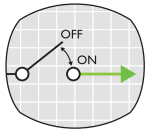


Digital I/O

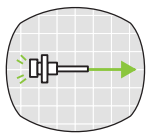
DIGITAL I/O

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.



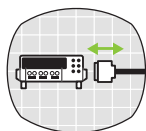
Application Monitoring status of contact points and switches

Description Inputs ON / OFF signals



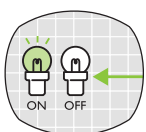
Application Measurement of individual sensors

Description Inputs BCD / binary data



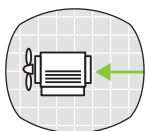
Application Communicating with measurement devices / controllers

Description BCD / binary data communication



Application Drive control such as relays and lamps

Description Outputs ON / OFF signals



Application Motor control

Description Outputs BCD / binary data

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).

Card Bus

Product supports CardBus that is a 32-bit PC card standard bus and can be used in the computer equipped with a CardBus-compliant PC card slot.

I/O Channels

Input nnn

Maximum number of input channels (bits)
nnn = 8, 16, 32, 64 or 128

Bi-direct XX

Maximum number of input / output channels (bits)
XX = 24, 32, 48 or 96

Board Size

Low Profile

Product is PCI standard / Low Profile compliant. A bracket for standard-size PCI slots is provided.

Connector

100-pin
0.8 mm Pitch

68-pin
0.8 mm Pitch

37-pin
D-SUB

96-pin
Half Pitch

50-pin
Mini-Ribbon

Indicates the number of pins and shapes of connectors used for external connection. The supported cables and accessories will vary depending on these specifications.

CONTEC provides a wide variety of cables and accessories to suit your needs.

Cables with connectors on both sides
Accessories (Terminal block, etc.)

N-17

Cables with a connector on one end
Connector set

N-24

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 Win32API 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.

ActiveX Component Package

ActiveX Component Package ACX-PAC(W32) is supported.

ACX-PAC (W32) is a program development support tool for Windows. Standard ActiveX Component for Windows (OCX) provides software parts specialized for add-on module control as well as measurement, such as screen displays, analyses and operations, and file operations. A collection of samples (application program) is included, so you can begin computer measurement right away without creating programs.

Points

Isolated

I/O interface and internal logical circuits are isolated by optocouplers and relay contacts in order to prevent electrical interference (noise etc.) with the PC. Requires additional power to drive the I/O circuit optocoupler and external circuits.

High Voltage

I/O interface supports high-voltage circuits [those exceeding 24 VDC]. Some have an output interface that supports AC.

Non-Isolated

I/O interface and internal logical circuits are not isolated. These respond at a higher speed than isolated devices.

Hi-Speed Optocoupler

Uses a high-speed Optocoupler that enables a response ϕ 1 μ - 5 μ sec.

Built-in Power

A power source is integrated on the device in order to drive input circuit optocouplers and I/O circuits. These are useful when additional power sources aren't available.

Digital Filter

Disables level (ON / OFF) changes that take place faster than the set value and prevents incorrect input due to noise and chattering.

Negative Common

I/O interface supports a current sourcing circuit. It is called "negative common" because the common polarity is reverse to that of a current sinking circuit.

Surge Protection

The output interface is equipped with a zener diode which prevents damage and malfunction induced by surge voltage and incoming current.

Non Polarity

This type features a nonpolar I/O interface and is compatible with both current sink and current source types.

Surge & Overcurrent Protection

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.

Interrupt input edge selection

An interrupt request signal can be generated for the PC when the input signal changes from high to low, or low to high.

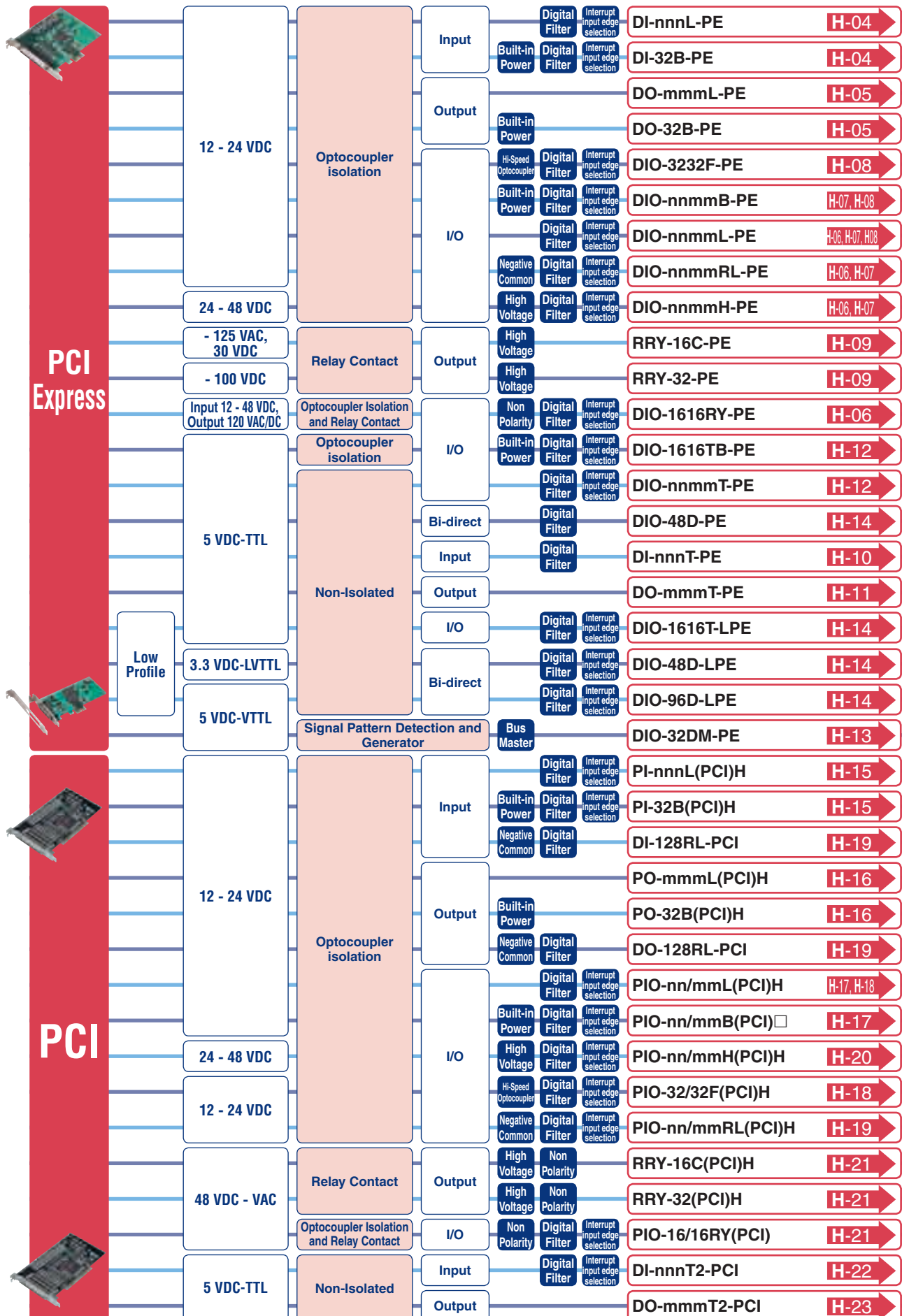
Bus Master

Large sampling data can be transferred promptly to PC memory without going through CPU.

Digital I/O

Product Lineup

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



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CONTEC

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Options

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VPC

BTO PCs
Solution-ePC

Analog I/O

Digital I/O

Counter & Motion
Controller

Serial
Communications

GPB
Communications

Expansion Unit and
Bus Adapter

Software

Accessories &
Cables

Remote I/O

Wireless LAN
FLEXLAN

Image Distribution Unit
FlexNetViewer

Solutions &
Services

H-02

Lineup

PCI Express

PCI

Low Profile PCI

PC Card

USB

Compact PCI

ISA

Digital I/O

Product Lineup

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

Page

PCI

Card Bus

PCMCIA

USB

Compact PCI

ISA

PCI	5 VDC-TTL	Optocoupler isolation	I/O	Built-in Power	Digital Filter	Interrupt input edge selection	PIO-16/16TB(PCI)H	H-24
							DIO-6464T2-PCI	H-24
							PIO-nn/mmT(PCI)H	H-24
							PIO-48D(PCI)	H-25
							DIO-48D2-PCI	H-25
							PIO-32DM(PCI)	H-13
							PIO-16/16L(LPCI)H	H-26
							PIO-16/16B(LPCI)H	H-26
							PIO-16/16T(LPCI)H	H-26
							PIO-48D(LPCI)H	H-27
Low Profile	12 - 24 VDC	Optocoupler isolation	I/O	Built-in Power	Digital Filter	Interrupt input edge selection	DIO-96D2-LPCI	H-27
							PIO-16/16L(CB)H	H-28
							PIO-48D(CB)H	H-28
							PIO-16/16L(PM)	H-29
							PIO-32D(PM)	H-29
							DI-32(USB)	H-36
							DI-16(USB)GY	H-37
							DO-16(USB)GY	H-37
							DIO-0808LY-USB	H-34
							DIO-16/16(USB)	H-36
5 VDC-TTL	Non-Isolated	Bi-direct	I/O	Digital Filter	Interrupt input edge selection	Interrupt input edge selection	DIO-8/8(USB)GY	H-37
							DIO-nnnmmLX-USB	H-30
							DIO-1616BX-USB	H-31
							DO-32(USB)	H-36
							DIO-1616HN-USB	H-33
							DIO-1616RYX-USB	H-31
							RRY-16CX-USB	H-32
							DIO-0808RN-USB	H-33
							DI-16TY-USB	H-34
							DO-16TY-USB	H-34
12 - 24 VDC	Optocoupler isolation	Input	Output	Digital Filter	Interrupt input edge selection	Interrupt input edge selection	DIO-0808TY-USB	H-35
							DIO-48DX-USB	H-32
							DIO-24DY-USB	H-35
							PI-64L(CPCI)	H-38
							PO-64L(CPCI)	H-38
							PIO-32/32L(CPCI)	H-38
							ISA	H-39
12 - 48 VDC	Relay contact	Output	I/O	High Voltage	Digital Filter	Interrupt input edge selection		
Input 12 - 48 VDC, Output 120 VAC/DC - 124 VDC, 30 VDC	Optocoupler isolation and Relay Contact	Input	Output	High Voltage	Digital Filter	Interrupt input edge selection		
5 VDC-TTL	Non-Isolated	I/O	Bi-direct	Digital Filter	Interrupt input edge selection	Interrupt input edge selection		
3.3 VDC-LVTTL	Optocoupler isolation	Input	Output	Digital Filter	Interrupt input edge selection	Interrupt input edge selection		
12 - 24 VDC	Optocoupler isolation	Input	Output	Digital Filter	Interrupt input edge selection	Interrupt input edge selection		

H-03

Lineup

PCI Express

PCI

Low Profile PCI

PC Card

USB

Compact PCI

ISA

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

Digital I/O

PCI Express

37-pin
D-SUB

Input
32

Isolated

Digital
Filter

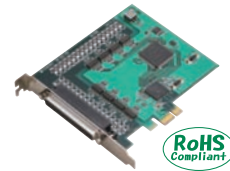
Windows Driver

Linux Driver

ActiveX Component Package

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.



RoHS
Compliant

PCI Express

96-pin
Half Pitch

Input
64

Isolated

Digital
Filter

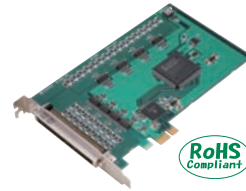
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital Input 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.



RoHS
Compliant

PCI Express

100-pin
0.8 mm Pitch

Input
128

Isolated

Digital
Filter

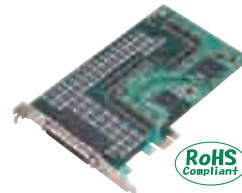
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital Input 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.



RoHS
Compliant

PCI Express

37-pin
D-SUB

Input
32

Isolated

Built-in
Power

Digital
Filter

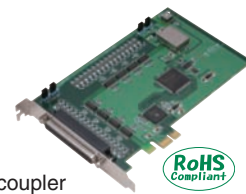
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital Input (On board Power) 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.



RoHS
Compliant

Model	DI-32L-PE		DI-64L-PE	DI-128L-PE	DI-32B-PE
Input	32 (1 common every 16 channels)		64 (1 common every 16 channels)	128 (1 common every 16 channels)	32 (1 common every 16 channels)
Output	-				
Input	Type	Opto-Isolated (for sink current output, Negative logic)			
	Operating Voltage	12 - 24 VDC (+/-10 %)			
Specifications	Interrupts	32 interrupt signals combine into one interrupt request signal as INTA		16 interrupt signals combine into one interrupt request signal as INTA	32 interrupt signals combine into one interrupt request signal as INTA
	Resistance	4.7 kΩ			
Output	Type	-			
Specifications	Rating	-			
	Response Time (Max.)	200 μsec			
Internal Power	-				12 VDC 240 mA
Wiring Distance	Approx. 50 m (depending on wiring environment)				
I/O Address	Any 32-byte boundary				
Power Consumption (Max.)	3.3 VDC 350 mA			3.3 VDC 600 mA	Using internal power: 3.3 VDC 350 mA, 12 VDC 350 mA Using external power: 3.3 VDC 350 mA
Bus / Dimensions (mm)	PCI Express Base Specification Rev.1.0a x1 / 121.69 (L) x 110.18 (H)		PCI Express Base Specification Rev.1.0a x1 / 169.33 (L) x 110.18 (H)		
Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent		96-pin half pitch connector [M type] PCR-E96LMD+ [HONDA Tsushin Kogyo] or equivalent	100-pin 0.8 mm pitch connector [F type] x2, HDRA-E100W1LFDT1EC-SL+ [HONDA Tsushin Kogyo] or equivalent	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent
Options	Software	ACX-PAC(W32)			
	Accessories	EPD-37A ^{*1*8} , EPD-37 ^{*1} , DTP-3C ^{*1} , DTP-4C ^{*1} , CM-32(PC)E ^{*1}	EPD-96A ^{*2*8} , EPD-96 ^{*2} , DTP-64A ^{*2} , CM-64(PC)E ^{*2} , EPD-37A ^{*3*8} , EPD-37 ^{*3} , DTP-3C ^{*1} , DTP-4C ^{*1} , CM-32(PC)E ^{*3} , CCB-96 ^{*4}	DTP-3C ^{*5} , DTP-4C ^{*5} , DTP-64A ^{*5} , EPD-37A ^{*5*8} , EPD-37 ^{*5} , EPD-100A ^{*7*8} , EPD-96A ^{*5*8} , EPD-96 ^{*5} , CCB-96 ^{*5} , CM-64(PC)E ^{*5}	EPD-37A ^{*1*8} , EPD-37 ^{*1} , DTP-3C ^{*1} , DTP-4C ^{*1} , CM-32(PC)E ^{*1}
	Cables / Connectors	PCB37P, PCB37PS, PCA37P, PCA37PS, CN5-D37M	PCB96PS, PCB96P, PCA96PS, PCA96P, PCB96WS, CN5-H96F	PCB100PS, PCB100/96PS, PCA100P, PCB100WS	PCA37P-1.5 / 3 / 5, PCB37P-1.5 / 3 / 5, PCA37PS-0.5P / 1.5P / 3P / 5P, PCB37PS-0.5P / 1.5P / 3P / 5P, CN5-D37M

*1: Requires use of optional cable PCB37P or PCB37PS *2: Requires use of optional cable PCB96P or PCB96PS *3: Requires use of optional cable PCB100/96PS
*4: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB *5: Requires use of optional cable PCB100/96PS
*6: Requires use of optional cable PCB100WS *7: Requires use of optional cable PCB100PS *8: "Spring-up terminal block" is employed to retain terminal screws.

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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CONTEC

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Panel
Computers
Flat Panel
Displays

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BTO PCs
Solution-ePC

Analog I/O

Digital I/O

Counter & Motion
Controller

Serial
Communications

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Communications

Expansion Unit and
Bus Adapter

Software

Accessories &
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Remote I/O

Wireless LAN
FLEXLAN

Image Distribution Unit
FlexNetViewer

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H-04

Lineup

PCI Express

PCI

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Digital I/O

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

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CONTEC

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Image Distribution Unit
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Solutions &
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H-05

PCI
Express

37-pin
D-SUB

Output
32

Isolated

Surge &
Overcurrent
Protection

CE

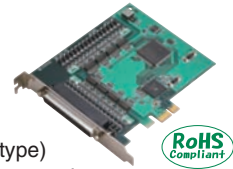
Windows Driver

Linux Driver

ActiveX Component Package

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.



RoHS
Compliant

PCI
Express

96-pin
Half Pitch

Output
64

Isolated

Surge &
Overcurrent
Protection

Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital Output
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.



RoHS
Compliant

PCI
Express

100-pin
0.8 mm Pitch

Output
128

Isolated

Surge &
Overcurrent
Protection

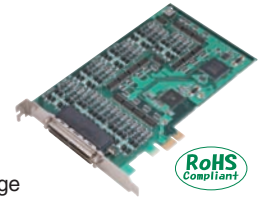
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital Output
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.



RoHS
Compliant

PCI
Express

37-pin
D-SUB

Output
32

Isolated

Built-in
Power

Surge &
Overcurrent
Protection

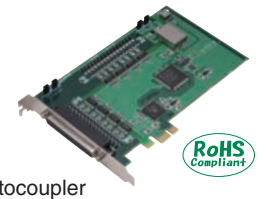
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital Output (On board Power)
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.



