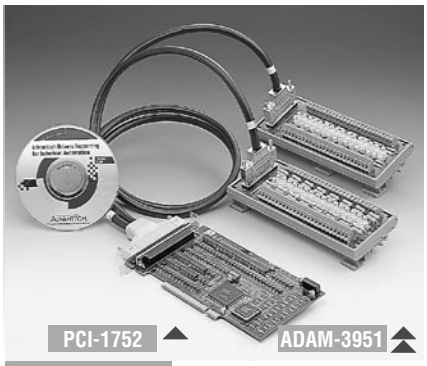
PCI-1752
PCI-1754
PCI-1756

64-ch Isolated Digital Output Card

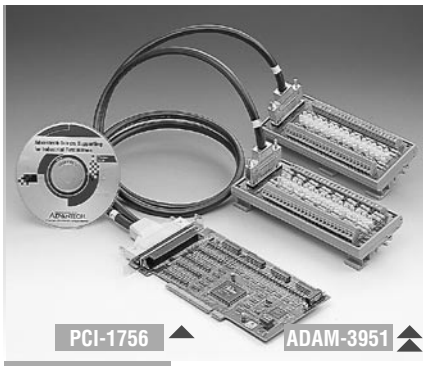
64-ch Isolated Digital Input Card

64-ch Isolated Digital I/O Card



PCI-1752

PCI-1754



PCI-1756

Features

- 64 isolated digital output channels
- High-voltage isolation on output channels (2500 V_{DC})
- 2000 V_{DC} ESD protection
- Wide output range (5 ~ 40 V_{DC})
- High-sink current on isolated output channels (200 mA max./channel)
- Output status read-back
- Keeps digital output values when hot system reset
- Channel-freeze function
- High-density 100-pin SCSI connector

Specifications

General

I/O Connector Type	100-pin SCSI-II female
Dimensions (L x H)	175x100mm (6.9"x3.9")
Power Consumption	Typical: +5 V @ 230 mA Max.: +5 V @ 500 mA
Operating Temperature	0~60° C (32 ~ 140° F) (IEC 68-2-1, 2)
Storage Temperature	-20~70° C (-4 ~ 158° F)
Relative Humidity	5~95 % (IEC 68-2-3) non-condensing

Isolated Digital Output

Output Channels	64 (16-ch/group)
Optical Isolation	2,500 V_{DC}
Opto-isolator resp. time	25 µs
Supply Voltage	5 ~ 40 V_{DC}
Sink Current	200 mA max./channel

Ordering Information

PCI-1752	64-channel Isolated Digital Output Card, user's manual and driver CD-ROM (cable not included)

Features

- 64 isolated digital input channels
- Either +/- voltage input for DI by group
- High-voltage isolation on input channels (2500 V_{DC})
- High over-voltage protection (70 V_{DC})
- Wide input range (10 ~ 50 V_{DC})
- Interrupt handling capability
- High-density 100-pin SCSI connector

Specifications

General

I/O Connector Type	100-pin SCSI-II female
Dimensions (L x H)	175x100mm (6.9"x3.9")
Power Consumption	Typical: +5 V @ 340 mA Max.: +5 V @ 450 mA
Operating Temperature	0~60° C (32 ~ 140° F) (IEC 68-2-1, 2)
Storage Temperature	-20~70° C (-4 ~ 158° F)
Relative Humidity	5~95 % (IEC 68-2-3) non-condensing

Isolated Digital Input

Input Channels	64 (16-ch/group)
Interrupt Inputs	4
Optical Isolation	2,500 V_{DC}
Opto-Isolator Resp. Time	25 µs
Over-Voltage Protection	70 V_{DC}
ESD	2,000 V_{DC}
Input Voltage	
VIH (max.)	50 V_{DC}
VIH (min.)	10 V_{DC}
VIL (max.)	3 V_{DC}
Input Current	
10 V_{DC}	1.7 mA (typical)
12 V_{DC}	2.1 mA (typical)
24 V_{DC}	4.4 mA (typical)
48 V_{DC}	9.0 mA (typical)
50 V_{DC}	9.4 mA (typical)

