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Find the *Acces 104-II32-4RO* at our website: *Click HERE*

104-II32-4RO

36-Channel

# PC/104 Isolated Input/Relay Output with COS



## KEY FEATURES:

### INPUTS

- 32 optically-isolated, non-polarized digital inputs
- Change of State (COS) detection selectable on nybble basis
- Interrupt sharing for simplified system development
- 3 to 31 volt AC or DC signals
- Switchable filters
- Schmitt trigger buffers
- I/O access with register definitions provided

### OUTPUTS

- 4 Form C (NC, NO, C) SPDT relays
- Contact ratings 24VDC @ 1A and 115VAC @ 0.5A
- +5V power with onboard resettable fuse for external circuiits

The 104-II32-4RO is a 36-channel PC/104 utility board featuring 32 optically isolated digital inputs with change of state (COS) interrupt generation and 4 handy electromechanical relay outputs. The board provides connections to an assortment of devices including sensors, switches, controllers, powered circuits, and other user inputs. The inputs may be driven by either DC sources of 3-31V (or higher by special order) or AC sources at frequencies of 40Hz to 10kHz. Optically isolating the digital inputs from each other, and from the computer, assures smooth, error-free data transmission in noisy, real-world environments. The 104-II32-4RO can be used in a variety of PC/104 applications such as embedded SCADA systems, industrial automation, process control, scientific apparatus, and embedded OEM.

Each input circuit includes a jumper selectable filter to accommodate AC inputs and is also useful for slow DC inputs in noisy environments. The filter may be manually disabled to improve the board's typical response time to 10µs when used with faster DC inputs. To prevent erroneous input state change detections and interrupts, Schmitt triggers are used which provide a reliable logic signal to the computer interface. The electromechanical relays are more flexible than FET and solid state outputs in regards to the kind of signals that can be switched. Another useful feature of the board is a fused +5V general purpose output at the connector.

System interrupts are software controlled, enabling the board to generate an interrupt whenever one or more of the isolated digital inputs changes state. This eliminates the need for constant polling and greatly frees up system resources. IRQ sharing with other system devices is enabled for simplified system delelopment and installation.

## SOFTWARE

The 104-II32-4RO is supported for use in most operating systems and includes a free DOS, Linux and Windows 95/98/Me/NT/2000/XP/2003 compatible software package. This contains sample programs and source code in "C" for DOS, and Visual Basic, Delphi, C++ Builder, and Visual C++ for Windows. Also incorporated is a graphical setup program in Windows. Third party support includes a Windows standard dll interface usable from the most popular application programs. Embedded OS support includes Windows XPe and CE. Linux support consists of installation files and basic samples for programming from user level via an open source kernel driver.

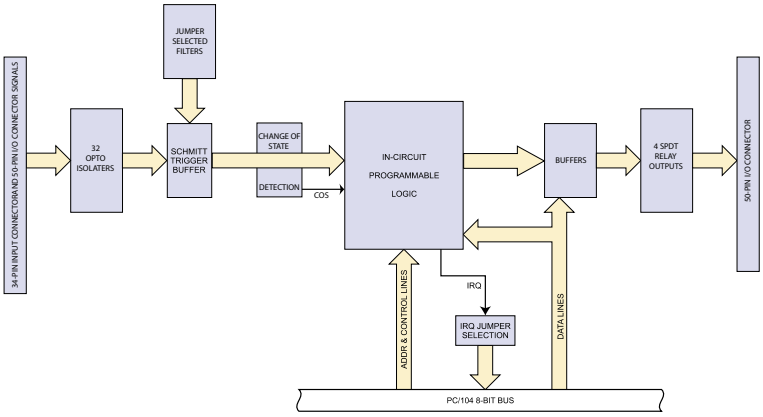
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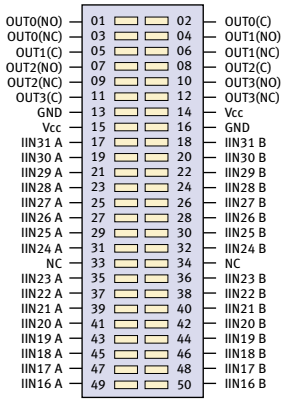
36-Channel

# PC/104 Isolated Input/Relay Output with COS

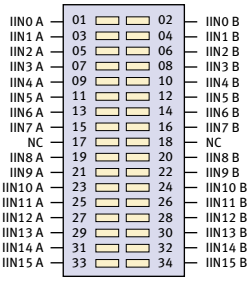
## Block Diagram & Pin Configuration




### I/O Header




### Isolated Inputs




## Specifications

### Opto-Isolated Inputs

| | |
|---|---|
| **Inputs** | 32 non-polarized opto-isolated with change of state (COS) detection |
| **Input voltage** | 3V to 31V DC or AC rms (40 to 10KHz) |
| **Input impedance** | 1.8K Ohm in series with opto coupler (two LEDs) |
| **Filter** | Independently selectable on a per-channel basis |
| **Response time** | 10µs without filter, 4.7ms with filter |
| **Isolation** | Opto-Isolators specified to 500V |
| **Interrupts** | Generated in eight groups of four inputs each, IRQ sharing via tri-stated line driver (positive edge true) |

### Electromechanical Relay Outputs

| | |
|---|---|
| **Number and type** | Four SPDT (Form C) |
| **Contact rating** | 1A at 24VDC, 60VDC max (30W max), |
| | 0.5A at 125VAC max (62.5VA max) |
| **Contact type** | Single crossbar, Ag with Au clad |
| **Contact resistance** | 100 milliohms max |
| **Contact life** | 5,000,000 operations minimum |
| **Operating time** | 5ms max |
| **Release time** | 5ms max |

### General

| | |
|---|---|
| **I/O connections** | 50 and 34-pin headers |
| **Power required** | +5VDC @ 150mA (all relays ON, no load on fused 5V) |
| **Operating temperature** | -30 to +70°C (non-icing) |
| **Storage temperature** | -40 to +80°C |
| **Weight** | 3.02 oz |

## Ordering Guide

| | |
|---|---|
| **104-II32-4RO** | 32 optically isolated inputs and four relay outputs with change of state detection |

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