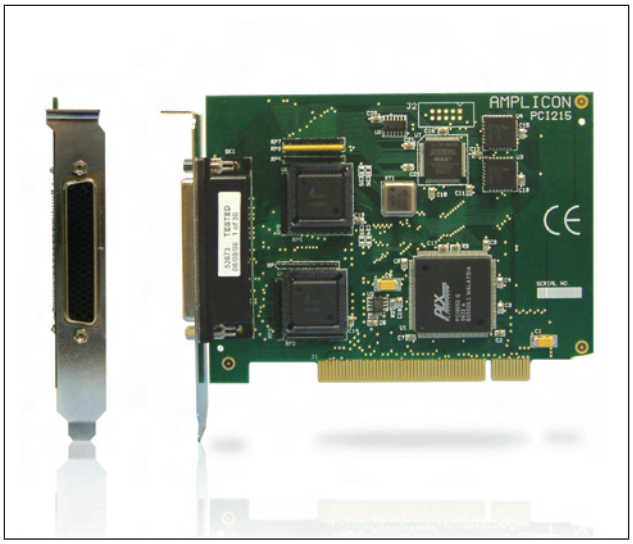
# AMPLICON PCI215




## Features

- 48 lines of TTL compatible digital I/O
- Six 16-bit counter/timers
- 32-bit 5V PCI compatible
- Interrupt controlled operation
- External termination panels available
- High density 78-way D connector
- Windows 95, 98, NT, 2000, XP, 2003 and Vista Support
- Drivers for C/C++, VB.NET, Delphi, VEE & LabVIEW

## Description

**General**
The PCI215 is a digital I/O board that provides 48 lines of parallel digital input/output and six 16-bit counter/timers. The board can be used on any PC that supports PCI bus version 2.1 to monitor and control an external device.

The PCI215 is powered by the 5V supply from the host PC and this supply rail is also available for external use via the I/O connector

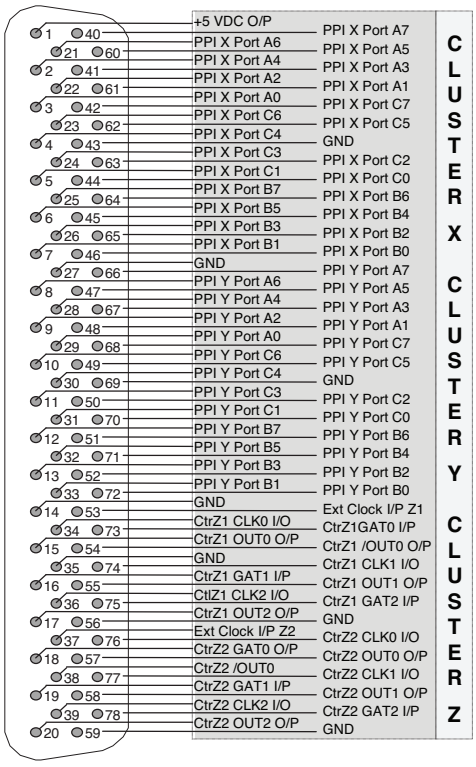
**Digital I/O**
The PCI215 has two 82C55 Programmable Peripheral Interface (PPI) chips, each having three 8-bit ports (A, B and C). Port C can be split into two 4-bit ports. Each port can be configured for inputs or outputs by writing to the control register of the 82C55.

**Digital I/O Expansion**
The 48 lines of digital I/O can be connected externally to the Amplicon EX200 range of digital I/O signal conditioning panels, providing relay outputs and isolated inputs

**Counter Timers**
The PCI215 has two 82C54 counter timers each with three channels. All timing operations are under the control of a 10MHz crystal clock source. This source is used internally and can be divided down for connection to each of the 82C54's channels. The clock input to the counter/timer can also be configured for an external clock source.

**Software support**
The PCI215 may be used in 32-bit Windows or Linux operating environments. Drivers are available for all popular high-level programming languages. The Amplicon programming library, AMPDIO32 provides example programs with source code which can be modified as required.

