Interface boards (cards) that provide computers with digital signal I/O functions. They monitor the status (ON/OFF) of relays, operating switches and measurement devices as well as controlling (ON/OFF) lamps, 7-segment display units and relays. These boards (cards) can also be used as an interface for conducting digital communication with controllers such as PLC or microcomputers.

**Digital I/O**

**Bus Specifications**
- **PCI Express**: Product is PCI Express standard compliant and can be used in the computer equipped with PCI Express bus expansion slot.
- **PCI**: Product is PCI standard compliant and can be used in the computer equipped with PCI bus expansion slot.
- **USB 2.0**: Product is USB standard compliant and can be used in the computer equipped with USB 2.0/1.1 ports. Supports USB 2.0 high-speed mode (480 Mbps).

**I/O Channels**
- **Input**: Maximum number of input channels (bits) \( nnn = 8, 16, 32, 64 \) or 128
- **Bi-direct**: Maximum number of input/output channels (bits) \( XX = 24, 32, 48 \) or 96

**Software**
- **Windows Driver**: API-TOOL Drivers for Windows are provided. The license-free driver software (both development and runtime) provides commands to interface boards or cards using Windows standard Win32 API function (DLL).
- **Linux Driver**: API-TOOL Drivers for Linux are provided. The license-free driver software (both development and runtime) provides commands to interface boards or cards using module-style device drivers and the shared library.

**Points**
- **Isolated**: I/O interface and internal logical circuits are isolated by optocouplers and relay contact in order to prevent electrical interference (noise etc.) with the PC. Requires additional power to drive the I/O circuit optocoupler and external circuits.
- **Non-Isolated**: I/O interface and internal logical circuits are not isolated. These respond at a higher speed than isolated devices.
- **High Voltage**: I/O interface supports high-voltage circuits (those exceeding 24 VDC). Some have an output interface that supports AC.
- **Built-in Power**: A power source is integrated on the device in order to drive input circuit optocouplers and I/O circuits. This is useful when additional power sources aren't available.
- **Digital Filter**: Enables a response \( \pm 5 \mu s \).
- **Surge Protection**: The output interface is equipped with a zener diode which prevents damage and malfunction induced by surge voltage and incoming current.
- **Bus Master**: Output interface is equipped with both a zener diode which prevents damage and/or malfunction due to a surge voltage and incoming current and a polyswitch which guards against damage due to any current overages.

**Connector**
- **Indicates the number of pins and shapes of connectors used for external connection.**
- **Cables with connectors on both sides**
- **Cables with a connector on one end and a connector set**
- **N-17 (Cables with connectors on both sides)**
- **N-24 (Cables with a connector on one end and a connector set)**

**Pictograms**

**Bus Specifications**
- **PCI Express**: Product is PCI Express standard compliant and can be used in the computer equipped with PCI Express bus expansion slot.
- **PCI**: Product is PCI standard compliant and can be used in the computer equipped with PCI bus expansion slot.
- **USB 2.0**: Product is USB standard compliant and can be used in the computer equipped with USB 2.0/1.1 ports. Supports USB 2.0 high-speed mode (480 Mbps).

**I/O Channels**
- **Input**: Maximum number of input channels (bits) \( nnn = 8, 16, 32, 64 \) or 128
- **Bi-direct**: Maximum number of input/output channels (bits) \( XX = 24, 32, 48 \) or 96

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- **Built-in Power**: A power source is integrated on the device in order to drive input circuit optocouplers and I/O circuits. This is useful when additional power sources aren't available.
- **Digital Filter**: Enables a response \( \pm 5 \mu s \).
- **Surge Protection**: The output interface is equipped with a zener diode which prevents damage and malfunction induced by surge voltage and incoming current.
- **Bus Master**: Output interface is equipped with both a zener diode which prevents damage and/or malfunction due to a surge voltage and incoming current and a polyswitch which guards against damage due to any current overages.
Product Lineup
You can choose from a variety of models according to your desired bus, I/O points and I/O type.

<table>
<thead>
<tr>
<th>Product Lineup</th>
<th>Page</th>
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</thead>
<tbody>
<tr>
<td>PCI Express</td>
<td></td>
</tr>
<tr>
<td>12 - 24 VDC</td>
<td></td>
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<tr>
<td>24 - 48 VDC</td>
<td></td>
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<tr>
<td>24 - 48 VDC, 120 VAC/DC</td>
<td></td>
</tr>
<tr>
<td>24 - 48 VDC, -125 VAC, 30 VDC, -100 VDC</td>
<td></td>
</tr>
<tr>
<td>5 VDC-TTL</td>
<td></td>
</tr>
<tr>
<td>3.3 VDC-LV TTLL</td>
<td></td>
</tr>
<tr>
<td>5 VDC-V TTL</td>
<td></td>
</tr>
<tr>
<td>Optocoupler isolation</td>
<td></td>
</tr>
<tr>
<td>Non-Isolated</td>
<td></td>
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<tr>
<td>Bi-direct</td>
<td></td>
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<tr>
<td>Input</td>
<td></td>
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<td>Output</td>
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<tr>
<td>Digital Filter</td>
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<td>Digital Filter</td>
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<tr>
<td>Digital Filter</td>
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</tbody>
</table>
Digital I/O

You can choose from a variety of models according to your desired bus, I/O points and I/O type.

| Bus          | I/O Points                  | I/O Type          | Filter | Input Edge | Selection | Interrupt | Power | Voltage | High | Non-Polarity | Non-Isolated | Optocoupler Isolation | Relay Contact | Digital Filter | Bus Adapter | Expansion Unit and Communications GPIB Communications Controller Counter & Motion Digital I/O Analog I/O Remote I/O Wireless LAN FLEXLAN Image Distribution Unit FlexNetViewer Solutions & Services |
|--------------|-----------------------------|-------------------|--------|------------|-----------|-----------|-------|---------|------|-------------|--------------|-----------------------|---------------|---------------|-------------|------------------------|-----------------|
| PCI          | 12 - 24 VDC                 | Non-Isolated      | Digital | 5 VDC-TTL  | Digital    | Digital   |       |         |      |             |              | Optocoupler isolation |               |   |            |            |                       |
| PCI          | 12 - 24 VDC                 | Bi-direct         | Digital | 5 VDC-TTL  | Digital    | Digital   |       |         |      |             |              | Optocoupler isolation |               |   |            |            |                       |
| Card Bus     | 12 - 24 VDC                 | Non-Isolated      | Digital | 3.3 VDC-LVTTL | Digital | Digital |       |         |      |             |              | Optocoupler isolation |               |   |            |            |                       |
| Card Bus     | 12 - 24 VDC                 | Bi-direct         | Digital | 3.3 VDC-LVTTL | Digital | Digital |       |         |      |             |              | Optocoupler isolation |               |   |            |            |                       |
| USB          | 12 - 48 VDC                 | Non-Isolated      | Digital | 12 - 48 VDC | Digital   | Digital   |       |         |      |             |              | Optocoupler isolation |               |   |            |            |                       |
| USB          | 24 - 48 VDC                 | Non-Isolated      | Digital | 24 - 48 VDC | Digital   | Digital   |       |         |      |             |              | Optocoupler isolation |               |   |            |            |                       |
| Compact PCI  | 12 - 24 VDC                 | Non-Isolated      | Digital | 5 VDC-TTL  | Digital    | Digital   |       |         |      |             |              | Optocoupler isolation |               |   |            |            |                       |
| Compact PCI  | 12 - 24 VDC                 | Bi-direct         | Digital | 5 VDC-TTL  | Digital    | Digital   |       |         |      |             |              | Optocoupler isolation |               |   |            |            |                       |
| ISA          | 12 - 24 VDC                 | Non-Isolated      | Digital | 3.3 VDC-LVTTL | Digital | Digital |       |         |      |             |              | Optocoupler isolation |               |   |            |            |                       |
| ISA          | 12 - 24 VDC                 | Bi-direct         | Digital | 3.3 VDC-LVTTL | Digital | Digital |       |         |      |             |              | Optocoupler isolation |               |   |            |            |                       |

Global Site: www.contec.com
### Opto-Isolated Digital Input

#### DI-32L-PE
- **32 opto-isolated input**
- **All input signals can be used as interrupts.**
- **Digital filtering function to prevent input error caused by noise and/or chattering.**
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PI-32L(PCI)H.

#### DI-64L-PE
- **64 opto-isolated input**
- **32 input signals can be used as interrupts.**
- **Digital filtering function to prevent input error caused by noise and/or chattering.**
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PI-64L(PCI)H.

#### DI-128L-PE
- **128 opto-isolated input**
- **16 input signals can be used as interrupts.**
- **Digital filtering function to prevent input error caused by noise and/or chattering.**
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PI-128L(PCI)H.

#### DI-32B-PE
- **32 opto-isolated input (for sink current output)**
- **Battery (12 VDC 240 mA) to drive the input circuit optocoupler**
- **All input signals can be used as interrupts.**
- **Digital filtering function to prevent input error caused by noise and/or chattering.**
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PI-32B(PCI)H.

### Specifications

<table>
<thead>
<tr>
<th><strong>Model</strong></th>
<th><strong>Input</strong></th>
<th><strong>Output</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DI-32L-PE</strong></td>
<td>32 (1 common every 16 channels)</td>
<td>-</td>
</tr>
<tr>
<td><strong>DI-64L-PE</strong></td>
<td>64 (1 common every 16 channels)</td>
<td>-</td>
</tr>
<tr>
<td><strong>DI-128L-PE</strong></td>
<td>128 (1 common every 16 channels)</td>
<td>-</td>
</tr>
<tr>
<td><strong>DI-32B-PE</strong></td>
<td>32 (1 common every 16 channels)</td>
<td>-</td>
</tr>
</tbody>
</table>

**Input Specifications**
- **Type:** Opto-Isolated (for sink current output, Negative logic)
- **32 interrupt signals combine into one interrupt request signal as INTA**
- **Using internal power: 3.3 VDC 350 mA, 12 VDC 350 mA**
- **Using external power: 3.3 VDC 350 mA**

**Output Specifications**
- **Rating:** 120 VDC 240 mA
- **Response Time (Max.):** 200 µsec
- **Wiring Distance:** Approx. 50 m (depending on wiring environment)
- **Power Consumption (Max.):** 3.3 VDC 350 mA
- **Bus / Dimensions (mm):** PCI Express Base Specification Rev.1.0a x1 / 121.69 (L) x 110.18 (H)
- **Connector:** 37-pin D-SUB connector
- **Software:** AXC-PAC(W32)

**Options**
- **Accessories:** EPD-596A, EPD-596B, DTP-44A, DTP-44B, CM-32(PC)E
- **Cables / Connectors:** PCB37P, PCB37PS, PCA37P, PCA37PS, C5N-D37M

**Notes:**
- **1:** Requires use of optional cable PCB37P or PCB37PS
- **2:** Requires use of optional cable PCB596P or PCB596PS
- **3:** Requires use of optional cable PCB596W or PCB596WS and 37-pin D-SUB
- **4:** Requires use of optional cable PCB596W5
- **5:** Requires use of optional cable PCB100W5
- **6:** Requires use of optional cable PCB100W
- **7:** “Springs-up terminal block” is employed to retain terminal screws.
- **8:** CONTEC original marking for RoHS-compliant products.

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
Digital I/O

**Opto-Isolated Digital Output**

DO-32L-PE
- 32 opto-isolated open collector output (Current sinking type)
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PO-32L(PCI).H.

DO-64L-PE
- 64 opto-isolated open collector output
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PO-64L(PCI).H.

DO-128L-PE
- 128 opto-isolated open collector output
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PO-128L(PCI).H.

DO-32B-PE
- 32 opto-isolated open collector output
- Battery (12 VDC 240 mA) to drive the input circuit optocoupler
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PO-32B(PCI).H.

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### Model Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>DO-32L-PE</th>
<th>DO-64L-PE</th>
<th>DO-128L-PE</th>
<th>DO-32B-PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Output</td>
<td>32 (1 common every 16 channels)</td>
<td>64 (1 common every 16 channels)</td>
<td>128 (1 common every 16 channels)</td>
<td>32 (1 common every 16 channels)</td>
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<tr>
<td>Input Type</td>
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<td>-</td>
</tr>
<tr>
<td>Input Ratings</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Output Type</td>
<td>Opto-isolated open collector output (Current sinking type, Negative logic)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Current (Max.)</td>
<td>600 mA</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Internal Power</td>
<td>-</td>
<td>-</td>
<td>12 VDC 240 mA</td>
<td>-</td>
</tr>
<tr>
<td>Wiring Distance</td>
<td>Approx. 50 m (depending on wiring environment)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>I/O Address</td>
<td>Any 32-byte boundary</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>3.3 VDC 450 mA</td>
<td>3.3 VDC 350 mA</td>
<td>3.3 VDC 600 mA</td>
<td>Using internal power: 3.3 VDC 380 mA, 12 VDC 350 mA, Using external power: 3.3 VDC 380 mA</td>
</tr>
<tr>
<td>Dimensions</td>
<td>37-pin D-SUB</td>
<td>37-pin D-SUB</td>
<td>100-pin 0.8 mm Pitch D-SUB</td>
<td>37-pin D-SUB</td>
</tr>
<tr>
<td>Options</td>
<td>Software</td>
<td>ACX-PAC(W32)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cables / Connectors</td>
<td>PCB37P, PCB37PS, PCA37P, PCA37PS, CN3-D37M</td>
<td>PCB37P, PCB37PS, PCA37P, PCA37PS, CN3-D37M</td>
<td>PCB100PS, PCB1000PS, PCB8100WS</td>
<td>PCB100PS, PCB1000PS, PCB8100WS</td>
</tr>
<tr>
<td>Note</td>
<td>-</td>
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</tbody>
</table>

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As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
### DIO-1616L-PE

**Opto-Isolated Digital I/O**

- **Type:** Opto-Isolated (for sink current output, Negative logic)
- **Input Specifications:**
  - 16 (all available for interrupts)
  - Input: 200 µsec, Output: 1.0 msec
- **Output:**
  - 16 (common)
  - 16 opto-isolated output
- **Power Consumption:**
  - 35 VDC 550 mA
- **Input Voltage:**
  - 12 - 24 VDC (+/-10 %)
- **Internal Power:**
  - 3.3 VDC 350 mA
- **Bus / Dimensions (mm):**
  - PCI Express Basic Specification Rev.1.0a x 1 / 121.69 (L) x 110.18 (H)
- **Connector:**
  - 37-pin D-SUB connector (F type), DCLK-37SAF-20L/JAE or equivalent
- **Software:**
  - ACX-PAC(W32)
- **Options:**
  - EPD-37A™, EPD-37™, DTP-3C™, DTP-4C™, CM-32(PC)E™,
  - DTP-3C™, CM-32(PC)E™
- **Cables / Connectors:**
  - PCB37P, PCB37PS, PCA37P, PCA37PS, CN5-D37M

### DIO-1616H-PE

**Opto-Isolated Digital I/O**

- **Type:** Opto-Isolated Digital I/O
- **Input Specifications:**
  - 16 (all available for interrupts)
  - Input: 200 µsec, Output: 1.0 msec
- **Output:**
  - 16 (common)
  - 16 opto-isolated output
- **Power Consumption:**
  - 35 VDC 100 mA (per channel)
- **Input Voltage:**
  - 12 - 24 VDC (+/-10 %), or 24 - 48 VDC (+/-10 %)
- **Internal Power:**
  - 3.3 VDC 350 mA
- **Bus / Dimensions (mm):**
  - PCI Express Basic Specification Rev.1.0a x 1 / 121.69 (L) x 110.18 (H)
- **Connector:**
  - 37-pin D-SUB connector (F type), DCLK-37SAF-20L/JAE or equivalent
- **Software:**
  - ACX-PAC(W32)
- **Options:**
  - EPD-37A™, EPD-37™, DTP-3C™, DTP-4C™, CM-32(PC)E™
- **Cables / Connectors:**
  - PCB37P, PCB37PS, PCA37P, PCA37PS, CN5-D37M

### DIO-1616RL-PE

**Opto-Isolated Negative Common Type Digital I/O**

- **Type:** Opto-Isolated Negative Common Type Digital I/O
- **Input Specifications:**
  - 16 (all available for interrupts)
  - Input: 200 µsec, Output: 1.0 msec
- **Output:**
  - 16 (common)
  - 16 opto-isolated output
- **Power Consumption:**
  - 35 VDC 100 mA (per channel)
- **Input Voltage:**
  - 12 - 24 VDC (+/-10 %), or 24 - 48 VDC (+/-10 %)
- **Internal Power:**
  - 3.3 VDC 350 mA
- **Bus / Dimensions (mm):**
  - PCI Express Basic Specification Rev.1.0a x 1 / 121.69 (L) x 110.18 (H)
- **Connector:**
  - 37-pin D-SUB connector (F type), DCLK-37SAF-20L/JAE or equivalent
- **Software:**
  - ACX-PAC(W32)
- **Options:**
  - EPD-37A™, EPD-37™, DTP-3C™, DTP-4C™, CM-32(PC)E™
- **Cables / Connectors:**
  - PCB37P, PCB37PS, PCA37P, PCA37PS, CN5-D37M

### DIO-1616RY-PE

**High-Voltage Nonpolar Type Opto-Isolated Digital I/O**

- **Type:** High-Voltage Nonpolar Type Opto-Isolated Digital I/O
- **Input Specifications:**
  - 16 (all available for interrupts)
  - Input: 200 µsec, Output: 1.0 msec
- **Output:**
  - 16 (common)
  - 16 opto-isolated output
- **Power Consumption:**
  - 35 VDC 100 mA (per channel)
- **Input Voltage:**
  - 12 - 24 VDC (+/-10 %), or 24 - 48 VDC (+/-10 %)
- **Internal Power:**
  - 3.3 VDC 350 mA
- **Bus / Dimensions (mm):**
  - PCI Express Basic Specification Rev.1.0a x 1 / 121.69 (L) x 110.18 (H)
- **Connector:**
  - 37-pin D-SUB connector (F type), DCLK-37SAF-20L/JAE or equivalent
- **Software:**
  - ACX-PAC(W32)
- **Options:**
  - EPD-37A™, EPD-37™, DTP-3C™, DTP-4C™, CM-32(PC)E™
- **Cables / Connectors:**
  - PCB37P, PCB37PS, PCA37P, PCA37PS, CN5-D37M

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Global Site: www.contec.com
### Digital I/O

#### DIO-1616B-PE (On Board Power)
- 16 opto-isolated input, 16 opto-isolated open collector output
- Battery (12 VDC 240 mA) to drive the input circuit optocoupler
- All input signals can be used as interrupts.
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PIO-1616B(PCI)H.