RoHS
Compliant

Model	DO-32L-PE	DO-64L-PE	DO-128L-PE	DO-32B-PE
Input	-	-	-	-
Output	32 (1 common every 16 channels)	64 (1 common every 16 channels)	128 (1 common every 16 channels)	32 (1 common every 16 channels)
Type	-	-	-	-
Operating Voltage	-	-	-	-
Interrupts	-	-	-	-
Resistance	-	-	-	-
Type	Opto-isolated open collector output (Current sinking type, Negative logic)			
Rating	35 VDC 100 mA (per channel)			
Response Time (Max.)	200 μsec			
Internal Power	-	-	-	12 VDC 240 mA
Wiring Distance	Approx. 50 m (depending on wiring environment)			
I/O Address	Any 32-byte boundary			
Power Consumption (Max.)	3.3 VDC 450 mA	3.3 VDC 350 mA	3.3 VDC 600 mA	Using internal power: 3.3 VDC 380 mA, 12 VDC 350 mA Using external power: 3.3 VDC 380 mA
Bus / Dimensions (mm)	PCI Express Base Specification Rev.1.0a x1 / 121.69 (L) x 110.18 (H)	PCI Express Base Specification Rev.1.0a x1 / 169.33 (L) x 110.18 (H)		
Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent	96-pin half pitch connector [M type] PCR-E96LMD+ [HONDA Tsushin Kogyo] or equivalent	100-pin 0.8 mm pitch connector [F type] x2, HDRA-E100W1LFDT1EC-SL+ [HONDA Tsushin Kogyo] or equivalent	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent
Software	ACX-PAC(W32)			
Accessories	EPD-37A ^{*1*} , EPD-37 ^{*1} , DTP-3C ^{*1} , DTP-4C ^{*1} , CM-32(PC)E ^{*1}	EPD-96A ^{*2*} , EPD-96 ^{*2} , DTP-64A ^{*2} , CM-64(PC)E ^{*2} , EPD-37A ^{*3*} , EPD-37 ^{*3} , DTP-3C ^{*3} , DTP-4C ^{*3} , CM-32(PC)E ^{*3} , CCB-96 ^{*4}	DTP-3C ^{*5} , DTP-4C ^{*5} , DTP-64A ^{*5} , EPD-37A ^{*5} , EPD-37 ^{*5} , EPD-100A ^{*5} , EPD-96A ^{*5} , EPD-96 ^{*5} , CCB-96 ^{*5} , CM-64(PC)E ^{*5}	EPD-37A ^{*1*} , EPD-37 ^{*1} , DTP-3C ^{*1} , DTP-4C ^{*1} , CM-32(PC)E ^{*1}
Cables / Connectors	PCB37P, PCB37PS, PCA37P, PCA37PS, CN5-D37M	PCB96PS, PCB96P, PCA96PS, PCA96P, PCB96WS, CN5-H96F	PCB100PS, PCB100/96PS, PCA100P, PCB100WS	PCA37P-1.5 / 3 / 5, PCB37P-1.5 / 3 / 5, PCA37PS-0.5P / 1.5P / 3P / 5P, PCB37PS-0.5P / 1.5P / 3P / 5P, CN5-D37M

*1: Requires use of optional cable PCB37P or PCB37PS *2: Requires use of optional cable PCB96P or PCB96PS *3: Requires use of optional cable PCB100/96PS
*4: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB *5: Requires use of optional cable PCB100/96PS
*6: Requires use of optional cable PCB100WS *7: Requires use of optional cable PCB100PS *8: "Spring-up terminal block" is employed to retain terminal screws.

Note:

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.

Digital I/O

PCI Express

37-pin
D-SUB

Input
16

Output
16

Isolated

Digital
Filter

Surge &
Overcurrent
Protection

CE

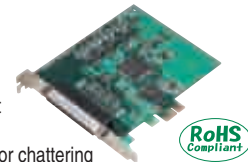
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital I/O DIO-1616L-PE

- 16 opto-isolated input, 16 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-16/16L(PCI)H.



RoHS
Compliant

PCI Express

37-pin
D-SUB

Input
16

Output
16

Isolated

High
Voltage

Digital
Filter

Surge &
Overcurrent
Protection

CE

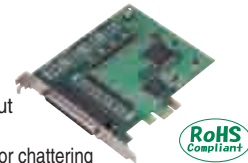
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital I/O DIO-1616H-PE

- 16 opto-isolated input, 16 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-16/16H(PCI)H.



RoHS
Compliant

PCI Express

37-pin
D-SUB

Input
16

Output
16

Isolated

Negative
Common

Digital
Filter

Surge &
Overcurrent
Protection

CE

Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Negative Common Type Digital I/O DIO-1616RL-PE

- 16 opto-isolated input, 16 opto-isolated 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



RoHS
Compliant

PCI Express

37-pin
D-SUB

Input
16

Output
16

Isolated

High
Voltage

Digital
Filter

Non
Polarity

CE

Windows Driver

Linux Driver

ActiveX Component Package

High-Voltage Nonpolar Type Opto-Isolated Digital I/O DIO-1616RY-PE

- 16 opto-isolated input (compatible with current sink output & current source output), 16 semiconductor relay output
- Supports high voltage of 12 - 48 VDC input, 120 VAC/DC output
- 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 PIO-16/16RY(PCI).



RoHS
Compliant

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Model	DIO-1616L-PE	DIO-1616H-PE	DIO-1616RL-PE	DIO-1616RY-PE
Input	16 (all available for interrupts)	16 (all available for interrupts, 1 common)		16 (all available for interrupts)
Output	16 (1 common)			
Input Type	Opto-Isolated (for sink current output, Negative logic)		Opto-Isolated (for source current output, Positive logic)	Opto-Isolated (for both current sink & source output)
Operating Voltage	12 - 24 VDC (+/-10 %)		12 - 24 VDC (+/-10 %)	12 - 24 VDC (+/-10 %), or 24 - 48 VDC (+/-10 %)
Specifications Interrupts	16 interrupt signals combine into one interrupt request signal as INTA			
Resistance	4.7 kΩ	15 kΩ	4.7 kΩ	3 kΩ (when set to 12 - 24 V), 6 kΩ (when set to 24 - 48 V)
Output Type	Opto-isolated open collector output (Current sinking type, Negative logic)		Semiconductor Relay Output	
Specifications Rating	35 VDC 100 mA (per channel)	60 VDC 100 mA (per channel)	35 VDC 100 mA (per channel)	120 VDC 100 mA (per channel)
Response Time (Max.)	200 μsec	200 μsec		Input: 200 μsec, Output: 1.0 msec
Internal Power	-			
Wiring Distance	Approx. 50 m (depending on wiring environment)			
I/O Address	Any 32-byte boundary			
Power Consumption (Max.)	3.3 VDC 350 mA	3.3 VDC 310 mA	3.3 VDC 350 mA	3.3 VDC 550 mA
Bus / Dimensions (mm)	PCI Express Base Specification Rev.1.0a x1 / 121.69 (L) x 110.18 (H)	PCI Express Base Specification Rev.1.0a x1 / 121.69 (L) x 105.68 (H)		PCI Express Base Specification Rev.1.0a x1 / 169.33 (L) x 110.18 (H)

Connector 37-pin D-SUB connector [F type], DCLC-J37SAF-20L9E [JAE] or equivalent

Options	Software	ACX-PAC(W32)		
	Accessories	EPD-37A ^{*1*5} , EPD-37 ^{*1} , DTP-3C ^{*1} , DTP-4C ^{*1} , CM-32(PC)E ^{*1}	EPD-37A ^{*1*5} , EPD-37 ^{*1} , DTP-3C ^{*1} , DTP-4C ^{*1}	EPD-37A ^{*1*5} , EPD-37 ^{*1} , DTP-3C ^{*1} , DTP-4C ^{*1} , CM-32(PC)E ^{*1}
	Cables / Connectors	PCB37P, PCB37PS, PCA37P, PCA37PS, CN5-D37M	PCA37P-1.5 / 3 / 5, PCB37P-1.5 / 3 / 5, PCA37PS-0.5P / 1.5P / 3P / 5P, PCB37PS-0.5P / 1.5P / 3P / 5P, CN5-D37M	PCA37P-1.5 / 3 / 5, PCB37P-1.5 / 3 / 5, PCA37PS-0.5P / 1.5P / 3P / 5P, PCB37PS-0.5P / 1.5P / 3P / 5P, CN5-D37M

Note:

- *1: Requires use of optional cable PCB37P or PCB37PS
- *2: Requires use of optional cable PCB96P or PCB96PS
- *3: Requires use of optional cable PCB96WS
- *4: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB
- *5: "Spring-up terminal block" is employed to retain terminal screws.

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Digital I/O

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

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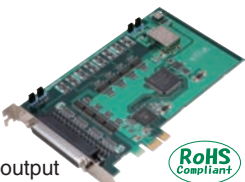
PCI Express

37-pin D-SUB	Input 16	Output 16	Isolated	Built-in Power	Digital Filter	Surge & Overcurrent Protection	CE
Windows Driver		Linux Driver		ActiveX Component Package			

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

DIO-1616B-PE

- 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-16/16B(PCI)H.



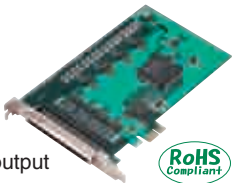
PCI Express

96-pin Half Pitch	Input 32	Output 32	Isolated	Digital Filter	Surge & Overcurrent Protection	CE
Windows Driver		Linux Driver		ActiveX Component Package		

Opto-Isolated Digital I/O

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-32/32L(PCI)H.



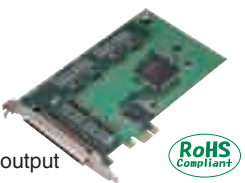
PCI Express

96-pin Half Pitch	Input 32	Output 32	Isolated	High Voltage	Digital Filter	Surge & Overcurrent Protection	CE
Windows Driver		Linux Driver		ActiveX Component Package			

Opto-Isolated Digital I/O

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-32/32H(PCI)H.



PCI Express

96-pin Half Pitch	Input 32	Output 32	Isolated	Negative Common	Digital Filter	Surge & Overcurrent Protection	CE
Windows Driver		Linux Driver		ActiveX Component Package			

Opto-Isolated Negative Common Type Digital I/O

DIO-3232RL-PE

- 32 opto-isolated input, 32 opto-isolated 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	DIO-3232L-PE	DIO-3232H-PE	DIO-3232RL-PE
Input		16 (1 common every 16 channels)	32 (all available for interrupts, 1 common every 16 channels)	32 (all available for interrupts, 1 common every 16 channels)	32 (all available for interrupts, 1 common every 16 channels)
Output		16 (1 common every 16 channels)	32	32 (1 common every 16 channels)	32 (1 common every 16 channels)
	Type	Opto-Isolated (for sink current output, Negative logic)			Opto-Isolated (for source current output, Positive logic)
Input	Operating Voltage	12 - 24 VDC (+/-10 %)		24 - 48 VDC (+/-10 %)	12 - 24 VDC (+/-10 %)
Specifications	Interrupts	16 interrupt signals combine into one interrupt request signal as INTA	32 interrupt signals combine into one interrupt request signal as INTA		
	Resistance	4.7 kΩ		15 kΩ	4.7 kΩ
Output	Type	Opto-isolated open collector output (Current sinking type, Negative logic)			Opto-Isolated (Current source type) (Positive logic)
Specifications	Rating	35 VDC 100 mA (per channel)		60 VDC 100 mA (per channel)	35 VDC 100 mA (per channel)
Response Time (Max.)		200 μsec		200 μsec	
Internal Power		12 VDC 240 mA	-		
Wiring Distance		Approx. 50 m (depending on wiring environment)			
I/O Address		Any 32-byte boundary			
Power Consumption (Max.)		Using internal power: 3.3 VDC 350 mA, 12 VDC 350 mA Using external power: 3.3 VDC 350 mA	3.3 VDC 400 mA		
Bus / Dimensions (mm)		PCI Express Base Specification Rev.1.0a x1 / 169.33 (L) x 110.18 (H)			
Connector		37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent	96-pin half pitch connector [M type], PCR-E96LMD [HONDA Tsushin Kogyo] or equivalent		
	Software	ACX-PAC(W32)			
Options	Accessories	DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1+5} , EPD-37 ^{*1} , CM-32(PC)E ^{*1}	EPD-96A ^{*2+5} , EPD-96 ^{*2} , DTP-64A ^{*2} , CM-64(PC)E ^{*2} , EPD-37A ^{*3+5} , EPD-37 ^{*3} , DTP-4C ^{*3} , DTP-3C ^{*3} , CM-32(PC)E ^{*3} , CCB-96 ^{*4}	EPD-96A ^{*2+5} , EPD-96 ^{*2} , DTP-64A ^{*2} , EPD-37A ^{*3+5} , EPD-37 ^{*3} , DTP-4C ^{*3} , DTP-3C ^{*3} , CCB-96 ^{*4}	EPD-96A ^{*2+5} , EPD-96 ^{*2} , DTP-64A ^{*2} , EPD-37A ^{*3+5} , EPD-37 ^{*3} , DTP-3C ^{*3} , DTP-4C ^{*3} , CCB-96 ^{*4}
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M	PCB96PS, PCB96P, PCA96PS, PCA96P, PCB96WS	PCA96P-1.5 / 3 / 5, PCB96P-1.5 / 3 / 5, PCA96PS-0.5P / 1.5P / 3P / 5P, PCB96PS-0.5P / 1.5P / 3P / 5P, PCB96WS-1.5P / 3P / 5P, CN5-H96F	

Note:
*1: Requires use of optional cable PCB37P or PCB37PS
*2: Requires use of optional cable PCB96P or PCB96PS
*3: Requires use of optional cable PCB96WS
*4: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB
*5: "Spring-up type terminal block" is employed to retain terminal screws.

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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 Express

96-pin
Half Pitch

Input
32

Output
32

Isolated

Built-in
Power

Digital
Filter

Surge &
Overcurrent
Protection

Windows Driver

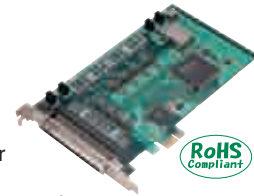
Linux Driver

ActiveX Component Package

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.



RoHS
Compliant

PCI Express

96-pin
Half Pitch

Input
32

Output
32

Isolated

Hi-Speed
Optocoupler

Digital
Filter

Surge &
Overcurrent
Protection

Windows Driver

Linux Driver

ActiveX Component Package

High-speed Opto-Isolated Digital I/O

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)H.



RoHS
Compliant

PCI Express

100-pin
0.8 mm Pitch

Input
64

Output
64

Isolated

Digital
Filter

Surge &
Overcurrent
Protection

CE

Windows Driver

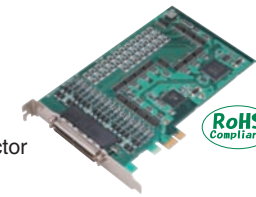
Linux Driver

ActiveX Component Package

Opto-Isolated Digital I/O

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)H.



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Lineup

PCI Express

PCI

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USB

Compact PCI

ISA

Model	DIO-3232B-PE		DIO-3232F-PE	DIO-6464L-PE	
Input	32 (1 common every 16 channels)			64 (1 common every 16 channels)	
Output	32 (1 common every 16 channels)			64 (1 common every 16 channels)	
Input	Type	Opto-Isolated (for sink current output, Negative logic)			
	Operating Voltage	12 - 24 VDC (+/-10 %)	12 - 24 VDC (+/-10 %)	12 - 24 VDC (+/-10 %)	
Specifications	Interrupts	32 interrupt signals combine into one interrupt request signal as INTA		16 interrupt signals combine into one interrupt request signal as INTA	
	Resistance	4.7 kΩ	2.2 kΩ	4.7 kΩ	
Output	Type	Opto-isolated open collector output (Current sinking type, Negative logic)			
Specifications	Rating	35 VDC 100 mA (per channel)	35 VDC 50 mA (per channel)	35 VDC 100 mA (per channel)	
Response Time (Max.)		200 μsec	5 μsec	200 μsec	
Internal Power		12 VDC 240 mA	-		
Wiring Distance	Approx. 50 m (depending on wiring environment)				
I/O Address	Any 32-byte boundary				
Power Consumption (Max.)	Using internal power: 3.3 VDC 400 mA, 12 VDC 350 mA Using external power: 3.3 VDC 400 mA		3.3 VDC 500 mA	3.3 VDC 600 mA	
Bus / Dimensions (mm)	PCI Express Base Specification Rev.1.0a x1 / 169.33 (L) x 110.18 (H)		PCI Express Base Specification Rev.1.0a x1 / 169.33 (L) x 110.18 (H)	PCI Express Base Specification Rev.1.0a x1 / 169.33 (L) x 110.18 (H)	
Connector	96-pin half pitch connector [M type] PCR-E96LMD+ [HONDA Tsushin Kogyo] or equivalent			100-pin 0.8 mm pitch connector [F type] x2, HDRA-E100W1LFDT1EC-SL+ [HONDA Tsushin Kogyo] or equivalent	
Options	Software	ACX-PAC(W32)			
	Accessories	DTP-3C ^{*1} , DTP-4C ^{*1} , DTP-64A ^{*2} , EPD-96A ^{*245} , EPD-96 ^{*2} , CCB-96 ^{*2} , CM-32(PC)E ^{*2} , CM-64(PC)E ^{*2} , EPD-37A ^{*456} , EPD-37 ^{*6}	DTP-3C ^{*1} , DTP-4C ^{*1} , DTP-64A ^{*2} , EPD-37A ^{*145} , EPD-37 ^{*1} , EPD-96A ^{*245} , EPD-96 ^{*2} , CCB-96 ^{*2} , CM-32(PC)E ^{*1} , CM-64(PC)E ^{*2}	DTP-3C ^{*2} , DTP-4C ^{*4} , DTP-64A ^{*3} , EPD-37A ^{*456} , EPD-37 ^{*4} , EPD-100A ^{*456} , EPD-96A ^{*456} , EPD-96 ^{*3} , CCB-96 ^{*3} , CM-64(PC)E ^{*3}	
	Cables / Connectors	PCA96P, PCB96P, PCA96PS, PCB96PS, CN5-H96F	PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS, CN5-H96F	PCB100PS, PCB100/96PS, PCA100P, PCB100WS	

*1: Requires use of optional cable PCB96WS *2: Requires use of optional cable PCB96P or PCB96PS
 *3: Requires use of optional cable PCB100/96PS *4: Requires use of optional cable PCB100WS
 *5: Requires use of optional cable PCB100PS *6: Requires use of optional cable PCB96WS
 *7: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB *8: "Spring-up terminal block" is employed to retain terminal screws.

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Digital I/O

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

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PCI Express

37-pin D-SUB	Output 16	Isolated	High Voltage	Non Polarity
Windows Driver	Linux Driver	ActiveX Component Package		

Independent Common Reed Relay Contact Digital Output

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



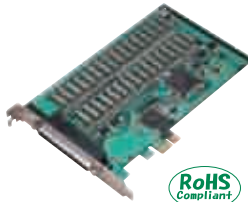
PCI Express

37-pin D-SUB	Output 32	Isolated	High Voltage	Non Polarity
Windows Driver	Linux Driver	ActiveX Component Package		

Reed Relay Contact Digital Output

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



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Compact PCI
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Model	RRY-16C-PE	RRY-32-PE	
Input	-		
Output	16	32	
I/O Channels	-		
Input Specifications	Type	-	
	Operating Voltage	-	
	Interrupts	-	
	Resistance	-	
	Type	Reed Relay Contact (1 Make-Contact)	
Output Specifications	Rating	-	
	Maximum Allowed Voltage	125 V (Max.) *1*2	100 V (DC)
	Maximum switching current	2 A	0.5 A
	Contact Resistance	30 mΩ or less	150 mΩ or less
	Mechanical life	20 million times or more (Switching frequency: 180/min)	200 million times or more
Response Time (Max.)	7 ms	1 ms	
Internal Power	-		
Wiring Distance	-		
I/O Address	Any 32-byte boundary		
Power Consumption (Max.)	3.3 VDC 1100 mA	3.3 VDC 900 mA	
Bus / Dimensions (mm)	PCI Express Base Specification Rev. 1.0a x1 / 121.69 (L) x 110.18 (H)	PCI Express Base Specification Rev. 1.0a x1 / 169.33 (L) x 110.18 (H)	
Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent		
Options	Software	ACX-PAC(W32)	
	Accessories	EPD-37A*3*4, EPD-37*3, DTP-3C*3, DTP-4C*3	
	Cables / Connectors	PCB37P-1.5 / 3 / 5*5, PCB37PS-0.5P / 1.5P / 3P / 5P*6, PCA37P-1.5 / 3 / 5*5, PCA37PS-0.5P / 1.5P / 3P / 5P*6, CN5-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 PCB37PS
*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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Digital I/O

PCI Express

37-pin
D-SUB

Input
32

Non-
Isolated

Digital
Filter

Windows Driver

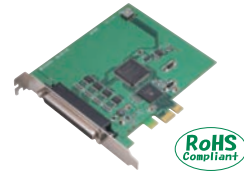
Linux Driver

ActiveX Component Package

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.



