	12	25	TRIGGER
TRIGGER	13		

PCIP-Scan Pop-Up Control Panel

ORDER	DESCRIPTION
PCIP-SCAN	8/16 Channel Scanner with DOS software
PCIP-SCAN/W	8/16 Channel Scanner with Mercury Relays and DOS software
OPTIONS	
MS-PCIP-SCAN	Additional hardware manual and DOS software

SPECIFICATIONS

RELAYS

QUANTITY: 16 Form A (SPST-NO).

CONTACT TYPE: Dry or mercury wetted (position sensitive).

CONTACT RATING: Dry: 10W max. at 0.5A or 200V peak.
Mercury Wetted: 50W max. at 2A or 200V peak.
Both ratings are for resistive loads and installation Category I.

CONTACT ACTION: Break before make; 3ms minimum break time .

CONTACT RESISTANCE: 50mΩ max.

CONTACT ARRANGEMENT: Either 1 of 16 Form A multiplexer or 2 of 8 differential; Form A multiplexer (switch-selectable option) .

OPERATE TIME: 2ms max.

RELEASE TIME: 2ms max.

LIFE EXPECTANCY: Mechanical: 100 million operations min.
Electrical: 10 million operations @ full load.

POWER CONSUMPTION

+5V: 0.6A max.

ENVIRONMENTAL

OPERATING TEMPERATURE: 0 to +50°C.
STORAGE TEMPERATURE: –20 to +70°C.
HUMIDITY: to 90%, non-condensing.

PHYSICAL

DIMENSIONS: 9.0in L × 4.25in H × 0.75in D (22.9cm × 10.8cm × 1.9cm).
WEIGHT: 8oz (250g).