Ordering Information

PCI-1754	64-channel Isolated Digital Input Card

Features

- Either +/- voltage input for DI by group
- Output status read-back for output channels
- Keeps digital output values after hot system reset

Specifications

General

I/O Connector Type	100-pin SCSI-II female
Dimensions (L x H)	175x100mm (6.9"x3.9")
Power Consumption	Typical: +5 V @ 285 mA Max.: +5 V @ 475 mA
Operating Temperature	0~60° C (32 ~ 140° F) (IEC 68-2-1, 2)
Storage Temperature	-20~70° C (-4 ~ 158° F)
Relative Humidity	5~95 % (IEC 68-2-3) non-condensing

Isolated Digital Output

Output Channels	32 (16-ch/group)
Optical Isolation	2,500 V_{DC}
Opto-Isolator Resp. Time	25 µs
Supply Voltage	5 ~ 40 V_{DC}
Sink Current	200 mA max./channel

Isolated Digital Input

Input Channels	32 (16-ch/group)
Interrupt Inputs	2 (IDI0, IDI16)
Optical Isolation	2,500 V_{DC}
Opto-Isolator Resp. Time	25 µs
Over-Voltage Protection	70 V_{DC}
ESD	2,000 V_{DC}
Input Voltage	
VIH (max.)	50 V_{DC}
VIH (min.)	10 V_{DC}
VIL (max.)	3 V_{DC}
Input Current	
10 V_{DC}	1.7 mA (typical)
12 V_{DC}	2.1 mA (typical)
24 V_{DC}	4.4 mA (typical)
48 V_{DC}	9.0 mA (typical)
50 V_{DC}	9.4 mA (typical)

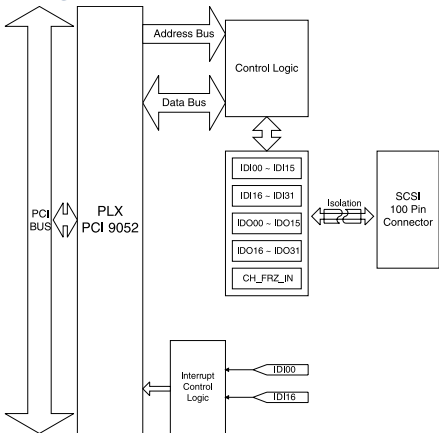
Ordering Information

PCI-1756	64-channel Isolated Digital I/O Card

Accessories

- **PCL-10250** 100-pin SCSI to two 50-pin SCSI cable, 1m
- **PCL-10250-2** 100-pin SCSI to two 50-pin SCSI cable, 2m
- **ADAM-3951** Wiring terminal module with LED indicators for DIN-rail mounting
- **ADAM-3950S** 50-pin SCSI-II Wiring Terminal
- **ADAM-3950D** Dual 50-pin SCSI-II Wiring Terminal

Block Diagram (PCI-1756)



Pin Assignments

PCI-1752

IDO00	1	51	IDO01
IDO02	2	52	IDO03
IDO04	3	53	IDO05
IDO06	4	54	IDO07
IDO08	5	55	IDO09
IDO10	6	56	IDO11
IDO12	7	57	IDO13
IDO14	8	58	IDO15
PCOM0	9	59	PCOM0
PCOM0	10	60	PCOM0
IGND	11	61	IGND
IGND	12	62	IGND
IDO16	13	63	IDO17
IDO18	14	64	IDO19
IDO20	15	65	IDO21
IDO22	16	66	IDO23
IDO24	17	67	IDO25
IDO26	18	68	IDO27
IDO28	19	69	IDO29
IDO30	20	70	IDO31
PCOM1	21	71	PCOM1
PCOM1	22	72	PCOM1
IGND	23	73	IGND
IGND	24	74	IGND
CH_FRZ_IN	25	75	CH_FRZ_COM
IDO32	26	76	IDO33
IDO34	27	77	IDO35
IDO36	28	78	IDO37
IDO38	29	79	IDO39
IDO40	30	80	IDO41
IDO42	31	81	IDO43
IDO44	32	82	IDO45
IDO46	33	83	IDO47
PCOM2	34	84	PCOM2
PCOM2	35	85	PCOM2
IGND	36	86	IGND
IGND	37	87	IGND
IDO48	38	88	IDO49
IDO50	39	89	IDO51
IDO52	40	90	IDO53
IDO54	41	91	IDO55
IDO56	42	92	IDO57
IDO58	43	93	IDO59
IDO60	44	94	IDO61
IDO62	45	95	IDO63
PCOM3	46	96	PCOM3
PCOM3	47	97	PCOM3
IGND	48	98	IGND
IGND	49	99	IGND
CH_FRZ_IN	50	100	CH_FRZ_COM

