Industry Pack Modules

IP400
High Voltage
Digital Input

The IP400 can monitor the on/off (high/low) status of up to 40 devices.

Loopback monitoring of critical control signals is easily accomplished with the IP400 by reading the output states of Acromag's IP405 Output Module. The two modules share the same field interface pinouts for direct loopback compatibility.

Configuration is easy with software commands that eliminate confusing jumper settings and switches. You can configure interrupts for a change of state or level detection of any bit on up to 12 channels.

Features

■ 40 digital inputs

■ 0 to 60V DC input range

■ TTL input threshold with hysteresis

■ Change-of-state/level interrupts
   (up to 12 channels)

■ Loopback monitoring of output states
   (with IP405)

Benefits

■ Buffered inputs include hysteresis for increased noise immunity.

■ Interrupts can be generated for change of state or level detection.

■ Loopback monitoring enables self-test and fault diagnostics to detect open switches or shorts.

■ High impedance inputs minimize loading of the input source and input current.

■ Faster data processing is achieved because only one "wait" state is required for a read or a write operation.
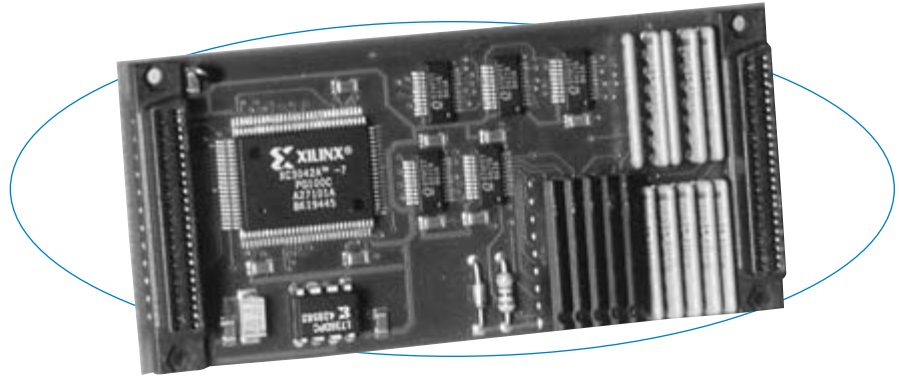
When used together, the IP400 input module and IP405 output module simplify loop-back monitoring of your critical signals.

Specifications

Digital Inputs

Input channel configuration: 40 noninverting buffered inputs with a common connection. For DC voltage applications only, observe proper polarity.

Input voltage: 0 to 60V DC, maximum.

Input signal threshold: TTL compatible. 1.5V DC with 200mV of hysteresis, typical. Thus, Low-to-High threshold is 1.6V DC High-to-Low is 1.4V DC, typical. Limited to TTL levels of 0.8V DC (maximum Low level) and 2.0V DC (minimum High level).

Input resistance time: 100K ohms, typical.

Interrupts: Change-of-state and level on channels 0-11.

IP Compliance (ANSI/VITA 4)

Meets IP specifications per ANSI/VITA 4-1995.

IP data transfer cycle types supported:
   Input/output (IOSel*), ID read (IDSel*).

Access Times (8MHz clock): 1 wait state (375nS cycle).

Interrupts:
   Handling format: An 8-bit vector is provided during interrupt acknowledge cycles.

Updates: Requires two 16-bit and one 8-bit reads to update all channels.

Environmental

Operating temperature: 0 to 70°C (IP400)
   or -40 to 85°C (IP400E model).

Storage temperature: -55 to 125°C.

Relative Humidity: 5 to 95% non-condensing

MTBF: 1,653,871 hrs at 25°C, MIL-HDBK-217F, Notice 2.

Power:
   +5V (±5%): 30mA maximum.
   +12V (±5%) from P1: 8.5mA maximum.
   -12V (±5%) from P1: 0mA (not used).

Ordering Information

Industry Pack Modules
IP400
   40 input channels.

IP400E
   Same as IP400 plus extended temperature range.

For Industry Pack Carrier Cards, see Page 5.

Software *(see Page 81)*
IPSW-API-VXW
   VxWorks® software support package

IPSW-API-QNX
   QNX® software support package

IPSW-ATX-PCI
   ActiveX®/OLE Controls 2.0 software package

IPSW-LINUX
   Linux™ support (website download only)

For accessories information, see Page 87.

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