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# ICP-DIO

## 32-Channel Composite Digital Input & Output Board



### Applications:

- Embedded Systems
- Robotics
- Energy & Environment
- Industrial Control & Automation
- Traffic and Transportation



 **inova**®  
Computers

Inova's ICP-DIO has been designed to supply industrial applications with 16 independent digital input channels and 16 independent output channels. Additional input flexibility is provided by the ability to configure four of its inputs for up/down counter tasks. Smart, high-side power switches enable the digital output stage to supply loads drawing up to 1A with built-in inductive load protection.

Complying with the IEC1131-2 standard, the ICP-DIO is fully PLC compatible and may be equipped with an optional wall or industrial DIN-rail mounted termination panel that reflects the status of the individual input and output channels.

LEDs on the front-panel provide a quick indication of the board status.

# 32-Channel Composite Digital Input & Output Board

## FEATURES

The ICP-DIO is an industrial CompactPCI board and, as such, will be exposed to harsh environmental operating conditions. For this reason, all input channels are optoisolated and filtered to suppress interference and feature over-voltage and reverse polarity protection. All output channels are optoisolated and are fully protected by embedded protection functions that include reverse polarity, thermal shutdown and short circuit conditions. In the event of an output fault condition, application software is able to detect it and alert the user.

The ICP-DIO power consumption is reduced to a minimum by limiting the current of an input channel to less than 8mA.

To protect a connected load at system start-up, all outputs are set to OFF until application software defines the status of the individual channels. Programmable interrupts allow the system to react to an event change resulting from counter overflow, input status change etc.

A complete set of driver software exists for use with Windows® NT®(2000), VxWorks®, and QNX®. Drivers for other operating systems (e.g. Linux) may be available on request.

## SPECIFICATIONS

<b>CompactPCI</b>	32-bit/33 MHz slave, 3.3V/5.0V signalling voltage and full Plug&Play compatibility
<b>Input Ch.</b>	16, independent, filtered & arranged in a single group with reference to a common GND. Four, 16-bit up/down counters
<b>Output Ch.</b>	16, independent & arranged in a single group with reference to a common GND
<b>Output Current</b>	1A per channel but not exceeding 4A total
<b>I/O Voltage</b>	24V DC (IEC1131-2 type 1)
<b>Switching Time</b>	20µs (input); 200µs (output) typically
<b>Optoisolation</b>	500V DC between I/O and system
<b>Protection</b>	Over-voltage, thermal shutdown, reverse polarity and short circuit
<b>Interrupt</b>	Counter, input change-of-state and error
<b>Status LEDs</b>	Operation (yellow), Error (red)
<b>Power Req.</b>	+3.3, +5V, 0.7W (typically) +24V DC (output supply voltage)
<b>Mass</b>	100g (typically)
<b>Oper. Temp.</b>	0°C to +70°C
<b>Storage Temp.</b>	-40°C to +85°C
<b>Extended Temp.</b>	-40°C to +85°C
<b>Humidity</b>	5% to 95% (non-condensing) @ 40°C
<b>Warranty</b>	Three-year limited warranty
<b>Conformance</b>	CompactPCI R2.1, IEC1131-2

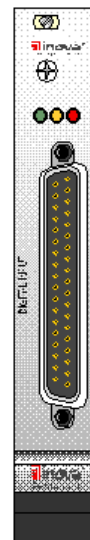
## ORDERING INFORMATION

PRODUCT	DESCRIPTION
ICP-DIO-e	32-channel, optoisolated 24V DC digital input/output board. Driver software for chosen OS must be ordered separately
ICP-STATUS-1	Termination panel for ICP-DIO with channel status LEDs
ICP-DCSET-1	2m cable set for ICP-DIO. Other lengths available on request

\* Supported OS include Windows NT (2000), VxWorks, Linux and QNX

### KEY:

-e  
 |  
 | Temperature Range  
 | 0 = 0°C to +70°C  
 | 1 = -40°C to +85°C



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