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Find the *Acces 104-II-16* at our website: ***Click HERE***

104-IIRO-16
104-II-16
104-RO-16

32-Channel

# PC/104 Isolated Input/Relay Output with COS



## KEY FEATURES:

- 16 optically-isolated, non-polarized CMOS compatible digital inputs accept ±31VDC or AC rms
- IRQ on input change of state (COS) eliminates the need for constant polling
- Slow/fast filter to accommodate AC voltages and noisy DC inputs
- 16 Form C electro-mechanical relays switch up to 1A each

## FACTORY OPTIONS:

- Economy version without COS feature
- Input only and relay only versions
- Expanded input voltage levels

The 104-IIRO-16 is a low cost 32-channel PC/104 utility board featuring 16 optically isolated digital inputs with change of state (COS) detection and 16 electromechanical Form C SPDT relay outputs. The isolated, non polarized 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 input channels are available via a 34-pin IDC type header. The 16 electromechanical relays are de-energized at system power-up to prevent an unintended control output signal. Data to the relays are latched. The relay contacts are available via a 50-pin IDC type header.

Each input circuit includes a jumper selectable slow/fast filter to accommodate AC inputs and is also useful for slow DC inputs in noisy environments. The filter may be manually disabled to increase the board's typical response time to 10µs when used with faster DC inputs. All input signals are rectified by diodes before input to the opto-isolators. Current limiting is provided by a 1.8K Ohm, 1/2-Watt resistor in series and accommodates a wide input range.

The board is installed by jumper selecting the base address and IRQ. 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. Model 104-IIRO-16E is an economy version available without the interrupt Change of State Detection feature. Model 104-II-16 features 16 isolated digital inputs only and the 104-RO-16 features 16 relay outputs only.

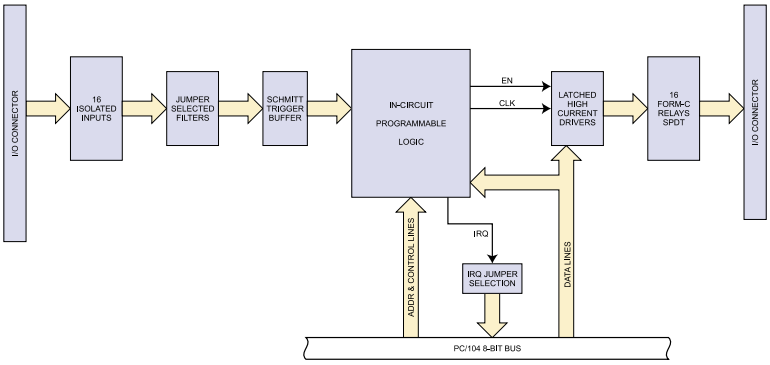
## SOFTWARE

The 104-IIRO-16 Series are supported for use in most operating systems and include a free DOS, Linux and Windows 95/98/Me/NT/2000/XP/2003 compatible software package. This includes sample programs and source code in "C" and Pascal for DOS, and Visual Basic, Delphi, C++ Builder, and Visual C++ for Windows. Also included is a graphical setup program in Windows. Embedded OS support includes Windows XPe and CE. Linux support includes installation files and basic samples for programming from any user level via an open source kernel driver.

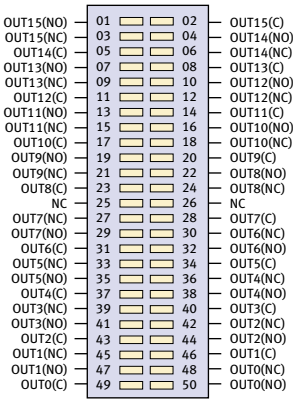
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32-Channel
# PC/104 Isolated Input/Relay Output with COS

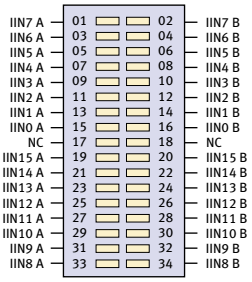
## Block Diagram & Pin Configuration




### Relay Outputs




### Isolated Inputs




## Specifications

### Opto-Isolated Inputs

| | |
|---|---|
| **Inputs** | 16 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 |
| **AC input filter** | Independently selectable on a per-channel basis |
| **Response time** | 10µs without filter, 4.7ms with filter |
| **Isolation** | Opto-Isolators specified to 500V |

### Electromechanical Relay Outputs

| | |
|---|---|
| **Outputs** | 16 |
| **Relay type** | SPDT (Form C) |
| **Contact rating** | 1A max at 24VDC, 60VDC max, 0.5A at 125AC max |
| **Contact type** | Single crossbar, Ag with Au clad (Bifurcated contacts optional) |
| **Contact life** | 5,000,000 operations minimum |
| **Operating time** | 5ms max |
| **Release time** | 5ms max |

### General

| | |
|---|---|
| **I/O connections** | I/O is accessed via a 50-pin header for relays and 34-pin header for inputs |
| **Power required** | +5VDC @ 500mA (all relays ON) |
| **Operating temperature** | -30 to +70°C (non-icing) |

## Ordering Guide

| | |
|---|---|
| **104-IIRO-16** | 32-channel opto-isolated input/relay output with change of state detection |
| **104-IIRO-16E** | Economy version without change of state feature |
| **104-II-16** | Input only version |
| **104-RO-16** | Relay only version |

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