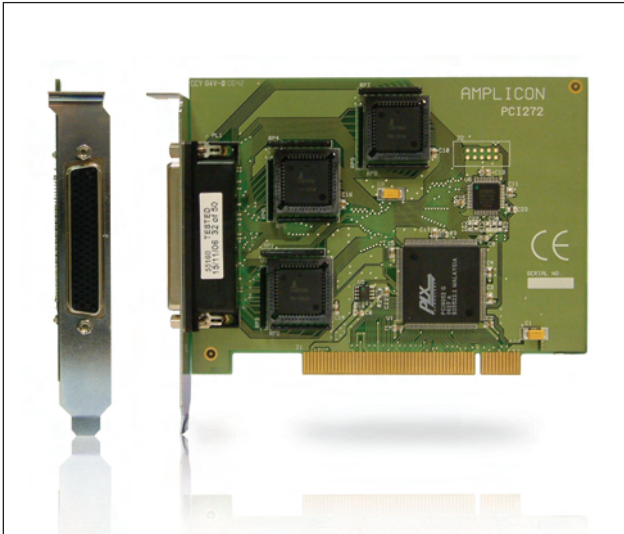


# AMPLICON PCI272



## Features

- 72 lines of programmable digital I/O
- 32-bit 5V bus compatible
- Multiple interrupt sources with custom interrupt register
- High density 78-way D connector
- Windows 95, 98, NT, 2000, XP, 2003, Vista and Linux support
- Drivers for Visual C/C++, C#, VB/VB.NET, Delphi, VEE and LabVIEW

## Description

### General

The PCI272 is a digital I/O board that provides 72 TTL compatible inputs and outputs for monitoring and control applications. The board is suitable for use in any PC that supports PCI bus version 2.1.

### Architecture

The 72 digital I/O channels are obtained from three 82C55 chips which are referred to as clusters (X, Y and Z). Each chip has three 8-bit ports (A, B and C), which may be used for inputs or outputs as required. Port C can be split into two 4-bit ports, each of which can be configured for inputs or outputs.

This allows each cluster to be programmed in two groups of 12-bits (group A, group B) or three groups of 8-bits.

Interrupt controlled operation is possible with the facility for interrupts to be generated from six external sources (C0 and C3 in each cluster).

The PCI272 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

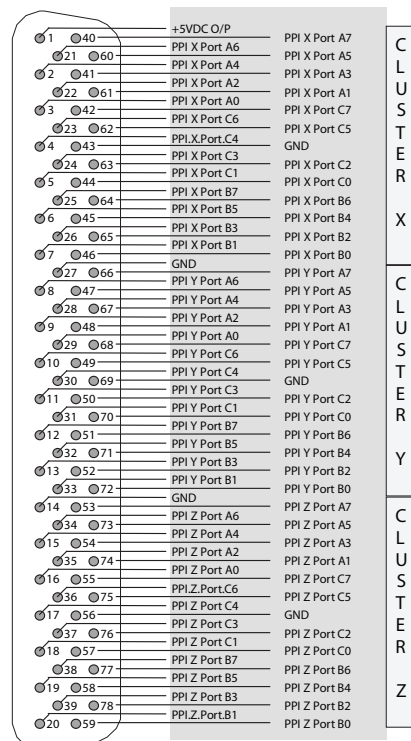
### Expansion

When a large scale system is required, multiple boards can be added from the Amplicon 200 series without conflict. The PCI272 may also be used in applications not suitable for TTL signals with the addition of our EX200 range of expansion panels. These DIN rail or bench top expansion panels are available with 24 channel high voltage or relay outputs, and 24 channel isolated digital inputs.

### Software support

The PCI272 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.

## PCI272 78-way connector



## AMPLICON PCI272

### Specifications

Digital input/output		General	
<b>Digital I/O</b>	Three 82C55 chips with 24 TTL compatible lines	<b>Connector</b>	78-way female D-sub
<b>Number of channels</b>	72 TTL compatible	<b>Dimensions</b>	145 x 108mm (Length x Height)
<b>Digital inputs</b>	Low: -0.3V to +0.8V High: +2.2V to +5.3V	<b>PC interface</b>	PCI bus version 2.1, 5V
<b>Digital outputs</b>	Low: +0.4V max at +2.5mA High: +3.7V min at -2.5mA	<b>Operating temp.</b>	0 to +60°C
<b>Interrupt sources</b>	6 interrupt sources available in total from C0 and C3 on each chip	<b>Storage temp.</b>	-20 to +70°C
		<b>Humidity</b>	5 to 95% RH, non-condensing
		<b>Power requirements</b>	5Vdc @ 95mA, fully loaded
		<b>MTBF</b>	1530 khours
		<b>Compliance</b>	CE, EMC EN55022, EN55024

### Accessories and Ordering information

Images are for illustration purposes only

**96003523** PCI272 digital I/O board with 72 channels

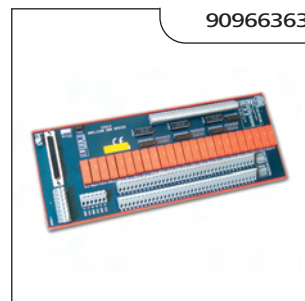
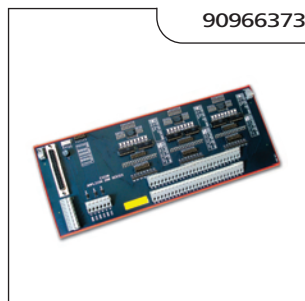
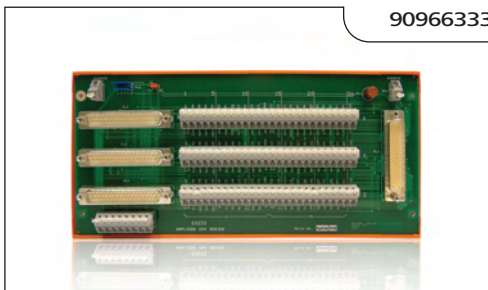
**90966333** EX233 termination and distribution panel

