

## PMC440-x Isolated Digital Input

PMC440 modules provide 32 optically isolated inputs to safely monitor a wide range of digital input voltage levels. A unique two-piece board design brings the proven reliability of Acromag's Industry Pack (IP) modules to a PMC format. An IP440 module is embedded on a PMC interface card that maintains maximum performance and transparent communication to the host.

Isolation protects your computer system from noise, transient signals, and field wiring faults. The inputs are grouped into four 8-channel ports. Ports are isolated from the logic and each other.

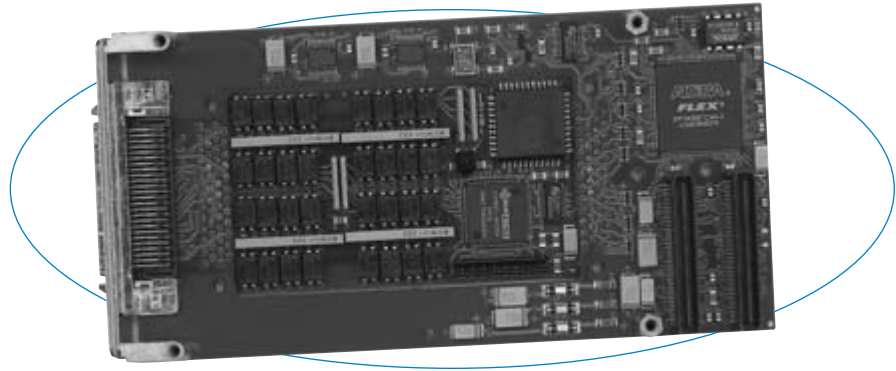
Change-of-state interrupts are supported using paired channels. Debounce eliminates spurious interrupts from noise and switching transients for error-free edge detection.

### Features

- 32 port-isolated input channels
- Three input ranges (different models):
  - PMC440-1:  $\pm 4$  to  $\pm 18V$  DC or AC peak
  - PMC440-2:  $\pm 16$  to  $\pm 40V$  DC or AC peak
  - PMC440-3:  $\pm 38$  to  $\pm 60V$  DC or AC peak
- Interrupt support for each channel
- Programmable polarity of event interrupts (low-to-high or high-to-low transitions)
- Programmable debounce
- Input hysteresis
- Reverse polarity protection (bipolar inputs)
- Software configuration (no jumpers or switches)

### Benefits

- Software configuration allows "on-the-fly" changes without removing modules.



The PMC440 safely isolates your input signals to protect your control system from harmful transients and surges.

### Specifications

#### Digital Inputs

Input channel configuration: 32 optically isolated inputs.

Isolation: Logic and field connections are optically isolated. Individual ports are also isolated from each other. Input lines of individual ports share a common connection and are not isolated from each other. Logic and field lines are isolated from each other for voltages up to 250V AC or 354V DC on a continuous basis (unit will withstand a 1500V AC dielectric strength test for one minute without breakdown).

Bipolar input voltage range:

- PMC440-1:  $\pm 4$  to  $\pm 18V$  DC or AC peak.
- PMC440-2:  $\pm 16$  to  $\pm 40V$  DC or AC peak.
- PMC440-3:  $\pm 38$  to  $\pm 60V$  DC or AC peak.

Input signal low-to-high threshold:

- PMC440-1:  $\pm 2.3V$  typical.
- PMC440-2:  $\pm 8V$  typical.
- PMC440-3:  $\pm 16V$  typical.

Input response time:

- On to off: 35 $\mu$ S typical.
- Off to on: 15 $\mu$ S typical.

Interrupt: 32 channels configurable as below.

- High-to-low transitions
- Low-to-high transitions
- Change-of-state (two inputs required)

Debounce: Selectable for 3 to 4mS, 48 to 64 $\mu$ S, 0.75 to 1mS, or 6 to 8mS.

#### PMC Compliance

Conforms to PCI Local Bus Specification, Revision 2.2 and CMC/PMC Specification, P1386.1 (mechanical height exception, see Page 98).

Electrical/Mechanical Interface: Single-Width Module. Two-piece board design (see Page 98).

32-bit PCI Target: Implemented by Altera FPGA

4K Memory Space Required: One Base Address Register

Signaling: 5V Compliant, 3.3V Tolerant

Interrupts (INTA#): Interrupt A is used to request an interrupt.

PMC Module Write Cycle: 1000nS typical measured from falling edge of FRAME# to module write complete.

PMC Module Read Cycle: 1000nS typical measured from falling edge of FRAME# to falling edge of TRDY# providing valid data.

#### Environmental

Operating temp.: 0 to 70°C or -40 to 85°C (E version).

Storage temperature: -55 to 105°C.

Relative humidity: 5 to 95% non-condensing.

Power: 85mA at +5V.  $\pm 12V$  (not used).

MTBF: PMC440-2; 307,340 hrs. at 25°C, MIL-HDBK-217F, notice 2.

### Ordering Information

#### PMC Modules

##### PMC440-1

Digital input,  $\pm 4$  to  $\pm 18V$  input range

##### PMC440-1E

Same as PMC440-1 plus extended temperature range

##### PMC440-2

Digital input,  $\pm 16$  to  $\pm 40V$  input range

##### PMC440-2E

Same as PMC440-2 plus extended temperature range

##### PMC440-3

Digital input,  $\pm 38$  to  $\pm 60V$  input range

##### PMC440-3E

Same as PMC440-3 plus extended temperature range

#### Software (see Page 81)

##### PMCSW-API-VXW

VxWorks® software support package

##### PCISW-API-QNX

QNX® software support package

##### PCISW-API-WIN

Windows® DLL Driver software package

#### Accessories (see Page 87)

##### 5028-378

Termination panel, SCSI-2 connector, 50 screw terminals.

##### 5028-438

Cable, shielded, SCSI-2 connector at both ends