PCI Express

96-pin
Half Pitch

Input
64

Non-
Isolated

Digital
Filter

Windows Driver

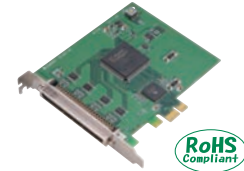
Linux Driver

ActiveX Component Package

TTL-level Digital Input

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.



PCI Express

100-pin
0.8 mm Pitch

Input
128

Non-
Isolated

Digital
Filter

Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital Input

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.



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Model	DI-32T-PE		DI-64T-PE	DI-128T-PE	
Input	32 (all available for interrupts, 1 common)		64 (32 available for interrupts, 1 common)	128 (16 available for interrupts, 1 common)	
Output	-				
I/O Channels	-				
Input	Type	Non-isolated TTL level input (negative logic*)			
	Operating Voltage	5 VDC 350 mA			
Specifications	Interrupts	32 interrupt signals combine into one interrupt request signal as INTA		16 interrupt signals combine into one interrupt request signal as INTA	
	Resistance	Pull-up: 10 kΩ(1 TTL load)			
Output	Type	-			
Specifications	Rating	-			
Response Time (Max.)		200 nsec (Max.)			
Internal Power		-			
Wiring Distance		Approx. 1.5 m (depending on wiring environment)			
I/O Address		Any 32-byte boundary			
Power Consumption (Max.)		3.3 VDC 300 mA	3.3 VDC 400 mA	3.3 VDC 500 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] DCLC-J37SAF-20L9E [JAE] or equivalent	96-pin half pitch connector [F type] PCR-E96LMD+ [HONDA Tsushin Kogyo] or equivalent	100-pin 0.8 mm pitch connector [F type] x2 HDRA-E100W1LFDT1EC-SL+ [HONDA Tsushin Kogyo] or equivalent	
Options	Software	ACX-PAC(W32)			
	Accessories	EPD-37A ^{*2+12} , EPD-37 ^{*2} , DTP-3C ^{*2} , DTP-4C ^{*2} , CM-32(PC)E ^{*2}	EPD-96A ^{*1+12} , EPD-96 ^{*3} , DTP-64A ^{*3} , CM-64(PC)E ^{*3} , EPD-37A ^{*4+12} , EPD-37 ^{*4} , DTP-3C ^{*4} , DTP-4C ^{*4} , CM-32(PC)E ^{*4} , CCB-96 ^{*5}	EPD-100A ^{*1+12} , EPD-96A ^{*1+12} , EPD-96 ^{*1+12} , DTP-64A ^{*3+12} , CCB-96 ^{*5+12} , CM-64(PC)E ^{*4+12} , EPD-37A ^{*4+12} , EPD-37 ^{*4+12} , DTP-3C ^{*4+12} , DTP-4C ^{*4+12} , CM-32(PC)E ^{*4+12}	
	Cables / Connectors	PCB37P-1.5, PCB37PS-0.5P, PCB37PS-1.5P, PCA37P-1.5, PCA37PS-0.5P, PCA37PS-1.5P, CN5-D37M	PCB96PS-0.5P, PCB96PS-1.5P, PCB96P-1.5, PCA96PS-0.5P, PCA96PS-1.5P, PCA96P-1.5, PCB96WS-1.5P, CN5-H96F	PCB100PS-0.5 ^{*11} , PCB100PS-1.5 ^{*11} , PCB100/96PS-1.5 ^{*11} , PCA100P-1.5 ^{*11} , PCB100WS-1.5 ^{*11}	

Lineup

PCI Express

PCI

Low Profile PCI

PC Card

USB

Compact PCI

ISA

*1: Data "0" corresponds to High Level, and Data "1" corresponds to Low Level. *2: Requires use of optional cable PCB37P-1.5 or PCB37PS-0.5P / 1.5P *3: Requires use of optional cable PCB96P or PCB96PS *4: Requires use of optional cable PCB96WS *5: Requires use of optional cable PCB96P and PCB96PS and 37-pin D-SUB *6: Requires use of optional cable PCB100PS-0.5 / 1.5 *7: Requires use of optional cable PCB100/96PS-1.5 *8: Requires use of optional cable PCB100WS-1.5 *9: Requires 2 cables and accessories each for 2 connectors (CNA and CNB) *10: Requires 2 cables each for 2 connectors (CNA and CNB) In addition, the terminal block which accepted the number of using channel(s) is necessary. *11: Requires 2 cables each for 2 connectors (CNA and CNB) *12: "Spring-up terminal block" is employed to retain terminal screws.

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

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Digital I/O

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

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GPIB
Communications

Expansion Unit /
Bus Adapter

Software

Accessories &
Cables

Remote I/O

Wireless LAN
FLEXLAN
Image Distribution Unit
FlexNetViewer

Solutions /
Services

PCI Express

37-pin
D-SUB

Output
32

Non-
Isolated

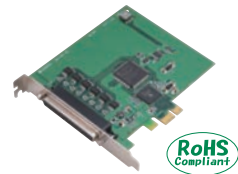
Windows Driver

Linux Driver

ActiveX Component Package

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.



RoHS
Compliant

PCI Express

96-pin
Half Pitch

Output
64

Non-
Isolated

Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital Output DO-64T-PE

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



RoHS
Compliant

PCI Express

100-pin
0.8 mm Pitch

Output
128

Non-
Isolated

Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital Output DO-128T-PE

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



RoHS
Compliant

H-11

Model	DO-32T-PE	DO-64T-PE	DO-128T-PE	
Input Channels	-			
Output Channels	32 (1 common)	64 (1 common)	128 (1 common)	
I/O Channels	-			
Input Specifications	Type	-		
	Operating Voltage	-		
	Interrupts	-		
	Resistance	-		
Output	Type	Non-isolated open collector output (negative logic*)		
Specifications	Rating	30 VDC 40 mA (per channel)		
	Response Time (Max.)	Within 200 nsec (depending on Pull-up Resistance value)		
Internal Power		-		
Wiring Distance		Approx. 1.5 m (depending on wiring environment)		
I/O Address		Any 32-byte boundary		
Power Consumption (Max.)	3.3 VDC 550 mA	3.3 VDC 800 mA	3.3 VDC 1400 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] DCLC-J37SAF-20L9E [JAE] or equivalent	96-pin half pitch connector [F type] PCR-E96LMD+ [HONDA TSUHSIN KOGYO] or equivalent	100-pin 0.8 mm pitch connector [F type] x2 HDRA-E100W1LFD11EC-SL+ [HONDA TSUHSIN KOGYO] or equivalent	
	Software	ACX-PAC(W32)		
Options	Accessories	EPD-37A*2, EPD-37*2, DTP-3C*2, DTP-4C*2, CM-32(PC)E*2	EPD-96A*2, EPD-96*2, DTP-64A*2, CM-64(PC)E*2, EPD-37A*2, EPD-37*2, DTP-3C*2, DTP-4C*2, CM-32(PC)E*2, CCB-96*2	EPD-100A*2, EPD-96A*2, EPD-96*2, DTP-64A*2, CCB-96*2, CM-64(PC)E*2, EPD-37A*2, EPD-37*2, DTP-3C*2, DTP-4C*2, CM-32(PC)E*2, CM-32(PC)E*2
	Cables / Connectors	PCB37P-1.5, PCB37PS-0.5P, PCB37PS-1.5P, PCA37P-1.5, PCA37PS-0.5P, PCA37PS-1.5P, CN5-D37M	PCB96P-0.5P, PCB96PS-1.5P, PCB96P-1.5, PCA96PS-0.5P, PCA96PS-1.5P, PCA96P-1.5, PCB96WS-1.5P, CN5-H86F	PCB100PS-0.5*11, PCB100PS-1.5*11, PCB100/96PS-1.5*11, PCA100P-1.5*11, PCB100WS-1.5*11
Note:	*1: Data "0" corresponds to High Level, and Data "1" corresponds to Low level. *2: Requires use of optional cable PCB37P-1.5 or PCB37PS-0.5P/1.5P *3: Requires use of optional cable PCB96P or PCB96PS *4: Requires use of optional cable PCB96WS *5: Requires use of optional cable PCB96P and PCB96PS and 37-pin D-SUB *6: Requires use of optional cable PCB100PS-0.5/1.5 *7: Requires use of optional cable PCB100/96PS-1.5 *8: Requires use of optional cable PCB100WS-1.5 *9: Requires 2 cables and accessories each for 2 connectors (CNA and CNB) *10: Requires 2 cables each for 2 connectors (CNA and CNB)In addition, the accessories which accepted the number of using channel(s) is necessary. *11: Requires 2 cables 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.

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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 Express

37-pin
D-SUBInput
16Output
16Non-
IsolatedDigital
Filter

Windows Driver

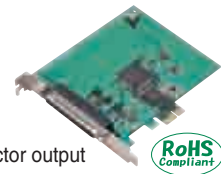
Linux Driver

ActiveX Component Package

TTL-level Digital I/O

DIO-1616T-PE

- 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, Connector pin and Signal assignment is compatible with the PCI-compliant board PIO-16/16T(PCI)H.

RoHS
Compliant

PCI Express

96-pin
Half PitchInput
32Output
32Non-
IsolatedDigital
Filter

Windows Driver

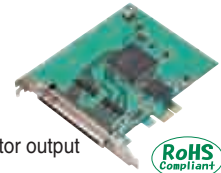
Linux Driver

ActiveX Component Package

TTL-level Digital I/O

DIO-3232T-PE

- 32 non-isolated TTL level input, 32 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, Connector pin and Signal assignment is compatible with the PCI-compliant board PIO-32/32T(PCI)H.

RoHS
Compliant

PCI Express

100-pin
0.8 mm PitchInput
64Output
64Non-
IsolatedDigital
Filter

Windows Driver

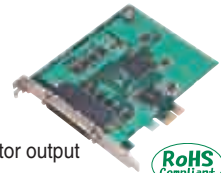
Linux Driver

ActiveX Component Package

TTL-level Digital I/O

DIO-6464T-PE

- 64 non-isolated TTL level input, 64 non-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

RoHS
Compliant

PCI Express

37-pin
D-SUBInput
16Output
16

Isolated

Built-in
PowerHi-Speed
OptocouplerDigital
Filter

Windows Driver

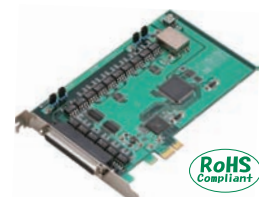
Linux Driver


ActiveX Component Package

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

DIO-1616TB-PE

- 16 opto-isolated TTL-level input, 16 opto-isolated TTL-level output
- Battery (5 VDC 600 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 PIO-16/16TB(PCI)H.

RoHS
Compliant

Model	DIO-1616T-PE	DIO-3232T-PE	DIO-6464T-PE	DIO-1616TB-PE	
Input Channels	16	32	64 (1 common)	16 (1 common)	
Output Channels	16	32	64 (1 common)	16 (1 common)	
I/O Channels	-				
Input Specifications	Type	Non-isolated TTL level input (negative logic)		Opto-isolated TTL level input (negative logic)	
	Operating Voltage	5 VDC			
	Interrupts	16 interrupt signals combine into one interrupt request signal as INTA	32 interrupt signals combine into one interrupt request signal as INTA	16 interrupt signals combine into one interrupt request signal as INTA	All interrupt signals combine into one interrupt request signal as INTA
Output Specifications	Resistance	Pull-up: 10 kΩ			1.1 kΩ
	Type	Non-isolated open collector output (negative logic)			Opto-isolated TTL level output (Negative logic)
	Rating	30 VDC 40 mA		30 VDC 40 mA (per channel)	5 VDC avg. 6.4 mA (4 TTL load) per channel
Response Time (Max.)	200 nsec		200 nsec (depending on Pull-up Resistance value)	1 μsec	
Internal Power	-			5 VDC 600 mA	
Wiring Distance	1.5 m	Approx. 1.5 m (depending on wiring environment)		Approx. 5 m (depending on wiring environment)	
I/O Address	Any 32-byte boundary				
Power Consumption (Max.)	3.3 VDC 300 mA		3.3 VDC 800 mA	3.3 VDC 550 mA, 12 VDC 350 mA (On-board) 3.3 VDC 550 mA (External)	
Bus / Dimensions (mm)	PCI Express Base Specification Rev. 1.0a x1 / 121.69 (L) x 110.18 (H)			PCI Express Base Specification Rev. 1.0a x1 / 169.33 (L) x 110.18 (H)	
Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent	96-pin half pitch connector [M type] PCR-E96LMD [HONDA TSUSHIN KOGYO] or equivalent	100-pin 0.8 mm pitch connector [F type] x2 HORA-E100W1F071EC-SL+ [HONDA TSUSHIN KOGYO] or equivalent	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent	
Options	Support Software	ACX-PAC(W32)			
	Accessories	EPD-37A ^{*1+2} , EPD-37 ^{*1} , DTP-3C ^{*1} , DTP-4C ^{*1} , CM-32(PC)E ^{*1}	EPD-96A ^{*2+3} , EPD-96 ^{*3} , DTP-64A ^{*3} , CM-64(PC)E ^{*4} , EPD-37A ^{*2+4} , EPD-37 ^{*4} , DTP-3C ^{*4} , DTP-4C ^{*4} , CM-32(PC)E ^{*4} , CCB-96 ^{*5}	EPD-100A ^{*2+5} , EPD-96A ^{*2+5} , EPD-96 ^{*2+5} , DTP-64A ^{*1+5} , CCB-96 ^{*4+5} , CM-64(PC)E ^{*4+5} , EPD-37A ^{*2+5} , EPD-37 ^{*5} , DTP-3C ^{*5+5} , DTP-4C ^{*5+5}	DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1+2} , EPD-37 ^{*1} , CM-32(PC)E ^{*1}
	Cables / Connectors	PCA37P-1.5, PCB37P-1.5, PCA37PS-0.5P / 1.5P, PCB37PS-0.5P / 1.5P, CN5-D37M	PCA96P-1.5, PCB96P-1.5, PCA96PS-0.5P, PCB96PS-1.5P, PCB96PS-0.5P, PCB96PS-1.5P, PCB96WS-1.5P, CN5-H96F	PCB100PS-0.5 / 1.5, PCB100/96PS-1.5, PCA100P-1.5, PCB100WS-1.5	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M
Note:	*1: Requires use of optional cable PCB37P or PCB37PS *2: "Spring-up type terminal block" is employed to retain terminal screws. *3: Requires use of optional cable PCB96P-1.5 or PCB96PS-1.5 *4: Requires use of optional cable PCB96WS-1.5 *5: Requires use of optional cable PCB96P-1.5 or PCB96PS-1.5 and 37-pin D-SUB cable *6: Requires use of optional cable PCB100PS-0.5 / 1.5 *7: Requires use of optional cable PCB100/96PS-1.5 *8: Requires use of optional cable PCB100WS-1.5 *9: Requires 2 terminal blocks and cables each for 2 connectors (CNA and CNB) *10: Requires 2 cables each for 2 connectors (CNA and CNB) In addition, the terminal unit which accepted the number of using channel(s) is necessary.				
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ControllerSerial
CommunicationsGPIB
CommunicationsExpansion Unit /
Bus Adapter

Software

Accessories &
Cables

Remote I/O

Wireless LAN
FLEXLANImage Distribution Unit
FlexNetViewerSolutions /
Services

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Lineup

PCI Express

PCI

Low Profile PCI

PC Card

USB

Compact PCI

ISA

Digital I/O

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- Expansion Unit /
Bus Adapter
- Software
- Accessories &
Cables
- Remote I/O
- Wireless LAN
FLEXLAN
- Image Distribution Unit
FlexNetViewer
- Solutions /
Services

PCI Express

96-pin Half Pitch

Bi-direct 32

Non-Isolated

Bus Master

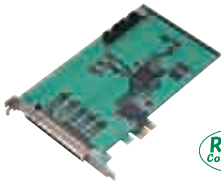
Windows Driver

Linux Driver

ActiveX Component Package

High-Speed Bi-Directional Digital I/O

DIO-32DM-PE



Specifications

I/O Channels	32 ch (32 input signals, 16 I/O signals or 32 output signals - software selectable)
I/O circuit	
Operating Voltage	3.3 VDC
Internal Power	-
Input Specifications	
Type	LVTTTL level (74LV245A or equivalent, Positive logic) *: 5 V TTL level input is acceptable.
Interrupts	<When using general I/O operations> 4 interrupt signals combine into one interrupt signal as INTA Interrupt generated at the rising edge (LOW to HIGH)
Pull-up Resistance	-
Output Specifications	
Type	LVTTTL level (74LV245A or equivalent, Positive logic)
Rating	3.3 VDC 8 mA

- Features
- 32 LVTTTL level I/O (configurable as 32 input signals, 16 I/O signals or 32 output signals)
 - Bus master transfer enables up to 20 MHz sampling or generating.
 - Equipped with sync signal control connection. By using a sync signal cable, multiple boards can operate in sync with one another.

Response Time (Max.)	50 nsec
Wiring Distance	Approx. 1.5 m (depending on wiring environment)
I/O Address	Occupies 2 : any 32- and 64-byte boundary
Power Consumption (Max.)	3.3 V 400 mA
Bus / Dimensions (mm)	PCI Express Base Specification Rev. 1.0a x1 / 176.41 (L) x 106.68 (H)
Connector	96-pin half pitch connector [F type] PCR-E96LMD+ [HONDA TSUSHIN KOGYO] or equivalent
Options	
Software (Attention)	ACX-PAC(W32)
Accessories	EPD-96A ^{*1*} , DTP-64A ^{*1}
Cables / Connectors	PCB96PS-1.5P, PCB96P-1.5 ^{*3} , CA96PS-0.5P / 1.5P, PCA96P-1.5 ^{*3} , CN5-H96F

*1: Requires use of optional cable PCB96P or PCB96PS
*2: "Spring-up terminal block" is employed to retain terminal screws.
*3: Shielded cables must be used in order to comply with VCCI Class A. (PCA96P/PCB96PS)

PCI

96-pin Half Pitch

Bi-direct 32

Non-Isolated

Bus Master



Windows Driver

Linux Driver

ActiveX Component Package

High-Speed Bi-directional Digital I/O

PIO-32DM(PCI)



Attention: Direct I/O access from user applications is not supported.
Please use an attached API function library.

Specifications

I/O Channels	32 (32 input signals, 16 I/O signals or 32 output signals - software selectable)
I/O circuit	
Operating Voltage	5 VDC
Internal Power	-
Input Specifications	
Type	TTL level (positive logic)
Interrupts	Error and other factors, 1ch/INTA
Pull-up Resistance	10 kΩ
Output Specifications	
Type	TTL level (positive logic)
Rating	5 VDC 24 mA
Response Time (Max.)	50 nsec

- Features
- 32 signals (configured as 32 input signals, 16 I/O signals or 32 output signals)
 - Bus master transfer enables continuous I/O such as chronological processing (up to 20 MHz).
 - Equipped with sync bus connector. By using a sync signal cable, multiple boards can operate in sync with one another.

