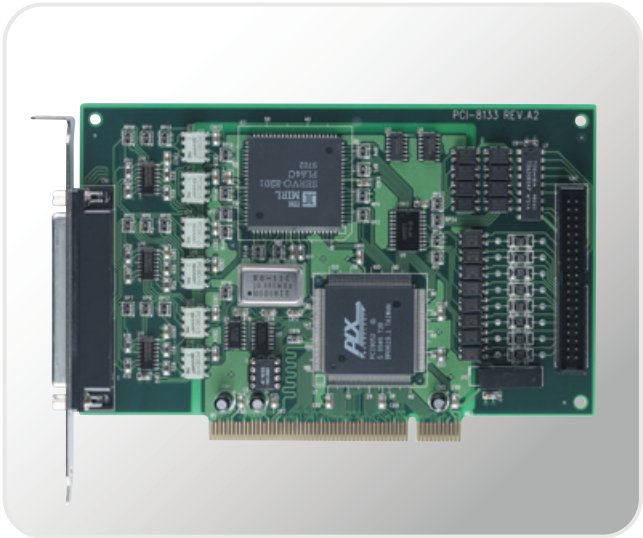
# PCI-8133

## 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 5000V$_{DC}$ 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*

## Software Support

### Windows Platform

Driver supports for Windows XP/2K/NT/98.
VB/VC++/BCB/Delphi are recommended programming tools.

## Termination Board

- *ACLD-9137*
- *ACLD-9188*
- *DIN-37D*
- *ACL-10137-1/2 MM*

## Ordering Information

| | |
|---|---|
| PCI-8133 | 3-CH quadrature phase encoder and PWM output card |

## Specifications

### Counter of Encoder Input

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

### PWM Signal Output

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

### Isolated Digital Output/Input

| | |
|---|---|
| Number of channels | 8 DI |
| Number of output channels | 8 DO |
| Input voltage | 0-24V$_{DC}$, differential input signal pairs |
| Input resistance | 1.2KΩ@0.5W |
| Digital output type | Darlington Transistors, open collector up to 40V$_{DC}$ |
| Current sink | 200mA max. |
| Isolated voltage | 5000V$_{RMS}$ |

### General Specifications

| | |
|---|---|
| Connector | one 37-pin D-type female and one 40-pin header connector |
| Interrupt sources | Internal Timer Clock A |
| (Dual Interrupt) | Internal Timer Clock B |
| Operating temperature | 0 ~ 55°C |
| Storage temperature | -20 ~ 80°C |
| Humidity | 0~95%, non-condensing |
| Dimension | 162mm x 105mm |

### Pin Assignment of the 37-pin Connectors

| | | | |
|---|---|---|---|
| IGND (1) | | (20) PHA1- | Iso.+5V (1) | | (20) Iso.+5V |
| PHA1+ (2) | | (21) PHB1- | Iso.+5V (2) | | (21) Iso.+5V |
| PHB1+ (3) | | (22) PHC1- | IN0+ (3) | | (22) IN0- |
| PHC1+ (4) | | (23) PHA2- | IN1+ (4) | | (23) IN1- |
| PHA2+ (5) | | (24) PHB2- | IN2+ (5) | | (24) IN2- |
| PHB2+ (6) | | (25) PHC2- | IN3+ (6) | | (25) IN3- |
| PHC2+ (7) | | (26) PHA3- | IN4+ (7) | | (26) IN4- |
| PHA3+ (8) | | (27) PHB3- | IN5+ (8) | | (27) IN5- |
| PHB3+ (9) | | (28) PHC3- | IN6+ (9) | | (28) IN6- |
| PHC3+ (10) | | (29) PIN0- | IN7+ (10) | | (29) IN7- |
| PIN0+ (11) | | (30) PIN1- | VPP (11) | | (30) VPP |
| PIN1+ (12) | | (31) PIN2- | OUT0+ (12) | | (31) DO.GND |
| PIN2+ (13) | | (32) IGND | OUT1+ (13) | | (32) DO.GND |
| IGND (14) | | (33) N.C. | OUT2+ (14) | | (33) DO.GND |
| GND (15) | | (34) OENA | OUT3+ (15) | | (34) DO.GND |
| U+ (16) | | (35) U- | OUT4+ (16) | | (35) DO.GND |
| V+ (17) | | (36) V- | OUT5+ (17) | | (36) DO.GND |
| W+ (18) | | (37) W- | OUT6+ (18) | | (37) DO.GND |
| +5V (19) | | | OUT7+ (19) | | |





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