#### DIO-3232L-PE
- 32 opto-isolated input, 32 opto-isolated open collector output
- All input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PIO-3232L(PCI)H.

#### DIO-3232H-PE
- 32 opto-isolated input, 32 opto-isolated open collector output
- All input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PIO-3232H(PCI)H.

#### DIO-3232RL-PE
- 32 opto-isolated input, 32 opto-isolated open collector output
- All input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection

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**Model**

**DIO-1616B-PE**
- Input: 16 (1 common every 16 channels)
- Output: 16 (1 common every 16 channels)

**DIO-3232L-PE**
- Input: 32 (all available for interrupts, 1 common every 16 channels)
- Output: 32 (all available for interrupts, 1 common every 16 channels)

**DIO-3232H-PE**
- Input: 32 (all available for interrupts, 1 common every 16 channels)
- Output: 32 (all available for interrupts, 1 common every 16 channels)

**DIO-3232RL-PE**
- Input: 32 (all available for interrupts, 1 common every 16 channels)
- Output: 32 (all available for interrupts, 1 common every 16 channels)

---

**Input Type**
- Opto-isolated (for sink current output, Negative logic)
- Opto-isolated (for source current output, Positive logic)
- Opto-isolated (for current sink output, Negative logic)

**Input Specifications**
- Interrupts: 16 interrupt signals combine into one interrupt request signal as INTA
- 32 interrupt signals combine into one interrupt request signal as INTA

**Output Specifications**
- 32 opto-isolated open collector output (Current sinking type, Negative logic)

---

**Resistance**
- 4.7 kΩ

**Input Current**
- 15 mA

**Output Current**
- 4.7 kΩ

---

**Input Power**
- 12 VDC 240 mA

**Response Time (Max.)**
- 200 μsec

**Power Consumption**
- 3.3 VDC 400 mA

**Connector**
- 96-pin half pitch connector [M type], PCR-E96LMD [HONDA Tsushin Kogyo] or equivalent

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**Software**
- ACX-PAC(W32)

**Options**
- DTP-3C, DTP-4C, EPD-37A, EPD-37H, CM-32(PC)E
- 32 PC/104, PCI/104, PCI/104, PC/104

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**Note:**
- 1: Requires use of optional cable PCB37P or PCB37PS
- 2: Requires use of optional cable PCB64P or PCB64PS
- 3: Requires use of optional cable PCB64P or PCB64PS and 37-pin D-SUB
- 4: Requires use of optional cable PCB64P or PCB64PS and 37-pin D-SUB
- 5: "Spring-up type terminal block" is employed to retain terminal access.

As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.

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**Global Site:** www.contec.com
**Opto-Isolated Digital I/O (On board Power)**

### DIO-3232B-PE
- 32 opto-isolated input, 32 opto-isolated open collector output
- Battery (12 VDC 240 mA) to drive the input circuit optocoupler
- All input signals can be used as interrupts.
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PIO-32/32B (PCI/V).

### DIO-3232F-PE
- 32 opto-isolated input, 32 opto-isolated open collector output with the high speed of 5 µsec
- All input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PIO-32/32F (PCI/V).

### DIO-6464L-PE
- 64 opto-isolated input, 64 opto-isolated open collector output
- 16 input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PIO-64/64L (PCI/V).

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>DIO-3232B-PE</th>
<th>DIO-3232F-PE</th>
<th>DIO-6464L-PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>32 (1 common every 16 channels)</td>
<td>32 (1 common every 16 channels)</td>
<td>64 (1 common every 16 channels)</td>
</tr>
<tr>
<td>Output</td>
<td>32 (1 common every 16 channels)</td>
<td>32 (1 common every 16 channels)</td>
<td>64 (1 common every 16 channels)</td>
</tr>
<tr>
<td>Type</td>
<td>Opto-isolated (for sink current output, Negative logic)</td>
<td>Opto-isolated open collector output (Current sinking type, Negative logic)</td>
<td>Opto-isolated open collector output (Current sinking type, Negative logic)</td>
</tr>
<tr>
<td>Specifications</td>
<td>12 - 24 VDC (±10%)</td>
<td>12 interrupt signals combine into one interrupt request signal as INTA</td>
<td>35 VDC 100 mA (per channel)</td>
</tr>
<tr>
<td>Interrupts</td>
<td>32 interrupt signals combine into one interrupt request signal as INTA</td>
<td>16 interrupt signals combine into one interrupt request signal as INTA</td>
<td>35 VDC 50 mA (per channel)</td>
</tr>
<tr>
<td>Resistance</td>
<td>4.7 kΩ</td>
<td>2.2 kΩ</td>
<td>4.7 kΩ</td>
</tr>
<tr>
<td>Response Time (Max.)</td>
<td>200 µsec</td>
<td>5 µsec</td>
<td>200 µsec</td>
</tr>
<tr>
<td>Internal Power</td>
<td>12 VDC 240 mA</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wiring Distance</td>
<td>Approx. 50 m (depending on wiring environment)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>I/O Address</td>
<td>Any 32-byte boundary</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Power Consumption (Max.)</td>
<td>3.3 VDC 500 mA</td>
<td>3.3 VDC 600 mA</td>
<td>PCI Express Base Specification Rev.1.xa x1 / 169.33 (L) x 110.18 (H)</td>
</tr>
<tr>
<td>Bus / Dimensions (mm)</td>
<td>PCI Express Base Specification Rev.1.xa x1 / 169.33 (L) x 110.18 (H)</td>
<td>PCI Express Base Specification Rev.1.xa x1 / 169.33 (L) x 110.18 (H)</td>
<td>PCI Express Base Specification Rev.1.xa x1 / 169.33 (L) x 110.18 (H)</td>
</tr>
<tr>
<td>Connector</td>
<td>96-pin half pitch connector (M type) PCR-E96LED+[HONDA Tsushin Kogyo] or equivalent</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Options</td>
<td><strong>Software</strong></td>
<td><strong>Accessories</strong></td>
<td><strong>Cables / Connectors</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DTP-3C®, DTP-4C®, DTP-64A®, EPD96A®, EPD96C®, CM96P®, CM96PC®, CM96PCF®, CM96PCFCE®</td>
<td>37-pin D-Sub</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DTP-3C®, DTP-4C®, DTP-64A®, EPD96A®, EPD96C®, CM96P®, CM96PC®, CM96PCF®, CM96PCFCE®</td>
<td>37-pin D-Sub</td>
</tr>
</tbody>
</table>

**Notes:**
1. Requires use of optional cable PCB38WS
2. Requires use of optional cable PCB86P or PCAS6P
3. Requires use of optional cable PCB100P or PCAS6P
4. Requires use of optional cable PCB96P or PCB96WS
5. Requires use of optional cable PCB100P or PCAS6P
6. Requires use of optional cable PCB96P or PCB96WS
7. Requires use of optional cable PCB86P or PCB86PS and 37-pin D-Sub
8. Spring-up terminal block is employed to retain terminal screws.

As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
Digital I/O

RRY-16C-PE

- 16 independent common reed relay contact output
- High-capacity with output rating up to 125 VAC / 30 VDC, 2 A (per channel)
- Connector pin assignment compatible with RRY-16C(PCI)H

RRY-32-PE

- Installed 32 make contact reed relays
- Output ratings can handle up to 100 VDC and 500 mA per channel, 1 A per common (max) for total of 8 points and 10 W.
- Connector pin assignment compatible with RRY-32(PCI)H

**RRY-16C-PE**

- **Model**: RRY-16C-PE
- **Input**: -
- **Output**: 16
- **I/O Channels**: -
- **Type**: Reed Relay Contact (1 Make-Contact)
- **Rating**: 125 V (Max.)
- **Specs**: 30 mΩ or less
- **Response Time (Max.)**: 7 ms
- **Internal Power**: 3.3 VDC 1100 mA
- **Wiring Distance**: -
- **I/O Address**: Any 32-byte boundary
- **Power Consumption (Max.)**: 3.3 VDC 1100 mA
- **Bus / Dimensions (mm)**: PCI Express Base Specification Rev. 1.0a x1 / 121.69 L x 110.18 (H)
- **Connector**: 37-pin D-SUB connector [F type]
- **Options**: ACC-PAC(W32), EPD-37A**, EPD-37**, DTP-3C**, DTP-4C**
- **Accessories**: PCB37P-1.5 / 3 / 5P, PCB37PS-0.5P / 1.5P / 3P / 5P**, PCA37P-1.5 / 3 / 5P, PCA37PS-0.5P / 1.5P / 3P / 5P**, CNS-D37M

**RRY-32-PE**

- **Model**: RRY-32-PE
- **Input**: -
- **Output**: 32
- **I/O Channels**: -
- **Type**: Reed Relay Contact (1 Make-Contact)
- **Rating**: 100 V (DC)
- **Specs**: 150 mΩ or less
- **Response Time (Max.)**: 1 ms
- **Internal Power**: 3.3 VDC 1100 mA
- **Wiring Distance**: -
- **I/O Address**: Any 32-byte boundary
- **Power Consumption (Max.)**: 3.3 VDC 900 mA
- **Bus / Dimensions (mm)**: PCI Express Base Specification Rev. 1.0a x1 / 121.69 L x 110.18 (H)
- **Connector**: 37-pin D-SUB connector [F type]
- **Options**: ACC-PAC(W32), EPD-37A**, EPD-37**, DTP-3C**, DTP-4C**
- **Accessories**: PCB37P-1.5 / 3 / 5P, PCB37PS-0.5P / 1.5P / 3P / 5P**, PCA37P-1.5 / 3 / 5P, PCA37PS-0.5P / 1.5P / 3P / 5P**, CNS-D37M

**Note:**

- *1: Ensure that neither the maximum allowed voltage or maximum rated capacity of relays used are exceeded when using a voltage of 30 VDC or higher. Excess voltage may cause damage.
- *2: Ensure that inter-channel potential difference does not exceed 125 V. Excess voltage may cause damage.
- *3: Requires use of optional cable PCB37P or PCB30F5S
- *4: "Spring-up type terminal block" is employed to retain terminal screws. *5: The current per channel must be 1 A or lower. *6: The current per channel must be 0.4 A or lower.

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Global Site: www.contec.com

Please see page N-17 for optional accessories and cables/ connectors, and page M-01 for software.

![Image](image-url)

### Digital I/O

#### TTL-level Digital Input

**DI-32T-PE**

- 32 non-isolated TTL level input
- All input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Functions and Connector is compatible with the PCI-compliant board DI-32T2-PCI.

**DI-64T-PE**

- 64 non-isolated TTL level input
- 32 input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Functions and Connector is compatible with the PCI-compliant board DI-64T2-PCI.

**DI-128T-PE**

- 128 non-isolated TTL level input
- 16 input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Functions and Connector is compatible with the PCI-compliant board DI-128T2-PCI.

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>DI-32T-PE</th>
<th>DI-64T-PE</th>
<th>DI-128T-PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>32 (all available for interrupts, 1 com)</td>
<td>64 (32 available for interrupts, 1 com)</td>
<td>128 (16 available for interrupts, 1 com)</td>
</tr>
<tr>
<td>I/O Channels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Consumption (Max.)</td>
<td>3.3 VDC 300 mA</td>
<td>3.3 VDC 400 mA</td>
<td>3.3 VDC 500 mA</td>
</tr>
<tr>
<td>Connector</td>
<td>37-pin D-SUB connector [F type]</td>
<td>96-pin half pitch connector [F type]</td>
<td>100-pin 0.8 mm pitch connector [F type]</td>
</tr>
<tr>
<td>Software</td>
<td>ACX-PAC(W32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Options</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

- Data “H” corresponds to High Level, and Data “L” corresponds to Low level.
- “2” requires use of optional cable PCB100S-1.5 or PCB37PS-1.5P.  “3” requires use of optional cable PCB37PS-1.5P or PCB96PS-1.5P.
- “4” requires use of optional cable PCI100P-1.5 or PCI96P-1.5.  “5” requires use of optional cable PCI100P-1.5 or PCI96P-1.5.  “6” requires use of optional cable PCI100P-1.5 or PCI96P-1.5.  “7” requires use of optional cable PCI100P-1.5 or PCI96P-1.5.  “8” requires use of optional cable PCI100P-1.5 or PCI96P-1.5.  “9” requires use of optional cable PCI100P-1.5 or PCI96P-1.5.  “10” requires use of optional cable PCI100P-1.5 or PCI96P-1.5.  “11” requires use of optional cable PCI100P-1.5 or PCI96P-1.5.  “12” requires use of optional cable PCI100P-1.5 or PCI96P-1.5.

Please visit our website for the details of cables and accessories.

As shown on the side of product’s images, RoHS compliant *is a CONTEC original marking for RoHS-compliant products.*
Digital I/O

### TTL-level Digital Output

#### DO-32T-PE
- 32 non-isolated open collector output
- Functions and Connector is compatible with the PCI-compliant board DO-32T2-PCI.

#### DO-64T-PE
- 64 non-isolated open collector output
- Functions and Connector is compatible with the PCI-compliant board DO-64T2-PCI.

#### DO-128T-PE
- 128 non-isolated open collector output
- Functions and Connector is compatible with the PCI-compliant board DO-128T2-PCI.

---

**Model**

<table>
<thead>
<tr>
<th>DO-32T-PE</th>
<th>DO-64T-PE</th>
<th>DO-128T-PE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input Channels</strong></td>
<td>32 (1 common)</td>
<td>64 (1 common)</td>
</tr>
<tr>
<td><strong>Output Channels</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Specifications</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Operating Voltage</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Operating Current</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Wiring Distance</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Internal Power</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Response Time (Max.)</strong></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Options**

<table>
<thead>
<tr>
<th>DO-32T-PE</th>
<th>DO-64T-PE</th>
<th>DO-128T-PE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Software</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Connectors</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Cables / Connectors</strong></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Note:**

1. Data “0” corresponds to High Level, and Data “1” corresponds to Low level.
2. Requires use of optional cable PCB37P2-1.5 or PCB37P-2.P1.5P 1.5P
3. Requires use of optional cable PCB96PS and PCB96PS-1.5 P 1.5P
4. Requires use of optional cable PCB100/96PS-1.5 P
5. Requires use of optional cable PCB100/96PS-1.5 P
6. Requires use of optional cable PCB100/96PS-1.5 P
7. Requires use of optional cable PCB100/96PS-1.5 P
8. Requires use of optional cable PCB66PS-1.5 P
9. Requires use of optional cable PCB66PS-1.5 P
10. Requires use of optional cable PCB66PS-1.5 P
11. Requires 2 cables and accessories each for 2 connectors (CNA and CNB)
12. Spring-up terminal unit is employed to retain terminal screws.