PCI-1754

IDI00	1	51	IDI01
IDI02	2	52	IDI03
IDI04	3	53	IDI05
IDI06	4	54	IDI07
IDI08	5	55	IDI09
IDI10	6	56	IDI11
IDI12	7	57	IDI13
IDI14	8	58	IDI15
ECOM0	9	59	ECOM0
ECOM0	10	60	ECOM0
NC	11	61	NC
NC	12	62	NC
IDI16	13	63	IDI17
IDI18	14	64	IDI19
IDI20	15	65	IDI21
IDI22	16	66	IDI23
IDI24	17	67	IDI25
IDI26	18	68	IDI27
IDI28	19	69	IDI29
IDI30	20	70	IDI31
ECOM1	21	71	ECOM1
ECOM1	22	72	ECOM1
NC	23	73	NC
NC	24	74	NC
NC	25	75	NC
IDI32	26	76	IDI33
IDI34	27	77	IDI35
IDI36	28	78	IDI37
IDI38	29	79	IDI39
IDI40	30	80	IDI41
IDI42	31	81	IDI43
IDI44	32	82	IDI45
IDI46	33	83	IDI47
ECOM2	34	84	ECOM2
ECOM2	35	85	ECOM2
NC	36	86	NC
NC	37	87	NC
IDI48	38	88	IDI49
IDI50	39	89	IDI51
IDI52	40	90	IDI53
IDI54	41	91	IDI55
IDI56	42	92	IDI57
IDI58	43	93	IDI59
IDI60	44	94	IDI61
IDI62	45	95	IDI63
ECOM3	46	96	ECOM3
ECOM3	47	97	ECOM3
NC	48	98	NC
NC	49	99	NC
NC	50	100	NC

PCI-1756

IDI00	1	51	IDI01
IDI02	2	52	IDI03
IDI04	3	53	IDI05
IDI06	4	54	IDI07
IDI08	5	55	IDI09
IDI10	6	56	IDI11
IDI12	7	57	IDI13
IDI14	8	58	IDI15
ECOM0	9	59	ECOM0
ECOM0	10	60	ECOM0
NC	11	61	NC
NC	12	62	NC
IDI16	13	63	IDI17
IDI18	14	64	IDI19
IDI20	15	65	IDI21
IDI22	16	66	IDI23
IDI24	17	67	IDI25
IDI26	18	68	IDI27
IDI28	19	69	IDI29
IDI30	20	70	IDI31
ECOM1	21	71	ECOM1
ECOM1	22	72	ECOM1
NC	23	73	NC
NC	24	74	NC
NC	25	75	NC
IDO00	26	76	IDO01
IDO02	27	77	IDO03
IDO004	28	78	IDO05
IDO006	29	79	IDO07
IDO08	30	80	IDO09
IDO10	31	81	IDO11
IDO12	32	82	IDO13
IDO14	33	83	IDO15
PCOM0	34	84	PCOM0
PCOM0	35	85	PCOM0
IGND	36	86	IGND
IGND	37	87	IGND
IDO16	38	88	IDO17
IDO18	39	89	IDO19
IDO20	40	90	IDO21
IDO22	41	91	IDO23
IDO24	42	92	IDO25
IDO26	43	93	IDO27
IDO28	44	94	IDO29
IDO30	45	95	IDO31
PCOM1	46	96	PCOM1
PCOM1	47	97	PCOM1
IGND	48	98	IGND
IGND	49	99	IGND
CH_FRZ_IN	50	100	CH_FRZ_COM

