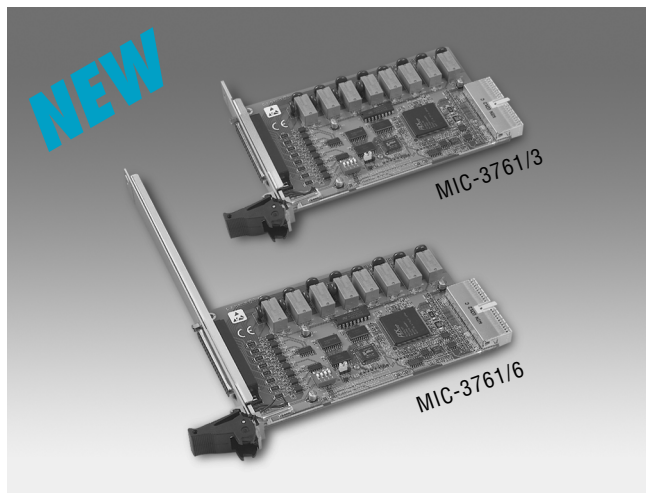


MIC-3761

8-ch Relay Actuator and 8-ch Isolated Digital Input Card



Features

- 8 relay output channels and 8 isolated digital input channels
- LED indicators to show activated relays
- 4 Form C and 4 Form A type relay output channels
- Output status read-back
- Retained relay output values when hot system reset
- High-voltage isolation on input channels (3,750 V_{DC})
- High ESD protection (2,000 V_{DC})
- High over-voltage protection (70 V_{DC})
- Wide input range (10 ~ 50 V_{DC})
- Interrupt handling capability
- Board ID

Introduction

The MIC-3761 relay actuator and isolated D/I card is a add-on card for the PCI bus. It provides 8 opto-isolated digital inputs with isolation protection of 3,750 V_{DC} for collecting digital inputs in noisy environments and 8 relay actuators for serving as ON/OFF control devices or small power switches. For easy monitoring, each relay is equipped with one red LED to show its ON/OFF status. The MIC-3761's eight optically-isolated digital input channels are ideal for digital input in noisy environments or with floating potentials.

Rugged Protection

The MIC-3761 digital input channels feature a rugged isolation protection for industrial, lab and machinery automation applications. It durably withstands voltage up to 3,750 V_{DC}, protecting your host system from any incidental harms. If connected to an external input source with surge-protection, the MIC-3761 can offer up to a maximum of 2,000 V_{DC} ESD (Electrostatic Discharge) protection. Even with an input voltage rising up to 70 V_{DC}, the MIC-3761 can still manage to work properly, albeit for only a short period of time.

Reset Protection Fulfills Requirement for Industrial Applications

When the system has undergone a hot reset (i.e. without turning off the system power), the MIC-3761 can either retain output values of each channel, or return to its default configuration as open status, depending on its onboard jumper setting. This function protects the system from unwanted operations during unexpected system resets.

Specifications

Isolated Digital Input:

- Channels: 8
- Optical Isolation: 3,750 V_{DC}
- Opto-isolator Response Time: 25 μ s
- Over-voltage Protect: 70 V_{DC}
- Input Voltage: 10 ~ 50 V_{DC}
- Input Current: 1.6 mA @ 10 V_{DC}
8.9 mA @ 50 V_{DC}

Relay Output:

- Channels: 8
- Relay Type: SPDT (4 Form C and 4 Form A)
- Rating (resistive): 3 A @ 250 V_{AC} or 3 A @ 24 V_{DC}
- Max. Switching Power: 750 VA, 72 W
- Max. Switching Load: 10 mA @ 5 V_{DC}
- Insulation Resistance: 1,000 M Ω min. (at 500 V_{DC})
- Operate Time: 15 ms max.
- Release Time: 5 ms max.