Please visit our website for the details of cables and accessories.

As shown on the side of product’s images, RoHS compliant **RoHS** is a CONTEC original marking for RoHS-compliant products.
### DIO-1616T-PE

- **TTL-level Digital I/O**
- **Model:** DIO-1616T-PE
- **Input Channels:** 16
- **Output Channels:** 16
- **I/O Channels:** 32
- **Input Type:** Non-isolated TTL level input (negative logic)
- **Input Specifications:**
  - **Interconnects:** 5 VDC
  - **Resistance:** Pull-up: 10 kΩ
- **Output Type:** Non-isolated open collector output (negative logic)
- **Output Specifications:**
  - **Response Time (Max.):** 200 ns
  - **Internal Power:** 1 μW
  - **Wiring Distance:** Approx. 1.5 m
- **Power Consumption (Max.):** 3.3 VDC 300 mA
- **Bus / Dimensions (mm):**
  - **Connector:** 37-pin D-SUB connector [F type]
  - **Support Software:** AXC-PAC31(W32)
- **Options:**
  - **Accessories:** EPD-37A**, EPD-37B**, DTP-3C**
  - **Cables / Connectors:** PCA37P**-1.5, PCA37P**-0.5/1.5, PCA37P**-3.0/1.5

### DIO-3232T-PE

- **TTL-level Digital I/O**
- **Model:** DIO-3232T-PE
- **Input Channels:** 32
- **Output Channels:** 32
- **I/O Channels:** 64
- **Input Type:** Non-isolated TTL level input (negative logic)
- **Input Specifications:**
  - **Interconnects:** 5 VDC
  - **Resistance:** Pull-up: 10 kΩ
- **Output Type:** Non-isolated open collector output (negative logic)
- **Output Specifications:**
  - **Response Time (Max.):** 200 ns
  - **Internal Power:** 1 μW
  - **Wiring Distance:** Approx. 1.5 m
- **Power Consumption (Max.):** 3.3 VDC 300 mA
- **Bus / Dimensions (mm):**
  - **Connector:** 37-pin D-SUB connector [F type]
  - **Support Software:** AXC-PAC31(W32)
- **Options:**
  - **Accessories:** EPD-37A**, EPD-37B**, DTP-3C**
  - **Cables / Connectors:** PCA37P**-1.5, PCA37P**-0.5/1.5, PCA37P**-3.0/1.5

### DIO-6464T-PE

- **TTL-level Digital I/O**
- **Model:** DIO-6464T-PE
- **Input Channels:** 64
- **Output Channels:** 64
- **I/O Channels:** 128
- **Input Type:** Non-isolated TTL level input (negative logic)
- **Input Specifications:**
  - **Interconnects:** 5 VDC
  - **Resistance:** Pull-up: 10 kΩ
- **Output Type:** Non-isolated open collector output (negative logic)
- **Output Specifications:**
  - **Response Time (Max.):** 200 ns
  - **Internal Power:** 1 μW
  - **Wiring Distance:** Approx. 1.5 m
- **Power Consumption (Max.):** 3.3 VDC 300 mA
- **Bus / Dimensions (mm):**
  - **Connector:** 37-pin D-SUB connector [F type]
  - **Support Software:** AXC-PAC31(W32)
- **Options:**
  - **Accessories:** EPD-37A**, EPD-37B**, DTP-3C**
  - **Cables / Connectors:** PCA37P**-1.5, PCA37P**-0.5/1.5, PCA37P**-3.0/1.5

### High-Speed Opto-Isolated TTL Level Digital I/O

- **Model:** DIO-1616TB-PE
- **Input Channels:** 16
- **Output Channels:** 16
- **I/O Channels:** 32
- **Input Type:** Opto-isolated TTL level input (negative logic)
- **Input Specifications:**
  - **Interconnects:** 5 VDC
  - **Resistance:** Pull-up: 10 kΩ
- **Output Type:** Opto-isolated open collector output (negative logic)
- **Output Specifications:**
  - **Response Time (Max.):** 200 ns
  - **Internal Power:** 1 μW
  - **Wiring Distance:** Approx. 1.5 m
- **Power Consumption (Max.):** 3.3 VDC 300 mA
- **Bus / Dimensions (mm):**
  - **Connector:** 37-pin D-SUB connector [F type]
  - **Support Software:** AXC-PAC31(W32)
- **Options:**
  - **Accessories:** EPD-37A**, EPD-37B**, DTP-3C**
  - **Cables / Connectors:** PCA37P**-1.5, PCA37P**-0.5/1.5, PCA37P**-3.0/1.5

---

Please see page N-17 for optional accessories and cables/connectors, and page M-01 for software.
Digital I/O

High-Speed Bi-Directional Digital I/O

DIO-32DM-PE

**Specifications**

<table>
<thead>
<tr>
<th>I/O Channels</th>
<th>32 ch (32 input signals, 16 I/O signals or 32 output signals - software selectable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/O circuit</td>
<td>Operating Voltage: 3.3 VDC, Internal Power: -</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>Type: TTL level, 74HC06A or equivalent, Positive logic, <em>5 V TTL level input is acceptable.</em></td>
</tr>
<tr>
<td></td>
<td>Intermittents: <em>When using general I/O operation, 4 interrupt signals combine into one interrupt signal as NTR, the interrupt signal generated at the rising edge (LOW to HIGH).</em></td>
</tr>
<tr>
<td></td>
<td>Pull-up Resistance: -</td>
</tr>
<tr>
<td>Output Specifications</td>
<td>Type: TTL level, 74HC06A or equivalent, Positive logic</td>
</tr>
<tr>
<td></td>
<td>Rating: 3.3 VDC, 8 mA</td>
</tr>
</tbody>
</table>

**Function Description**

**Bus Master Transfer**

The sampling data can be directly transferred to the memory used in the application, without using the memory within the driver. Consequently, it allows high-speed sampling with no load on the CPU. Data output can also be performed in the same way.

**Synchronization Control**

The board is equipped with a synchronization control connector to allow easy inter-board synchronization. 16 boards (max) can be interconnected (including the master).

**Utility**

Can be used for applications such as pattern output to external devices and confirmation of signal changes. It can also be utilized for operation confirmation during the application development.

In addition, because the product is capable of converting input data into output pattern, it can be used for validation purposes as well. Operations to input data can be easily performed, such as scaling, time setting, data saving to files, and importing of output pattern created with Excel or other applications (CSV format).

---

**Notes**

- Digital I/O access from user applications is not supported. Please use an attached API function library.

- When using general I/O operation, 4 interrupt signals combine into one interrupt signal as NTR, the interrupt signal generated at the rising edge (LOW to HIGH).

- Shielded cables must be used in order to comply with VCCI Class A. (PCA96PS/PCB96PS)

- *2: “Spring-up terminal unit” is employed to retain terminal screws.*

- *3: Requires use of optional cable PCB96P or PCB96PS.*
### Bi-Directional Digital I/O

**DIO-48D-PE**

- 48-point two-way non-isolated TTL level I/O (positive logic) \( \text{i}2\text{C}55 \) Mode 0-compliant
- Up to 48 input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Equipped with functions equivalent to PCI conformant board DIO-48D2-PCI

**DIO-1616T-LPE**

- 16 non-isolated TTL level input, 16 non-isolated open collector output
- All input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Functions and Connector is compatible with the PCI-conformant board DIO-96D2-LPCI.

**DIO-96D-LPE**

- 96-point two-way non-isolated LV TTL level I/O (positive logic) \( \text{i}2\text{C}55 \) Mode 0-compliant
- Up to 96 input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Low Profile PCI-compliant (includes bracket for use in standard PCI slot)

### Accessories

- **Low Profile PCI**
- **GPIO**
- **Counter & Motion Controller**
- **USB**
- **Compact PCI**
- **Digital I/O**
- **FlexLAN**
- **Henning Final Net Viewer**
- **Image Distribution Unit**
- **Wireless LAN**
- **Industrial Automation Products**
- **Measurement and Control Products**

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### Table: Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>DIO-48D-PE</th>
<th>DIO-1616T-LPE</th>
<th>DIO-48D-LPE</th>
<th>DIO-96D-LPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Channels</td>
<td>48 (all available for interrupts)</td>
<td>16 (all available for interrupts)</td>
<td>48 (all available for interrupts)</td>
<td>96 (all available for interrupts)</td>
</tr>
<tr>
<td>Output Channels</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>I/O Channels</td>
<td>48</td>
<td>16</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>I/O Type</td>
<td>Bi-directional (positive logic)</td>
<td>Non-isolated TTL level input (positive logic)</td>
<td>Non-isolated TTL level input (positive logic)</td>
<td>Non-isolated TTL level input (positive logic)</td>
</tr>
<tr>
<td>Input Specifications</td>
<td>5 VDC 350 mA</td>
<td>5 VDC</td>
<td>3.3 VDC</td>
<td>3.3 VDC</td>
</tr>
<tr>
<td>Interrupts</td>
<td>48 interrupt signals combine into one interrupt request signal as INT</td>
<td>16 interrupt signals combine into one interrupt request signal as INT</td>
<td>48 interrupt signals combine into one interrupt request signal as INT</td>
<td>96 interrupt signals combine into one interrupt request signal as INT</td>
</tr>
<tr>
<td>Response Time (Max.)</td>
<td>200 nsec (Max.)</td>
<td>200 nsec</td>
<td>320 nsec (Max.)</td>
<td>200 nsec (Max.)</td>
</tr>
<tr>
<td>Internal Power</td>
<td>-</td>
<td>-</td>
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**Digital I/O**

- **Counter & Motion Controller**
- **Serial Communications**
- **USB**
- **Compact PCI**
- **ChipLAN**
- **FLEXLAN**
- **FLEXLAN**
- **Henning Final Net Viewer**
- **Image Distribution Unit**
- **Wireless LAN**
- **Industrial Automation Products**
- **Measurement and Control Products**

---

**Software**

- **ACX-PAC/W32**
- **EPD-96A**, **EPD-96**, **DTP-64A**, **SC-DIO2424S**
- **EPD-96A**, **EPD-96**, **DTP-64A**, **SC-DIO2424S**
- **EPD-96A**, **EPD-96**, **DTP-64A**, **SC-DIO2424S**
- **EPD-96A**, **EPD-96**, **DTP-64A**, **SC-DIO2424S**

---

**Options**

- **Cables & Connectors**
- **PCB69PS-0.5P**, **1.5P**, **PCB99PS-1.5P**, **PCB99PS-1.5P**
- **PCB50PS**, **PCB50PS**, **PCB50PS-0.5P**
- **PCB69PS-0.5P**, **1.5P**, **PCB69PS-0.5P**, **1.5P**
- **PCB69PS-0.5P**, **1.5P**, **PCB69PS-0.5P**, **1.5P**

---

**Note:**

1. Data 0 corresponds to Low level, and Data 1 corresponds to High level.
2. Requires use of optional cable PCBS69P or PCBS99P.
3. "Spring-up terminal unit" is employed to retain terminal screws.
4. Optional cable PCBS99PS is required. 0.5P is recommended.
5. Requires use of optional cable PCBS99P-0.5P and PCBS1P or PCBS31P. 1P requires use of optional cable DIO-68M96F. 3P requires use of optional cable DIO-68M96F. 6P requires use of optional cable DIO-68M96F. 9P requires use of optional cable DIO-68M96F. 12P requires use of optional cable DIO-68M96F.
6. Requires use of optional cable PCBS69PS-0.5P or PCBS99PS-0.5P.

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As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.

As shown on the side of product’s images, PbFree is a CONTEC original marking for lead-free products.
Digital I/O

Opto-Isolated Digital Input
PI-32L(PCI)H

- 32 opto-isolated input with superb noise resistance (12 - 24 VDC)
- Fast response time (within 200 μsec)
- All input signals can be used as interrupts.
- Digital filter and interrupt trigger edge can be set via software.

Opto-Isolated Digital Input (On board Power)
PI-32B(PCI)H

- On-board power supply (12 VDC 240 mA) to drive the input circuit optocoupler
- Fast response time (within 200 μsec)
- All input signals can be used as interrupts.
- Digital filter and interrupt trigger edge can be set via software.

Opto-Isolated Digital Input
PI-64L(PCI)H

- 64 opto-isolated input with superb noise resistance (12 - 24 VDC)
- Fast response time (within 200 μsec)
- 32 input signals can be used as interrupts.
- Digital filter and interrupt trigger edge can be set via software.

Opto-Isolated Digital Input
PI-128L(PCI)H

- 128 inputs on a PCI short-size board
- Fast response time (within 200 μsec)
- Equipped with a digital filter and 16 input signals as interrupts
- Screw lock connector is adopted.
- Optional cable for 96-pin half pitch accessory available

Outline:

<table>
<thead>
<tr>
<th>Model</th>
<th>PI-32L(PCI)H</th>
<th>PI-32B(PCI)H</th>
<th>PI-64L(PCI)H</th>
<th>PI-128L(PCI)H</th>
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<tr>
<td>Input Channels</td>
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<tr>
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<td>Specifications</td>
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<td>16 interrupt signals combine into one interrupt request signal as INTA</td>
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<tr>
<td>Resistance</td>
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<td>Output Type</td>
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<tr>
<td>Specifications</td>
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<td>Response Time (Max.)</td>
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<tr>
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<td>Wiring Distance</td>
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<tr>
<td>I/O Address</td>
<td>Any 32-byte boundary</td>
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<tr>
<td>Power Consumption (Max.)</td>
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<td>12 VDC 20 mA, 5 VDC 120 mA (on-board)</td>
<td>5 VDC 250 mA</td>
<td>5 VDC 500 mA</td>
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<tr>
<td>Bus / Dimensions (mm)</td>
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<td>PCI (32 bit, 33 MHz, Universal key type supported) / 121.68 (L) x 105.68 (H)</td>
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<tr>
<td>Connector</td>
<td>37-pin D-SUB connector [F type] DCLGC-J37S8F-20L9E [JAE] or equivalent</td>
<td>PCI120LM [HONDA TSUSHIN KOGYO] or equivalent</td>
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<tr>
<td>Software</td>
<td>AICX-PAC(W32)</td>
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<td>Accessories</td>
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<tr>
<td>Cables / Connectors</td>
<td>PCA37P, PCI37P, PCA37PS, PCI37PS, CN5-D37M</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:

1. +5 V power must be supplied from the expansion slot.
2. Requires use of optional cable PCB86PS, PCB96PS, and 37-pin D-SUB.
3. Requires use of optional cable PCB86PS or PCB96PS.
4. Requires use of optional cable PCB86PS, PCB96PS, and 37-pin D-SUB.
5. Requires use of optional cable PCB100PS, PCB100PS, PCB100WS, PCB100PS, PCB96PS, and 37-pin D-SUB.
6. Requires use of optional cable PCB100PS, PCB100PS, PCB100WS, PCB100PS, PCB96PS, and 37-pin D-SUB.