**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

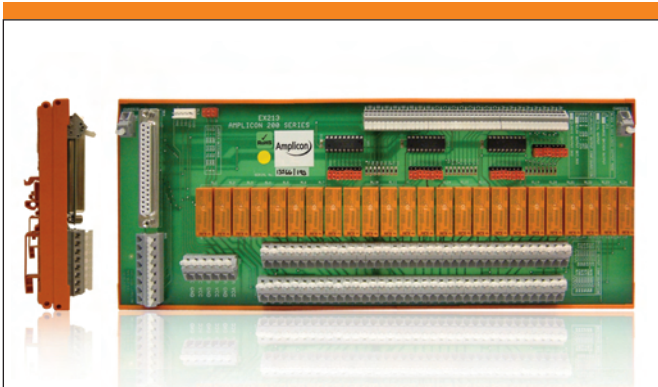
**90966363** EX213 output panel with 24 relays/isolated logic

**91014890** ACL-10137-1 MF Screened cable, 37-way male D to female D



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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:

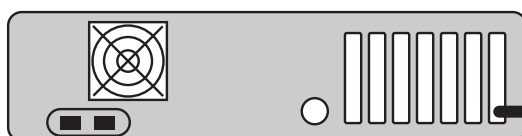
- Isolated relay output with changeover contact. This is rated for 8A at 30Vdc, or 49Vac.
- Isolated High level logic output with source drivers that can source up to 100mA for 90% duty cycle on all 24 lines.
- Non-isolated TTL outputs on port A (8-bits).

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

PC with PCI272 or PCI215 installed



37 way cable

78 way cable

EX233

EX213 or EX230

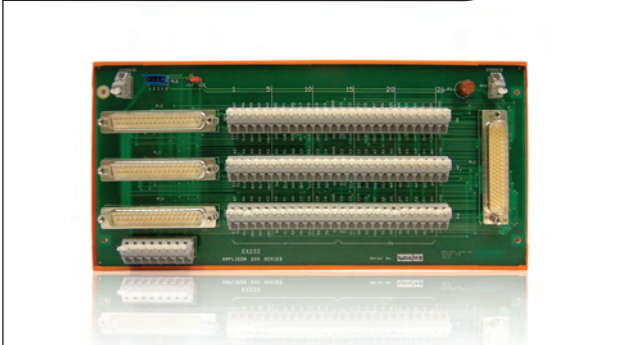
EX213 or EX230

EX213 or EX230

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## EX200 Series

### EX233 expansion panel



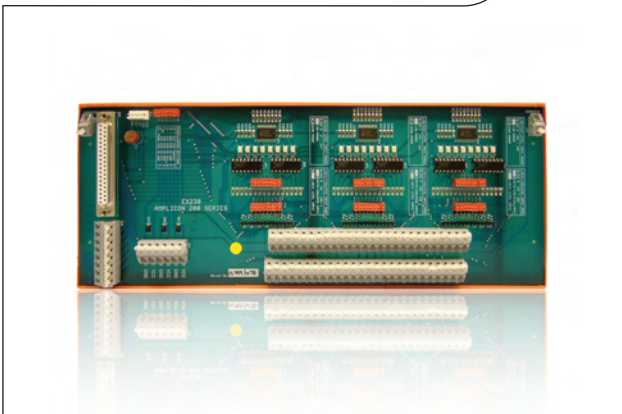
#### Specifications

<b>Board interface</b>	78-pin male D-sub
<b>Wiring termination</b>	Spring loaded terminals
<b>Expansion interface</b>	Three 37-pin male D-sub
<b>Dimensions</b>	267 x 126 x 42mm (width x depth x height)
<b>Mounting</b>	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



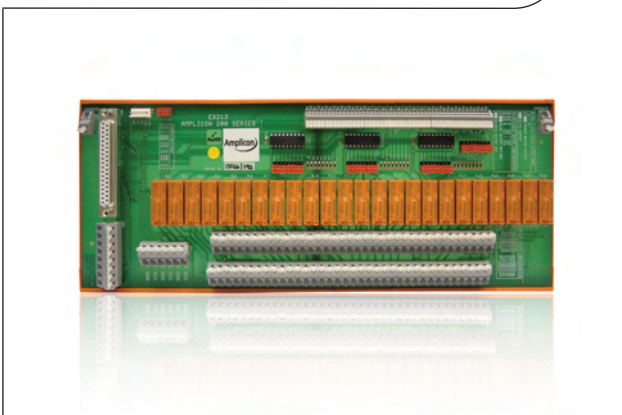
#### Specifications

<b>Opto-isolated low range</b>	Low or '0': -5.0 to +1.5V High or '1': +4 to +20V
<b>Opto-isolated high range</b>	Low or '0': -15 to 2.0V High or '1': +10 to +50V
<b>Volt free contact</b>	Low or '0': -1.0 to +1.5V High or '1': +2.0 to +5.0V
<b>Wiring termination</b>	Spring loaded terminals
<b>Connector</b>	37-way female D-sub
<b>Dimensions</b>	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

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