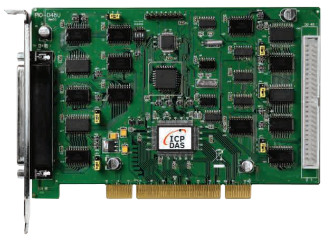
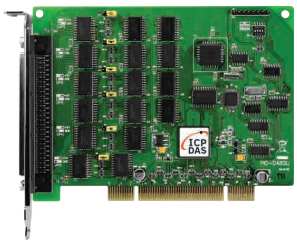
PIO-D48U



PIO-D48SU



PIO-D48U/PIO-D48SU

Universal PCI, 48-ch Digital I/O Board

Features

- Universal PCI (3.3 V/5 V) Interface
- 48 Buffered TTL Digital I/O Lines
- Six 8-bit Bi-directional Programmable I/O Ports
- Emulates two Industrial-standard 8255 PPI Ports (Mode 0)
- All I/O Lines Buffered on the Board
- 4-channel Interrupt Source
- Supports Card ID (SMD Switch)
- Supports DO Status Readback (Register Level)
- Buffer Output for Higher Driving Capability
- DI/O Response Time approximately 1 µs (1 MHz)

Introduction

The PIO-D48U/D48SU card is designed to be fully compatible with the PIO-D48, meaning that a PIO-D48 card can be directly replaced with a PIO-D48U/D48SU without requiring any modification to the software or the driver.

The PIO-D48U provides two connectors for I/O wiring, while the PIO-D48SU provides a single high-density connector that reduces the amount of installation space required for the card in the computer.

The PIO-D48U/D48SU supports the 3.3 V/5 V PCI bus, and provides 48 TTL Digital I/O lines that are grouped into six 8-bit bi-directional ports. Each group of three 8-bit ports is arranged on the connector as Port A (PA), Port B (PB) and Port C (PC), and Port C can be split into two nibble-wide (4-bit) parts. All ports are configured as inputs on power-up or after a reset.

The PIO-D48U/D48SU card also includes an onboard Card ID switch and pull-high/low resistors for the Digital Input. The Card ID switch can be set so that the board is able to be recognized via software if two or more boards are installed in the same computer. The pull-high/pull-low resistors allow the DI status to be predefined as either high or low instead of remaining floating if the DI channels are disconnected or interrupted.

Hardware Specifications

Model	PIO-D48U	PIO-D48SU
Hardware		
Card ID	Yes (4-bit)	
Connector	Female DB37 x 1 , 50-pin box header x 1	Female SCSI II 100-pin x 1
Digital Input		
Channels	48 (Bi-Direction)	
Type	5 V/TTL	
Sink/Source (NPN/PNP)	Sink: 64 mA @ 0.8 V Source: 32 mA @ 2.0 V	-
ON Voltage Level	Logic 1: 2.0 V Min.	
OFF Voltage Level	Logic 0: 0.8 V Max.	
Response Speed	1 MHz (Typical)	
Trigger Mode	Static Update	
Digital Output		
Channels	48 (Bi-Direction)	
Type	5 V/TTL	
Operation Mode	Static Update	
Load Voltage	Logic 0: 0.4 V Max. , Logic 1: 2.4 V Min.	
Load Current	-	Sink: 64 mA @ 0.8 V Source: 32 mA @ 2.0 V
Response Speed	1 MHz (Typical)	
Timer/Counter/Frequency		
Channels	2 (Event Timer x 1/32-bit Timer x 1)	
Type	5 V/TTL	
Resolution	16-bit	
Reference Clock	Internal: 4 MHz	
PC Bus		
Type	3.3 V/5 V Universal PCI, 32-bit, 33 MHz	
Data Bus	8-bit	
Power		
Consumption	900 mA @ +5 V	
Mechanical		
Dimensions (mm)	105 x 156 x 22 (W x L x D)	140 x 97 x 22 (W x L x D)
Environment		
Operating Temperature	0 ~ +60°C	
Storage Temperature	-20 ~ +70°C	
Humidity	5 ~ 85% RH, Non-condensing	

