

PCI-8133

3-CH Quadrature Encoder and 3 PWM Output Card

Features

- 32-bit PCI Bus, Plug and Play
- Three 16-bit counters
- Counters for quadrature AB-phase encoder or general purpose up/down counter
- On-board 5000 V_{RMS} isolation circuits and digital de-glitch filters for every encoder input signal
- Programmable frequency for digital de-glitch filter
- Three PWM waveform generators
- 12-bit PWM signal resolution
- Isolated general purpose 8 DI & 8 DO
- Dual interrupt from two timer clock signals
- Compact, half-size PCB
- One 37-pin rugged connector for encoder signals, one 40-pin header connector for digital I/O expansion



Specifications

Counter of Encoder Input

- Number of channels: 3
- Counter resolution: 16-bit
- Encoder counter features
 - AB-phase and index input
 - Up/down counter
 - Digital filter for input signal
- Input signal types of counter 1
 - A, B phase decoder input
 - VCO (CCW/CW pulse) input
- Input signal types of counter 2
 - AB-phase decoder input
 - VCO (CCW/CW pulse) input
 - Pulse command input
- Input signal type of counter 3
 - AB-phase decoder input
- Counter status read back
- Filter type: 3-order digital filter
- Digital filter frequency: programmable 10 MHz, 5 MHz, 2.5 MHz, 625 kHz

PWM Signal Output

- Number of channels: 3
- Signal resolution: 12-bit
- Base frequency: 10 MHz
- PWM cycle is synchronized with interrupt signal

Isolated Digital Output/Input

- Number of input channels: 8 DI
- Number of output channels: 8 DO
- Input voltage: 0-24 V_{DC}, differential input signal pairs
- Input resistance: 1.2 kΩ @ 0.5W
- Digital output type: Darlington Transistors, open collector up to 40 V_{DC}
- Current sink: Max. 200 mA
- Isolation voltage: 5000 V_{RMS}

General Specifications

- I/O Connector
 - one 37-pin D-sub female connector
 - one 40-pin header connector
- Interrupt sources: (Dual Interrupt)
 - Internal Timer Clock A
 - Internal Timer Clock B
- Operating temperature: 0 to 55 °C
- Storage temperature: -20 to 80 °C
- Humidity: 5 to 95%, non-condensing
- Dimension: 162 mm x 105 mm

Termination Board

- **ACLD-9137**
General-Purpose Termination Board with a 37-pin D-sub Male Connector
- **ACLD-9188**
General-Purpose Termination Board with Two 20-pin Ribbon Connectors and One 37-pin D-sub Connector (Including Two 1-meter ACL-10120 Cables)
- **DIN-37D**
Termination Board with a 37-pin D-sub Connector and DIN-Rail Mounting (Including One 1-meter ACL-10120 Cable)

Ordering Information

- **PCI-8133**
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Note: Products are shipped with software development kits for DOS, Windows 2000/NT/XP/9x, and MotionCreator.

Pin Assignment of the 37-pin Connectors

IGND	1	20	PHA1-
PHA1+	2	21	PHB1-
PHB1+	3	22	PHC1-
PHC1+	4	23	PHA2-
PHA2+	5	24	PHB2-
PHB2+	6	25	PHC2-
PHC2+	7	26	PHA3-
PHA3+	8	27	PHB3-
PHB3+	9	28	PHC3-
PHB3+	10	29	PIN0-
PIN0+	11	30	PIN1-
PIN1+	12	31	PIN2-
PIN2+	13	32	IGND
IGND	14	33	N.C.
GND	15	34	OENA
U+	16	35	U-
V+	17	36	V-
W+	18	37	W-
+5V	19		

ISO.+5V	1	20	ISO.+5V
ISO.+5V	2	21	ISO.+5V
IN0+	3	22	IN0-
IN1+	4	23	IN1-
IN2+	5	24	IN2-
IN3+	6	25	IN3-
IN4+	7	26	IN4-
IN5+	8	27	IN5-
IN6+	9	28	IN6-
IN7+	10	29	IN7-
VPP	11	30	VPP
OUT0+	12	31	DO.GND
OUT1+	13	32	DO.GND
OUT2+	14	33	DO.GND
OUT3+	15	34	DO.GND
OUT4+	16	35	DO.GND
OUT5+	17	36	DO.GND
OUT6+	18	37	DO.GND
OUT7+	19		