Wiring Distance	Approx. 1.5 m (depending on wiring environment)
I/O Address	Occupies 2 : any 32- and 64-byte boundary
Power Consumption (Max.)	5 VDC 700 mA
PCI Bus / Dimensions (mm)	32 bit, 33 MHz, 5 V / 176.41 (L) x 106.68 (H)
Connector	96-pin half pitch connector [M type] PCR-96LMD[HONDA TSUSHIN KOGYO] or equivalent
Options	
Software (Attention)	ACX-PAC(W32)
Accessories	EPD-96A ^{*1*} , EPD-96 ^{*1} , DTP-64A ^{*1}
Cables / Connectors	PCB96PS-0.5P / 1.5P, PCB96P-1.5, PCA96PS-0.5P / 1.5P, PCA96P-1.5, CN5-H96F

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

H-13

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.

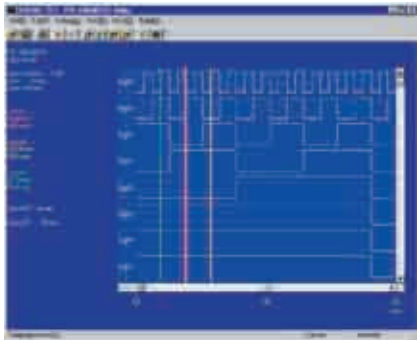
16 boards (max) can be interconnected (including the master).

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).



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

Digital I/O

PCI Express

96-pin
Half Pitch

Bi-direct
48

Non-
Isolated

Digital
Filter

Windows Driver

Linux Driver

ActiveX Component Package

Bi-Directional Digital I/O DIO-48D-PE

- 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
- Equipped with functions equivalent to PCI board DIO-48D2-PCI



RoHS
Compliant

PCI Express

Low
Profile

50-pin
Mini-Ribbon

Input
16

Output
16

Non-
Isolated

Digital
Filter

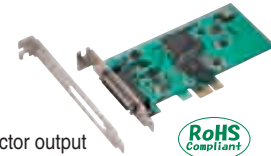
Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital I/O 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, Connector pin and Signal assignment is compatible with the PCI-compliant board PIO-16/16T(LPCI)H.
- Low Profile PCI-compliant (includes bracket for use in standard PCI slot)



RoHS
Compliant

PCI Express

Low
Profile

68-pin
0.8 mm Pitch

Bi-direct
48

Non-
Isolated

Digital
Filter

Windows Driver

Linux Driver

ActiveX Component Package

Bi-Directional Digital I/O DIO-48D-LPE

- 48-point two-way non-isolated LVTTTL level I/O i8255 Mode 0-compliant
- All 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 those of PIO-48D series PCI bus-compatible boards and CardBus-compliant card.



RoHS
Compliant

PCI Express

Low
Profile

68-pin
0.8 mm Pitch

Bi-direct
96

Non-
Isolated

Digital
Filter

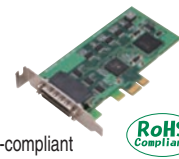
Windows Driver

Linux Driver

ActiveX Component Package

Bi-Directional Digital I/O DIO-96D-LPE

- 96-point two-way non-isolated LVTTTL 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
- Low Profile PCI-compliant (includes bracket for use in standard PCI slot)
- Functions and Connector is compatible with the PCI-compliant board DIO-96D2-LPCI.



RoHS
Compliant

Model	DIO-48D-PE	DIO-1616T-LPE	DIO-48D-LPE	DIO-96D-LPE
Input Channels	-	16 (all available for interrupts)	-	-
Output Channels	-	16	-	-
I/O Channels	48 (all available for interrupts)	-	48 (all available for interrupts)	96 (all available for interrupts)
Input Specifications	Type: TTL level input (positive logic)*1 Operating Voltage: 5 VDC 350 mA Interrupts: 48 interrupt signals combine into one interrupt request signal as INT Resistance: 10 kΩ	Type: Non-isolated TTL level input (negative logic) Operating Voltage: 5 VDC Interrupts: 16 interrupt signals combine into one interrupt request signal as INTA Resistance: 10 kΩ (1TTL load)	Type: LVTTTL level input (positive logic)*1 Operating Voltage: 3.3 VDC Interrupts: 48 interrupt signals combine into one interrupt request signal as INTA Resistance: 33Ω	Type: LVTTTL level output (positive logic)*1 Operating Voltage: 3.3 VDC Interrupts: 96 interrupt signals combine into one interrupt request signal as INT Resistance: -
Output Specifications	Type: TTL level output (positive logic)*1 Rating: I _{OL} = 24 mA, I _{OH} = -15 mA Response Time (Max.): 200 nsec (Max.)	Type: Open collector (negative logic) Rating: 30 VDC 40 mA (per channel) Response Time (Max.): 200 nsec	Type: LVTTTL level output (positive logic)*1 Rating: I _{OL} = 8 mA, I _{OH} = -8 mA Response Time (Max.): 200 nsec (Max.)	Type: - Rating: - Response Time (Max.): -
Internal Power	-	-	-	-
Wiring Distance	Approx. 1.5 m (depending on wiring environment)			
I/O Address	Any 32-byte boundary (Common to Input/Output)	Any 32-byte boundary	-	Any 32-byte boundary (Common to Input/Output)
Power Consumption (Max.)	3.3 VDC 1000 mA	3.3 VDC 300 mA	-	-
Bus / Dimensions (mm)	PCI Express Base Specification Rev. 1.0a x1 / 169.33 (L) x 110.18 (H)	PCI Express Base Specification Rev. 1.0a x1 / 121.69 (L) x 67.90 (H)	-	-
Connector	CN1: 96-pin half pitch connector [F type] PCR-E96LMD+ [HONDA TSUSHIN KOGYO] or equivalent CN2, CN3: 50-pin IC pitch pin header connector PS-50PE-D4T1-B1A [JAE] or equivalent	50-pin Mini-Ribbon Connector 10250-52A2JL [3M] or equivalent	68-pin 0.8 mm pitch connector HDRA-E68LFDT+ [HONDA TSUSHIN KOGYO] or equivalent	68-pin 0.8 mm pitch connector x2 HDRA-E68W1LFD+ [HONDA TSUSHIN KOGYO] or equivalent
Software	ACX-PAC(W32)	-	-	-
Accessories	EPD-96A*2, EPD-96*2, DTP-64A*, SC-DIO2424S*4,5	EPD-50A*3,6, EPD-37A*3,7, EPD-37*7, DTP-3C*7, DTP-4C*7, CM-32(PC)E*7	EPD-68A*3,9, EPD-96A*3,8, EPD-96*8, DTP-64A*8, SC-DIO2424S*4,5	EPD-68A*3,10, EPD-96A*3,8,10, EPD-96*8,10, DTP-64A*8,10
Cables / Connectors	PCB96PS-0.5P / 1.5P, PCB96P-1.5, PCA96PS-0.5P / 1.5P, PCA96P-1.5, PCA50J-1.5, CN5-H96	PCB50PS, PCA50PS, PCE50/37PS-0.5P	PCB68PS-0.5P / 1.5P, PCA68M/96F, PCA68PS-0.5P / 1.5P	PCB68PS-0.5P*11 / 1.5P*11, PCA68PS-0.5P*11 / 1.5P*11, DIO-68M/96F*11

Note:

- *1: Data "1" corresponds to High level, and Data "0" corresponds to Low level. *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. *6: Requires use of optional cable PCB50PS-P
 *7: Requires use of optional cable PCE50/37PS-0.5P and PCB37P or PCB37PS *8: Requires use of optional cable DIO-68M/96F *9: Requires use of optional cable PCB68PS
 *10: Requires 2 cables and accessories each for 2 connectors (CNA and CNB) *11: Requires 2 cables each for 2 connectors (CNA and CNB)
 *12: Requires use of optional cable PCB68PS-0.5P or PCB68PS-1.5P

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

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PCI

PCI

PCI

PCI

PCI

PCI

37-pin
D-SUB

Input
32

Isolated

Digital
Filter

CE

Windows Driver

Linux Driver

ActiveX Component Package

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

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



RoHS
Compliant

PCI

37-pin
D-SUB

Input
32

Isolated

Built-in
Power

Digital
Filter

CE

Windows Driver

Linux Driver

ActiveX Component Package

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 µsecs)
- All input signals can be used as interrupts.
- Digital filter and interrupt trigger edge can be set via software.



RoHS
Compliant

PCI

96-pin
Half Pitch

Input
64

Isolated

Digital
Filter

CE

Windows Driver

Linux Driver

ActiveX Component Package

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

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



RoHS
Compliant

PCI

100-pin
0.8 mm Pitch

Input
128

Isolated

Digital
Filter

CE

Windows Driver

Linux Driver

ActiveX Component Package

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

- 128 inputs on a PCI short-size board
- Fast response time (within 200 µsecs)
- 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



RoHS
Compliant

Model	PI-32L(PCI)H		PI-32B(PCI)H	PI-64L(PCI)H	PI-128L(PCI)H
Input Channels	32			64	128
Output Channels	-				
Input	Type	Opto-Isolated (for sink current output)			
	Operating Voltage	12 - 24 VDC (+/-10 %)			
Specifications	Interrupts	32 interrupt signals combine into one interrupt request signal as INTA			16 interrupt signals combine into one interrupt request signal as INTA
Output	Resistance	4.7 kΩ			
	Type	-			
Specifications	Rating	-			
Response Time (Max.)	200 μsec				
Internal Power	-		12 VDC 240 mA	-	
Wiring Distance	50 m				
I/O Address	Any 32-byte boundary				
Power Consumption (Max.)	5 VDC 200 mA		5 VDC 300 mA (External) 5 VDC 1200 mA (On-board)		5 VDC 250 mA
Bus / Dimensions (mm)	PCI (32 bit, 33 MHz, Universal key type supported*) / 121.69 (L) x 105.68 (H)		PCI (32 bit, 33 MHz, Universal key type supported*) / 176.41 (L) x 105.68 (H)		
Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent			96-pin half pitch connector [M type] PCR-E96LMD [HONDA TSUSHIN KOGYO] or equivalent	HDRA-E100W1L-FDT1EC-SL [HONDA TSUSHIN KOGYO] or equivalent
Options	Software	ACX-PAC(W32)			
	Accessories	DTP-3C ^{*2} , DTP-4C ^{*2} , EPD-37A ^{*2*9} , EPD-37 ^{*2} , CM-32(PC)E ^{*2}		DTP-3C ^{*2} , DTP-4C ^{*2} , DTP-64A ^{*2} , EPD-37A ^{*2*9} , EPD-37 ^{*2} , EPD-100A ^{*2*9} , EPD-96A ^{*2*9} , EPD-96 ^{*2} , CCB-96 ^{*2} , CM-64(PC)E ^{*2}	
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M		PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS, CN5-H96F	

*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 PCB96P or PCB96PS and 37-pin D-SUB
*6: Requires use of optional cable PCB100/96PS *7: Requires use of optional cable PCB100WS
*8: Requires use of optional cable PCB100PS *9: "Spring-up terminal unit" is employed to retain terminal screws.

Note:

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Digital I/O

PCI

37-pin D-SUB

Output 32

Isolated

Surge & Overcurrent Protection

CE

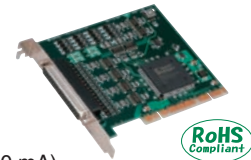
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital Output PO-32L(PCI)H

- 32 opto-isolated open collector output (35 VDC, 100 mA)
- Fast response time (within 200 μsecs)
- Output transistor has built-in circuit protection (surge voltage, overcurrent).



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37-pin D-SUB

Output 32

Isolated

Built-in Power

Surge & Overcurrent Protection

CE

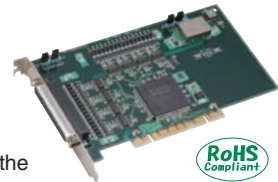
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital Output (On board Power) PO-32B(PCI)H

- On-board power supply (12 VDC 240 mA) to drive the output circuit optocoupler
- Fast response time (within 200 μsecs)
- Output transistor has built-in circuit protection (surge voltage, overcurrent).



PCI

96-pin Half Pitch

Output 64

Isolated

Surge & Overcurrent Protection

CE

Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital Output PO-64L(PCI)H

- 64 opto-isolated open collector output (35 VDC, 100 mA)
- Fast response time (within 200 μsecs)
- Output transistor has built-in circuit protection (surge voltage, overcurrent).



PCI

100-pin 0.8 mm Pitch

Output 128

Isolated

Surge & Overcurrent Protection

CE

Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital Output PO-128L(PCI)H

- 128 outputs on a PCI short-size board
- Fast response time (within 200 μsecs)
- Output transistor has built-in circuit protection (surge voltage, overcurrent).
- Screw lock connector is adopted.
- Optional cable for 96-pin half pitch accessory available



Model	PO-32L(PCI)H	PO-32B(PCI)H	PO-64L(PCI)H	PO-128L(PCI)H
Input Channels	-	-	-	-
Output Channels	32	-	64	128
Input Type	-	-	-	-
Operating Voltage	12 - 24 VDC (+/-10 %)	-	-	-
Interruptions	-	-	-	-
Resistance	-	-	-	-
Output Type	Opto-Isolated Open Collector (Current sinking type)			
Rating	35 VDC 100 mA			
Response Time (Max.)	200 μsec			
Internal Power	-	12 VDC 240 mA	-	-
Wiring Distance	50 m			
I/O Address	Any 32-byte boundary			
Power Consumption (Max.)	5 VDC 200 mA	5 VDC 300 mA (External) 5 VDC 1200 mA (On-board)	5 VDC 250 mA	5 VDC 500 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 [F type] DCLC-J37SAF-20L9E [JAE] or equivalent		96-pin half pitch connector [M type] PCR-E96LMD [HONDA TSUSHIN KOGYO] or equivalent	HDRA-E100W1L-FDT1EC-SL [HONDA TSUSHIN KOGYO] or equivalent
Software	ACX-PAC(W32)			
Options Accessories	DTP-3C ^{*2} , DTP-4C ^{*2} , EPD-37A ^{*2*9} , EPD-37 ^{*2} , CM-32(PC)E ^{*2}		DTP-3C ^{*4} , DTP-4C ^{*4} , EPD-96A ^{*3*5} , EPD-96 ^{*3} , DTP-64A ^{*5} , CM-64(PC)E ^{*5} , EPD-37A ^{*1*5} , EPD-37 ^{*4} , CM-32(PC)E ^{*4} , CCB-96 ^{*5}	DTP-3C ^{*7} , DTP-4C ^{*7} , DTP-64A ^{*6} , EPD-37A ^{*7*9} , EPD-37 ^{*7} , EPD-100A ^{*8*9} , EPD-96A ^{*8*9} , EPD-96 ^{*6} , CCB-96 ^{*6} , CM-64(PC)E ^{*6}
Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M		PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS, CN5-H96F	PCA100P, PCB100/96PS, PCB100PS, PCB100WS

*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 PCB96P or PCB96PS and 37-pin D-SUB
*6: Requires use of optional cable PCB100/96PS *7: Requires use of optional cable PCB100WS
*8: Requires use of optional cable PCB100PS *9: "Spring-up terminal unit" is employed to retain terminal screws.

Note:

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Lineup

PCI Express

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Low Profile PCI

PC Card

USB

Compact PCI

ISA

Digital I/O

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

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H-17

PCI

37-pin D-SUB

Input 16

Output 16

Isolated

Digital Filter

Surge & Overcurrent Protection

CE

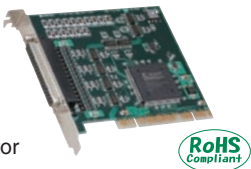
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital I/O
PIO-16/16L(PCI)H

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



PCI

37-pin D-SUB

Input 16

Output 16

Isolated

Digital Filter

Surge & Overcurrent Protection

Built-in Power

CE

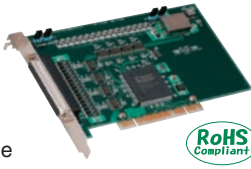
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital I/O (On board Power)
PIO-16/16B(PCI)H

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



PCI

96-pin Half Pitch

Input 32

Output 32

Isolated

Digital Filter

Surge & Overcurrent Protection

CE

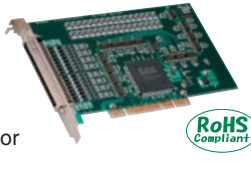
Windows Driver

Linux Driver

ActiveX Component Package

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

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



PCI

96-pin Half Pitch

Input 32

Output 32

Isolated

Digital Filter

Surge & Overcurrent Protection

Built-in Power

CE

Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital I/O (On board Power)
PIO-32/32B(PCI)V

- On-board power supply (12 VDC 240 mA) to drive the input circuit optocoupler
- 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).



Model	PIO-16/16L(PCI)H		PIO-16/16B(PCI)H		PIO-32/32L(PCI)H		PIO-32/32B(PCI)V		
Input Channels	16				32				
Output Channels	16				32				
Input	Type	Opto-Isolated (for sink current output)							
	Operating Voltage	12 - 24 VDC (+/-10 %)							
Specifications	Interrupts	16 interrupt signals combine into one interrupt request signal as INTA			32 interrupt signals combine into one interrupt request signal as INTA				
	Resistance	4.7 kΩ							
Output	Type	Opto-Isolated Open Collector (Current sinking type)							
Specifications	Rating	35 VDC 100 mA							
Response Time (Max.)		200 μsec							
Internal Power		-		12 VDC 240 mA		-		12 VDC 240 mA	
Wiring Distance		50 m							
I/O Address		Any 32-byte boundary							
Power Consumption (Max.)		5 VDC 200 mA		5 VDC 300 mA (External) 5 VDC 1200 mA (On-board)		5 VDC 250 mA		5 VDC 200 mA (External) 5 VDC 1050 mA (On-board)	
Bus / Dimensions (mm)		PCI (32 bit, 33 MHz, Universal key type supported**) / 121.69 (L) x 105.68 (H)		PCI (32 bit, 33 MHz, Universal key type supported*) / 176.41 (L) x 105.68 (H)					
Connector		37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent			96-pin half pitch connector [M type] PCR-E96LMD [HONDA TSUSHIN KOGYO] or equivalent				
Options	Software	ACX-PAC(W32)							
	Accessories	DTP-3C*2, DTP-4C*2, EPD-37A*2*6, EPD-37*2, CM-32(PC)E*2			DTP-3C*4, DTP-4C*4, EPD-96A*3*6, EPD-96*3, DTP-64A*3, CM-64(PC)E*3, EPD-37A*4*6, EPD-37*4, CM-32(PC)E*4, CCB-96*5		DTP-3C*7, DTP-4C*7, DTP-64A*2, EPD-96A*2*6, EPD-96*2, CCB-96*2, CM-32(PC)E*1, CM-64(PC)E*2, EPD-37A*4*6, EPD-37		
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M			PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS, CN5-H96F		PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS, CN5-H96F		

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 PCB96P or PCB96PS
*4: Requires use of optional cable PCB96WS *5: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB
*6: "Spring-up terminal unit" is employed to retain terminal screws.