General:

- Connector: One 37-pin D-type connector
- Dimensions: 175 mm (L) x 100 mm (H) (6.9" x 3.9")
- Power Consumption: +5 V @ 220 mA (typical)
+5 V @ 750 mA (max.)
- Operating Temperature: 0 ~ 60° C (32 ~ 140° F)
(refer to IEC 68-2-1, 2)
- Storage Temperature: -20 ~ 70° C (-4 ~ 158° F)
- Operating Humidity: 5 % ~ 95 % RH non-condensing
(refer to IEC 68-2-3)

Ordering Information

- MIC-3761/3: 3U 8-ch Relay Actuator and 8-ch Isolated D/I Card
- MIC-3761/6: 6U 8-ch Relay Actuator and 8-ch Isolated D/I Card
- PCL-10137-1/2/3: DB-37 cable assembly, 1, 2 and 3 m
- ADAM-3937: DB-37 Wiring Terminal for Din-rail Mounting
- PCLD-780: Universal Screw Terminal Board

Specifications

Isolated Digital Input

Number of Input Channel	8	
Optical Isolation	3750 V _{DC}	
Opto-isolator response time	25 μs	
Over-voltage Protect	70 V _{DC}	
Input Voltage	VIH (max.)	50 V _{DC}
	VIH (min.)	10 V _{DC}
	VIL (max.)	3 V _{DC}
Input Current	10 V _{DC}	1.6 mA (typical)
	12 V _{DC}	1.9 mA (typical)
	24 V _{DC}	4.1 mA (typical)
	48 V _{DC}	8.5 mA (typical)
	50 V _{DC}	8.9 mA (typical)

Relay Output

Number of Output Channel	8	
Relay Type	SPDT (4 Form C and 4 Form A)	
Rating (resistive)	3 A* 250 V _{AC} or 3 A* 24 V _{DC}	
Max. Switching Power	750 AV, 72 W	
Max. Switching Voltage	250 V _{AC} , 24 V _{DC}	
Max. Switching Current	3 A	
Min. Switching Load	10 mA 5 V _{DC}	
Breakdown Voltage	5,000 V _{AC} for 1 min. (Between coil and contacts)	
Operate time	15 ms max.	
Release time	5 ms max.	
Insulation Resistance	1,000 MΩ min. (at 500 V _{DC})	
Life Expectancy	Mechanical	2x10 ⁷ ops. min.
	Electrical	2x10 ⁵ ops. min.(contact rating)

Note:

The current was limited by the cable and wiring terminal board.

General

I/O Connector Type	37-pin D-type female	
Dimensions	175 mm x 100 mm (6.9" x 3.9")	
Power Consumption	+5V @ 220 mA (typical) +5V @ 750 mA (max.)	
Temperature	Operating	0 ~ +60 °C (32 ~ 140°F) (refer to IEC 68-2-1,2)
	Storage	-20 ~ +70 °C (-4 ~ 158 °F)
Relative Humidity	5 - 95 % RH non-condensing (refer to IEC 68-2-3)	
Certification	CE Class A certified	

Pin Assignments

Description of pin use:

	R0_NO	1	20	R3_NO
IDInA* (n=0 ~ 7):	R0_COM	2	21	R3_COM
Isolated digital input A	R0_NC	3	22	R3_NC
IDInB* (n=0 ~ 7):	R1_NO	4	23	R4_NO
Isolated digital input B	R1_COM	5	24	R4_COM
Rn_NO (n=0 ~ 7):	R1_NC	6	25	R5_NO
Normally Open pin of relay output	R2_NO	7	26	R5_COM
Rn_NC (n=0 ~ 7):	R2_COM	8	27	R6_NO
Normally Close pin of relay output	R2_NC	9	28	R6_COM
Rn_COM (n=0 ~ 7):	R7_NO	10	29	N/A
Common pin of relay output	R7_COM	11	30	IDI 0B
	IDI 0A	12	31	IDI 1B
	IDI 1A	13	32	IDI 2B
	IDI 2A	14	33	IDI 3B
	IDI 3A	15	34	IDI 4B
	IDI 4A	16	35	IDI 5B
	IDI 5A	17	36	IDI 6B
	IDI 6A	18	37	IDI 7B
	IDI 7A	19		

Block Diagram