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
### Digital I/O

- **Model**: PO-32L(PCI)H, PO-64L(PCI)H, PO-128L(PCI)H
- **Input Channels**: -
- **Output Channels**: 32, 64, 128
- **Input Specifications**: -
- **Output Specifications**: Opto-Isolated Open Collector (Current sinking type)
- **Response Time (Max.)**: 200 µsec
- **Internal Power**: 5 VDC 250 mA
- **Wiring Distance**: 50 m
- **Power Consumption (Max.)**: 5 VDC 200 mA
- **Bus / Dimensions (mm)**: PCI (32 bit, 33 MHz, Universal key type supported) / 121.69 (L) x 105.68 (H)
- **Connector**: 37-pin D-SUB connector
- **Software**: ACX-PAC(W32)
- **Options**: DTP-3C*, DTP-4C*, EPD-37A**, EPD-37T**, CM-32(PC)E**
- **Cables / Connectors**: PCA37P, PCB37P, PCA37PS, PCB37PS, C5S-D37M

#### Specifications

**Input**:
- **Type**: -
- **Supply Voltage**: +5 V power must be supplied from the expansion slot.
- **Supply Voltage (Max.)**: 5 VDC 250 mA
- **Interrupts**: -
- **Resistance**: -

**Output**:
- **Type**: Opto-Isolated Open Collector (Current sinking type)
- **Supply Voltage**: 12 - 24 VDC (+/-10 %)
- **Current**: -

**Power Consumption (Max.)**: 5 VDC 200 mA

**Bus / Dimensions (mm)**:
- **PCI (32 bit, 33 MHz, Universal key type supported)** / 121.69 (L) x 105.68 (H)

**Connector**: 37-pin D-SUB connector

**Software**: ACX-PAC(W32)

**Options**: DTP-3C*, DTP-4C*, EPD-37A**, EPD-37T**, CM-32(PC)E**

**Cables / Connectors**: PCA37P, PCB37P, PCA37PS, PCB37PS, C5S-D37M

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**Note:**

As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.

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Global Site: www.contec.com
Digital I/O

Opto-Isolated Digital I/O (On board Power)

PIO-16/16(PCI)H

- 16 opto-isolated input, 16 opto-isolated open collector output
- Fast response time (within 200 µsec)
- All input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

PIO-16/16B(PCI)H

- On-board power supply (12 VDC 240 mA) to drive the input/output circuit photocoupler
- Fast response time (within 200 µsec)
- All input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

PIO-32/32L(PCI)H

- 32 opto-isolated input, 32 opto-isolated open collector output
- Fast response time (within 200 µsec)
- 32 input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

PIO-32/32B(PCI)H

- On-board power supply (12 VDC 240 mA) to drive the input circuit photocoupler
- Digital filter and interrupt trigger edge can be set (software setting).
- High-capacity with output rating up to 35 VDC, 100 mA (per channel)
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

<table>
<thead>
<tr>
<th>Model</th>
<th>PIO-16/16L(PCI)H</th>
<th>PIO-16/16B(PCI)H</th>
<th>PIO-32/32L(PCI)H</th>
<th>PIO-32/32B(PCI)H</th>
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<tr>
<td>Input Channels</td>
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<td>32</td>
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<td>32</td>
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<td>Type</td>
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<td>Opto-isolated</td>
<td>Opto-isolated</td>
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<td>16 input signals combine into one interrupt request signal as INTA</td>
<td>32 input signals combine into one interrupt request signal as INTA</td>
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<td>Response Time (Max.)</td>
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<td>200 µsec</td>
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<td>12 VDC 240 mA</td>
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<td>I/O Address</td>
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<td>Any 32-bit boundary</td>
<td>Any 32-bit boundary</td>
<td>Any 32-bit boundary</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>5 VDC 200 mA</td>
<td>5 VDC 300 mA (External)</td>
<td>5 VDC 1200 mA (On-board)</td>
<td>5 VDC 250 mA</td>
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<tr>
<td>Bus / Dimensions (mm)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported) / 121.69 (L) x 105.68 (H)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported) / 176.41 (L) x 105.68 (H)</td>
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<tr>
<td>Connector</td>
<td>37-pin D-SUB connector [F type] DCLC-J375AF-20L9E [JAE] or equivalent</td>
<td>96-pin half pitch connector [M type] PCR-EB36LMD [HONDA TSUSHIN KOGYO] or equivalent</td>
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<tr>
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<tr>
<td>Options</td>
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<td>Accessories</td>
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</tr>
<tr>
<td>Cables / Connectors</td>
<td>PCA37P, PCB37P, PAA37PS, PCB37PS, CN5-D37M</td>
<td>PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS, CN5-H96F</td>
<td>PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS, CN5-H96F</td>
<td></td>
</tr>
</tbody>
</table>

Note:
- As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.

*1: +5 V power must be supplied from the expansion slot.
*2: Requires use of optional cable PCB37P or PCB37PS
*3: Requires use of optional cable PCB96PS or PCB96PS and 37-pin D-SUB
*4: Requires use of optional cable PCB96PS
*5: Requires use of optional cable PCB96P or PCB96P
*6: “Spring-up terminal unit” is employed to retain terminal screws.

Global Site: www.contec.com
**Digital I/O**

**Opto-Isolated Digital I/O**

**PIO-64/64L(PCI)H**
- 128 I/O on a PCI short-size board
- Fast response time (within 200 µsecs)
- Equipped with a digital filter and 16 input signals as interrupts
- Output transistor has built-in circuit protection (surge voltage, overcurrent).
- Screw lock connector is adopted.
- Optional cable for 96-pin half pitch accessory available

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>PIO-64/64L(PCI)H</th>
<th>PIO-32/32F(PCI)H</th>
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</thead>
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<tr>
<td>Input Channels</td>
<td>64</td>
<td>32</td>
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<tr>
<td>Output Channels</td>
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<tr>
<td>Input Type</td>
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<tr>
<td>Input Rating</td>
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<td>32 interrupt signals combine into one interrupt request signal as INTA</td>
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<tr>
<td>Resistance</td>
<td>4.7 kΩ</td>
<td>2.2 kΩ</td>
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<tr>
<td>Output Type</td>
<td>Opto-Isolated</td>
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<tr>
<td>Output Rating</td>
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<td>35 VDC 50 mA</td>
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<tr>
<td>Response Time</td>
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<td>Internal Power</td>
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<td></td>
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<tr>
<td>Wiring Distance</td>
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<tr>
<td>I/O Address</td>
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<td>Power Consumption (Max.)</td>
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<td>Bus / Dimensions (mm)</td>
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<td>PCI (32 bit, 33 MHz, Universal key type supported*)</td>
</tr>
<tr>
<td>Connector</td>
<td>HDRA-100W1L/FDT11EC-SL [HONDA TSUSHIN KOGYO] or equivalent</td>
<td>96-pin half pitch connector [M type] [HONDA TSUSHIN KOGYO] or equivalent</td>
</tr>
<tr>
<td>Options Software</td>
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<td>ACX-PAC(W32)</td>
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<td>Cables / Connectors</td>
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<td></td>
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<tr>
<td>Note:</td>
<td></td>
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</tbody>
</table>

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**High-Speed Opto-Isolated Digital I/O**

**PIO-32/32F(PCI)H**
- High-speed optocoupler that enables a response within 5 µsec
- Digital filter and interrupt trigger edge can be set (software setting).
- Connector pin assignment compatible with PIO-32/32F(PCI)

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>PIO-32/32F(PCI)H</th>
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<tbody>
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<td>Output Channels</td>
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<tr>
<td>Input Rating</td>
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<tr>
<td>Response Time</td>
<td>200 µsec</td>
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<tr>
<td>Internal Power</td>
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<td>Wiring Distance</td>
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<td>I/O Address</td>
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<td>Power Consumption (Max.)</td>
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<td>Connector</td>
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<td>Options Software</td>
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<tr>
<td>Accessories</td>
<td></td>
</tr>
<tr>
<td>Cables / Connectors</td>
<td></td>
</tr>
</tbody>
</table>

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*1: -5 V power must be supplied from the expansion slot. 2: Requires use of optional cable PCB100/96PS 3: Requires use of optional cable PCB100W5S 4: Requires use of optional cable PCB96PS or PCB100W5S 5: Requires use of optional cable PCB37PS or PCB37P 6: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB 7: Requires use of optional cable PCB100PS 8: “Spring-up terminal unit” is employed to retain terminal screws.

---

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
Digital I/O

Opto-Isolated Negative Common Type Digital Input

**DI-128RL-PCI**
- 128 opto-isolated input with superb noise resistance (12 - 24 VDC)
- Fast response time (within 200 µsec)
- 16 input signals can be used as interrupts.

**DO-128RL-PCI**
- Opto-isolated output (Current source type) (12 - 24 VDC)
- Fast response time (within 200 µsec)
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

**PIO-16/16RL(PCI)H**
- Opto-Isolated (for source current output)
- Opto-isolated output (Current source type)
- Fast response time (within 200 µsec)
- All input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

**PIO-32/32RL(PCI)H**
- Opto-Isolated (for source current output)
- Opto-isolated output (Current source type)
- Fast response time (within 200 µsec)
- All input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>DI-128RL-PCI</th>
<th>DO-128RL-PCI</th>
<th>PIO-16/16RL(PCI)H</th>
<th>PIO-32/32RL(PCI)H</th>
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<td>32</td>
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<td>Opto-Isolated (for source current output)</td>
<td>Opto-isolated (for source current output)</td>
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<td>16 interrupt signals combine into one interrupt request signal as INTA</td>
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<tr>
<td>Resistance</td>
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<tr>
<td>Output</td>
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<td>35 VDC 100 mA</td>
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</tr>
<tr>
<td>Internal Power</td>
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<td>Wiring Distance</td>
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</tr>
<tr>
<td>I/O Address</td>
<td>Any 32-byte boundary</td>
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<td></td>
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</tr>
<tr>
<td>Power Consumption</td>
<td>5 VDC 150 mA</td>
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<td>5 VDC 150 mA</td>
<td>5 VDC 200 mA</td>
</tr>
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<td>Bus / Dimensions (mm)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported) / 176.41 (L) x 105.68 (H)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported) / 137.41 (L) x 105.68 (H)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported) / 137.41 (L) x 105.68 (H)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported) / 137.41 (L) x 105.68 (H)</td>
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<tr>
<td>Connector</td>
<td>HDR-1010W1/FD/1EC-SL [HONDA TSUSHIN KOGYO] or equivalent</td>
<td>DCLL-J375AF-20LIE [JAE] or equivalent</td>
<td>DCLL-J375AF-20LIE [JAE] or equivalent</td>
<td>DCLL-J375AF-20LIE [JAE] or equivalent</td>
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</tbody>
</table>

### Options

- **Software**: ACX-PAC(W32)
- **Accessories**: EPD-109A****, EPD-96A****, EPD-96F****, DTP-64A****, CCE-96****, EPD-37A****, DTP-3C****, DTP-4C****, EPD-37A****, EPD-37A****, DTP-3C****, DTP-4C****
- **Cables / Connectors**: PCCB100P, PCB896P, PCB896S, PCB965S

### Note:

- *1: Data “0” corresponds to Low Level, and Data “1” corresponds to High level.
- *2: >5 V power must be supplied from PCI bus 64bit does not work on a machine with a <3.3 V power supply only.
- *3: Requires use of optional cable PCC100P**.
- *4: Requires use of optional cable PCC896P**.
- *5: Requires use of optional cable PCC100*.
- *6: Requires use of optional cable PCC896**.
- *7: Requires use of optional cable PCC896**.
- *8: Requires use of optional cable PCC896**.
- *9: Requires use of optional cable PCC896**.
- *10: Requires use of optional cable PCC896**.
- *11: Requires use of optional cable PCC896**.
- *12: Requires use of optional cable PCC896**.

*8: “Spring-up type terminal unit” is employed to retain terminal screws.
*9: Requires use of optional cable PCB965.
*10: Requires use of optional cable PCB965.
*11: Requires use of optional cable PCB965.
*12: Requires use of optional cable PCB965.

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
Opto-Isolated Digital I/O
PIO-16/16H(PCI)H

- Supports high voltage (24 - 48 VDC) input/output
- Featuring a 16-point configuration, each common corresponds to a different external power source
- Fast response time (within 200 µsecs)
- All input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

Opto-Isolated Digital I/O
PIO-32/32H(PCI)H

- Supports high voltage (24 - 48 VDC) input/output
- Featuring a 16-point configuration, each common corresponds to a different external power source
- Fast response time (within 200 µsecs)
- All input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>PIO-16/16H(PCI)H</th>
<th>PIO-32/32H(PCI)H</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input Channels</strong></td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td><strong>Output Channels</strong></td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td><strong>Input Type</strong></td>
<td>Opto-Isolated (for sink current output)</td>
<td>Opto-Isolated Open Collector (Current sinking type)</td>
</tr>
<tr>
<td><strong>Response Time (Max.)</strong></td>
<td>200 µsec</td>
<td>200 µsec</td>
</tr>
<tr>
<td><strong>Internal Power</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Wiring Distance</strong></td>
<td>50 m</td>
<td>50 m</td>
</tr>
<tr>
<td><strong>I/O Address</strong></td>
<td>Any 32-byte boundary</td>
<td>Any 32-byte boundary</td>
</tr>
<tr>
<td><strong>Power Consumption (Max.)</strong></td>
<td>5 VDC 150 mA</td>
<td>5 VDC 200 mA</td>
</tr>
<tr>
<td><strong>Bus / Dimensions (mm)</strong></td>
<td>PCI (32 bit, 33 MHz, Universal key type supported) / 121.69 (L) x 105.68 (H)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported) / 176.41 (L) x 105.68 (H)</td>
</tr>
<tr>
<td><strong>Connector</strong></td>
<td>DCLC-J37SAF-20L9E [F type]</td>
<td>37-pin D-SUB connector [F type]</td>
</tr>
<tr>
<td><strong>Software</strong></td>
<td>ACX-PAC(W32)</td>
<td></td>
</tr>
<tr>
<td><strong>Options</strong></td>
<td>EPD-37A**, EPD-37P**</td>
<td>EPD-96A**, EPD-96**</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cables / Connectors</strong></td>
<td>PCA37P, PCB37P, PCA37PS, pcb37PS, Cns-D37M</td>
<td>Pca396p, Pcb396p, Pca396ps, Pcb396ps, Pcb396ws, Cns-H96f</td>
</tr>
</tbody>
</table>

**Notes:**
- *1: +5 V power must be supplied from the expansion slot.  *2: Requires use of optional cable PCB37P or PCB37PS  *3: Requires use of optional cable PCB96P or PCB96PS  *4: Requires use of optional cable PCB96WS  *5: Requires use of optional cable PCB96PS and 37-pin D-SUB  *6: “Spring-up terminal unit” is employed to retain terminal screws.

As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
### Digital I/O

#### PIO-16/16RY(PCI)
- **Input Channels**: 16
- **Output Channels**: 16
- **Specifications**:
  - **Type**: Opto-Isolated for both current sink/source output
  - **Speeding Voltage**: 12 - 24 VDC, 24 - 48 VDC can be set for each channel
  - **Interrupts**: 16 interrupt signals combine into one interrupt request signal (INTA)
  - **Resistance**: 3 kΩ (when set to 12 - 24 V), 6 kΩ (when set to 24 - 48 V)

#### RRY-16C(PCI)H
- **Input Channels**: 16
- **Output Channels**: 32
- **Specifications**:
  - **Type**: Reed Relay Contact Output
  - **Rating**: 120 VAC / VDC / 100 mA per channel
  - **Maximum capacity of 10 VA (10 W) with an output rating of 100 VAC / VDC / 500 mA per channel (Total of 8 ch, up to 1 A per 1 common)

#### RRY-32(PCI)H
- **Input Channels**: 16
- **Output Channels**: 32
- **Specifications**:
  - **Type**: Reed Relay Contact (1 Make-Contact) Output
  - **Rating**: 125 V (AC), 30 V (DC)
  - **Maximum capacity of 10 VA (10 W) with an output rating of 100 VAC / VDC / 500 mA per channel (Total of 8 ch, up to 1 A per 1 common)

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**Options**: All input signals can be used as interrupt inputs.
**Digital filtering function to prevent input error caused by noise and/or chattering**

**Note**: As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.

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Global Site: www.contec.com
### TTL-level Digital Input

#### DI-32T2-PCI
- **Input Channels:** 32 (1 common)
- **Output Channels:** -
- **I/O Channels:** -
- **Type:** Non-isolated TTL level input (negative logic)
- **Input Specifications:**
  - Open/Closed: 5 VDC
  - 32 interrupt signals combine into one interrupt request signal as INTA
- **Response Time (Max.):** 200 nsec
- **Wiring Distance:** Approx. 1.5 m (depending on wiring environment)
- **I/O Address:** Any 32-byte boundary
- **Power Consumption (Max.):** 5 VDC 200 mA
- **Bus / Dimensions (mm):**
  - Connector: 37-pin D-SUB connector
  - Dimensions: DCLC-J37AF-20L9E [JAE] or equivalent
- **Software:** ACX-PAC(W32)
- **Options:**
  - **Accessories:**
    - EPD-37A*, EPD-37*, DTP-3C*, CM-32(PC)E*
  - **Cables / Connectors:**
    - PCA37P, PCA37P-0.5, PCA37P-1.5, PCA37P-2.5, PCA37P-5.0, CM-1X37M
    - PCA66P, PCA66P-0.5, PCA66P-1.5, PCA66P-2.5, PCA66P-5.0, CM-1X66M
    - PCBA100PS-0.5, PCBA100PS-1.5, PCBA100PS-2.5, PCBA100PS-5.0, CM-1X100M
    - PCBA150PS, PCBA150PS-0.5, PCBA150PS-1.5, PCBA150PS-2.5, PCBA150PS-5.0, CM-1X150M