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Digital I/O

PCI

100-pin
0.8 mm Pitch

Input
64

Output
64

Isolated

Digital
Filter

Surge &
Overcurrent
Protection

CE

Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital I/O PIO-64/64L(PCI)H

- 128 I/O on a PCI short-size board
- Fast response time (within 200 μ secs)
- 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



PCI

96-pin
Half Pitch

Input
32

Output
32

Isolated

Hi-Speed
Optocoupler

Digital
Filter

Windows Driver

Linux Driver

ActiveX Component Package

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

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



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Compact PCI

ISA

Model	PIO-64/64L(PCI)H		PIO-32/32F(PCI)H		
Input Channels	64		32		
Output Channels	64		32		
Input Specifications	Type	Opto-Isolated (for sink current output)			
	Operating Voltage	12 - 24 VDC (+/-10 %)			
	Interrupts	16 interrupt signals combine into one interrupt request signal as INTA		32 interrupt signals combine into one interrupt request signal as INTA	
	Resistance	4.7 kΩ		2.2 kΩ	
Output	Type	Opto-Isolated Open Collector (Current sinking type)			
Specifications	Rating	35 VDC 100 mA		35 VDC 50 mA	
Response Time (Max.)		200 μsec		5 μsec	
Internal Power		-			
Wiring Distance		50 m			
I/O Address		Any 32-byte boundary			
Power Consumption (Max.)		5 VDC 500 mA		5 VDC 400 mA	
Bus / Dimensions (mm)		PCI (32 bit, 33 MHz, Universal key type supported") / 176.41 (L) x 106.68 (H)		PCI (32 bit, 33 MHz, Universal key type supported") / 176.41 (L) x 105.68 (H)	
Connector		HDRA-E100W1L-FDT1EC-SL [HONDA TSUSHIN KOGYO] or equivalent		96-pin half pitch connector [M type] PCR-E96LMD [HONDA TSUSHIN KOGYO] or equivalent	
Options	Software	ACX-PAC(W32)			
	Accessories	DTP-3C ^{*1} , DTP-4C ^{*2} , DTP-64A ^{*3} , EPD-37A ^{*3a2} , EPD-37 ^{*1} , EPD-100A ^{*3a3} , EPD-96A ^{*3a4} , EPD-96 ^{*2} , CCB-96 ^{*2} , CM-64(PC)E ^{*2}		DTP-3C ^{*1} , DTP-4C ^{*1} , DTP-64A ^{*1} , EPD-37A ^{*1a3} , EPD-37 ^{*1} , EPD-96A ^{*1a3} , EPD-96 ^{*5} , CCB-96 ^{*5} , CM-32(PC)E ^{*4} , CM-64(PC)E ^{*5}	
	Cables / Connectors	PCA100P, PCB100/96PS, PCB100PS, PCB100WS		PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS, CN5-H96F	

*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 PCB100WS
 *4: Requires use of optional cable PCB96WS *5: Requires use of optional cable PCB96P or PCB96PS
 *6: Requires use of optional cable PCB37P or PCB37PS *7: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB
 *8: Requires use of optional cable PCB100PS *9: "Spring-up terminal unit" is employed to retain terminal screws.

Note:

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Digital I/O

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

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H-19

PCI

100-pin
0.8 mm Pitch

Input
128

Isolated

Negative
Common

Digital
Filter

Windows Driver

Linux Driver

ActiveX Component Package

NEW



RoHS
Compliant

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 μsecs)
- 16 input signals can be used as interrupts.

PCI

100-pin
0.8 mm Pitch

Output
128

Isolated

Negative
Common

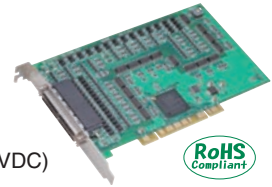
Surge &
Overcurrent
Protection

Windows Driver

Linux Driver

ActiveX Component Package

NEW



RoHS
Compliant

Opto-Isolated Negative Common Type Digital Output DO-128RL-PCI

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

PCI

37-pin
D-SUB

Input
16

Output
16

Isolated

Negative
Common

Digital
Filter

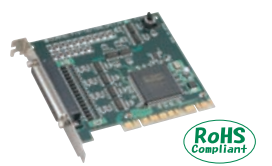
Surge &
Overcurrent
Protection

CE

Windows Driver

Linux Driver

ActiveX Component Package



RoHS
Compliant

Opto-Isolated Negative Common Type Digital I/O PIO-16/16RL(PCI)H

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

PCI

96-pin
Half Pitch

Input
32

Output
32

Isolated

Negative
Common

Digital
Filter

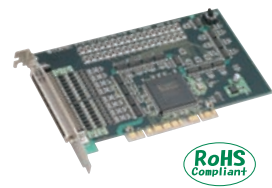
Surge &
Overcurrent
Protection

CE

Windows Driver

Linux Driver

ActiveX Component Package



RoHS
Compliant

Opto-Isolated Negative Common Type Digital I/O PIO-32/32RL(PCI)H

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

Model	DI-128RL-PCI	DO-128RL-PCI	PIO-16/16RL(PCI)H	PIO-32/32RL(PCI)H
Input Channels	128	-	16	32
Output Channels	-	128	16	32
Type	Opto-Isolated (for source current output, Positive logic*)	-	Opto-Isolated (for source current output, Positive logic)	-
Operating Voltage	12 - 24 VDC (+/-10 %)	-	12 - 24 VDC (+/-10 %)	-
Input	-	-	-	-
Interrupts	16 interrupt signals combine into one interrupt request signal as INTA	-	16 interrupt signals combine into one interrupt request signal as INTA	32 interrupt signals combine into one interrupt request signal as INTA
Resistance	4.7 kΩ	-	4.7 kΩ	-
Output	-	Opto-isolated output (Current source type, Positive logic*)	Opto-isolated output (Current source type)	-
Rating	-	35 VDC 100 mA	35 VDC 100 mA	-
Response Time (Max.)	200 μsec	-	200 μsec	-
Internal Power	-	-	-	-
Wiring Distance	50 m	-	-	-
I/O Address	Any 32-byte boundary	-	-	-
Power Consumption (Max.)	5 VDC 150 mA	5 VDC 350 mA	5 VDC 150 mA	5 VDC 200 mA
Bus / Dimensions (mm)	PCI (32 bit, 33 MHz, Universal key type supported**) / 176.41 (L) x 105.68 (H)		PCI (32 bit, 33 MHz, Universal key type supported**) / 121.69 (L) x 105.68 (H)	PCI (32 bit, 33 MHz, Universal key type supported**) / 176.41 (L) x 105.68 (H)
Connector	HDRA-E100W1LFD1EC-SL [HONDA TSUSHIN KOGYO] or equivalent		37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent	96-pin half pitch connector [M type] PCR-E96LMD [HONDA TSUSHIN KOGYO] or equivalent
Software	ACX-PAC(W32)			
Options	Accessories EPD-100A ^{*3*} , EPD-96A ^{*4*} , EPD-96 ^{*4*} , DTP-64A ^{*4*} , CCB-96 ^{*4*} , EPD-37A ^{*5*} , EPD-37 ^{*5*} , DTP-3C ^{*5*} , DTP-4C ^{*5*} Cables / Connectors PCA100P, PCB100/96PS, PCB100PS, PCB100WS			
	PCA100P, PCB100/96PS, PCB100PS, PCB100WS		PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M	PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS, CN5-H96F

*1: Data "0" corresponds to Low Level, and Data "1" corresponds to High Level.

*2: +5 V power must be supplied from PCI bus slot(It does not work on a machine with a +3.3 V power supply only).

*3: Requires use of optional cable PCB100PS *4: Requires use of optional cable PCB100/96PS *5: Requires use of optional cable PCB100WS

*6: Requires 2 terminal blocks and cables each for 2 connectors (CNA and CNB)

*7: Requires 2 cables each for 2 connectors (CNA and CNB)In addition, the terminal block which accepted the number of using channel(s) is necessary.

*8: "Spring-up type terminal unit" is employed to retain terminal screws. *9: Requires use of optional cable PCB96WS *10: Requires use of optional cable PCB96P or PCB96PS *11: Requires use of optional cable PCB37P or PCB37PS *12: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB

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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

37-pin D-SUB

Input 16

Output 16

Isolated

High Voltage

Digital Filter

Surge & Overcurrent Protection

CE

Windows Driver

Linux Driver

ActiveX Component Package

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).



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PCI

96-pin Half Pitch

Input 32

Output 32

Isolated

High Voltage

Digital Filter

Surge & Overcurrent Protection

CE

Windows Driver

Linux Driver

ActiveX Component Package

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).



Model	PIO-16/16H(PCI)H		PIO-32/32H(PCI)H	
Input Channels	16		32	
Output Channels	16		32	
Input Specifications	Type	Opto-Isolated (for sink current output)		
	Operating Voltage	24 - 48 VDC (+/-10 %)		
	Interrupts	16 interrupt signals combine into one interrupt request signal as INTA	32 interrupt signals combine into one interrupt request signal as INTA	
	Resistance	15 kΩ		
Output	Type	Opto-Isolated Open Collector (Current sinking type)		
Specifications	Rating	60 VDC 100 mA		
	Response Time (Max.)	200 μsec		
	Internal Power	-		
	Wiring Distance	50 m		
	I/O Address	Any 32-byte boundary		
	Power Consumption (Max.)	5 VDC 150 mA	5 VDC 200 mA	
	Bus / Dimensions (mm)	PCI (32 bit, 33 MHz, Universal key type supported") / 121.69 (L) x 105.68 (H)	PCI (32 bit, 33 MHz, Universal key type supported") / 176.41 (L) x 105.68 (H)	
	Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent	96-pin half pitch connector [M type] PCR-E96LMD [HONDA TSUSHIN KOGYO] or equivalent	
	Software	ACX-PAC(W32)		
Options	Accessories	EPD-37A**2*, EPD-37**2	EPD-96A**2*, EPD-96**3, DTP-64A**3, EPD-37A**4**6, EPD-37**4, CCB-96**5	
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M	PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS, CN5-H96F	

*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 PCB96P or PCB96PS and 37-pin D-SUB
*6: "Spring-up terminal unit" is employed to retain terminal screws.

Note:

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Lineup

PCI Express

PCI

Low Profile PCI

PC Card

USB

Compact PCI

ISA

Digital I/O

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PCI

37-pin
D-SUB

Input
16

Output
16

Isolated

High
Voltage

Digital
Filter

Non
Polarity

CE

Windows Driver

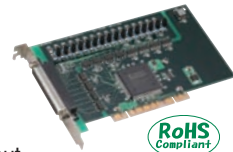
Linux Driver

ActiveX Component Package

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

PIO-16/16RY(PCI)

- 16 opto-isolated input, 16 semiconductor relay output
- I/O interface supports both current sink output and current source output.
- Supports high voltage range of 12 - 48VDC input, 120 VAC / VDC output
- All input signals can be used as interrupt inputs.
- Digital filtering function to prevent input error caused by noise and/or chattering



PCI

37-pin
D-SUB

Output
16

Isolated

High
Voltage

Non
Polarity

CE

Windows Driver

Linux Driver

ActiveX Component Package

Independent Common Reed Relay Contact Digital Output

RRY-16C(PCI)H

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



PCI

37-pin
D-SUB

Output
32

Isolated

High
Voltage

Non
Polarity

CE

Windows Driver

Linux Driver

ActiveX Component Package

Reed Relay Contact Digital Output

RRY-32(PCI)H

- Installed 32 make contact reed relays
- 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)
- Connector pin assignment compatible with RRY-32(PCI)



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Model	PIO-16/16RY(PCI)	RRY-16C(PCI)H	RRY-32(PCI)H	
Input Channels	16	-		
Output Channels	16		32	
Input Specifications	Type	Opto-Isolated (for both current sink/source output)	-	
	Operating Voltage	12 - 24 VDC, 24 - 48 VDC (can be set for each channel)	-	
	Interrupts	16 interrupt signals combine into one interrupt request signal as INTA	-	
	Resistance	3 kΩ (when set to 12 - 24 V), 6 kΩ (when set to 24 - 48 V)	-	
Output Specifications	Type	Semiconductor Relay Output	Reed Relay Contact (1 Make-Contact) Output	
	Rating	120 VAC / VDC 100 mA	-	
	Maximum Allowed Voltage	-	125 V (AC), 30 V (DC)	100V (AC), 10V (DC)
	Maximum switching current	-	2 A (Max.)	0.5 A (Max.)
	Contact resistance	-	30 mΩ or less	100 mΩ or less
	Mechanical life	-	20 million times or more (Switching frequency: 180/min)	200 million times or more
	Response Time (Max.)	Input: 200 μsec Output: 1.0 msec	7 msec	1 msec
Internal Power	-			
Wiring Distance	50 m	-		
I/O Address	Any 32-byte boundary			
Power Consumption (Max.)	5 VDC 400 mA	5 VDC 550 mA	5 VDC 1050 mA	
Bus / Dimensions (mm)	PCI (32 bit, 33 MHz, Universal key type supported*) / 176.41 (L) x 105.68 (H)	PCI (32 bit, 33 MHz, Universal key type supported*) / 121.69 (L) x 105.68 (H)	PCI (32 bit, 33 MHz, Universal key type supported*) / 176.41 (L) x 105.68 (H)	
Connector	37-pin D-SUB connector [F type], DCLC-J37SAF-20L9E [JAE] or equivalent			
Options	Software	ACX-PAC(W32)		
	Accessories	EPD-37A ^{*2*} , EPD-37 ^{*2} , DTP-3C ^{*2} , DTP-4C ^{*2} , CM-32(PC)E ^{*2}		
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M		

Note:

*1: +5 V power must be supplied from the expansion slot. *2: Requires use of optional cable PCB37P or PCB37PS *3: The current per channel must be 1 A or lower. *4: The current per channel must be 0.4 A or lower. *5: "Spring-up terminal unit" is employed to retain terminal screws.

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Digital I/O

PCI

37-pin D-SUB

Input 32

Non-Isolated

Digital Filter

Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital Input DI-32T2-PCI

- 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
- Driver library for Windows/Linux is included.



PCI

96-pin Half Pitch

Input 64

Non-Isolated

Digital Filter

Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital Input DI-64T2-PCI

- 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
- Driver library for Windows/Linux is included.



PCI

100-pin 0.8 mm Pitch

Input 128

Non-Isolated

Digital Filter

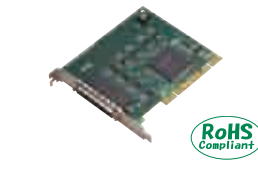
Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital Input DI-128T2-PCI

- 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



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Lineup

PCI Express

PCI

Low Profile PCI

PC Card

USB

Compact PCI

ISA

Model	DI-32T2-PCI	DI-64T2-PCI	DI-128T2-PCI		
Input Channels	32 (1 common)	64 (1 common)	128 (1 common)		
Output Channels	-				
I/O Channels	-				
Input	Type	Non-isolated TTL level input (negative logic)			
	Operating Voltage	5 VDC			
Specifications	Interrupts	32 interrupt signals combine into one interrupt request signal as INTA	16 interrupt signals combine into one interrupt request signal as INTA		
	Resistance	Pull-up: 10 kΩ(1 TTL load)			
Output	Type	-			
Specifications	Rating	-			
Response Time (Max.)	200 nsec				
Internal Power	-				
Wiring Distance	Approx. 1.5 m (depending on wiring environment)				
I/O Address	Any 32-byte boundary				
Power Consumption (Max.)	5 VDC 200 mA		5 VDC 350 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 [F type]	96-pin half pitch connector [M type]	100-pin 0.8 mm pitch connector [F type] x2HDRA-		
	DCLC-J37SAF-20L9E [JAE] or equivalent	PCR-E96LMD+ [HONDA TSUSHIN KOGYO] or equivalent	E100W1LFD71EC-SL+ [HONDA TSUSHIN KOGYO] or equivalent		
Software	ACX-PAC(W32)				
Options	Accessories	EPD-96A ^{*3a9} , EPD-96 ^{*3} , DTP-64A ^{*3} , CM-64(PC)E ^{*3} , EPD-37A ^{*4a9} , EPD-37 ^{*4} , DTP-3C ^{*4} , DTP-4C ^{*4} , CM-32(PC)E ^{*4} , CCB-96 ^{*5}	DTP-3C ^{*7} , DTP-4C ^{*7} , DTP-64A ^{*6} , EPD-37A ^{*7a9} , EPD-37 ^{*7} , EPD-100A ^{*8a9} , EPD-96A ^{*6a9} , EPD-96 ^{*6} , CCB-96 ^{*6} , CM-64(PC)E ^{*6} , CM-32(PC)E ^{*7}		
	Cables / Connectors	PCA37P, PCA37PS-0.5P/1.5P, PCB37P, PCB37PS-0.5P / 1.5P, CN5-D37M	PCA96P, PCA96PS-0.5P/1.5P, PCB96P, PCB96PS-0.5P / 1.5P, PCB96WS, CN5-H96F	PCA100P-1.5, PCB100/96PS-1.5, PCB100PS-0.5 / 1.5, PCB100WS-1.5	
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 PCB96P or PCB96PS *4: Requires use of optional cable PCB96WS *5: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB *6: Requires use of optional cable PCB100/96PS *7: Requires use of optional cable PCB100WS *8: Requires use of optional cable PCB100PS *9: "Spring-up terminal unit" is employed to retain terminal screws.				

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Digital I/O

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PCI

37-pin
D-SUB

Output
32

Non-
Isolated



Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital Output

DO-32T2-PCI

- 32 non-isolated open collector output
- Driver library for Windows/Linux is included.



PCI

96-pin
Half Pitch

Output
64

Non-
Isolated



Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital Output

DO-64T2-PCI

- 64 non-isolated open collector output
- Driver library for Windows/Linux is included.



PCI

100-pin
0.8 mm Pitch

Output
128

Non-
Isolated



Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital Output

DO-128T2-PCI

- 128 non-isolated open collector output



H-23

Model	DO-32T2-PCI	DO-64T2-PCI	DO-128T2-PCI	
Input Channels	-			
Output Channels	32 (1 common)	64 (1 common)	128 (1 common)	
I/O Channels	-			
Input Specifications	Type	-		
	Operating Voltage	-		
	Interrupts	-		
	Resistance	-		
Output Specifications	Type	Non-isolated open collector output (negative logic)		
	Rating	30 VDC 40 mA (per channel)	30 VDC 40 mA	
	Response Time (Max.)	200 nsec (depending on Pull-up Resistance value)		
Internal Power	-			
Wiring Distance	Approx. 1.5 m (depending on wiring environment)			
I/O Address	Any 32-byte boundary			
Power Consumption (Max.)	5 VDC 200 mA	5 VDC 310 mA	5 VDC 500 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 [F type] DCLC-J37SAF-20L9E [JAE] or equivalent	96-pin half pitch connector [M type] PCR-E96LMD+ [HONDA TSUSHIN KOGYO] or equivalent	100-pin 0.8 mm pitch connector [F type] x2 HDRA-E100W1LFDT1EC-SL+ [HONDA TSUSHIN KOGYO] or equivalent	
	Software	ACX-PAC(W32)		
Options	Accessories	EPD-96A ^{*2*} , EPD-96 ^{*3} , DTP-64A ^{*3} , CM-64(PC)E ^{*3} , EPD-37A ^{*4*} , EPD-37 ^{*4} , DTP-3C ^{*4} , DTP-4C ^{*4} , CM-32(PC)E ^{*4} , CCB-96 ^{*5}	DTP-3C ^{*7} , DTP-4C ^{*7} , DTP-64A ^{*6} , EPD-37A ^{*7*} , EPD-37 ^{*7} , EPD-100A ^{*6*} , EPD-96A ^{*6*} , EPD-96 ^{*6} , CCB-96 ^{*6} , CM-64(PC)E ^{*6} , CM-32(PC)E ^{*7}	
	Cables / Connectors	PCA37P-1.5, PCA37PS-0.5P / 1.5P, PCB37P-1.5, PCB37PS-0.5P / 1.5P, CN5-D37M	PCA96P, PCA96PS-0.5P / 1.5P, PCB96P, PCB96PS-0.5P / 1.5P, PCB96WS, CN5-H96F	PCA100P-1.5, PCB100/96PS-1.5, PCB100PS-0.5 / 1.5, PCB100WS-1.5
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 PCB96P or PCB96PS *4: Requires use of optional cable PCB96WS *5: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB *6: Requires use of optional cable PCB100/96PS *7: Requires use of optional cable PCB100WS *8: Requires use of optional cable PCB100PS *9: "Spring-up terminal unit" is employed to retain terminal screws.			