## PCI215 78-way connector

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# AMPLICON PCI215

## Specifications

| Digital input/output | |
|---|---|
| **Digital I/O** | Two 82C55 chips with 24 TTL compatible lines |
| **Digital inputs** | Low: -0.3V to +0.8V<br>High: +2.2V to +5.3V |
| **Digital outputs** | Low: +0.4V max at 2.5mA<br>High: +3.7V min at -2.5mA |
| **Interrupt sources** | 6 interrupt sources available in total, two per 82C55 and one per 82C54 |
| **Counter/Timer** | |
| **Counter/timer** | Two 82C54 counter/timers each with three 16-bit counters |
| **Counter/timer functions** | Interrupt control, count down, stopwatch, frequency/ period measurement, frequency generation, square wave output, PWM output and others |
| **Counter outputs** | Low output voltage: +0.4V max at +2.5mA.<br>High output voltage: +3.7V min at -2.5mA |
| **Ext. clock/gate input** | Low: -0.3 to +0.8V<br>High: +2.2 to +5.3V |

| General | |
|---|---|
| **Connector** | 78-way female D-sub |
| **Dimensions** | 144 x 108mm (Length x Height) |
| **PC interface** | PCI bus version 2.1, 5V |
| **Operating temp.** | 0 to +60°C |
| **Storage temp.** | -20 to +70°C |
| **Humidity** | 5 to 95% RH, non-condensing |
| **Power requirements** | 5Vdc @ 300mA, fully loaded |
| **MTBF** | 1274 khours |
| **Compliance** | CE, EMC EN55022, EN55024 |

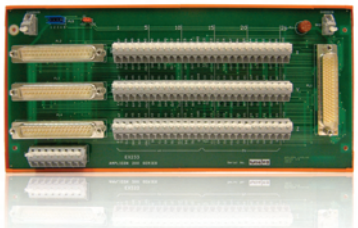
## Accessories and Ordering information

Images are for illustration purposes only

**96003513** PCI 215 digital I/O 48 channels and 6 counter timers PCI board
**90966333** EX233 termination and distribution panel
**90966349** Cable 1m long screened 78 way for use with EX233 panel and 200 series DIO boards
**90966373** EX230 input panel with 24 isolated common & contact closure inputs
**90966363** EX213 output panel with 24 relays/isolated logic
**91014890** ACL-10137-1 MF Screened cable, 37-way male D to female D

96003513


90966333



90966349

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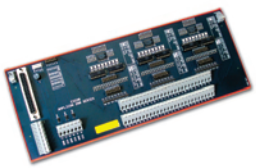

90966363

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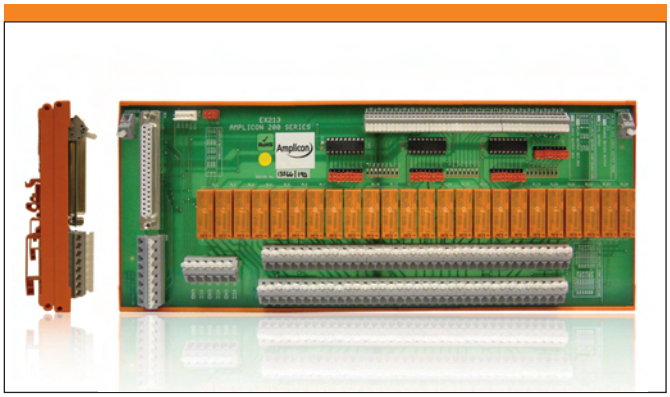
# EX200 Series



## Features

- DIN rail or bench mounting
- Easy clamp terminals for our PCI200 series digital I/O boards
- Isolated input protection
- Isolated outputs/ relays
- 'Mix and match' panels to build the connection system for you

## Description

The EX200 range of digital termination panels has been developed for connection of signals to the PCI236, PCI272 and PCI215. Three termination panels are available, and may be used in various combinations or individually, depending on whether isolation is required or not.

