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Find the *Black Box IC904C* at our website: *Click HERE*

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Relay/Digital I/O Cards and Relay Output Cards

Use your PC to economically control multiple devices.

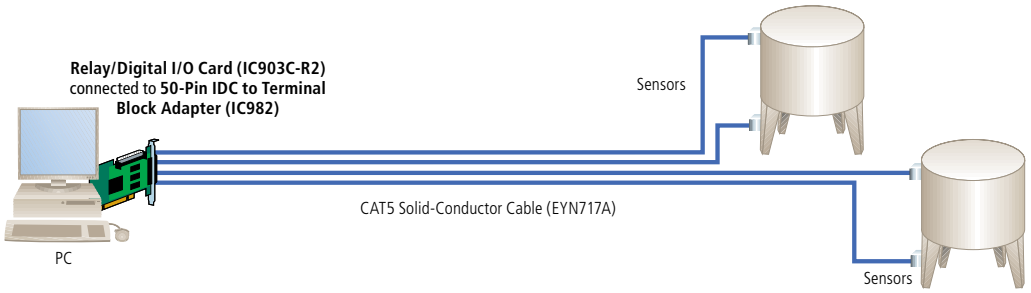


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FEATURES

- Use PCI bus slots for simple input/output control.
- Cards with output-only control also available.
- Low-profile card is available.
- High-quality reed relays ensure reliability.
- Include drivers for Windows and sample applications.
- Management software also included.
- Easy to install and configure.

Want to economically monitor and control devices from your PC? Then you need a Relay/Digital I/O Card.



OVERVIEW

Use the I/O cards for easy PC-based control and automation of satellite antenna systems, video and audio automation, security control systems, and similar industrial automation systems.

Choose one of our plug-and-play Relay/Digital I/O Cards for PCI (IC904C-LP, IC903C-R2, IC909C) to convert a PCI bus slot into manageable I/O ports. The PCI I/O cards are the perfect choice for integrating unattended status monitoring equipment and fallback network switching circuits.

If you're only concerned about output, then order a Relay Output Card (IC905C, IC908C).

Relay/Digital I/O Cards

All the input/output cards feature selectable I/O port addressing from 100H–3FFH; one or two sets of SPST relays with each set having eight relays; one or two 8-bit input ports; an 8-bit slot connector; and TTL compatible address, data, and control signals.

These three PCI cards feature ports that can be used for either input or output.

The Relay Digital I/O PCI low-profile card (IC904C-LP) provides eight optically isolated inputs and eight reed relay outputs. The card includes a a low-profile PCI bracket that works in a low-profile PCI slot.

The IC903C-R2's 32 channels consist of four 8-bit ports of I/O that you can configure for input or output. These channels of buffered-drive digital I/O emulate 8255 mode zero.

To select the mode of each of the four ports, simply write a control word to the port register. You can even customize the combination of inputs and outputs per your application requirements.

The IC909C has the same capabilities as the IC903C-R2 but spread across 48 channels (six 8-bit ports).

To easily connect the IC909C to industry-standard relay racks, order an optional cable: the IDC↔Edge 50-Pin Ribbon (IC909C-CABL) or IDC↔IDC 50-Pin Ribbon (IC909C-IDC). If you need a 50-Pin IDC to Terminal Block Adapter, order the IC982.

Optically isolated inputs have sensors that can be used to interface a voltage input and then sense whether the voltage is on or off. Each sensor is isolated (with respect to common ground) from every other sensor and also isolated with respect to the host PC ground. This means that signals such as AC line voltage and control relay signals can be read by the PC without the risk of damage from ground loops or ground faults.

Relay Output Cards

If you only need an output board, then choose a Relay Output Card. Like I/O cards, the output-only cards provide high-quality relays, drivers for Windows®, and software for relay control.

These cards offer addressing from 100H–3FFH and two or four sets of SPST relays with each set having eight relays.

The IC905C is a 16 reed-relay output card, but it's designed for use in a PCI bus and supports PCI interrupts.

You can also order the IC908C, a PCI output-only card with 32 reed-relay outputs. It includes the PCI card and two 37-pin male/female terminal blocks for simplified cable connections.