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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 37-pin D-SUB Input 16 Output 16 Non-Isolated Digital Filter CE

Windows Driver Linux Driver ActiveX Component Package

TTL-level Digital I/O PIO-16/16T(PCI)H

- 16 non-isolated TTL level input, 16 non-isolated open collector output (Max. 40 mA sink current)
- Digital filter and interrupt trigger edge can be set (software setting).
- Connector pin assignment compatible with PIO-16/16T(PCI)



PCI 37-pin D-SUB Input 16 Output 16 Isolated Built-in Power Hi-Speed Optocoupler Digital Filter

Windows Driver Linux Driver ActiveX Component Package

High-Speed Opto-Isolated TTL Level Digital I/O (On board Power) PIO-16/16TB(PCI)H

- 16 opto-isolated TTL-level input, 16 opto-isolated TTL-level output
- High-speed optocoupler that enables a response within 1 μsec
- Connector pin assignment compatible with PIO-16/16TB(PCI)



PCI 96-pin Half Pitch Input 32 Output 32 Non-Isolated Digital Filter CE

Windows Driver Linux Driver ActiveX Component Package

TTL-level Digital I/O PIO-32/32T(PCI)H

- 32 non-isolated TTL level input, 32 open collector output
- All input signals can be used as interrupts.
- Connector pin assignment compatible with PIO-32/32T(PCI)



PCI 100-pin 0.8 mm Pitch Input 64 Output 64 Non-Isolated Digital Filter

Windows Driver Linux Driver ActiveX Component Package

TTL-level Digital I/O DIO-6464T2-PCI

- 64 non-isolated TTL level input, 64 non-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



Model	PIO-16/16T(PCI)H		PIO-16/16TB(PCI)H	PIO-32/32T(PCI)H	DIO-6464T2-PCI
Input Channels	16			32	64 (1 common)
Output Channels	16			32	64 (1 common)
I/O Channels	-				
Input	Type	Non-isolated TTL level input (negative logic)		Opto-isolated TTL level input (negative logic)	Non-isolated TTL level input (negative logic)
	Operating Voltage	5 VDC			
Specifications	Interrupts	16 interrupt signals combine into one interrupt request signal as INTA		32 interrupt signals combine into one interrupt request signal as INTA	16 interrupt signals combine into one interrupt request signal as INTA
	Resistance	Pull-up: 10 kΩ	1.1 kΩ	Pull-up: 10 kΩ	Pull-up 10 kΩ(1 TTL load)
Output	Type	Non-isolated open collector output (negative logic)		Opto-isolated TTL level output (Negative logic)	Non-isolated open collector output (negative logic)
Specifications	Rating	30 VDC 40 mA		5 VDC 6.4 mA	30 VDC 40 mA
	Response Time (Max.)	200 nsec		1 μsec	200 nsec
	Internal Power	-		5 VDC 400 mA	-
	Wiring Distance	1.5 m		5 m	1.5 m
	I/O Address	Any 32-byte boundary			
	Power Consumption (Max.)	5 VDC 200 mA		5 VDC 350 mA (External) 5 VDC 1150 mA (On-board)	5 VDC 350 mA 5 VDC 450 mA
Bus / Dimensions (mm)	PCI (32 bit, 33 MHz, Universal key type supported*) / 121.69 (L) x 105.68 (H)		PCI (32 bit, 33 MHz, Universal key type supported*) / 176.41 (L) x 105.68 (H)	PCI (32 bit, 33 MHz, Universal key type supported*) / 121.69 (L) x 105.68 (H)	
Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent			96-pin half pitch connector [M type] PCR-E96LMD [HONDA TSUSHIN KOGYO] or equivalent	100-pin 0.8 mm pitch connector [F type] x2 HDRA-E100W1LFD1EC-SL+ [HONDA TSUSHIN KOGYO] or equivalent
Options	Software	ACX-PAC(W32)			
	Accessories	EPD-37A ^{*5*} , EPD-37 ^{*5} , DTP-3C ^{*5} , DTP-4C ^{*5} , CM-32(PC)E ^{*5}		EPD-96A ^{*6*} , EPD-96 ^{*6} , DTP-64A ^{*6} , CM-64(PC)E ^{*6} , EPD-37A ^{*7*} , EPD-37 ^{*7} , CM-32(PC)E ^{*7} , CCB-96 ^{*8}	
	Cables / Connectors	PCA37P-1.5, PCB37P-1.5, PCA37PS-0.5P / 1.5P, PCB37PS-0.5P / 1.5P, CN5-D37M	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M	PCA96P-1.5, PCB96P-1.5, PCA96PS-0.5P / 1.5P, PCB96PS-0.5P / 1.5P, PCB96WS-1.5P, CN5-H96F	
				PCA100P-1.5, PCB100/96PS-1.5, PCB100PS-0.5, 1.5, PCB100WS-1.5	

Note:

*1: +5 V power must be supplied from the expansion slot. *2: Requires use of optional cable PCB100WS *3: Requires use of optional cable PCB100/96PS

*4: Requires use of optional cable PCB100PS *5: Requires use of optional cable PCB37P or PCB37PS

*6: Requires use of optional cable PCB96P-1.5 or PCB96PS-1.5 *7: Requires use of optional cable PCB96WS-1.5

*8: Requires use of optional cable PCB96P-1.5 or PCB96PS-1.5 and 37-pin D-SUB cable *9: "Spring-up terminal unit" is employed to retain terminal screws.

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

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PCI

96-pin
Half Pitch

Bi-direct
48

Non-
Isolated

Digital
Filter

CE

Windows Driver

Linux Driver

ActiveX Component Package

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).



PCI

96-pin
Half Pitch

Bi-direct
48

Non-
Isolated

CE

Windows Driver

Linux Driver

ActiveX Component Package

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.



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Model	DIO-48D2-PCI		PIO-48D(PCI)	
Input Channels	-			
Output Channels	-			
I/O Channels	48			
Input	Type	TTL level input (positive logic)		
	Operating Voltage	5 VDC		
Specifications	Interrupts	48 interrupt signals combine into one interrupt request signal as INT		
Output	Resistance	Pull-up: 10 kΩ		
	Type	TTL level output (positive logic)		
Specifications	Rating	5 VDC I _{OL} = 24 mA I _{OH} = -15 mA		
Response Time (Max.)		200 nsec		
Internal Power		-		
Wiring Distance		Approx. 1.5 m (depending on wiring environment)		
I/O Address		Any 32-byte boundary		
Power Consumption (Max.)		5 VDC 600 mA		
Bus / Dimensions (mm)		PCI (32 bit, 33 MHz, Universal key type supported*) / 176.41 (L) x 106.68 (H)	PCI (32 bit, 33 MHz, 5 V) / 176.41 (L) x 106.68 (H)	
Connector		96-pin half pitch connector [M type] PCR-E96LMD+ [HONDA TSUSHIN KOGYO] or equivalent	CN1: 96-pin half pitch connector [M type] PCR-E96LMD [HONDA TSUSHIN KOGYO] or equivalent, CN2, CN3: 50-pin IC pitch header connector PS-50PE-D4T1-B1A [JAE] or equivalent	
Options	Software	ACX-PAC(W32)		
	Accessories	EPD-96A ^{*2*} , EPD-96 ^{*2} , DTP-64A ^{*2} , SC-DIO2424S ^{*4*5}		
	Cables / Connectors	PCB96PS-0.5P / 1.5P, PCB96P-1.5, PCA96PS-0.5P / 1.5P, PCA96P-1.5, PCA50J-1.5, CN5-H96F	CN1: PCA96PS-0.5P / 1.5P, PCB96PS-0.5P / 1.5P, PCA96P-0.5 / 1.5, PCB96P-0.5 / 1.5, CN5-H96F, CN2,3: PCA50J-1.5, DT/F4	

*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.

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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

Low Profile

50-pin Mini-Ribbon

Input 16

Output 16

Isolated

Digital Filter

Surge & Overcurrent Protection

CE

Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated 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 µsecs)
- All input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).



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PCI

Low Profile

50-pin Mini-Ribbon

Input 16

Output 16

Isolated

Built-in Power

Digital Filter

Surge & Overcurrent Protection

CE

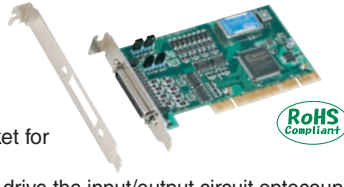
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital I/O (On board Power) 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 µsecs)
- All input signals can be used as interrupts.
- Output transistor has built-in circuit protection (surge voltage, overcurrent).



PCI

Low Profile

50-pin Mini-Ribbon

Input 16

Output 16

Non-Isolated

Digital Filter

CE

Windows Driver

Linux Driver

ActiveX Component Package

TTL-level Digital I/O 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.



Model	PIO-16/16L(LPCI)H	PIO-16/16B(LPCI)H	PIO-16/16T(LPCI)H	
Input Channels	16			
Output Channels	16			
I/O Channels	-			
Input Specifications	Type	Opto-Isolated (for sink current output)		Non-isolated TTL level input (negative logic)
	Operating Voltage	12 - 24 VDC (+/-10 %)		5 VDC
	Interrupts	16 interrupt signals combine into one interrupt request signal as INTA		
Output Specifications	Resistance	4.7 kΩ	10 kΩ	
	Type	Opto-isolated open collector output (Current sinking type, negative logic)		Non-isolated open collector output (negative logic)
	Rating	35 VDC 100 mA	30 VDC 40 mA	
Response Time (Max.)	200 µsec		200 nsec	
Internal Power	-	12 VDC 125 mA	-	
Wiring Distance	50 m		1.5 m	
I/O Address	Any 32-byte boundary			
Power Consumption (Max.)	5 VDC 100 mA	5 VDC 100 mA (External)	5 VDC 100 mA	
		5 VDC 600 mA (On-board)		
Bus / Dimensions (mm)	PCI (32 bit, 33 MHz, Universal key type supported*) / 121.69 (L) x 63.41 (H)			
Connector	50-pin Mini-Ribbon Connector 10250-52A2JL [3M] or equivalent			
Options	Software	ACX-PAC(W32)		
	Accessories	EPD-50A ^{*4*} , EPD-37A ^{*5*} , EPD-37 ^{*5} , DTP-3C ^{*5} , DTP-4C ^{*5} , CM-32(PC)E ^{*5}		
	Cables / Connectors	PCA50PS, PCB50PS, PCE50/37PS-0.5P		
			PCA50PS-0.5P / 1.5P, PCB50PS-0.5P / 1.5P, PCE50/37PS-0.5P	

*1: +5 V power must be supplied from the expansion slot. *2: Requires use of optional cable DIO-68M/96F

*3: Requires use of optional cable PCB68PS-0.5P or PCB68PS-1.5P *4: Requires use of optional cable PCB50PS

*5: Requires use of optional cable PCE50/37PS-0.5P, and PCB37P or PCB37PS *6: "Spring-up terminal unit" is employed to retain terminal screws.

Note:

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Lineup

PCI Express

PCI

Low Profile PCI

PC Card

USB

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Digital I/O

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PCI

Low Profile

68-pin
0.8 mm Pitch

Bi-direct
48

Non-
Isolated

Digital
Filter

CE

Windows Driver

Linux Driver

ActiveX Component Package

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.



PCI

Low Profile

68-pin
0.8 mm Pitch

Bi-direct
96

Non-
Isolated

Digital
Filter

Windows Driver

Linux Driver

ActiveX Component Package

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.



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Model	PIO-48D(LPCI)H		DIO-96D2-LPCI	
Input Channels	-			
Output Channels	-			
I/O Channels	48	96		
Input	Type	TTL level input (positive logic)		
	Operating Voltage	5 VDC		
Specifications	Interrupts	48 interrupt signals combine into one interrupt request signal as INTA	96 interrupt signals combine into one interrupt request signal as INT	
	Resistance	33 kΩ	-	
Output	Type	TTL level output (positive logic)		
Specifications	Rating	5 VDC I _{OL} = 24 mA I _{OH} = -15 mA		
Response Time (Max.)		200 nsec		
Internal Power		-		
Wiring Distance		Approx. 1.5 m (depending on wiring environment)		
I/O Address		Any 32-byte boundary		
Power Consumption (Max.)		5 VDC 600 mA	5 VDC 950 mA	
Bus / Dimensions (mm)		PCI (32 bit, 33 MHz, Universal key type supported*) / 121.69 (L) x 63.41 (H)		
Connector		HDRA-E68LFDT+[HONDA TSUSHIN KOGYO] or equivalent	68-pin 0.8 mm pitch connector HDRA-E68W1LFDT+[HONDA TSUSHIN KOGYO] or equivalent	
Options	Software	ACX-PAC(W32)		
	Accessories	EPD-68A ^{*C#0} , EPD-96A ^{*#4#0} , EPD-96 ^{*#4} , DTP-64A ^{*#4} , SC-DIO2424S ^{*#0#0}	EPD-96A ^{*C#0} , EPD-96 ^{*#4} , EPD-68A ^{*7#0} , DTP-64A ^{*#4}	
	Cables / Connectors	DIO-68M/96F, PCA68PS-0.5P / 1.5P, PCB68PS-0.5P / 1.5P	PCA68PS-0.5P / 1.5P, PCB68PS-0.5P / 1.5P, DIO-68M / 96F	

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

Digital I/O

Card Bus

37-pin D-SUB

Input 16

Output 16

Isolated

Digital Filter

Surge & Overcurrent Protection

CE

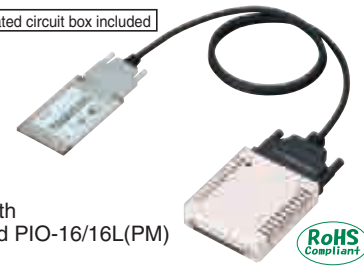
Windows Driver

Linux Driver

ActiveX Component Package

Opto-Isolated Digital I/O PIO-16/16L(CB)H

- Connector pin assignment compatible with PIO-16/16L(PCI)H, PIO-16/16L(PCI), and PIO-16/16L(PM)
- Fast response time (within 200 µsecs)
- Featuring a 16-point configuration, each common corresponds to a different external power source
- All input signals can be used as interrupts.



Connection cable & Isolated circuit box included

*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.

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Card Bus

68-pin 0.8 mm Pitch

Bi-direct 48

Non-Isolated

Digital Filter

Windows Driver

Linux Driver

ActiveX Component Package

Bi-Directional Digital I/O PIO-48D(CB)H

- 48-point two-way digital I/O i8255 Mode 0-compliant
- 200 nsec high-speed response with non-isolated LVTTTL level I/O
- Equipped with functions equivalent to those of PCI bus-compliant board PIO-48D(PCI)
- All input signals (Max. 48 points) can be used as interrupts.



*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.

Model	PIO-16/16L(CB)H	PIO-48D(CB)H	
Input Channels	16 (all available for interrupts, 1 common)	-	
Output Channels	16 (1 common)	-	
I/O Channels	-	48	
Input Specifications	Type	Opto-Isolated (for sink current output) (Negative logic)	LVTTTL level I/O (positive logic)
	Operating Voltage	12 - 24 VDC (+/-10 %)	3.3 VDC
	Interrupts	16 interrupt signals combine into one interrupt request signal	48 interrupt signals combine into one interrupt request signal as INTA. Interrupt generated at the falling edge (HIGH to LOW) or rising edge (LOW to HIGH), configurable through software
	Resistance	4.7 kΩ	-
Output Specifications	Type	Opto-isolated open collector output (Current sinking type, negative logic)	LVTTTL level I/O (positive logic)
	Rating	35 VDC 100 mA	3.3 VDC I _{OL} = 8mA I _{OH} = -8 mA
	Response Time (Max.)	200 µsec	200 nsec
Internal Power	-	-	
Wiring Distance	Up to 50 m (depending on wiring environment)	Approx. 1.5 m (depending on wiring environment)	
I/O Address	8 bit x 32 port occupation		
Power Consumption (Max.)	3.3 VDC 200 mA	3.3 VDC 120 mA	
Bus / Dimensions (mm)	PC Card Standard CardBus / TYPE II	PC Card Standard CardBus / 85.6 (W) x 54.0 (D) x 5.0 (H) TYPE II	
Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent	68-pin 0.8 mm pitch connector	
Options	Software	ACX-PAC(W32)	
	Accessories	EPD-37A ^{*1*} , EPD-37 ^{*1} , DTP-3C ^{*1} , DTP-4C ^{*1} , CM-32(PC)E ^{*1}	EPD-68A ^{*2*} , EPD-96A ^{*2*} , EPD-96 ^{*2} , DTP-64A ^{*2} , SC-DIO2424S ^{*5*}
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M	DIO-68M/96F, PCA68PS-0.5P / 1.5P, PCB68PS-0.5P / 1.5P

Note:

*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 *4: "Spring-up terminal unit" is employed to retain terminal screws.
*5: Optional cable PCB96PS is required (0.5 m is recommended). *6: ESC-4 is required separately.

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PCI Express

PCI

Low Profile PCI

PC Card

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ISA

Digital I/O

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PCMCIA

37-pin D-SUB

Input 16

Output 16

Isolated

Digital Filter

Surge Protection

CE

Windows Driver

ActiveX Component Package

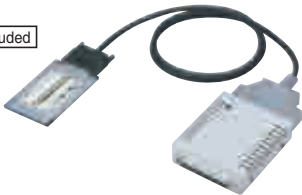
Opto-Isolated Digital I/O

PIO-16/16L(PM)

Production by order

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

Connection cable & Isolated circuit box included



*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.

PCMCIA

37-pin D-SUB

Bi-direct 32

Non-Isolated

Digital Filter

CE

Windows Driver

ActiveX Component Package

Bi-Directional Digital I/O

PIO-32D(PM)

Production by order

- 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 input signals (Max. 32 points) can be used as interrupts.

Connection cable included



*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.