#### DI-64T2-PCI
- **Input Channels:** 64 (1 common)
- **Output Channels:** -
- **I/O Channels:** -
- **Type:** Non-isolated TTL level input
- **Input Specifications:**
  - Open/Closed: 5 VDC
  - 64 interrupt signals combine into one interrupt request signal as INTA
- **Response Time (Max.):** 200 nsec
- **Wiring Distance:** Approx. 1.5 m (depending on wiring environment)
- **I/O Address:** Any 32-byte boundary
- **Power Consumption (Max.):** 5 VDC 350 mA
- **Bus / Dimensions (mm):**
  - Connector: 96-pin Half Pitch
  - Dimensions: DTP-4C* or equivalent
- **Software:** ACX-PAC(W32)
- **Options:**
  - **Accessories:**
    - EPD-96A*, EPD-96*, DTP-64A*, DTP-64C*, DTP-100A*, EPD-96A*, EPD-96C*, CM-64(PC)E*, CM-32(PC)E*
  - **Cables / Connectors:**
    - PCA96P, PCA96P-0.5, PCA96P-1.5, PCA96P-2.5, PCA96P-5.0, CM-1X96M
    - PCBA96PS, PCBA96PS-0.5, PCBA96PS-1.5, PCBA96PS-2.5, PCBA96PS-5.0, CM-1X96M
    - PCBA150PS, PCBA150PS-0.5, PCBA150PS-1.5, PCBA150PS-2.5, PCBA150PS-5.0, CM-1X150M

#### DI-128T2-PCI
- **Input Channels:** 128 (1 common)
- **Output Channels:** -
- **I/O Channels:** -
- **Type:** Non-isolated TTL level input
- **Input Specifications:**
  - Open/Closed: 5 VDC
  - 128 interrupt signals combine into one interrupt request signal as INTA
- **Response Time (Max.):** 200 nsec
- **Wiring Distance:** Approx. 1.5 m (depending on wiring environment)
- **I/O Address:** Any 32-byte boundary
- **Power Consumption (Max.):** 5 VDC 350 mA
- **Bus / Dimensions (mm):**
  - Connector: 100-pin 0.8 mm Pitch
  - Dimensions: DTP-64A* or equivalent
- **Software:** ACX-PAC(W32)
- **Options:**
  - **Accessories:**
    - EPD-100A*, EPD-100*, DTP-121A*, DTP-121*, CCB-96*
  - **Cables / Connectors:**
    - PCBA100PS, PCBA100PS-0.5, PCBA100PS-1.5, PCBA100PS-2.5, PCBA100PS-5.0, CM-1X100M
    - PCBA150PS, PCBA150PS-0.5, PCBA150PS-1.5, PCBA150PS-2.5, PCBA150PS-5.0, CM-1X150M

**Note:**
1. +5 V power must be supplied from the expansion slot.
2. Requires use of optional cable PCB37P or PCB37PS.
3. Requires use of optional cable PCB66P or PCB66PS.
4. Requires use of optional cable PCB66F or PCB66FS.

*Rohs compliant is a CONTEC original marking for RoHS-compliant products.*

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Please see page N-17 for optional accessories and cables/connectors, and page M-01 for software.
## Digital I/O

### PCI

**TTL-level Digital Output**

- **Model:** DO-32T2-PCI
- **Output Channels:** 32 (1 common)
- **Rating:** Non-isolated open collector output (negative logic)
- **Specifications:**
  - Pull-up Resistance: 200 nsec (depending on Pull-up Resistance value)
- **Internal Power:**
  - Power Consumption (Max.): 5 VDC 200 mA
- **Wiring Distance:** Any 32-byte boundary
- **Bus / Dimensions (mm):**
  - PCI (32 bit, 33 MHz, Universal key type supported*)
  - 121.69 (L) x 105.68 (H)
- **Connector:** 37-pin D-SUB connector [F type]

**Model:** DO-64T2-PCI

- **Output Channels:** 64 (1 common)
- **Rating:** Non-isolated open collector output (negative logic)
- **Specifications:**
  - Response Time (Max.): 200 nsec (depending on Pull-up Resistance value)
- **Internal Power:**
  - Power Consumption (Max.): 5 VDC 310 mA
- **Wiring Distance:** Any 32-byte boundary
- **Bus / Dimensions (mm):**
  - PCI (32 bit, 33 MHz, Universal key type supported*)
  - 121.69 (L) x 105.68 (H)
- **Connector:** 96-pin Half Pitch connector [F type]

**Model:** DO-128T2-PCI

- **Output Channels:** 128 (1 common)
- **Rating:** Non-isolated open collector output (negative logic)
- **Specifications:**
  - Response Time (Max.): 200 nsec (depending on Pull-up Resistance value)
- **Internal Power:**
  - Power Consumption (Max.): 5 VDC 310 mA
- **Wiring Distance:** Any 32-byte boundary
- **Bus / Dimensions (mm):**
  - PCI (32 bit, 33 MHz, Universal key type supported*)
  - 121.69 (L) x 105.68 (H)
- **Connector:** 100-pin 0.8 mm pitch connector [F type]

### Notes

1. +5 V power must be supplied from the expansion slot.
2. Requires use of optional cable PCB37P or PCB37PS.
3. Requires use of optional cable PCB96P or PCB96PS.
4. Requires use of optional cable PCB96WS.
5. Requires use of optional cable PCB37P or PCB37PS.
6. Requires use of optional cable PCB96P or PCB96PS.
7. Requires use of optional cable PCB100P or PCB100PS.
8. Requires use of optional cable PCB100P or PCB100PS.

As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.

*Please see page N-17 for optional accessories and cables/ connectors, and page M-01 for software.
<table>
<thead>
<tr>
<th>Model</th>
<th>PIO-16/16T(PCI)H</th>
<th>PIO-16/16TB(PCI)H</th>
<th>PIO-32/32T(PCI)H</th>
<th>DIO-6464T2-PCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Channels</td>
<td>16</td>
<td>32</td>
<td>64 (1 common)</td>
<td>64 (1 common)</td>
</tr>
<tr>
<td>Output Channels</td>
<td>16</td>
<td>32</td>
<td>64 (1 common)</td>
<td>64 (1 common)</td>
</tr>
<tr>
<td>I/O Channels</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Type</td>
<td>Non-isolated TTL level input (negative logic)</td>
<td>Opto-isolated TTL level input (negative logic)</td>
<td>Non-isolated TTL level input (negative logic)</td>
<td>Non-isolated TTL level input (negative logic)</td>
</tr>
<tr>
<td>Intermittents</td>
<td>5 VDC</td>
<td>16 interrupt signals combine into one interrupt request signal as INTA</td>
<td>32 interrupt signals combine into one interrupt request signal as INTA</td>
<td>16 interrupt signals combine into one interrupt request signal as INTA</td>
</tr>
<tr>
<td>Resistance</td>
<td>Pull-up: 10 kΩ</td>
<td>1.1 kΩ</td>
<td>Pull-up: 10 kΩ</td>
<td>Pull-up 10 kΩ (1 TTL load)</td>
</tr>
<tr>
<td>Specifications</td>
<td>-</td>
<td>5 VDC 6.4 mA</td>
<td>30 VDC 40 mA</td>
<td>5 VDC 40 mA</td>
</tr>
<tr>
<td>Response Time (Max.)</td>
<td>200 nsec</td>
<td>1 μsec</td>
<td>200 nsec</td>
<td>-</td>
</tr>
<tr>
<td>Internal Power</td>
<td>5 VDC 400 mA</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>I/O Address</td>
<td>Any 32-byte boundary</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Power Consumption (Max.)</td>
<td>5 VDC 200 mA</td>
<td>5 VDC 350 mA (External)</td>
<td>5 VDC 350 mA</td>
<td>5 VDC 450 mA</td>
</tr>
<tr>
<td>Bus / Dimensions (mm)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported*) / 121.69 (L) x 105.68 (H)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported*) / 176.41 (L) x 105.68 (H)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported*) / 121.69 (L) x 105.68 (H)</td>
<td>100-pin 0.8 mm pitch connector (F type) x2</td>
</tr>
<tr>
<td>Connector</td>
<td>37-pin D-SUB connector (F type)</td>
<td>DGC-LC-J37SAF-20L9E [JAE] or equivalent</td>
<td>96-pin half pitch connector (M type)</td>
<td>HDRA-E10091/FSTI1EC-SL [HONDABUISHIN KOGYO] or equivalent</td>
</tr>
</tbody>
</table>

**Note:**
- 1: ±5 V power must be supplied from the expansion slot.
- 2: Requires use of optional cable PCB100PS-1.5.
- 3: Requires use of optional cable PCB37PS.
- 4: Requires use of optional cable PCB100PS-1.5.
- 5: Requires use of optional cable PCB100PS-1.5.
- 6: Requires use of optional cable PCB100PS-1.5.
- 7: Requires use of optional cable PCB100PS-1.5.
- 8: Requires use of optional cable PCB100PS-1.5 and 37-pin D-SUB cable.
- 9: "Spring-up terminal unit" is employed to retain terminal screws.

As shown on the side of product's images, RoHS compliant product is a CONTEC original marking for RoHS-compliant products.
Digital I/O

Bi-Directional Digital I/O

**DIO-48D2-PCI**

- 48-point two-way non-isolated TTL level I/O (positive logic) i8255 Mode 0-compliant
- Up to 48 input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Driver library for Windows/Linux is included.
- Functions, Connector pin and Signal assignment is compatible with the PCI-compliant board PIO-48D(PCI).

High Current Drive Bi-directional Digital I/O

**PIO-48D(PCI)**

- 48-point two-way digital I/O i8255 Mode 0-compliant
- High-speed response with non-isolated TTL level I/O
- All 48 input signals can be used as interrupts.

### Model Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>DIO-48D2-PCI</th>
<th>PIO-48D(PCI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Channels</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>I/O Channels</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Input Type</td>
<td>TTL level input (positive logic)</td>
<td>TTL level input (positive logic)</td>
</tr>
<tr>
<td>Specifications</td>
<td>5 VDC</td>
<td>5 VDC</td>
</tr>
<tr>
<td>Interrupts</td>
<td>48 interrupt signals combine into one interrupt request signal as INT</td>
<td></td>
</tr>
<tr>
<td>Output Type</td>
<td>TTL level output (positive logic)</td>
<td></td>
</tr>
<tr>
<td>Specifications</td>
<td>5 VDC Isc = 24 mA Isn = -15 mA</td>
<td></td>
</tr>
<tr>
<td>Response Time</td>
<td>200 nsec</td>
<td></td>
</tr>
<tr>
<td>Internal Power</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Wiring Distance</td>
<td>Approx. 1.5 m (depending on wiring environment)</td>
<td></td>
</tr>
<tr>
<td>I/O Address</td>
<td>Any 32-byte boundary</td>
<td></td>
</tr>
<tr>
<td>Power Consumption (Max.)</td>
<td>5 VDC 600 mA</td>
<td></td>
</tr>
<tr>
<td>Bus / Dimensions (mm)</td>
<td>PCI (32 bit, 33 MHz, Universal key type supported) / 176.41 (L) x 106.68 (H)</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>96-pin half pitch connector (M type)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PCF-E96LMD* (HONDA TSUSHIN KOGYO) or equivalent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CN1: 96-pin half pitch connector [W type] PCF-E96LMD (HONDA TSUSHIN KOGYO) or equivalent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CN2: 96-pin half pitch header connector PGBF0400184 (JAE) or equivalent</td>
<td></td>
</tr>
</tbody>
</table>

### Options

- Software: ACX-PAC(W32)
- Cables / Connectors: PCB96PS-0.5P / 1.5P, PCBM96-1.5, PCA96PS-0.5P / 1.5P, PCBM96-1.5, PCA96PS-0.5P / 1.5P, PCA96PS-0.5P / 1.5P, PCA96PS-0.5P / 1.5P

### Note:

- *1: +5 V power must be supplied from the expansion slot.
- *2: Requires use of optional cable PCB96P or PCB96PS
- *3: "Spring-up terminal unit" is employed to retain terminal screws.
- *4: Optional cable PCB96PS is required (0.5 m is recommended).
- *5: ESC-4 is required separately.

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
## Digital I/O

### PIO-16/16L(LPCI)H

- **Low Profile PCI** - compliant (includes bracket for use in standard PCI slot)
- 16 opto-isolated input, 16 opto-isolated open collector output
- Fast response time (within 200 usecs)
- All input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

### PIO-16/16B(LPCI)H

- **Low Profile PCI** - compliant (includes bracket for use in standard PCI slot)
- On-board power supply (12 VDC 125 mA) to drive the input/output circuit optocoupler
- Fast response time (within 200 usecs)
- All input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).

### PIO-16/16T(LPCI)H

- **Low Profile PCI** - compliant (includes bracket for use in standard PCI slot)
- 16 TTL level input, 16 open collector output (Max. 40 mA sink current)
- All input signals can be used as interrupts.
- Digital filter and interrupt trigger edge can be set via software.

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>PIO-16/16(LPCI)H</th>
<th>PIO-16/16B(LPCI)H</th>
<th>PIO-16/16T(LPCI)H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Channels</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Output Channels</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>I/O Channels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Specifications</td>
<td>Type</td>
<td>Specifications</td>
</tr>
<tr>
<td>Opto-Isolated</td>
<td>12 - 24 VDC (+/- 10 %)</td>
<td>Non-isolated</td>
<td>12 VDC 125 mA</td>
</tr>
<tr>
<td>16 interrupt signals combine into one interrupt request signal as INTA</td>
<td>5 VDC</td>
<td>open collector output (Current sinking type, negative logic)</td>
<td>30 VDC 40 mA</td>
</tr>
<tr>
<td><strong>Resistance</strong></td>
<td><strong>Response Time (Max.)</strong></td>
<td><strong>Response Time (Max.)</strong></td>
<td><strong>Response Time (Max.)</strong></td>
</tr>
<tr>
<td>4.7 kΩ</td>
<td>200 μsec</td>
<td>30 VDC 40 mA</td>
<td>200 nsec</td>
</tr>
<tr>
<td>10 kΩ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Wiring Distance</strong></td>
<td><strong>Power Consumption (Max.)</strong></td>
<td><strong>Power Consumption (Max.)</strong></td>
<td><strong>Power Consumption (Max.)</strong></td>
</tr>
<tr>
<td>50 m</td>
<td>5 VDC 100 mA</td>
<td>5 VDC 100 mA</td>
<td>5 VDC 100 mA</td>
</tr>
<tr>
<td>1.5 m</td>
<td>5 VDC 900 mA (External)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bus / Dimensions (mm)</strong></td>
<td><strong>Connector</strong></td>
<td><strong>Connector</strong></td>
<td><strong>Connector</strong></td>
</tr>
<tr>
<td>PCI (32 bit, 33 MHz, Universal key type supported*) / 121.69 (L) x 63.41 (H)</td>
<td>50-pin Mini-Ribbon Connector 10250-52A2JL (3M) or equivalent</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Options

- **Software**
  - ACX-PAC(W32)
- **Accessories**
- **Cables / Connectors**
  - PCA50PS, PCB50PS, PCE50/37PS-0.5P, PCA60PS-0.5P / 1.5P, PCB50PS-0.5P / 1.5P, PCE50/37PS-0.5P

### Note:

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
Digital I/O

H-27

Linear
PCI Express
PCI
Low Profile PCI
PC Card
USB
Compact PCI
ISA

Digital I/O

Counter & Motion
Controller
Serial
Communications
CPS
Communications
Expansion Unit / Bus Adapter
Software
Accessories & Cables
Remote I/O
Wireless LAN
FLEXLAN
Image Distribution Unit
FlexNetViewer
Solutions / Services

—关于CONTEC—
BOX
Computers
Panel
Computers
Flat Panel
Displays
Options
Industrial PC
VPC
BTO PCs
Solution-ePC
Analog I/O

Industrial Automation Products
Measurement and Control Products

Please see page N-17 for optional accessories and cables/ connectors, and page M-01 for software.