Outputs on all Relay Output Cards provide long life, low current (10 watts maximum), and dry-contact switch closures. The relays are normally open, but close when energized. Writing a "1" to the proper port bit can individually energize each relay.

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IC903C-R2

OVERVIEW (Continued)

All cards come with I/O drivers for Windows. These drivers include sample applications and software for relay control and status monitoring, simplifying the installation and operation of the cards.

The drivers enable you to concentrate on the details of your application used in your operating system. This is done through a consistent and straightforward application program interface (API), which includes a utility that enables you to easily configure the driver parameters. Once they're set, the registry is automatically updated, so you don't have to manually edit the registry.

Along with a consistent API, the I/O software provides applications for testing relay and digital I/O channels.

You can also use I/O drivers in a network fallback system. Set up a card, for instance, to switch from a satellite network to a land line when you need extra bandwidth. Or use it in a studio-automation application, controlling devices such as video recorders and satellite-positioning equipment.

Before installing any of the drivers and card, you have to set several jumper straps for each port. A DIP switch, for example, is used to configure address selection.

And, as long as the adapter doesn't occupy the same I/O address as another I/O adapter installed in your system, it should work properly. But if there is a conflict, the card's user guide explains how to troubleshoot it.

TECH SPECS

Channels — IC904C-LP: 8 inputs and 8 outputs;
IC903C-R2: (32) inputs or outputs;
IC909C: (48) inputs or outputs;
IC905C: (16) outputs;
IC908C: (32) outputs
Input Isolation — 400-V optical
Input Range — IC903C-R2, IC909C: 3–12 VDC
MTBF — >150,000 hours (calculated)
Output Relay — 200 million operations, 10-VA resistive load
Relay Contact Current (Maximum) — 0.5 A DC or AC RMS
Relay Contact Power Ratings (Maximum) — 10 W
Relay Contact Resistance — Initial: 0.15 ohms
Relay Contact Speed — Operate: 0.5 ms;
Release: 0.5 ms;
Bounce: 0.5 ms
Relay Contact Voltage (Maximum) — 100-V AC/DC
Relay Rated Life — Low load: 200,000,000 closures;
Maximum load: 100,000,000 closures
Signal — TTL compatible address, data, and control
Throughput (Maximum) — 600 Hz
CE Approval — Yes
Connectors — IC904C-LP: (1) DB44 F;
IC903C-R2, IC909C: (1) DB37 M, (2) 50-pin IDC;
IC905C: (1) DB37 M;
IC908C: (1) DB37 M, (1) DB37 F
Power — IC904C-LP: +5 VDC @ 200 mA, +12 VDC (optional);
All other cards: From the bus
Size — IC904C-LP: 2.5"H x 4.7"W (6.4 x 12 cm);
IC903C-R2, IC909C: 3.3"H x 4.7"W (8.4 x 11.9 cm);
IC905C, IC908C: 4.2"H x 6.3"W (10.7 x 16 cm)
Weight — Shipping: 0.3 lb. (0.1 kg)

Item	Code
Relay/Digital I/O Cards, PCI	
8 Inputs and 8 Outputs	**IC904C-LP**
32 Inputs or Outputs	**IC903C-R2**
48 Inputs or Outputs	**IC909C**
8 Inputs and 8 Outputs/Kit	**IC904C-LP-KIT**
✦ IC904C-LP-KIT includes (1) IC904C-LP card, (1) DB44 M to DB37 cable, and (1) terminal block.	
Relay Output Cards, PCI	
16 Outputs	**IC905C**
32 Outputs/Kit	**IC908C**
✦ IC908C includes (1) Relay Output Card and (2) 37-pin male/female terminal blocks.	
You may also need…	
IDC↔Edge 50-Pin Ribbon Cable	**IC909C-CABL**
IDC↔IDC 50-Pin Ribbon Cable	**IC909C-IDC**
50-Pin IDC to Terminal Block Adapter	**IC982**
For development and testing, order…	
DB37 Male/Female Cable and Terminal Block	**EDN37-SP**

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