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

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	-	-	
Input	Type	Opto-Isolated (for sink current output) (Negative logic)	TTL level (negative logic)
	Operating Voltage	12 - 24 VDC	5 VDC
Specifications	Interrupts	16 interrupt signals combine into one interrupt request signal	-
	Resistance	3 kΩ	Pull-up: 100 kΩ
Output	Type	Opto-isolated open collector output (Current sinking type, negative logic)	TTL level (negative logic)
	Rating	35 VDC 100 mA	I _{OL} = 6 mA, I _{OH} = -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/JEIDA 4.2 or later / Type II	PCMCIA Rel.2.1/JEIDA 4.2 or later / Type II	
Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent		
Options	Software	ACX-PAC(W32)	
	Accessories	DTP-3C* ¹ , DTP-4C* ¹ , EPD-37A* ¹⁺² , EPD-37* ¹ , CM-32(PC)E* ¹	
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M	
Options	Cables / Connectors	PCA37P-1.5, PCB37P-1.5, PCA37PS-0.5P / 1.5P, PCB37PS-0.5P / 1.5P, CN5-D37M	

Note:

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

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

Digital I/O

USB 2.0

37-pin D-SUB

Input 16

Output 16

Isolated

Digital Filter

Surge & Overcurrent Protection

Windows Driver

ActiveX Component Package

USB cable included



USB I/O Unit X Series Isolated Digital Input/Output Unit DIO-1616LX-USB

- 16 opto-isolated input, 16 opto-isolated open collector output, with response time of 200 μ secs
- 16 input signals can be used as interrupts.
- USB hub function for connection with up to 4 CONTEC USB products
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Connector pin and Signal assignment is compatible with PIO-16/16L(PCI)H, DIO-1616L-PE.

Installation fitting for USB I/O unit
X series
BRK-USB-X



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Cables

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Wireless LAN
FLEXLAN
Image Distribution Unit
FlexNetViewer

Solutions /
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USB 2.0

96-pin Half Pitch

Input 32

Output 32

Isolated

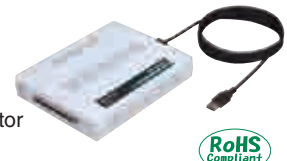
Digital Filter

Surge & Overcurrent Protection

Windows Driver

ActiveX Component Package

USB cable included



USB I/O Unit X Series Isolated Digital Input/Output Unit DIO-3232LX-USB

- 32 opto-isolated input, 32 opto-isolated open collector output, with response time of 200 μ secs
- 32 input signals can be used as interrupts.
- USB hub function for connection with up to 4 CONTEC USB products
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Connector pin and Signal assignment is compatible with PIO-32/32L(PCI)H, DIO-3232L-PE.

Installation fitting for USB I/O unit
X series
BRK-USB-X



USB 2.0

100-pin 0.8 mm Pitch

Input 64

Output 64

Isolated

Digital Filter

Surge & Overcurrent Protection

Windows Driver

AC adapter included

ActiveX Component Package

USB cable included



USB I/O Unit X Series Isolated Digital Input/Output Unit DIO-6464LX-USB

- 64 opto-isolated input, 64 opto-isolated open collector output, with response time of 200 μ secs
- 16 input signals can be used as interrupts.
- USB hub function for connection with up to 4 CONTEC USB products
- Output circuit with built-in zener diode for surge voltage protection, and built-in polyswitch for overcurrent protection
- Connector pin and Signal assignment are compatible with DIO-6464L-PE, PIO-64/64L(PCI)H.

Installation fitting for USB I/O unit
X series
BRK-USB-X



H-30

Lineup

PCI Express

PCI

Low Profile PCI

PC Card

USB

Compact PCI

ISA

Model	DIO-1616LX-USB	DIO-3232LX-USB	DIO-6464LX-USB		
Input Channels	16 (all available for interrupts, 1 common every 16 channels)	32 (all available for interrupts, 1 common every 16 channels)	64 (16 available for interrupts, 1 common every 16 channels)		
Output Channels	16 (1 common every 16 channels)	32 (1 common every 16 channels)	64 (1 common every 16 channels)		
I/O Channels	-				
Input Specifications	Type	Opto-Isolated (for sink current output, Negative logic ^{*1})			
	Operating Voltage	12 - 24 VDC (+/-10 %)			
	Interrupts	16 interrupt signals combine into one interrupt request signal	32 interrupt signals combine into one interrupt request signal	16 interrupt signals combine into one interrupt request signal	
	Resistance	4.7 kΩ			
Output Specifications	Type	Opto-isolated open collector output (Current sinking type, negative logic)			
	Rating	35 VDC 100 mA (per channel)			
Response Time (Max.)	200 μsec ^{*2}				
Internal Power	-				
Wiring Distance	Approx. 50 m (depending on wiring environment)				
USB Speed	12 Mbps (Full Speed), 480 Mbps (High Speed) ^{*3}				
Power Supply	Bus-powered / Self-powered ^{*4}		Self-powered		
Power Consumption (Max.)	5 VDC 300 mA	5 VDC 400 mA	5 VDC 550 mA		
Dimensions (mm)	180 (W) x 140 (D) x 34 (H) (no protrusions)				
Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or equivalent	96-pin half pitch connector [M type] PCR-E96LMD+ [HONDA TSUSHIN KOGYO] or equivalent	100-pin 0.8 mm pitch connector [F type] x2, HDRA-E100WYLFDT1EC-SL+ [HONDA TSUSHIN KOGYO] or equivalent		
Weight	300 g (Exclusive of USB cable and attachment)				
Included Cable	USB cable 1.8 m				
Options	Software	ACX-PAC(W32)			
	Accessories	EPD-37A ^{*5*6} , EPD-37 ^{*5} , DTP-3C ^{*5} , DTP-4C ^{*5} , CM-32(PC)E ^{*5} , POA200-20, BRK-USB-X	EPD-96A ^{*6*7} , EPD-96 ^{*7} , DTP-64A ^{*7} , CM-64(PC)E ^{*7} , EPD-37A ^{*6*8} , EPD-37 ^{*8} , DTP-3C ^{*8} , DTP-4C ^{*8} , CM-32(PC)E ^{*8} , CCB-96 ^{*8} , POA200-20, BRK-USB-X	DTP-3C ^{*11} , DTP-4C ^{*11} , DTP-64A ^{*10} , EPD-37A ^{*5*11} , EPD-37 ^{*11} , EPD-100A ^{*5*12} , EPD-96A ^{*6*10} , EPD-96 ^{*10} , CCB-96 ^{*10} , CM-64(PC)E ^{*10} , POA200-20, BRK-USB-X	
	Cables / Connectors	PCB37P, PCB37PS, PCA37P, PCA37PS, CN5-D37M	PCB96PS, PCB96P, PCA96PS, PCA96P, PCB96WS, CN5-H96F	PCB100PS, PCB100/96PS, PCA100P, PCB100WS	

Note:

*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). *4: Use the optional self-powered 5 VDC power supply (POA200-20) when using the USB hub function. *5: Requires use of optional cable PCB37P or PCB37PS. *6: "Spring-up type terminal unit" is employed to retain terminal screws. *7: Requires use of optional cable PCB96P or PCB96PS. *8: Requires use of optional cable PCB96WS. *9: Requires use of optional cable PCB96P or PCB96PS and 37-pin D-SUB. *10: Requires use of optional cable PCB100/96PS. *11: Requires use of optional cable PCB100WS. *12: Requires use of optional cable PCB100PS

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

Digital I/O

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

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USB 2.0

Input 16

Output 16

Windows Driver

AC adapter

Built-in

Surge &

ActiveX Component

USB cable included



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 μ sec
- 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 Bracket for X series
BRK-USB-X



USB 2.0

Input 16

Output 16

Windows Driver

High

Non

ActiveX Component

USB cable included



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).

USB I/O Unit Bracket for X series
BRK-USB-X



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Model	DIO-1616BX-USB	DIO-1616RYX-USB	
Input	16 (all available for interrupts, 1	16 (all available for interrupts, 1	
Output	16 (1 common every 16 channels)	16 (1 common)	
I/O Channels	-		
Input	Type	Opto-Isolated (for sink current	Opto-Isolated (for both current
	Operating	-	12 - 24 VDC (+/-10 %)
	Interrupts	16 interrupt signals combine into one interrupt request signal as INTA	
Output		4.7 k Ω	3 k Ω
	Type	Opto-isolated open collector output (Current sinking type, negative	Semiconductor Relay Output
	Rating	35 VDC 100 mA (per channel)	120 VAC / DC 100 mA (per
Response Time (Max.)	200 μ sec ^{*2}	Input: 200 μ sec ^{*2} Output: 1.0 msec	
Internal Power	12 VDC 240 mA ^{*3}	-	
Wiring Distance	Approx. 50 m (depending on wiring environment)		
USB speed	12 Mbps (Full Speed), 480 Mbps (High Speed) ^{*4}		
Power Supply	Self-powered	Bus-powered / Self-powered ^{*5}	
Power Consumption	5 VDC 830 mA	5 VDC 500 mA	
Dimensions (mm)	180 (W) x 140 (D) x 34 (H) (no protrusions)		
Connector	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or		
Weight	300 g (Exclusive of USB cable and attachment)		
Included Cable	USB cable 1.8 m		
Options	Software	ACX-PAC(W32)	
		EPD-37A ^{*7} , DTP-3C ^{*8} , DTP-4C ^{*8} , CM-32(PC)E ^{*8} , POA200-20, BRK-USB-X	
	Cables /	PCB37P, PCB37PS, PCA37P, PCA37PS, CN5-D37M	

*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 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.

Note:

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

Digital I/O

USB 2.0 **Bi-direct 48** **Non-** **Windows Driver** **ActiveX Component**

NEW

USB cable included

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-



RoHS Compliant

USB I/O Unit Bracket for X series
BRK-USB-X

RoHS Compliant



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USB 2.0 **Output 16** **High** **Windows Driver** **ActiveX Component**

NEW

USB cable included

USB I/O Unit X Series Digital Output Unit with Relay-Isolation 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)



RoHS Compliant

USB I/O Unit Bracket for X series
BRK-USB-X

RoHS Compliant



Model	DIO-48DX-USB	RRY-16CX-USB	
Input	-		
Output	-	16	
I/O Channels	48 (all available for interrupts)	-	
Input	Type	TTL level input (positive logic)*1	-
	Operating	5 VDC	-
	Interrupts	48 interrupt signals combine into	-
		10 kΩ	-
Output	Type	TTL level output (positive logic)	Reed Relay Contact (1 Make-Contact) Output
	Rating	5 VDC I _{OL} = 24 mA I _{OH} = -15 mA	-
Maximum Allowed	-	125 V (AC), 30 V (DC)	
Maximum switching	-	2 A (Max.)	
Contact resistance	-	30 mΩ or less	
Mechanical life	-	20 million times or more (Switching)	
Response Time (Max.)	200 μsec	7 msec	
Internal Power	12 VDC 240 mA	-	
Wiring Distance	Approx. 50 m (depending on wiring)	-	
USB speed	12 Mbps (Full Speed), 480 Mbps	12 Mbps (Full Speed), 480 Mbps	
Power Supply	Self-powered		
Power Consumption	5 VDC 550 mA	5 VDC 600 mA	
Dimensions (mm)	180 (W) x 140 (D) x 34 (H) (no protrusions)		
Connector	96-pin half pitch connector [M type] PCR-E96LMD+ [HONDA Tsushin]	37-pin D-SUB connector [F type] DCLC-J37SAF-20L9E [JAE] or	
Weight	400g (Exclusive of USB cable and attachment)		
Included Cable	USB cable 1.8 m		
Options	Software	ACX-PAC(W32)	
		EPD-96A*2, EPD-96*2, DTP-64A*2	EPD-37A*1, EPD-37*1, DTP-3C*1, DTP-4C*1
Cables /		PCB96PS-0.5P / 1.5P, PCB96P-1.5, PCA96PS-0.5P / 1.5P, PCA96P-1.5, PCA50J-1.5,	PCA37P, PCB37P, PCA37PS, PCB37PS, CN5-D37M

*1: Requires use of optional cable PCB37P or PCB37PS

*2: Requires use of optional cable PCB96P or PCB96PS

*3: "Spring-up terminal block" is employed to retain terminal screws.

Note:

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Lineup

PCI Express

PCI

Low Profile PCI

PC Card

USB

Compact PCI

ISA

Digital I/O

USB I/O unit N series

Please see page M-01 for software.

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USB 2.0

Input 16

Output 16

High

Windows Driver

ActiveX Component

NEW

USB cable included



DIN-rail installation image

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)

USB 2.0

Input 8

Output 8

High

Windows Driver

ActiveX Component

NEW

USB cable included



DIN-rail installation image

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

H-33

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

Model		DIO-1616HN-USB	DIO-0808RN-USB
Input		16 (1 common every 16 channels)	8 (1 common every 8 channels)
Output		16 (1 common every 8 channels)	8
I/O Channels		-	-
Input	Type	Opto-Isolated (for both current sink/source output)	
	Operating	5 V	12 - 24 VDC (+/-10 %)
	Interrupts	-	-
		560Ω	4.7 kΩ
Output	Type	Opto-isolated open collector output (Current sinking type, negative)	Power relay (1C contact) Output
	Rating	60 VDC 100 mA (per channel)	240 VAC / 28 VDC 6 A
Response Time (Max.)		200 µsec ²	
Internal Power		-	
Wiring Distance		Approx. 50 m (depending on wiring environment)	
USB speed		12 Mbps (Full Speed), 480 Mbps (High Speed) ³	
Power Supply		Bus-powered	
Power Consumption		5 VDC 300 mA	
Dimensions (mm)		188.0 (W) x 78.0 (D) x 30.5 (H) (no protrusions)	
Connector		10 pin (screw-terminal) plug header x 4	
Weight		300 g (Exclusive of USB cable and attachment)	
Included Cable		USB cable 1.8 m	
Options	Software	ACX-PAC(W32)	
		-	
	Cables /	-	

*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).

Note:

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

Digital I/O

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PCI Express

PCI

Low Profile PCI

PC Card

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Compact PCI

ISA

USB 2.0 Input 8 Output 8 Surge & Windows Driver ActiveX Component

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

USB cable included



USB 2.0 Input 16 Non- Windows Driver ActiveX Component

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

USB cable included

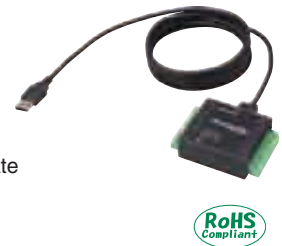


USB 2.0 Output 16 Non- Windows Driver ActiveX Component

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

USB cable included



Bracket for USB I/O Terminal products
BRK-USB-Y



14 pin screw-type terminal connector (6 in one)
CN6-Y14



Model	DIO-0808LY-USB	DI-16TY-USB	DO-16TY-USB	
Input	8 (1 common)	16 (1 common)	-	
Output	8 (1 common)	-	16 (1 common)	
I/O Channels	-			
Input	Type	Opto-Isolated (for sink current)	Non-isolated TTL level input	-
	Operating	12 - 24 VDC (+/-10 %)	5 VDC	-
	Interrupts	-		
Output	Type	4.7 kΩ	10 kΩ (1TTL load)	-
	Rating	Opto-isolated open collector output	-	Non-isolated open collector output
	Response Time (Max.)	35 VDC 100 mA (per channel)	-	28 VDC 40 mA (per channel)
Internal Power	300 μsec ¹	200 nsec	200 nsec (depending on Pull-up)	
Wiring Distance	-			
USB speed	Approx. 50 m (depending on wiring)	Approx. 1.5 m (depending on wiring environment)		
Power Consumption (Max.)	12 Mbps (Full Speed), 480 Mbps (High Speed) ³			
Dimensions (mm)	5 VDC 250 mA	5 VDC 300 mA	5 VDC 350 mA	
Connector	64 (W) x 62 (D) x 24 (H) (no protrusions)			
Weight (main unit)	14-pin (screw-terminal) plug header			
Included Cable	70g (Exclusive of USB cable and attachment)			
Software	USB cable 1.8 m			
Options	ACX-PAC(W32)	-		
Cables /	BRK-USB-Y			
	CN6-Y14			

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).

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Digital I/O

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

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USB 2.0

Input 8

Output 8

Non-

Windows Driver

ActiveX Component

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



USB 2.0

Bi-direct 24

Non-

Windows Driver

ActiveX Component

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.



Bracket for USB I/O Terminal products
BRK-USB-Y



14 pin screw-type terminal connector (6 in one)
CN6-Y14



H-35

Model	DIO-0808TY-USB	DIO-24DY-USB	
Input	8 (1 common)	-	
Output	8 (1 common)	-	
I/O Channels	-	24	
Input	Type	Non-isolated TTL level input	LVTTL level input (positive logic)
	Operating	5 VDC	3.3 VDC
	Interrupts	-	
		10 kΩ (1TTL load)	33Ω
Output	Type	Non-isolated open collector output	LVTTL level output (positive logic)
	Rating	28 VDC 40 mA (per channel)	3.3 VDC 8 mA
Response Time (Max.)	Input: 200 nsec Output: 200 nsec (depending on	200 nsec ²	
Internal Power	-		
Wiring Distance	Approx. 1.5 m (depending on wiring environment)		
USB speed	12 Mbps (Full Speed), 480 Mbps (High Speed)		
Power Consumption	5 VDC 300 mA	5 VDC 250 mA	
Dimensions (mm)	64 (W) x 62 (D) x 24 (H) (no protrusions)		
Connector	14-pin (screw-terminal) plug header		
Weight (main unit)	70g (Exclusive of USB cable and attachment)		
Included Cable	USB cable 1.8 m		
Options	Software	ACX-PAC(W32)	
		BRK-USB-Y	
	Cables /	CN6-Y14	

*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.)

Note:

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Digital I/O

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

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USB 2.0

Input 16

Windows Driver

ActiveX Component

USB cable included



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

USB 2.0

Output 16

Windows Driver

ActiveX Component

USB cable included



RoHS Compliant

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

USB 2.0

Input 8

Output 8

Windows Driver

ActiveX Component

USB cable included



RoHS Compliant

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

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Model		DI-16(USB)GY	DO-16(USB)GY	DIO-8/8(USB)GY	
Input		16	-	8	
Output		-	16	8	
Input	Type	Opto-isolated (for current sink)		Opto-isolated (for current sink)	
	Operating	12 - 24 VDC	-	12 - 24 VDC	
		3 kΩ	-	3 kΩ	
Output	Type	-	Opto-isolated open collector output (Current sinking type, negative logic)		
	Rating	-	12 - 24 VDC 150 mA		
Response Time (Max.)		1 msec ^{*1}			
Connector		FK-MC 0.5/9-ST-2.5 [PHOENIX CONTACT]			
Wiring Distance		50 m			
USB speed		12 Mbps (Full Speed), 480 Mbps (High Speed)			
Power Consumption		5 VDC 450 mA ^{*2}			
Dimensions (mm)		50.4 (W) x 64.7 (D) x 94.0 (H)			
Weight (main unit)		100 g			
Included Cable		USB cable 1.8 m			
Options	Software	ACX-PAC(W32)			
	Applicable modules ^{*3}	DI-16(FIT)GY	DO-16(FIT)GY	DIO-8/8(FIT)GY	
	Applicable	POW-AD13GY, POW-AD22GY, POW-DD10GY, POW-DD43GY			
	Applicable Adapters ^{*3}	POA200-20			

^{*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.