IDO00 ~ IDO15 :Isolated digital output of Group 0

IDO16 ~ IDO31 :Isolated digital output of Group 1

IDO32 ~ IDO47 :Isolated digital output of Group 2

IDO48 ~ IDO63 :Isolated digital output of Group 3

PCOM0 :External common input of Group 0

PCOM1 :External common input of Group 1

PCOM2 :External common input of Group 2

PCOM3 :External common input of Group 3

IGND :Isolated ground

CH_FRZ_IN :Channel-Freeze input pin

CH_FRZ_COM :Common pin br Channel-Freeze input

IDI00 ~ IDI15 :Isolated digital input of Group 0

IDI16 ~ IDI31 :Isolated digital input of Group 1

IDI32 ~ IDI47 :Isolated digital input of Group 2

IDI48 ~ IDI63 :Isolated digital input of Group 3

ECOM0 :External common input of Group 0

ECOM1 :External common input of Group 1

ECOM2 :External common input of Group 2

ECOM3 :External common input of Group 3

NC : No connection

Applications

- Industrial On/Off control
- Switch status sensing
- BCD interfacing
- Digital I/O control
- Industrial and lab automation
- SMT/PCB machinery
- Semi-conductor machinery
- PC-based Industrial Machinery
- Testing & Measurement
- Laboratory & Education

Feature Details

PCI-1752, PCI-1754 and PCI-1756 offer isolated digital input channels and isolated digital output channels with isolation protection up to 2,500 VDC. This makes them ideal for industrial applications where high-voltage isolation is required. In addition, all output channels are able to keep their last values after a hot system reset. Furthermore, the PCI-1752 and PCI-1756 provide a channel-freeze function that keeps the current output status unchanged for each channel during operation.

Robust Protection

PCI-1752, PCI-1754 and PCI-1756 feature robust isolation protection for applications in industrial, lab and machinery automation. It can durably withstand voltage up to 2,500 VDC , preventing your host system from any incidental harm. If connected to an external input source with surge-protection, PCI-1754 and 1756 can offer up to 2,000 V DC ESD (Electrostatic Discharge) protection for input channels. If the input voltage rises up to 70 V DC, the input channels of PCI-1754 and PCI-1756 can still manage to work properly for a short period of time.

Wide Input/Output Range

PCI-1754 and PCI-1756 have a wide range of input voltages from 10 to 50 V DC, and is therefore suitable for most industrial applications with 12 V DC, 24 V DC and 48 V DC input voltage. PCI-1752 and PCI-1756 feature a wide output voltage range from 5 to 40 V DC, suitable for most industrial applications with 12 V DC/24 V DC output voltages. In the meantime, you can also request specific input/output voltage ranges as products can be tailored to specifications.

BoardID™ Switch

PCI-1752, PCI-1754 and PCI-1756 have a built-in BoardID™ DIP switch that helps define each card's unique identity when multiple identical PCI cards have been installed in the same computer. The BoardID switch is very useful when you build your system with multiple identical PCI cards. With the correct BoardID switch settings, you can easily identify and access each card during hardware configuration and software programming.

Channel-Freeze Function

PCI-1752 and PCI-1756 provide a Channel-Freeze function, which can be enabled either in dry contact or wet contact mode (selected by the on-board jumper). When the Channel-Freeze function is enabled, the last status of each digital output channel will be safely kept for emergency use. Moreover, you can enable this function through software as it is useful in software simulation and testing program.

Reset Protection Fulfills Requirement for Industrial Applications

If the system has undergone a hot reset (i.e. without turning off the system power), PCI-1752 and PCI-1756 can either retain the output values of each channel or return to its default configuration as open status, depending on its on-board jumper setting. This function protects the system from performing wrong operations during unexpected system resets.