

QUAD PAK INPUT MODULES

Features

- > Each module contains four single-channel I/O circuits
- > Each module can be divided into two pairs with each pair sharing a common connection
- > Used for sensing on/off AC voltages
- > Provides up to 4,000 Vrms of optical isolation between field devices and control logic
- > Features zero voltage turn-on and zero current turn-off

DESCRIPTION

Quad Pak modules contain the equivalent of four, single channel I/O circuits in a single high-density package. Each Quad Pak module can be divided into two pairs, with each pair sharing a common connection.

Quad Pak modules are designed to plug into the Quad Pak high-density I/O mounting racks only and cannot be plugged into single-channel racks. Quad Pak modules are designed to work with a 5 VDC logic voltage only and can be used with Optomux, Pamux, and Mistic protocol brain boards and mounting racks, as well as racks using a direct cable connection to a computer.

Quad Pak modules can also be used with a Raspberry Pi, the Digital I/O Carrier Board (part number [OPTO-P1-40P](#)), and the PB16HQ mounting rack.

AC input modules are used for sensing ON/OFF AC voltages. All AC input modules are designed with filtering on the input and a hysteresis amplifier for high noise rejection and transient-free “clean” switching. Each module provides up to 4,000 Vrms of optical isolation between field inputs and the logic side of the circuit.



IAC5Q

All DC input modules (with the exception of the IDC5BQ) are designed with filtering on the input and a hysteresis amplifier for high noise rejection and transient-free “clean” switching. The IDC5BQ module is a fast-switching input module for signals produced by photoelectric switches, encoders, DC proximity switches, or TTL devices.

Typical uses and applications include sensing the presence or absence of voltage or sensing contact closures from sources such as:

- Proximity Switches
- Limit Switches
- Selector Switches
- Push Buttons
- Toggle Switches
- Thermostats
- Photoelectric switches
- TTL-compatible devices

Part Numbers

| Part | Description |
|--------|--|
| IDC5Q | 4-Channel AC/DC Input 12–32 VAC/10–32 VDC, 5 VDC Logic |
| IDC5BQ | 4-Channel DC Input 4-16 VDC, 5 VDC Logic, High Speed |
| IAC5Q | 4-Channel AC/DC Input 90–140 VAC/VDC, 5 VDC Logic |
| IAC5AQ | 4-Channel AC/DC Input 180–280 VAC/VDC, 5 VDC Logic |