Bi-Directional Digital I/O

PIO-48D(LPCI)H

- Low Profile PCI-compliant (includes bracket for use in standard PCI slot)
- 48-point two-way digital I/O i8255 Mode 0-compliant
- High-speed response with non-isolated TTL level I/O
- All 48 input signals can be used as interrupts.
- Digital filter and interrupt trigger edge can be set via software.

Bi-Directional Digital I/O, Low Profile PCI

DIO-96D2-LPCI

- Low Profile PCI-compliant (includes bracket for use in standard PCI slot)
- 96-point two-way non-isolated TTL level I/O (positive logic) i8255 Mode 0-compliant
- Up to 96 input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and / or chattering
- Driver library for Windows/Linux is included.

As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
### Connector pin assignment compatible with PIO-16/16L(PCI)*H, PIO-16/16L(PCI), and PIO-16/16L(PM)

*This card cannot be used simultaneously with another card if the PCI has 2 TYPE II PC card slots arranged in tandem. It can be used with other PCI card, such as memory card, that does not use an external connector.

#### Specifications

- **Output Specifications**
  - **Type**: Opto-isolated open collector output (Current sinking type, negative logic)
  - **Rating**: 35 VDC 100 mA
  - **Overcurrent**: 3.3 VDC IOL = 8mA IOH = -8 mA
  - **Response Time (Max.)**: 200 µsec
  - **Wiring Distance**: Appr. 1.5 m (depending on wiring environment)

- **Input Specifications**
  - **Type**: Opto-isolated bi-directional output (Negative logic)
  - **Bus / Dimensions (mm)**: 68-pin 0.8 mm pitch connector
  - **Connector**: DCLC-J37SAF-20L9E [JAE] or equivalent

#### Options

- **Software**: AX-CAC(W32)
- **Cables / Connectors**: PC37P, PCB37P, PCA37P, PCB37PS, CNE-D37M

#### Notes:

1. Requires use of optional cable PCB37P or PCB37PS
2. Requires use of optional cable DIO-68M/96F
3. Requires use of optional cable PCB68PS, PCA68PS, PCA68PS-0.5P
4. Requires use of optional cable DIO-68M/96F
5. Requires use of optional cable DIO-68M/96F
6. Requires use of optional cable DIO-68M/96F
7. Requires use of optional cable DIO-68M/96F
8. Requires use of optional cable DIO-68M/96F
**Digital I/O**

**Opto-Isolated Digital I/O**

**PIO-16/16L(PM)**

- Connector pin assignment compatible with PIO-16/16L(PCI)H, PIO-16/16L(PCI), and PIO-16/16L(PCI)V
- Digital filter can be applied to input signals
- All 16 input signals can be used as interrupts.

**Bi-Directional Digital I/O**

**PIO-32D(PM)**

- Groups (1 group = 8 points) can be either input or output (user selectable). Supports different configurations depending on the use, including 16 input/16 output, all 32 as input, or all 32 as output
- High-speed response with non-isolated TTL level I/O
- All 16 input signals (Max. 32 points) can be used as interrupts.

---

**Model** | **PIO-16/16L(PM)** | **PIO-32D(PM)**
---|---|---
Input Channels | 16 (all available for interrupts, 1 common) | -
Output Channels | 16 (1 common) | -
I/O Channels | - | 32
Controller Chip | - | -
Type | Opto-isolated for sink current output (negative logic) | TTL level (negative logic)
Input Specifications | 12 - 24 VDC | 5 VDC
Interrupts | 16 interrupt signals combine into one interrupt request signal | -
Resistance | 3 kΩ | Pull-up: 100 kΩ
Output Specifications | Opto-isolated open collector output (Current sinking type, negative logic) | TTL level (negative logic)
Rating | ±6 mA, ±2 mA | -
Response Time (Max.) | 1 msec | 200 nsec
Internal Power | - | -
Wiring Distance | Up to 50 m (depending on wiring environment) | Up to 1.5 m (depending on wiring environment)
I/O Address | 8 bit x 16 port occupation | -
Power Consumption (Max.) | 5 VDC 200 mA | 5 VDC 200 mA
Bus / Dimensions (mm) | PCMCIA Rel.2.1/IEEE1442 or later / Type II | PCMCIA Rel.2.1/IEEE1442 or later / Type II
Connector | 37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent | -
Software | ACX-PAC(W32) | -
Cables / Connectors | PCA37P, PCI37P, PCA37PS, PCB37PS, CN5-37SM | PCA37P-1.5, PCI37P-1.5, PCA37PS-0.5P / 1.5P, PCB37PS-0.5P / 1.5P, CN5-37SM

---

Note:

1. Requires use of optional cable PCB37P or PCB37PS
2. “Spring-up terminal block” is employed to retain terminal screws.

---

*This card cannot be used simultaneously with another card if the PC has 2 TYPE II PC card slots arranged in tandem. It can be used with other PC card, such as memory card, that does not use an external connector.*
### USB 2.0

#### USB I/O Unit X Series Isolated Digital Input/Output Unit

**DIO-1616LX-USB**

- **Input Channels**: 16 (all available for interrupts, 1 common every 16 channels)
- **Output Channels**: 16 (1 common every 16 channels)
- **I/O Channels**: 32 (all available for interrupts, 1 common every 16 channels)
- **Voltage**: 5 VDC 300 mA
- **Dimensions**: 180 (W) x 140 (D) x 34 (H) (no protrusions)
- **Weight**: 300 g (Exclusive of USB cable and attachment)

#### USB I/O Unit X Series Isolated Digital Input/Output Unit

**DIO-3232LX-USB**

- **Input Channels**: 32 (all available for interrupts, 1 common every 16 channels)
- **Output Channels**: 32 (1 common every 16 channels)
- **I/O Channels**: 64 (1 common every 16 channels)
- **Voltage**: 5 VDC 300 mA
- **Dimensions**: 180 (W) x 140 (D) x 34 (H) (no protrusions)
- **Weight**: 300 g (Exclusive of USB cable and attachment)

#### USB I/O Unit X Series Isolated Digital Input/Output Unit

**DIO-6464LX-USB**

- **Input Channels**: 64 (all available for interrupts, 1 common every 16 channels)
- **Output Channels**: 64 (1 common every 16 channels)
- **I/O Channels**: 128 (1 common every 16 channels)
- **Voltage**: 5 VDC 300 mA
- **Dimensions**: 180 (W) x 140 (D) x 34 (H) (no protrusions)
- **Weight**: 300 g (Exclusive of USB cable and attachment)

---

**USB 2.0 Windows Driver**

**ActiveX Component Package**

- **Input**: 16
- **Output**: 16
- **Isolated**:
- **Surge & Overcurrent Protection**:
- **USB cable included**

---

**USB 2.0 Windows Driver**

**ActiveX Component Package**

- **Input**: 32
- **Output**: 32
- **Isolated**:
- **Surge & Overcurrent Protection**:
- **USB cable included**

---

**USB 2.0 Windows Driver**

**ActiveX Component Package**

- **Input**: 64
- **Output**: 64
- **Isolated**:
- **Surge & Overcurrent Protection**:
- **USB cable included**

---

**Software**

- **ACX-PAC(W32)**
- **37-pin D-SUB connector**
- **Power Consumption (Max.)**: 5 VDC 300 mA
- **Weight**: 300 g (Exclusive of USB cable and attachment)
- **Included Cable**: USB cable 1.8 m

---

**Options**

- **Software**: ACX-PAC(W32)
- **Cables / Connectors**: PCB37P, PCB37PS, PCA37P, PCA37PS, SN5-D37M, DIO-1616LX-USB
- **Weight**: 300 g (Exclusive of USB cable and attachment)

---

**Note:**

- **1**: Data “O” corresponds to High Level, and Data “1” corresponds to Low level.
- **2**: This numerical indicates the response time for optocoupler. *3 The USB transfer speed depends on the PCI environment used (OS and USB host controller). *4 Use the optional self-powered 5 VDC power supply (POA200-20) when using the USB hub function.
- **5**: Requires use of optional cable PB37P or PB37PS. *6: "Sprung-type terminal unit" is employed to retain terminal screws.
- **7**: Requires use of optional cable PC289P or PC289PS. *8: Requires use of optional cable PC289P or PC289PS and 37-pin D-SUB. *9: Requires use of optional cable PC289P or PC289PS and 37-pin D-SUB. *10: Requires use of optional cable PB1000/96PS. *11: Requires use of optional cable PB1000/96PS. *12: Requires use of optional cable PC100PS.
**Digital I/O**

**USB I/O Unit X Series Isolated Digital Input/Output Unit with Power Supply**
DIO-1616BX-USB
- 16 opto-isolated input, 16 opto-isolated open collector output, with response time of 200 µsec
- Battery (12 VDC 240 mA) to drive the input circuit optocoupler
- 16 input signals can be used as interrupts.
- USB hub function for connection with up to 4 CONTEC USB products
- Connector pin and Signal assignment are compatible with DIO-1616B-PE and PIO-16/16B(PCI).H.

**USB I/O Unit X Series Digital Input/Output Unit with High Voltage Isolation**
DIO-1616RYX-USB
- 16 opto-isolated input (compatible with current sink output / current source output), 16 semiconductor relay output
- Supports high voltage of 12 - 24 VDC input, 120 VAC / DC output
- 16 input signals can be used as interrupts.
- USB hub function for connection with up to 4 CONTEC USB products
- Connector pin and Signal assignment are compatible with DIO-1616RY-PE and PIO-1616RY(PCI).

---

**Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>DIO-1616BX-USB</th>
<th>DIO-1616RYX-USB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Type</td>
<td>Opto-isolated for sink current</td>
<td>Opto-isolated for both current</td>
</tr>
<tr>
<td>Output Type</td>
<td>Opto-isolated open collector output</td>
<td>Semiconductor Relay Output</td>
</tr>
<tr>
<td>I/O Channels</td>
<td>16 interrupt signals combine into one interrupt request signal as INTA</td>
<td>35 VDC 100 mA (per channel)</td>
</tr>
<tr>
<td>Internal Power</td>
<td>12 VDC 240 mA</td>
<td>120 VAC / DC 100 mA (per)</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Self-powered</td>
<td>Bus-powered / Self-powered</td>
</tr>
<tr>
<td>Dimensions</td>
<td>180 (W) x 140 (D) x 34 (H) (no protrusions)</td>
<td>37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or USB cable 1.8 m</td>
</tr>
<tr>
<td>Weight</td>
<td>300 g (Exclusive of USB cable and attachment)</td>
<td>16 interrupt signals combine into one interrupt request signal as INTA</td>
</tr>
<tr>
<td>Included Cables</td>
<td>USB cable 1.8 m</td>
<td>USB cable included</td>
</tr>
</tbody>
</table>

**Options**

- Software: ACX-PAC(W32)
- PCB37P, PCBA7PS, PCA37P, CAN-207M

**Note:**
1. Data “0” corresponds to High Level, and Data “1” corresponds to Low level.
2. This numerical indicates the response time for optocouplers.
3. The input section consumes up to 40 mA and the output channel switching section consumes up to 30 mA, so the output current that can be supplied to the external device is 170 mA.
4. The USB transfer speed depends on the PC environment used (OS and USB host controller).
5. Use the optional self-powered 5 VDC power supply (POA200-20) when using the USB hub function.

---

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
USB I/O Unit X Series Bi-Directional Digital Input/Output Unit

**DIO-48DX-USB**

- 48-point two-way non-isolated TTL level I/O (positive logic) i8255 Mode 0-compliant
- Up to 48 input signals can be used as interrupts.
- Digital filtering function to prevent input error caused by noise and/or chattering
- Functions and Connector is compatible with PCI-compliant board DIO-48D2-PCI and PCI Express

**USB I/O Unit Bracket for X series**

**RRY-16CX-USB**

- 16 independent common reed relay contact (1 Make-Contact) output
- High-capacity with output rating up to 125 VAC / 30 VDC, 2 A (per channel)

**USB I/O Unit Bracket for X series**

---

**Table:**

<table>
<thead>
<tr>
<th>Model</th>
<th>DIO-48DX-USB</th>
<th>RRY-16CX-USB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I/O Channels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating 5 VDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interrupts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Allowed</td>
<td></td>
<td>125 V (AC), 30 V (DC)</td>
</tr>
<tr>
<td>Maximum switching</td>
<td></td>
<td>2 A (Max.)</td>
</tr>
<tr>
<td>Contact resistance</td>
<td></td>
<td>30 mA or less</td>
</tr>
<tr>
<td>Mechanical life</td>
<td></td>
<td>20 million times or more (Switching)</td>
</tr>
<tr>
<td>Response Time (Max.)</td>
<td></td>
<td>200 µsec</td>
</tr>
<tr>
<td>Internal Power</td>
<td></td>
<td>12 VDC 240 mA</td>
</tr>
<tr>
<td>Wiring Distance</td>
<td></td>
<td>Approx. 50 m (depending on wiring)</td>
</tr>
<tr>
<td>USB speed</td>
<td>12 Mbps (Full Speed), 480 Mbps</td>
<td></td>
</tr>
<tr>
<td>Power Supply</td>
<td>Self-powered</td>
<td></td>
</tr>
<tr>
<td>Power Consumption</td>
<td></td>
<td>5 VDC 550 mA</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>180 (W) x 140 (D) x 34 (H) (no protrusions)</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>96-pin half pitch connector (M type)</td>
<td>37-pin D-SUB connector [F type]</td>
</tr>
<tr>
<td>Weight</td>
<td>400g (Exclusive of USB cable and attachment)</td>
<td></td>
</tr>
<tr>
<td>Included Cable</td>
<td>USB cable 1.8 m</td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>AX-C-PCI(W32)</td>
<td></td>
</tr>
<tr>
<td>Options</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cables /</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

*1: Requires use of optional cable PCB96P or PCB96PS
2: Requires use of optional cable PCB96P or PCB96PS
3: "Spring-up terminal block" is employed to retain terminal screws.

As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
## USB I/O unit N series

### DIO-1616HN-USB
- Supports high voltage (5 to 50 VDC) input/output
- Featuring a 16-point configuration, each common corresponds to a different external power source
- Fast response time (within 200 µsecs)

### DIO-0808RN-USB
- 8 opto-isolated input, 8 C contact relay output
- I/O interface supports both current sink output and current source output.
- Supports high voltage range of 12 - 24 VDC input, 240 VAC / 28 VDC 6A output

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>DIO-1616HN-USB</th>
<th>DIO-0808RN-USB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>16 (1 common every 16 channels)</td>
<td>8 (1 common every 8 channels)</td>
</tr>
<tr>
<td>Output</td>
<td>16 (1 common every 8 channels)</td>
<td>8</td>
</tr>
<tr>
<td>I/O Channels</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Input Type</td>
<td>Opto-Isolated</td>
<td>Opto-Isolated</td>
</tr>
<tr>
<td>Operating</td>
<td>5 V</td>
<td>12 - 24 VDC (+/-10%)</td>
</tr>
<tr>
<td>Interrupts</td>
<td>-</td>
<td>560Ω</td>
</tr>
<tr>
<td>Output Type</td>
<td>Opto-isolated open collector output</td>
<td>Power relay (1C contact) Output</td>
</tr>
<tr>
<td>Current sinking</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Power relay</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Output Rating</td>
<td>60 VDC 100 mA (per channel)</td>
<td>240 VAC / 28 VDC 6 A</td>
</tr>
<tr>
<td>Response Time (Max.)</td>
<td>200 µsec*</td>
<td></td>
</tr>
<tr>
<td>Internal Power</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wiring Distance</td>
<td>Approx. 50 m (depending on wiring environment)</td>
<td>-</td>
</tr>
<tr>
<td>USB speed</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Power Supply</td>
<td>Bus-powered</td>
<td>-</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>5 VDC 300 mA</td>
<td>-</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>188.0 (W) x 78.0 (D) x 30.5 (H)</td>
<td>-</td>
</tr>
<tr>
<td>Connector</td>
<td>10 pin (screw-terminal) plug header x 4</td>
<td>-</td>
</tr>
<tr>
<td>Weight</td>
<td>300 g</td>
<td>-</td>
</tr>
<tr>
<td>Included Cable</td>
<td>USB cable 1.8 m</td>
<td>USB cable included</td>
</tr>
<tr>
<td>Software</td>
<td>ACX-PAC(W32)</td>
<td>-</td>
</tr>
<tr>
<td>Options</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cables /</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Notes:
- *1: Data “0” corresponds to High Level, and Data “1” corresponds to Low level.
- *2: This numerical indicates the response time for optocoupler.
- *3: The USB transfer speed depends on the PC environment used (OS and USB host controller).