Pin Assignments

● PIO-D48U

Pin Assignment	Terminal No.		Pin Assignment
N.C	01	20	+5 V
N.C	02	21	GND
PB_7	03	22	PC_7
PB_6	04	23	PC_6
PB_5	05	24	PC_5
PB_4	06	25	PC_4
PB_3	07	26	PC_3
PB_2	08	27	PC_2
PB_1	09	28	PC_1
PB_0	10	29	PC_0
GND	11	30	PA_7
N.C.	12	31	PA_6
GND	13	32	PA_5
N.C.	14	33	PA_4
GND	15	34	PA_3
N.C.	16	35	PA_2
GND	17	36	PA_1
+5 V	18	37	PA_0
GND	19		

CN1

Pin Assignment	Terminal No.		Pin Assignment
PC_7	01	02	GND
PC_6	03	04	GND
PC_5	05	06	GND
PC_4	07	08	GND
PC_3	09	10	GND
PC_2	11	12	GND
PC_1	13	14	GND
PC_0	15	16	GND
PB_7	17	18	GND
PB_6	19	20	GND
PB_5	21	22	GND
PB_4	23	24	GND
PB_3	25	26	GND
PB_2	27	28	GND
PB_1	29	30	GND
PB_0	31	32	GND
PA_7	33	34	GND
PA_6	35	36	GND
PA_5	37	38	GND
PA_4	39	40	GND
PA_3	41	42	GND
PA_2	43	44	GND
PA_1	45	46	GND
PA_0	47	48	GND
+5 V	49	50	GND

CN2

● PIO-D48SU

Pin Assignment	Terminal No.		Pin Assignment
PA_00	1	51	PA_10
PA_01	2	52	PA_11
PA_02	3	53	PA_12
PA_03	4	54	PA_13
PA_04	5	55	PA_14
PA_05	6	56	PA_15
PA_06	7	57	PA_16
PA_07	8	58	PA_17
PB_00	9	59	PB_10
PB_01	10	60	PB_11
PB_02	11	61	PB_12
PB_03	12	62	PB_13
PB_04	13	63	PB_14
PB_05	14	64	PB_15
PB_06	15	65	PB_16
PB_07	16	66	PB_17
PC_00	17	67	PC_10
PC_01	18	68	PC_11
PC_02	19	69	PC_12
PC_03	20	70	PC_13
PC_04	21	71	PC_14
PC_05	22	72	PC_15
PC_06	23	73	PC_16
PC_07	24	74	PC_17
GND	25	75	GND
-	26	76	-
-	27	77	-
-	28	78	-
-	29	79	-
-	30	80	-
-	31	81	-
-	32	82	-
-	33	83	-
-	34	84	-
-	35	85	-
-	36	86	-
-	37	87	-
-	38	88	-
-	39	89	-
-	40	90	-
-	41	91	-
-	42	92	-
-	43	93	-
-	44	94	-
-	45	95	-
-	46	96	-
-	47	97	-
-	48	98	-
-	49	99	-
+5 V	50	100	+5 V

CN1

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Software

Drivers

- [x] 32/64-bit Windows 10/11
- [x] Linux
- [x] DASYLab

Sample Programs

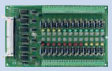
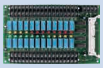
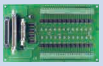
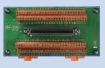
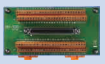
- [x] DOS Lib and TC Demo
- [x] VB/VC/Delphi/VB.NET/C#.NET/VC.NET/LabVIEW/Python/MATLAB