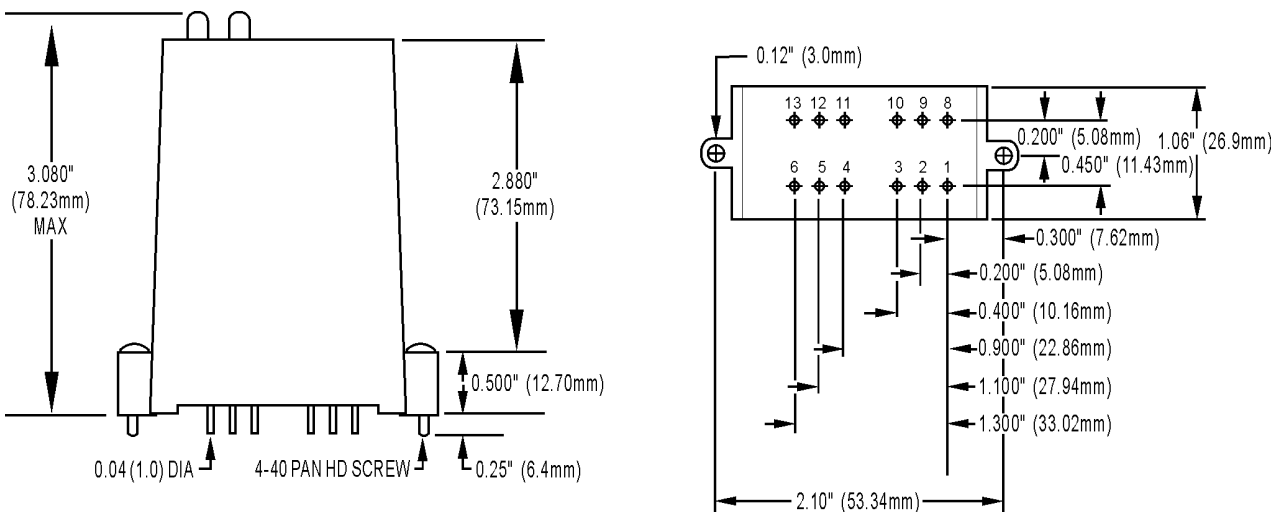


SPECIFICATIONS

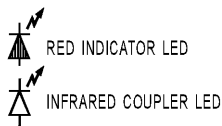
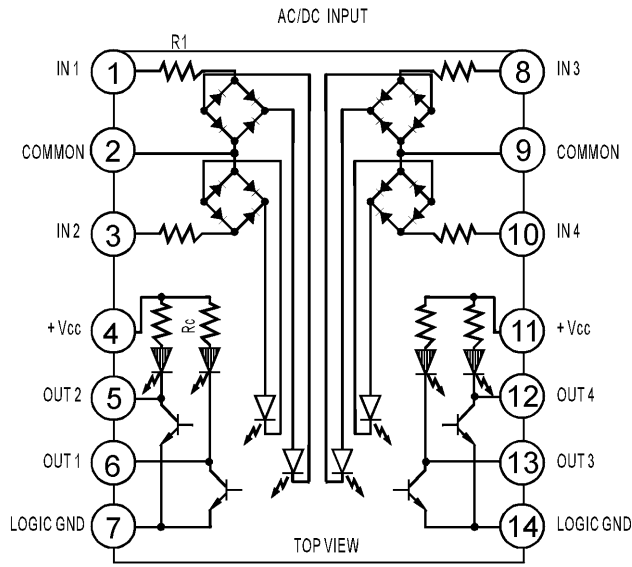
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|-------------------------------|-------------------------------|
| Operating Ambient Temperature | -30 to 70 °C |
| Isolation Input-to-Output | 4,000 Vrms |
| Output Voltage Drop | 0.4 volts @ 50 mA |
| Output Current | 50 mA |
| Output Leakage With No Input | 100 microamps maximum @ 5 VDC |
| Output Transistor | 30 volts breakdown |

| | Units | IDC5Q | IDC5BQ | IAC5Q | IAC5AQ |
|---|-------|-------|--------|--------|---------|
| Input Voltage Range (VAC) | VAC | 12–32 | N/A | 90–140 | 180–280 |
| Input Voltage Range (VDC) | VDC | 10–32 | 4–16 | 90–140 | 180–280 |
| Input Current (per channel) @ Maximum Line | mA | 29 | 45 | 11 | 6.5 |
| Turn-on Time | msec | 5 | 0.05 | 20 | 20 |
| Turn-off Time | msec | 5 | 0.1 | 20 | 20 |
| Input Allowed For No Output | mA | 1 | 0.7 | 3 | 1.7 |
| | V | 3 | 1 | 45 | 80 |
| Logic Supply Voltage - Nominal | VDC | 5 | 5 | 5 | 5 |
| Logic Supply Voltage Range | VDC | 4.5–6 | 4.5–6 | 4.5–6 | 4.5–6 |
| Logic Supply Current @ Nominal Logic Voltage | mA | 12 | 12 | 12 | 12 |
| Input Resistance (R ₁ in Schematic Diagram) | Ohms | 1.5K | 300 | 14K | 43K |
| Control Resistance (R _C in Schematic Diagram) | Ohms | 220 | 220 | 220 | 220 |

DIMENSIONS



Schematics



EQUIVALENT CIRCUIT ONLY

NEGATIVE TRUE LOGIC

Connections