---

**USB cable included**

---

*As shown on the side of product's images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.*
Opto-isolated Digital I/O

**DIO-0808LY-USB**
- 8 opto-isolated input, 8 opto-isolated open collector output (Output ratings can handle up to 35 VDC and 100 mA per channel)
- USB2.0/USB1.1-compliant, high-speed (480 Mbps)
- USB (PC) and I/O interface are opto-isolated to prevent noises.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).
- Screw-type connectors for easy wiring

TTL-level Digital Input

**DI-16TY-USB**
- 16 non-isolated TTL level input
- USB1.1/USB2.0-compliant, bus-powered to eliminate the need for external power supply
- Surge absorption diode for the input circuit
- Terminal connectors for easy wiring

TTL-level Digital Output

**DO-16TY-USB**
- 16 non-isolated open collector output
- USB1.1/USB2.0-compliant, bus-powered to eliminate the need for external power supply
- Surge absorption diode for the output circuit
- Terminal connectors for easy wiring

---

<table>
<thead>
<tr>
<th>Model</th>
<th>DIO-0808LY-USB</th>
<th>DI-16TY-USB</th>
<th>DO-16TY-USB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Channels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Type</td>
<td>Opto-isolated (for sink current)</td>
<td>Non-isolated TTL level input</td>
<td>-</td>
</tr>
<tr>
<td>Operating</td>
<td>12 - 24 VDC (+/-10 %)</td>
<td>5 VDC</td>
<td>-</td>
</tr>
<tr>
<td>Interrupts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Type</td>
<td>Opto-isolated open collector output</td>
<td>Non-isolated open collector output</td>
<td>-</td>
</tr>
<tr>
<td>Rating</td>
<td>35 VDC 100 mA (per channel)</td>
<td>28 VDC 40 mA (per channel)</td>
<td>-</td>
</tr>
<tr>
<td>Response Time</td>
<td>300 µsec&lt;sup&gt;1&lt;/sup&gt;</td>
<td>200 nsec</td>
<td>200 nsec (depending on Pull-up)</td>
</tr>
<tr>
<td>Internal Power</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wiring Distance</td>
<td>Approx. 50 m (depending on wiring)</td>
<td>Approx. 1.5 m (depending on wiring environment)</td>
<td>-</td>
</tr>
<tr>
<td>USB speed</td>
<td>12 Mbps (Full Speed), 480 Mbps (High Speed)&lt;sup&gt;2&lt;/sup&gt;</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Power Consumption (Max.)</td>
<td>5 VDC 250 mA</td>
<td>5 VDC 300 mA</td>
<td>5 VDC 350 mA</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>64 (W) x 62 (D) x 24 (H) (no protrusions)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Connector</td>
<td>14-pin (screw-terminal) plug header</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Weight (main unit)</td>
<td>70g (Exclusive of USB cable and attachment)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Included Cable</td>
<td>USB cable 1.8 m</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Options</td>
<td>BRK-USB-Y</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cables /</td>
<td>BRK-USB-Y</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
| Note:          | *1: This numerical indicates the response time for optocoupler.
|                | *2: This numerical indicates the response time for output IC.
|                | *3: The USB transfer speed depends on the host PC environment used (OS and USB host controller).
### Digital I/O

#### TTL-level Digital I/O

**DIO-0808TY-USB**

- 8 non-isolated TTL level input, 8 non-isolated open collector output
- USB1.1/USB2.0-compliant, bus-powered to eliminate the need for external power supply
- Surge absorption diode for the I/O circuit
- Terminal connectors for easy wiring

#### LVTTL Level Bi-Directional Digital I/O

**DIO-24DY-USB**

- 24 bi-directional digital I/O (8 channels, 3 groups)
- Non-isolated LVTTL level I/O (positive logic)
- USB2.0/USB1.1-compliant, high-speed (480 Mbps)
- Bus-powered to eliminate need for external power supply
- Input / output switching can be set via application software.

#### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>DIO-0808TY-USB</th>
<th>DIO-24DY-USB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>8 (1 common)</td>
<td>-</td>
</tr>
<tr>
<td>Output</td>
<td>8 (1 common)</td>
<td>-</td>
</tr>
<tr>
<td>I/O Channels</td>
<td>24</td>
<td>-</td>
</tr>
<tr>
<td>Input Type</td>
<td>Non-isolated TTL level</td>
<td>LVTTL level input (positive logic)</td>
</tr>
<tr>
<td>Operating</td>
<td>5 VDC</td>
<td>3.3 VDC</td>
</tr>
<tr>
<td>Interupts</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Output Type</td>
<td>Non-isolated open collector</td>
<td>LVTTL level output (positive logic)</td>
</tr>
<tr>
<td>Rating</td>
<td>28 VDC - 40 mA (per channel)</td>
<td>3.3 VDC 8 mA</td>
</tr>
<tr>
<td>Response Time</td>
<td>200 nsec (input) - 200 nsec (output)</td>
<td></td>
</tr>
<tr>
<td>Internal Power</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wiring Distance</td>
<td>Approx. 1.5 m (depending on wiring environment)</td>
<td></td>
</tr>
<tr>
<td>USB Speed</td>
<td>12 Mbps (Full Speed), 480 Mbps (High Speed)</td>
<td></td>
</tr>
<tr>
<td>Power Consumption</td>
<td>5 VDC 300 mA</td>
<td>5 VDC 250 mA</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>64 (W) x 62 (D) x 24 (H) (no protrusions)</td>
<td></td>
</tr>
<tr>
<td>Connector</td>
<td>14-pin (screw-terminal) plug header</td>
<td></td>
</tr>
<tr>
<td>Weight (main unit)</td>
<td>70g (Exclusive of USB cable and attachment)</td>
<td></td>
</tr>
<tr>
<td>Included Cable</td>
<td>USB cable 1.8 m</td>
<td>-</td>
</tr>
<tr>
<td>Software</td>
<td>ACX-PAC(W32)</td>
<td>-</td>
</tr>
<tr>
<td>Options</td>
<td>BRK-USB-Y</td>
<td>-</td>
</tr>
<tr>
<td>Cables</td>
<td>CNI-Y14</td>
<td>-</td>
</tr>
</tbody>
</table>

Note:

- *1: This numerical indicates the response time for optocoupler.
- *2: Actual throughput is 100 µsecs. (Depends on the host PC environment such as OS and USB host controller.)

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
Please see page N-17 for optional accessories and cables/connectors, and page M-01 for software.

### Opto-Isolated Digital Input
**DI-32(USB)**
- On-board trigger monitoring
- Screw-less connectors for easy wiring
- Additional input channels through use of extension modules (Max. 3 sets)
- Sample development and utility debugging software included

### Opto-Isolated Digital Output
**DO-32(USB)**
- Transistor Output that is designed to work with large capacities: 12 - 24 V, 150 mA (max.) per channel; 36 - 48 V, 50 mA (max.) per channel (Drives LED display directly)
- Screw-less connectors for easy wiring
- Additional output channels through use of extension modules (Max. 3 sets)
- Sample development and utility debugging software included

### Opto-Isolated Digital I/O
**DIO-16/16(USB)**
- On-board trigger monitoring (Digital Input)
- Transistor Output that is designed to work with large capacities: 12 - 24 V, 150 mA (max.) per channel; 36 - 48 V, 50 mA (max.) per channel (Drives LED display directly)
- Screw-less connectors for easy wiring
- Additional I/O channels through use of extension modules (Max. 3 sets)
- Sample development and utility debugging software included

---

**Model** | **DI-32(USB)** | **DO-32(USB)** | **DIO-16/16(USB)**
--- | --- | --- | ---
Input Type | Opto-isolated (for current sink) | Opto-isolated (for current sink) | Opto-isolated open collector output (Current sinking type, negative logic)
Operating Voltage | 12 - 24 VDC | 12 - 24 VDC | 12 - 48 VDC
Response Time (Max.) | 1 msec | 1 msec | 1 msec
Connector | FMC1.5/18-ST-3.5 [PHOENIX CONTACT] | FMC1.5/18-ST-3.5 [PHOENIX CONTACT] | FMC1.5/18-ST-3.5 [PHOENIX CONTACT]
Wiring Distance | 50 m | 50 m | 50 m
USB speed | 12 Mbps (Full Speed), 480 Mbps (High Speed) | 12 Mbps (Full Speed), 480 Mbps (High Speed) | 12 Mbps (Full Speed), 480 Mbps (High Speed)
Dimensions (mm) | 50.4 (W) x 64.7 (D) x 94.0 (H) | 50.4 (W) x 64.7 (D) x 94.0 (H) | 50.4 (W) x 64.7 (D) x 94.0 (H)
Weight (main unit) | 190 g | 190 g | 190 g
Included Cable | USB cable 1.8 m | USB cable 1.8 m | USB cable 1.8 m

**Options**
- **Software**
  - ACX-PAC(W32)
  - POW-AD13GY, POW-AD22GY, POW-DD10GY, POW-DD43GY
- **Applicable Adapters**
  - DIO-32(FIT)GY
  - DO-32(FIT)GY
  - DIO-16/16(FIT)GY

---

**Note:**
- USB module executes API function via USB communication. The time required for such execution is about several milliseconds.
- Since current consumption may exceed 500 mA when using extension modules, please use an optional power supply.
- Visit our website for the details of Applicable Modules, Power supplies, Adapters.

---

As shown on the side of product’s images, RoHS compliant is a CONTEC original marking for RoHS-compliant products.
Digital I/O

**Opto-Isolated Digital Input**

**DI-16(USB)GY**

- On-board trigger monitoring
- 2 Screw-less connectors for easy wiring - no special tools needed
- Additional input channels through use of extension modules (Max. 3 sets)
- Sample development and utility debugging software included

**Model**

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Operating Type</th>
<th>Response Time</th>
<th>Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Opto-isolated (for current sink)</td>
<td>1 msec</td>
<td>FK-MC 0.5/9-ST-2.5 [PHOENIX CONTACT]</td>
</tr>
<tr>
<td>Output</td>
<td>Opto-isolated (for current sink)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Type</td>
<td>12 - 24 VDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Type</td>
<td>Opto-isolated open collector output (Current sinking type, negative logic)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Input**

- 16

**Output**

- 16

**Power Consumption**

- 5 VDC 450 mA

**Dimensions**

- 50.4 (W) x 64.7 (D) x 94.0 (H)

**Weight**

- 100 g

**Included Cable**

- USB cable 1.8 m

**Options**

- ACX-PAC(W32)
- POW-AD13GY, POW-AD22GY, POW-DD10GY, POW-DD43GY
- POA200-20

Note:

1: USB module executes API function via USB communication. The time required for such execution is about several milliseconds.
2: Since current consumption may exceed 500 mA when using extension modules, please use an optional power supply.
3: Visit our web site for the details of Applicable Modules, Power supplies, Adapters.

**Opto-Isolated Digital Output**

**DO-16(USB)GY**

- Transistor Output that is designed to work with large capacities, 24 VDC, 150 mA (max) per channel (Drives LED display directly)
- 2 Screw-less connectors for easy wiring - no special tools needed
- Additional output channels through use of extension modules (Max. 3 sets)
- Sample development and utility debugging software included

**Model**

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Operating Type</th>
<th>Response Time</th>
<th>Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Opto-isolated (for current sink)</td>
<td>1 msec</td>
<td>FK-MC 0.5/9-ST-2.5 [PHOENIX CONTACT]</td>
</tr>
<tr>
<td>Output</td>
<td>Opto-isolated (for current sink)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Type</td>
<td>12 - 24 VDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Type</td>
<td>Opto-isolated open collector output (Current sinking type, negative logic)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Input**

- 8

**Output**

- 8

**Power Consumption**

- 5 VDC 450 mA

**Dimensions**

- 50.4 (W) x 64.7 (D) x 94.0 (H)

**Weight**

- 100 g

**Included Cable**

- USB cable 1.8 m

**Options**

- ACX-PAC(W32)
- POW-AD13GY, POW-AD22GY, POW-DD10GY, POW-DD43GY
- POA200-20

Note:

1: USB module executes API function via USB communication. The time required for such execution is about several milliseconds.
2: Since current consumption may exceed 500 mA when using extension modules, please use an optional power supply.
3: Visit our web site for the details of Applicable Modules, Power supplies, Adapters.

**Opto-Isolated Digital I/O**

**DIO-8/8(USB)GY**

- On-board trigger monitoring (Digital Input)
- Transistor Output that is designed to work with large capacities, 24 VDC, 150 mA (max) per channel (Drives LED display directly)
- 2 Screw-less connectors for easy wiring - no special tools needed
- Additional I/O channels through use of extension modules (Max. 3 sets)
- Sample development and utility debugging software included

**Model**

<table>
<thead>
<tr>
<th>Input Type</th>
<th>Operating Type</th>
<th>Response Time</th>
<th>Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>Opto-isolated (for current sink)</td>
<td>1 msec</td>
<td>FK-MC 0.5/9-ST-2.5 [PHOENIX CONTACT]</td>
</tr>
<tr>
<td>Output</td>
<td>Opto-isolated (for current sink)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Type</td>
<td>12 - 24 VDC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output Type</td>
<td>Opto-isolated open collector output (Current sinking type, negative logic)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Input**

- 8

**Output**

- 8

**Power Consumption**

- 5 VDC 450 mA

**Dimensions**

- 50.4 (W) x 64.7 (D) x 94.0 (H)

**Weight**

- 100 g

**Included Cable**

- USB cable 1.8 m

**Options**

- ACX-PAC(W32)
- POW-AD13GY, POW-AD22GY, POW-DD10GY, POW-DD43GY
- POA200-20

Note:

1: USB module executes API function via USB communication. The time required for such execution is about several milliseconds.
2: Since current consumption may exceed 500 mA when using extension modules, please use an optional power supply.
3: Visit our web site for the details of Applicable Modules, Power supplies, Adapters.
Opto-Isolated Digital Input

**PI-64L(CPCI)**
- 64 opto-isolated input with superb noise resistance (12 - 24 VDC)
- Digital filter and interrupt trigger edge can be set (software setting).
- Connector pin assignment compatible with PI-64L(CPCI)

Opto-Isolated Digital Output

**PO-64L(CPCI)**
- 64 opto-isolated open collector output (35 VDC, 100 mA)
- Equipped with a software to read signal output status
- Connector pin assignment compatible with PO-64L(CPCI)

Opto-Isolated Digital I/O

**PIO-32/32L(CPCI)**
- 32 opto-isolated input, 32 opto-isolated open collector output
- Digital filter and interrupt trigger edge can be set (software setting).
- Connector pin assignment compatible with PIO-32/32L(CPCI)

---

**Model** | **PI-64L(CPCI)** | **PO-64L(CPCI)** | **PIO-32/32L(CPCI)**
--- | --- | --- | ---
**Input** | 64 | - | 32
**Output** | - | 64 | 32
**I/O circuit** | 12 - 24 VDC (+/-15 %) (4 mA / 12) | 12 - 24 VDC (+/-15 %) | 12 - 24 VDC (+/-15 %) (4 mA / 12)
**Input Type** | Opto-Isolated (for sink current) | - | Opto-Isolated (for sink current)
**Interruption** | 4 interrupt signals combine into one interrupt request signal as | - | 4 interrupt signals combine into one interrupt request signal as
**Operating Internal** | - | - | 3 kΩ
**Output Type** | Opto-isolated open collector output | - | Opto-isolated open collector output
**Rating** | 35 VDC 100 mA | - | 35 VDC 100 mA

**Options**
- **Response Time (Max.)**: 1 msec
- **Wiring Distance**: Approx. 50 m (depending on wiring environment)
- **I/O Address**: 8-bit x 32-port boundary (Common to Input/Output)
- **Power Consumption**: 5 VDC 300 mA
- **Bus / Dimensions (mm)**: CompactPCI / 3U x 4HP
- **Connector**: 96-pin half pitch connector [M type]
- **Software**:
  - ACX-PAC(W32), API-PAC(W32)
- **Options**:
  - Cables / PCA96P, PCA96PS, PCA96PS, PCB96PS, PC896WS