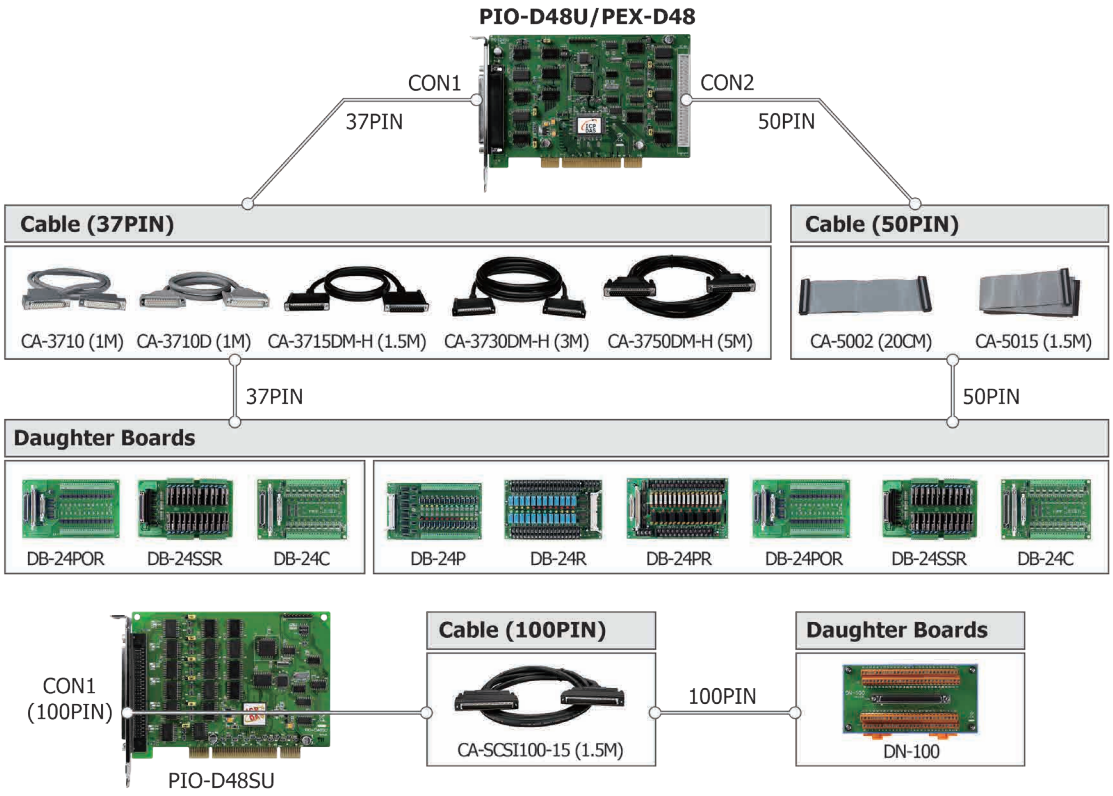
Ordering Information

PIO-D48U CR	Universal PCI, 48-ch Digital I/O Board (RoHS)
PIO-D48SU CR	Universal PCI, 48-ch Digital I/O Board (RoHS)

Accessories

 CA-3710 CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (45°)) (RoHS)
 CA-3710D CR	DB-37 Male-Male D-sub cable 1 M (Cable for Daughter Board (180°)) (RoHS)
 CA-3715DM-H CR	DB-37 Male-Male Cable, 1.5 M, 180° (RoHS)
 CA-3730DM-H CR	DB-37 Male-Male Cable, 3.0 M, 180° (RoHS)
 CA-3750DM CR	DB-37 Male-Male Cable, 5.0 M, 180° (RoHS)
 CA-4002 CR	37-pin Male D-sub connector with plastic cover (RoHS)
 CA-5002 CR	50-pin flat cable 20 cm (RoHS)
 CA-5015 CR	50-pin flat cable 1.5 M (RoHS)
 CA-SCSI100-15 CR	SCSI II 100-pin & 100-pin Male connector cable 1.5 M (RoHS)
 ADP-37/PCI CR	50-pin connector extender to 37-pin connector (RoHS)

 DB-24P CR	24-channel isolated D/I board (RoHS)
 DB-24R CR	24-channel relay board (RoHS)
 DB-24PR CR	24-channel power relay board (RoHS)
 DB-24POR CR	24-channel of PhotoMos Relay output board (RoHS)
 DB-24SSR CR	24-channel Photo Mos relay output board (RoHS)
 DB-24C CR	24-channel of open-collector output board (RoHS)
 DN-100 CR	I/O Connector Block with DIN-Rail Mounting and 100-Pin SCSI II Connector (RoHS)
 DN-100-CA CR	I/O Connector Block with DIN-Rail Mounting and 100-Pin SCSI II Connector Include one CA-SCSI100-15 cable (RoHS)
 DN-37/DN-37-381 CR	I/O Connector Block with DIN-Rail Mounting and 37-Pin D-Sub Connector (RoHS)
 DN-50/DN-50-381 CR	I/O Connector Block with DIN-Rail Mounting and 50-Pin Header (RoHS)



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