Note:

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.

Digital I/O

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Compact PCI

ISA

Compact PCI **96-pin Half Pitch** **Input 64** **Windows Driver** **ActiveX Component**

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(PCI)



Compact PCI **96-pin Half Pitch** **Output 64** **Windows Driver** **ActiveX Component**

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(PCI)

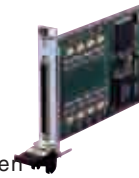


Compact PCI **96-pin Half Pitch** **Input 32** **Output 32** **Windows Driver** **ActiveX Component**

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(PCI)



Model	PI-64L(CPCI)	PO-64L(CPCI)	PIO-32/32L(CPCI)	
Input	64	-	32	
Output	-	64	32	
I/O circuit	Operating	12 - 24 VDC (+/-15 %) (4 mA / 12	12 - 24 VDC (+/-15 %) (4 mA / 12	
	Internal	-	-	
Input	Type	Opto-Isolated (for sink current	-	Opto-Isolated (for sink current
	Interrupts	4 interrupt signals combine into one interrupt request signal as	-	4 interrupt signals combine into one interrupt request signal as
		3 kΩ	-	3 kΩ
Output	Type	-	Opto-isolated open collector output	Opto-isolated open collector output
	Rating	-	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]			
Options	Software	ACX-PAC(W32), API-PAC(W32)		
		DTP-3C ^{*1} , DTP-4C ^{*1} , DTP-64A ^{*2} , EPD-96A ^{*2,3} , EPD-96 ^{*2} , CCB-96 ^{*2} , CM-32(PC)E ^{*1} , CM-64(PC)E ^{*2}		
	Cables /	PCA96P, PCB96P, PCA96PS, PCB96PS, PCB96WS		

*1: Requires use of optional cable PCB96WS *2: Requires use of optional cable PCB96PS *3: "Spring-up terminal block" is employed to retain terminal screws.

Note:

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Lineup

PCI Express

PCI

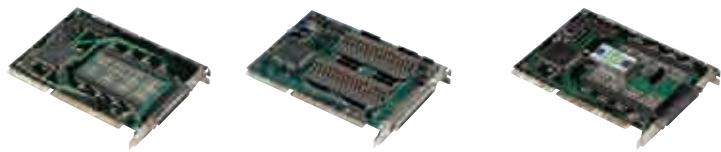
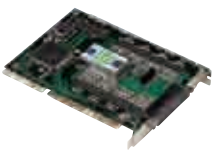
Low Profile PCI

PC Card

USB

Compact PCI

ISA

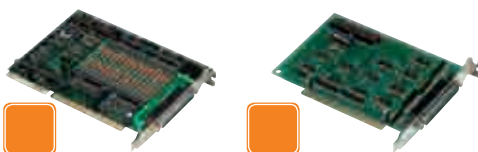
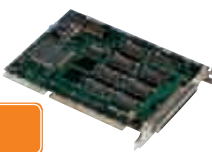
ISA	Model	Opto-Isolated Digital Input		Opto-Isolated Digital Input (On board Power)
		PI-32L(PC)V	PI-64L(PC)	PI-32B(PC)H
				
	Input	32	64	32
	Output	-	-	-
	I/O circuit	Operating Internal	12 - 24 VDC -	12 VDC 250 mA
	Input	Type Interrupts Resistance	Opto-Isolated (for sink current output) 2 lines from IRQ 3 - 7, 9 - 12, 14, 3 kΩ	2 lines from IRQ 3 - 7, 9 - 12, 14,
	Output	Type Rating	- -	-
	Options	-	Yes	-
	Response Time (Max.)	1 msec	-	-
	Wiring Distance	50 m	-	30 m
	I/O Address	Any 4-byte boundary	<When using general I/O operation> Any 8-byte boundary	Any 4-byte boundary
	Power Consumption (Max.)	5 VDC 50 mA	5 VDC 100 mA	5 VDC 50 mA (External) 5 VDC
	Bus / Dimensions (mm)	ISA AT Bus / 163.0 (L) x 122.0 (H)	-	-
	Connector	37-pin D-SUB connector [F type]	96-pin half pitch shielded	37-pin D-SUB connector [F type]
	Options	Software Accessories Cables / Connectors	ACX-PAC(W32), API-PAC(W32) DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1*} , EPD-37 ^{*1} , CM-32(PC), CM-32(PC)E ^{*1} PCA37P, PCB37P, PCA37PS, PCB37PS	DTP-3C ^{*2} , DTP-4C ^{*2} , DTP-64A ^{*3} , EPD-96A ^{*4} , EPD-96 ^{*3} , CCB-96 ^{*3} , CM-32(PC) ^{*2} , CM-64(PC)E ^{*3} DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1*} , EPD-37 ^{*1} , CM-32(PC)E ^{*1} , CM-32(PC) PCA37P, PCB37P, PCA37PS, PCB37PS
	CE marking	○	○	○

*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	Model	Opto-Isolated Negative Common	TTL-level Digital Input	
		PI-32RL(PC)	PI-32T(PC)H	PI-64T(PC)
				
	Input	32	64	-
	Output	-	-	-
	I/O circuit	Operating Internal	12 - 24 VDC -	5 VDC
	Input	Type Interrupts Resistance	Opto-Isolated (for source output) 2 lines from IRQ 3 - 7, 9 - 12, 14, 15 available simultaneously 3 kΩ	TTL level 2 lines from IRQ 3 - 7, 9 available simultaneously 10 kΩ
	Output	Type Rating	- -	-
	Options	-	Yes	-
	Response Time (Max.)	1 msec	200 nsec	-
	Wiring Distance	50 m	1.5 m	-
	I/O Address	Any 4-byte boundary	-	<When using general I/O operation> Any 8-byte boundary
	Power Consumption (Max.)	5 VDC 300 mA	5 VDC 420 mA	5 VDC 200 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]	-	96-pin half pitch shielded
	Options	Software Accessories Cables / Connectors	ACX-PAC(W32), API-PAC(W32) DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1*} , EPD-37 ^{*1} PCA37P, PCB37P, PCA37PS, PCB37PS	DTP-3C ^{*2} , DTP-4C ^{*2} , DTP-64A ^{*3} , EPD-96A ^{*4} , EPD-96 ^{*3} , CCB-96 ^{*3} , CM-32(PC) ^{*2} , CM-64(PC)E ^{*3} DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1*} , EPD-37 ^{*1} , CM-32(PC)E ^{*1} , CM-32(PC) PCA37P-1.5, PCB37P-1.5, PCA37PS-0.5P / 1.5P, PCB37PS-0.5P
	CE marking	○	○	○

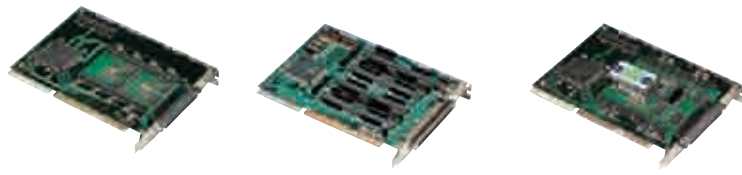
*1: Requires use of optional cable PCB37P or PCB37PS

*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.

Digital I/O


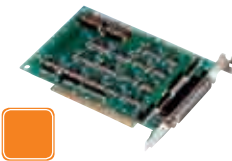
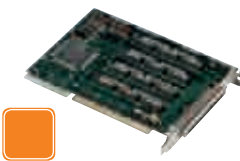
ISA	Model	Opto-Isolated Digital Output		Opto-Isolated Digital Output (On board)
		PO-32L(PC)V	PO-64L(PC)	PO-32B(PC)H
				
Input		-		
Output		32	64	32
I/O circuit	Operating	12 - 24 VDC		
	Internal	-		
Input	Type	-		
	Interrupts	-		
	Resistance	-		
Output	Type	Opto-isolated open collector output (Current sinking type)		
	Rating	35 VDC 100 mA	35 VDC 150 mA	35 VDC 100 mA
Options		-	Yes	-
Response Time (Max.)		1 msec		
Wiring Distance		50 m		
I/O Address		Any 4-byte boundary	<When using general I/O operation> Any 8-byte boundary	Any 4-byte boundary
Power Consumption (Max.)		5 VDC 50 mA	5 VDC 250 mA	5 VDC 50 mA (External) 5 VDC
Bus / Dimensions (mm)		ISA AT Bus / 163.0 (L) x 122.0 (H)		
Connector		37-pin D-SUB connector [F type]	96-pin half pitch shielded	37-pin D-SUB connector [F type]
Options	Software	ACX-PAC(W32), API-PAC(W32)		
	Accessories	DTP-3C ¹ , DTP-4C ¹ , EPD-37A ^{1,4} , EPD-37 ¹ , CM-32(PC), CM-32(PC)E ¹	DTP-3C ² , DTP-4C ² , DTP-64A ³ , EPD-96A ^{3,4} , EPD-96 ³ , CCB-96 ³ , CM-32(PC) ² , CM-64(PC)E ³	DTP-3C ¹ , DTP-4C ¹ , EPD-37A ^{1,4} , EPD-37 ¹ , CM-32(PC)E ¹ , CM-32(PC)
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS	PCA96P, PCB96P, PCB96W, PCA96PS, PCB96PS, PCB96WS	PCA37P, PCB37P, PCA37PS, PCB37PS
CE marking		○	○	○

*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	Model	Opto-Isolated Negative Common Type Digital	TTL-level Digital Output	
		PO-32RL(PC)	PO-32T(PC)H	PO-64T(PC)
				
Input		-		
Output		32	64	
I/O circuit	Operating	12 - 24 VDC	5 VDC	
	Internal	-		
Input	Type	-		
	Interrupts	-		
	Resistance	-		
Output	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
Options		-	Yes	
Response Time (Max.)		1 msec	200 nsec	
Wiring Distance		50 m	1.5 m	
I/O Address		Any 4-byte boundary	<When using general I/O operation> Any 8-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]	96-pin half pitch shielded	
Software		ACX-PAC(W32), API-PAC(W32)		
Options	Accessories	DTP-3C ¹ , DTP-4C ¹ , EPD-37A ^{1,4} , EPD-37 ¹	DTP-3C ² , DTP-4C ¹ , EPD-37A ^{1,4} , EPD-37 ¹ , CM-32(PC), CM-32(PC)E ²	DTP-3C ² , DTP-4C ² , DTP-64A ³ , EPD-96A ^{3,4} , EPD-96 ³ , CCB-96 ³ , CM-32(PC) ² , CM-64(PC)E ³
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS	PCA37P-1.5, PCB37P-1.5, PCA37PS-0.5P / 1.5P, PCB37PS-	PCA96P-1.5, PCB96P-1.5, PCB96W-1.5, PCA96PS-0.5P
	CE marking	○ ○ ○		

*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.

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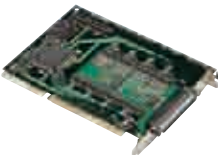
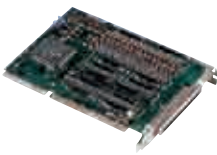
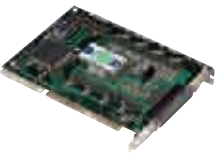
USB

Compact PCI

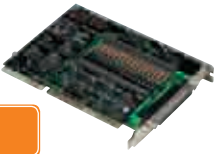


ISA

Digital I/O

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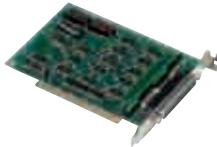
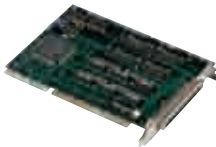
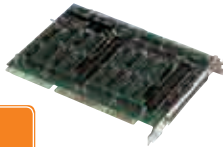

ISA	Model	Opto-Isolated Digital I/O		Opto-Isolated Digital I/O (On board Power)
		PIO-16/16L(PC)V	PIO-32/32L(PC)	PIO-16/16B(PC)H
				
				
Input		16	32	16
Output		16	32	16
I/O circuit	Operating	12 - 24 VDC		
	Internal	-		12 VDC 250 mA
Input	Type	Opto-Isolated (for sink current output)		
	Interrupts	2 lines from IRQ 3 - 7, 9 - 12, 14,	4 lines from IRQ 3 - 7, 9 - 12, 14,	2 lines from IRQ 3 - 7, 9 - 12, 14,
	Resistance	3 kΩ	3 kΩ	
Output	Type	Opto-isolated open collector output (Current sinking type)		
	Rating	35 VDC 100 mA	35 VDC 150 mA	35 VDC 100 mA
Options		-	Yes	-
Response Time (Max.)		1 msec		
Wiring Distance		50 m		30 m
I/O Address		Any 2-byte boundary	<When using general I/O operation> Any 4-byte boundary	Any 2-byte boundary
Power Consumption (Max.)		5 VDC 50 mA	5 VDC 180 mA	5 VDC 50 mA (External) 5 VDC
Bus / Dimensions (mm)		ISA AT Bus / 163.0 (L) x 122.0 (H)		
Connector		37-pin D-SUB connector [F type]	96-pin half pitch shielded connector	37-pin D-SUB connector [F type]
Options	Software	ACX-PAC(W32), API-PAC(W32)		
	Accessories	DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1*} , EPD-37 ^{*1} , CM-32(PC), CM-32(PC)E ^{*1}	DTP-3C ^{*2} , DTP-4C ^{*2} , DTP-64A ^{*3} , EPD-96A ^{*3*} , EPD-96 ^{*3} , CCB-96 ^{*3} , CM-32(PC) ^{*2} , CM-64(PC)E ^{*3}	DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1*} , EPD-37 ^{*1} , CM-32(PC)E ^{*1} , CM-32(PC)
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS	PCA96P, PCB96P, PCB96W, PCA96PS, PCB96PS, PCB96WS	PCA37P, PCB37P, PCA37PS, PCB37PS
CE marking		○	○	○

*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	Model	Opto-Isolated Negative Common Type Digital I/	
		PIO-16/16RL(PC)	PIO-32/32RL(PC)
			
			
			
Input		16	32
Output		16	32
I/O circuit	Operating	12 - 24 VDC	
	Internal	-	
Input	Type	Opto-Isolated (for source output)	
	Interrupts	2 lines from IRQ 3 - 7, 9 - 12, 14,	4 lines from IRQ 3 - 7, 9 - 12, 14,
	Resistance	3 kΩ	
Output	Type	Opto-Isolated (source type)	
	Rating	35 VDC 150 mA	
Options		-	Yes
Response Time (Max.)		1 msec	
Wiring Distance		50 m	
I/O Address		Any 2-byte boundary	<When using general I/O operation> Any 4-byte boundary
Power Consumption (Max.)		5 VDC 350 mA	5 VDC 150 mA
Bus / Dimensions (mm)		ISA AT Bus / 163.0 (L) x 122.0 (H)	
Connector		37-pin D-SUB connector [F type]	96-pin half pitch shielded
Options	Software	ACX-PAC(W32), API-PAC(W32)	
	Accessories	DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1*} , EPD-37 ^{*1}	DTP-3C ^{*2} , DTP-4C ^{*2} , DTP-64A ^{*3} , EPD-96A ^{*3*} , EPD-96 ^{*3}
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS	PCA96P, PCB96P, PCB96W, PCA96PS, PCB96PS, PCB96WS
CE marking		○	○

*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.

Digital I/O




ISA	Model	TTL-level Digital I/O		High Current Drive Bi-directional Digital I/O
		PIO-16/16T(PC)H	PIO-32/32T(PC)	PIO-48D(PC)
				
				
Input		16	32	48
Output		16	32	
I/O circuit	Operating	5 VDC		
	Internal	-		
Input	Type	TTL level		
	Interrupts	2 lines from IRQ 3 - 7, 9 available	4 lines from IRQ 3 - 7, 9 - 12, 14,	4 lines from IRQ 3 - 7, 9 - 12, 14,
	Resistance	10 kΩ		
Output	Type	Non-isolated TTL driver	Non-isolated TTL open collector	TTL level output with buffer
	Rating	5 VDC 40 mA	30 VDC 40 mA	5 VDC 24 mA
Options		-	Yes	-
Response Time (Max.)		200 nsec		
Wiring Distance		1.5 m		
I/O Address		Any 2-byte boundary	<When using general I/O operation> Any 4-byte boundary	Any 8-byte boundary
Power Consumption (Max.)		5 VDC 550 mA	5 VDC 250 mA	5 VDC 1.25 A
Bus / Dimensions (mm)		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]	96-pin half pitch shielded connector	50-pin IC pitch header connector
Software		ACX-PAC(W32), API-PAC(W32)		
Options	Accessories	DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1*} , EPD-37 ^{*1} , CM-32(PC), CM-32(PC)E ^{*1}	DTP-3C ^{*2} , DTP-4C ^{*2} , DTP-64A ^{*3} , EPD-96A ^{*3*} , EPD-96 ^{*3} , CCB-96 ^{*3} , CM-32(PC) ^{*2} , CM-64(PC)E ^{*3}	STP-50H(98), SCP-50H(98), PSD-50(98)J
	Cables / Connectors	PCA37P-1.5, PCB37P-1.5, PCA37PS-0.5P / 1.5P,	PCA96P-1.5, PCB96P-1.5, PCB96W-1.5, PCA96PS-0.5P	PCA50J
CE marking		○	○	○

*1: Requires use of optional cable PCB37P or PCB37PS

*2: Requires use of optional cable PCB96W or PCB96WS

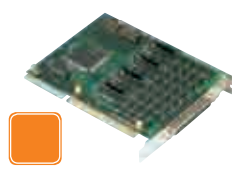
*3: Requires use of optional cable PCB96P or PCB96PS

*4: "Spring-up terminal block" is employed to retain terminal screws.

ISA	Model	Reed Relay Output Board	
		RRY-32(PC)	
			
			
Input		-	
Output		32	
Type		Reed Relay Contact (1 Make-	
Relay Contact	Maximum	10 VA (AC), 10 W (DC)	
	Maximum	100V (AC), 100V (DC)	
	Maximum	0.5 A	
	Maximum	1 A	
	Contact	150 mΩ or less	
	Response	Within 1 msec	
Mechanical		10 ⁶ 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]	
Options	Software	ACX-PAC(W32), API-PAC(W32)	
	Accessories	DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1} *, EPD-37 ^{*1}	
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS	
CE marking			

*1: Requires use of optional cable PCB37P or PCB37PS

*2: "Spring-up terminal block" is employed to retain terminal screws.

ISA	Model	Photo MOS Relay Output Board PRY-32(PC)	
			
Input		-	
Output		32	
Type		Photo MOS Relay Contact (1	
Relay Contact	Rating	100 VAC / VDC	
	Drive Current	250 mA (1 common every 8	
	Relay	2.6 Ω (Max. 4 Ω)	
	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]	
Options	Software	ACX-PAC(W32), API-PAC(W32)	
	Accessories	DTP-3C ^{*1} , DTP-4C ^{*1} , EPD-37A ^{*1*} , EPD-37 ^{*1}	
	Cables / Connectors	PCA37P, PCB37P, PCA37PS, PCB37PS	
	CE marking	○	

*1: Requires use of optional cable PCB37P or PCB37PS

*2: "Spring-up terminal block" is employed to retain terminal screws.

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