**Note:**
1. Requires use of optional cable PCB96WS
2. Requires use of optional cable PCB96PS
3. "Sprung-up terminal block" is employed to retain terminal screws.
### ISA Opto-Isolated Digital Input

<table>
<thead>
<tr>
<th>Model</th>
<th>PI-32L(PC)</th>
<th>PI-64L(PC)</th>
<th>PI-32B(PC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>32</td>
<td>64</td>
<td>32</td>
</tr>
<tr>
<td>Output</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I/O circuit</td>
<td>Operating</td>
<td>12 - 24 VDC</td>
<td>12 VDC 250 mA</td>
</tr>
<tr>
<td>Internal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Opto-Isolated (for sink current output)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interrupts</td>
<td>2 lines from IRQ 3 - 7, 9 - 12, 14, 15 available simultaneously</td>
<td>4 lines from IRQ 3 - 7, 9 available simultaneously</td>
<td>2 lines from IRQ 3 - 7, 9 - 12, 14, 15 available simultaneously</td>
</tr>
<tr>
<td>Resistance</td>
<td>3 kΩ</td>
<td>10 kΩ</td>
<td>3 kΩ</td>
</tr>
<tr>
<td>Output Type</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rating</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Options</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Response Time (Max.)</td>
<td>1 msec</td>
<td>&lt;When using general I/O operation&gt; Any 8-byte boundary</td>
<td></td>
</tr>
<tr>
<td>Wiring Distance</td>
<td>50 m</td>
<td>30 m</td>
<td>50 m</td>
</tr>
<tr>
<td>I/O Address</td>
<td>Any 4-byte boundary</td>
<td>Any 4-byte boundary</td>
<td></td>
</tr>
<tr>
<td>Power Consumption (Max.)</td>
<td>5 VDC 50 mA</td>
<td>5 VDC 100 mA</td>
<td>5 VDC 50 mA (External) 5 VDC</td>
</tr>
<tr>
<td>Bus / Dimensions (mm)</td>
<td>ISA AT Bus / 163.0 (L) x 122.0 (H)</td>
<td>ISA AT Bus / 163.0 (L) x 122.0 (H)</td>
<td>ISA AT Bus / 163.0 (L) x 122.0 (H)</td>
</tr>
<tr>
<td>Connector</td>
<td>37-pin D-SUB connector [F type]</td>
<td>37-pin half pitch shielded</td>
<td>37-pin D-SUB connector [F type]</td>
</tr>
<tr>
<td>Software</td>
<td>ACK-PAC(W32), API-PAC(W32)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1: Requires use of optional cable PCB37P or PCB37PS
*2: Requires use of optional cable PCB96W or PCB96WS
*3: Requires use of optional cable PCB96P or PCB96PS
*4: "Sprung-up terminal block" is employed to retain terminal screws.

### ISA Opto-Isolated Negative Common

<table>
<thead>
<tr>
<th>Model</th>
<th>PI-32RL(PC)</th>
<th>PI-32T(PC)</th>
<th>PI-64T(PC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>32</td>
<td>64</td>
<td>32</td>
</tr>
<tr>
<td>Output</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I/O circuit</td>
<td>Operating</td>
<td>12 - 24 VDC</td>
<td>5 VDC</td>
</tr>
<tr>
<td>Internal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Opto-Isolated (for source output)</td>
<td>TTL level</td>
<td></td>
</tr>
<tr>
<td>Interrupts</td>
<td>2 lines from IRQ 3 - 7, 9 available simultaneously</td>
<td>2 lines from IQ 3 - 7, 9 available simultaneously</td>
<td>4 lines from IQ 3 - 7, 9 available simultaneously</td>
</tr>
<tr>
<td>Resistance</td>
<td>3 kΩ</td>
<td>10 kΩ</td>
<td>3 kΩ</td>
</tr>
<tr>
<td>Output Type</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rating</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Options</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Response Time (Max.)</td>
<td>1 msec</td>
<td>&lt;When using general I/O operation&gt; Any 8-byte boundary</td>
<td>200 nsec</td>
</tr>
<tr>
<td>Wiring Distance</td>
<td>50 m</td>
<td>1.5 m</td>
<td>1.5 m</td>
</tr>
<tr>
<td>I/O Address</td>
<td>Any 4-byte boundary</td>
<td></td>
<td>ISA AT Bus / 163.0 (L) x 122.0 (H)</td>
</tr>
<tr>
<td>Power Consumption (Max.)</td>
<td>5 VDC 300 mA</td>
<td>5 VDC 420 mA</td>
<td>ISA AT Bus / 163.0 (L) x 122.0 (H)</td>
</tr>
<tr>
<td>Bus / Dimensions (mm)</td>
<td>ISA AT Bus / 163.0 (L) x 122.0 (H)</td>
<td>ISA AT Bus / 163.0 (L) x 122.0 (H)</td>
<td>ISA AT Bus / 163.0 (L) x 122.0 (H)</td>
</tr>
<tr>
<td>Connector</td>
<td>37-pin D-SUB connector [F type]</td>
<td>36-pin half pitch shielded</td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>ACK-PAC(W32), API-PAC(W32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cables / Connectors</td>
<td>PCA37P, PCB37P, PCA37PS, PCB37PS</td>
<td>PCA37P-1.5, PCB37P-1.5, PCA37PS-0.5P, PCB37PS-1.5</td>
<td>PCA37P-1.5, PCB37P-1.5, PCB96P-1.5, PCB96PS-1.5, PCB96PS-0.5P</td>
</tr>
</tbody>
</table>

*1: Requires use of optional cable PCB37P or PCB37PS
*2: Requires use of optional cable PCB96W or PCB96WS
*3: Requires use of optional cable PCB96P or PCB96PS
*4: "Sprung-up terminal block" is employed to retain terminal screws.
**Digital I/O**

**ISA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Opto-Isolated Digital Output</th>
<th>Opto-Isolated Digital Output (On board)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO-32L(PC)/V</td>
<td></td>
<td>PO-32B(PC)/H</td>
</tr>
<tr>
<td>PO-64L(PC)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Input**

- 32

**Output**

- 64

**I/O circuit**

- Operating: 32
- Internal: 12 VDC 250 mA

**Type**

- Opto-isolated open collector output (Current sinking type)

**Rating**

- 35 VDC 100 mA
- 35 VDC 150 mA
- 35 VDC 100 mA

**Response Time (Max.)**

- 1 msec

**Wiring Distance**

- 30 m

**I/O Address**

- Any 4-byte boundary

**Power Consumption (Max.)**

- 5 VDC 50 mA
- 5 VDC 250 mA
- 5 VDC 50 mA (External) 5 VDC

**Connector**

- 37-pin D-SUB connector [F type]
- 36-pin half pitch shielded

**Software**

- ACX-PAC(W32), API-PAC(W32)

**Options**

- DTP-3C, DTP-4C, EPD-37A, EPD-37
- PC37P, PC37P-1.5, PC37PS, PC37PS-1.5

**CE marking**

- Yes

---

**ISA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Opto-Isolated Negative Common Type Digital</th>
<th>TTL-level Digital Output</th>
<th>TTL-level Digital Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO-32RL(PC)</td>
<td></td>
<td>PO-32T(PC)/H</td>
<td>PO-64T(PC)</td>
</tr>
<tr>
<td>PO-32T(PC)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Input**

- 32

**Output**

- 64

**I/O circuit**

- Operating: 32
- Internal: 5 VDC

**Type**

- Opto-isolated (source type)
- Non-isolated TTL driver
- Non-isolated TTL open collector

**Rating**

- 35 VDC 150 mA
- 5 VDC 40 mA
- 30 VDC 40 mA

**Response Time (Max.)**

- 1 msec
- 200 nsec

**Wiring Distance**

- 50 m
- 1.5 m

**I/O Address**

- Any 4-byte boundary

**Power Consumption (Max.)**

- 5 VDC 300 mA
- 5 VDC 550 mA
- 5 VDC 250 mA

**Bus / Dimensions (mm)**

- ISA AT Bus / 163.0 (L) x 122.0 (H)
- XT/143.0 (L) x 107.0 (H)
- ISA AT Bus / 163.0 (L) x 122.0 (H)

**Connector**

- 37-pin D-SUB connector [F type]
- 36-pin half pitch shielded

**Software**

- ACX-PAC(W32), API-PAC(W32)

**Options**

- DTP-3C, DTP-4C, EPD-37A, EPD-37
- PC37P, PC37P-1.5, PC37PS, PC37PS-1.5

**CE marking**

- Yes

---

*1: Requires use of optional cable PC37P or PC37PS
*2: Requires use of optional cable PC86W or PC86WS
*3: Requires use of optional cable PC86P or PC86PS
*4: “Spring-up terminal block” is employed to retain terminal screws.
### Opto-Isolated Digital I/O

#### Model: PIO-16/16L(PCI) V

<table>
<thead>
<tr>
<th>Input</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I/O Circuit</th>
<th>Operating</th>
<th>12 - 24 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Opto-Isolated (for sink current output)</td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>Opto-Isolated open collector output (Current sinking type)</td>
<td></td>
</tr>
<tr>
<td>Interrupts</td>
<td>2 lines from IRQ 3 - 7, 9 - 12, 14, 2 lines from IRQ 3 - 7, 9 - 12, 14,</td>
<td></td>
</tr>
<tr>
<td>Resistance</td>
<td>3 kΩ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Type</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 VDC 100 mA</td>
<td></td>
</tr>
</tbody>
</table>

#### Model: PIO-32/32L(PCI) H

<table>
<thead>
<tr>
<th>Input</th>
<th>32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I/O Circuit</th>
<th>Operating</th>
<th>12 - 24 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Opto-Isolated (source type)</td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>Opto-Isolated open collector output (Current sinking type)</td>
<td></td>
</tr>
<tr>
<td>Interrupts</td>
<td>2 lines from IRQ 3 - 7, 9 - 12, 14, 4 lines from IRQ 3 - 7, 9 - 12, 14,</td>
<td></td>
</tr>
<tr>
<td>Resistance</td>
<td>3 kΩ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Type</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 VDC 150 mA</td>
<td></td>
</tr>
</tbody>
</table>

#### Model: PIO-16/16B(PCI) H

<table>
<thead>
<tr>
<th>Input</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I/O Circuit</th>
<th>Operating</th>
<th>12 - 24 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Opto-Isolated (source type)</td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>Opto-Isolated open collector output (Current sinking type)</td>
<td></td>
</tr>
<tr>
<td>Interrupts</td>
<td>2 lines from IRQ 3 - 7, 9 - 12, 14, 4 lines from IRQ 3 - 7, 9 - 12, 14,</td>
<td></td>
</tr>
<tr>
<td>Resistance</td>
<td>3 kΩ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Type</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 VDC 100 mA</td>
<td></td>
</tr>
</tbody>
</table>

### Opto-Isolated Negative Common Type Digital I/O

#### Model: PIO-16/16RL(PCI)

<table>
<thead>
<tr>
<th>Input</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I/O Circuit</th>
<th>Operating</th>
<th>12 - 24 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Opto-Isolated (source output)</td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>Opto-Isolated open collector output (Current sinking type)</td>
<td></td>
</tr>
<tr>
<td>Interrupts</td>
<td>2 lines from IRQ 3 - 7, 9 - 12, 14, 4 lines from IRQ 3 - 7, 9 - 12, 14,</td>
<td></td>
</tr>
<tr>
<td>Resistance</td>
<td>3 kΩ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Type</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 VDC 150 mA</td>
<td></td>
</tr>
</tbody>
</table>

#### Model: PIO-32/32RL(PCI)

<table>
<thead>
<tr>
<th>Input</th>
<th>32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I/O Circuit</th>
<th>Operating</th>
<th>12 - 24 VDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Opto-Isolated (source type)</td>
<td></td>
</tr>
<tr>
<td>Internal</td>
<td>Opto-Isolated open collector output (Current sinking type)</td>
<td></td>
</tr>
<tr>
<td>Interrupts</td>
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</tr>
<tr>
<td>Resistance</td>
<td>3 kΩ</td>
<td></td>
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</tbody>
</table>

<table>
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<tr>
<th>Output Type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>35 VDC 150 mA</td>
<td></td>
</tr>
</tbody>
</table>

---

*1: Requires use of optional cable PCB37P or PCB37PS
*2: Requires use of optional cable PCB96W or PCB96WS
*3: Requires use of optional cable PCB96P or PCB96PS
*4: "Spring-up terminal block" is employed to retain terminal screws.
### ISA Lineup

#### PCI Express
- PCI
- PC Card
- USB
- Low Profile PCI
- Compact PCI
- Solution-ePC

#### Analog I/O
- Counter & Motion
- Serial GPIB
- Expansion Unit
- Software
- Accessories & Cables
- Remote I/O
- Wireless LAN
- FLEXLAN
- Solutions & Services

#### Digital I/O
- BOX Computers
- Panel Computers
- Flat Panel Displays
- Options
- Industrial PC
- BTO PCs
- Solution-ePC

#### Industrial Automation Products
- Measurement and Control Products

### Digital I/O

#### Models

<table>
<thead>
<tr>
<th>Model</th>
<th>TTL-level Digital I/O</th>
<th>High Current Drive Bi-directional Digital I/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIO-16/16T(PCM)</td>
<td>PIO-32/32T(PCM)</td>
<td>PIO-48D(PCM)</td>
</tr>
</tbody>
</table>

#### Input / Output
- **Input**: 16, 32, 48
- **Output**: 16, 32, 48

#### I/O circuit
- **Operating**: 5 VDC
- **Type**: TTL level
- **Interrupts**: 2 lines from IRQ 3 - 7, 9, 12, 14
- **Resistance**: 10 kΩ
- **Rating**: 5 VDC 40 mA
- **Options**: Yes
- **Response Time (Max.)**: 200 nsec
- **Wiring Distance**: 1.5 m
- **I/O Address**: Any 2-byte boundary
- **Power Consumption (Max.)**: 5 VDC 550 mA
- **Bus / Dimensions (mm)**: XT143.0 (L) x 107.0 (H)
- **Connector**: 37-pin D-SUB connector [F type]

#### Reed Relay Output Board

<table>
<thead>
<tr>
<th>Model</th>
<th>RRY-32(PC)</th>
</tr>
</thead>
</table>

#### Input / Output
- **Input**: 32
- **Output**: 32

#### Relay Contact
- **Maximum**: 10 VA (AC), 10 W (DC)
- **Maximum**: 100 VAC (AC), 100 VDC (DC)
- **Maximum**: 0.5 A
- **Maximum**: 1 A
- **Contact**: 150 mA or less
- **Response**: Within 1 msec
- **Mechanical**: 10⁶ operations
- **I/O Address**: Any 4-byte boundary
- **Power Consumption (Max.)**: 5 VDC 760 mA
- **Bus / Dimensions (mm)**: ISA AT Bus / 163.0 (L) x 122.0 (H)
- **Connector**: 37-pin D-SUB connector [F type]

#### Photo MOS Relay Output Board

<table>
<thead>
<tr>
<th>Model</th>
<th>PRY-32(PC)</th>
</tr>
</thead>
</table>

#### Input / Output
- **Input**: 1
- **Output**: 32

#### Relay Contact
- **Rating**: 100 VAC / VDC
- **Drive Current**: 250 mA (1 common every 8)
- **Relay**: 2.6 Ω (Max. 4 I2)
- **Output Loss**: 360 mW
- **Leakage**: 1 µA (Max.)
- **Response**: Within 1 msec
- **I/O Address**: Any 4-byte boundary
- **Power Consumption (Max.)**: 5 VDC 450 mA
- **Bus / Dimensions (mm)**: ISA AT Bus / 163.0 (L) x 122.0 (H)
- **Connector**: 37-pin D-SUB connector [F type]

#### Photo MOS Relay Output Board

<table>
<thead>
<tr>
<th>Model</th>
<th>PRY-32(PC)</th>
</tr>
</thead>
</table>

#### Options
- **Software**: ACX-PAC(W32), API-PAC(W32)
- **Accessories**: DTP-3C, DTP-4C, EPD-37A
- **Cables / Connectors**: PCA37P, PCB37P, PCA37PS, PC37PS

#### CE marking
- **Options**: "Spring-up terminal block" is employed to retain terminal screws.

---

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*2: Requires use of optional cable PB37W or PB37WS
*3: Requires use of optional cable PB37P or PB37PS
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