**EX233 termination panel**
The EX233 is a termination panel that provides 78 terminals for connection of external signals. A 78-way connector enables connection via an appropriate cable assembly, to either PCI272 or PCI215 digital I/O boards. It also has three 37-way connectors allowing distribution of input/ output signals, or connection to an isolation panel detailed below.

**EX230 isolated input panel**
The EX230 is a 24 line interface panel that provides isolation and protection from digital input signals. The EX230 may be connected directly to the PCI236 digital I/O board (via a cable), or to one of the three 37-way connectors on the EX233.

All inputs can be configured on a channel by channel basis. The following jumper selections can be made:

- An opto-isolated input with 2 ranges:
Low range: -5.0 to +1.5V = Low, and +4 to +20V = High.
High range: -15 to +2.0V = low, and +10 to +50V = high.

- Volt free contact closure input which uses the +5V supply onboard to detect a contact closure and like all the other input modes requires no external power.

**EX213 relay/ isolated output panel**
The EX213 is a 24 line interface panel that provides isolation or higher switching capability for digital outputs. The EX213 may be connected directly to the PCI236 digital I/O board (via a cable), or to one of the three 37-way connectors on the EX233.

There are independent terminal groups for relay and logic outputs and all outputs can be configured on a channel by channel basis. The following jumper selections can be made:

- Isolated relay output with changeover contact. This is rated for 8A at 30Vdc, or 49Vac.

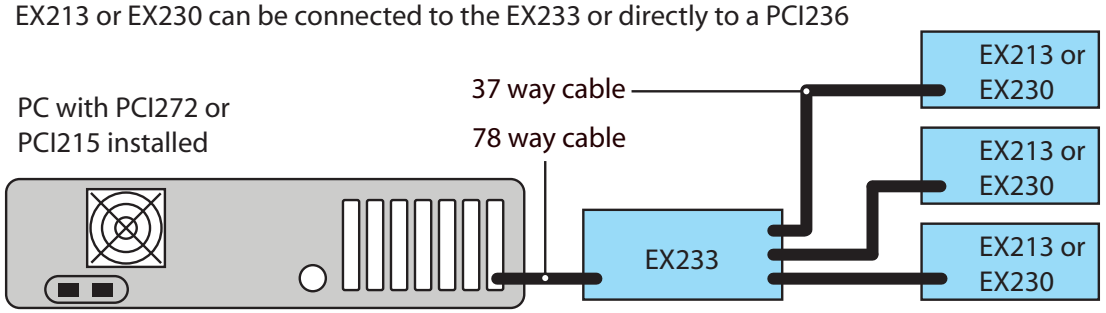
- Isolated High level logic output with source drivers that can source up to 100mA for 90% duty cycle on all 24 lines.

- Non-isolated TTL outputs on port A (8-bits).

The outputs are in groups of 8, each of which may be independently powered by a 24Vdc supply. Alternatively they can share one 24V supply but either way external power is required. EX233 has terminals for introducing a common 24V power supply for the EX213 and EX221.

## Schematic diagram

EX213 or EX230 can be connected to the EX233 or directly to a PCI236

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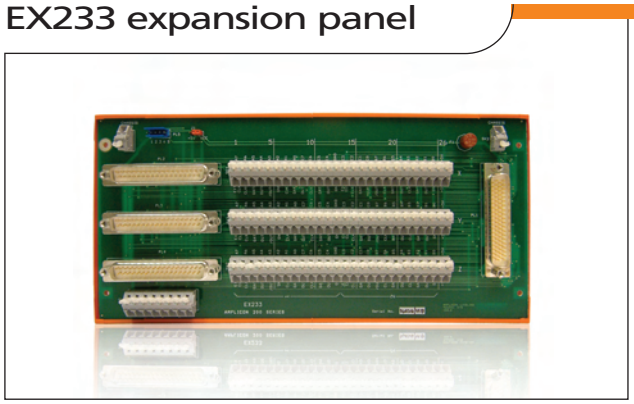
# EX200 Series

## EX233 expansion panel

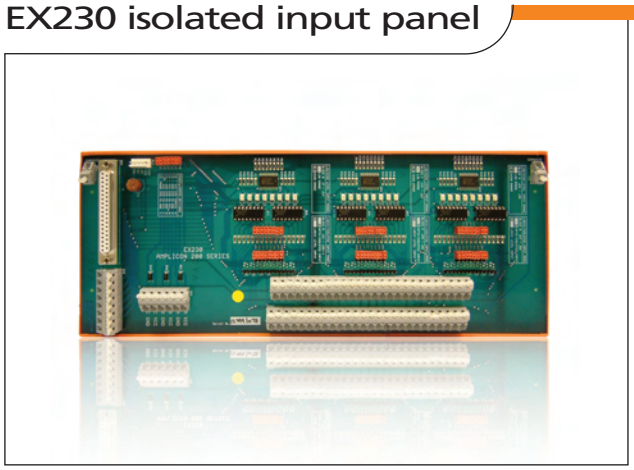


| Specifications | |
|---|---|
| Board interface | 78-pin male D-sub |
| Wiring termination | Spring loaded terminals |
| Expansion interface | Three 37-pin male D-sub |
| Dimensions | 267 x 126 x 42mm (width x depth x height) |
| Mounting | DIN rail or bench top |

### Ordering information

**90966333** EX233 termination and distribution panel
**90966349** Cable 1m long screened 78 way for use with EX233 panel and 200 series DIO boards
**91014890** ACL-10137-1 MF Screened cable, 37-way male D to female D

## EX230 isolated input panel

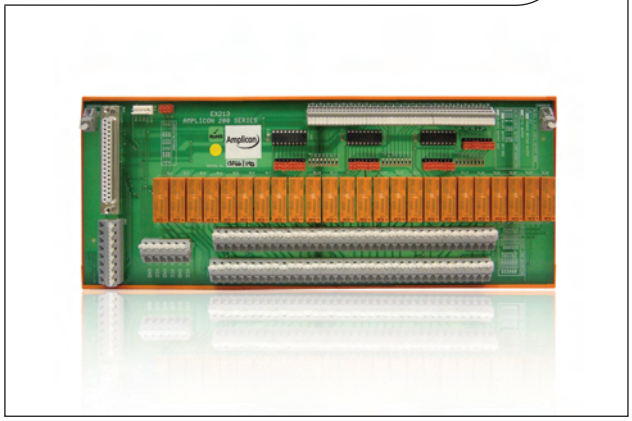


| Specifications | |
|---|---|
| Opto-isolated low range | Low or '0': -5.0 to +1.5V<br>High or '1': +4 to +20V |
| Opto-isolated high range | Low or '0': -15 to 2.0V<br>High or '1': +10 to +50V |
| Volt free contact | Low or '0': -1.0 to +1.5V<br>High or '1': +2.0 to +5.0V |
| Wiring termination | Spring loaded terminals |
| Connector | 37-way female D-sub |
| Dimensions | 320 x 126 x 42mm (width x depth x height) |

### Ordering information

**90966373** EX230 input panel, 24 isolated common & contact closure inputs
**91014890** ACL-10137-1 MF Screened cable, 37-way male D to female D

## EX213 Relay / isolated outputs



| Specifications | |
|---|---|
| Number of relays | 24 SPDT |
| Contact rating | 30Vdc or 49Vac @ 8A |
| Opto-isolated output | Low or '0': +0.7V High or '1': +23V |
| Non-isolated outputs | TTL on Port A only, selectable |
| Max current source | 100mA/ channel for 90% duty |
| Wiring termination | Spring loaded terminals |
| Connector | 37-way female D-sub |
| Dimensions | 320 x 126 x 42mm (width x depth x height) |
| Power requirements | 24Vdc |

### Ordering information

**90966363** EX213 output panel with 24 relays/isolated logic
**91014890** ACL-10137-1 MF Screened cable, 37-way male D to female D