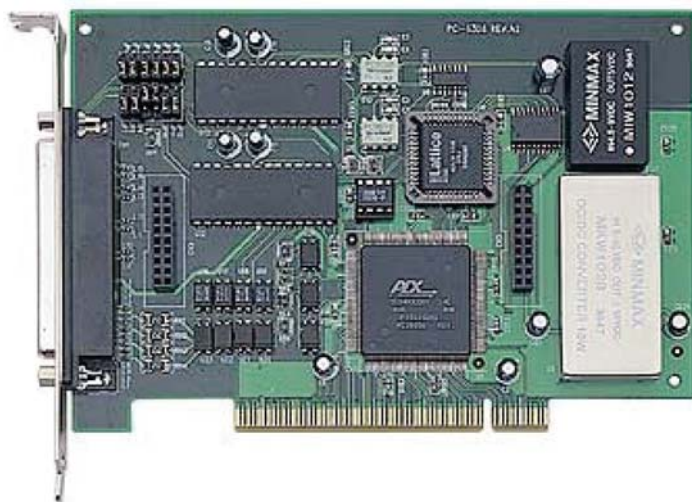


Digital/Analog I/O Card Technical Specifications



Introduction

The Digital/Analog I/O card is an add-on to the RamanFlex™ and RamanStation™ range of Raman spectrometers. It is a PCI card that works in conjunction with Spectrum™ Insight™ and LabVIEW™ software packages. The I/O card can accept external triggers and can provide quantitative constituent concentrations to be output in electronic (current or voltage) format. This card allows feedback to a control station or PC and also allows control of external devices such as solenoids, servos, flow meters, pH meters etc.

The Digital/Analog I/O card provides good monotonicity, low distortion, and low differential linearity error over long periods of time. The output ranges are bipolar -10 to +10 V, unipolar 0 to 10 V, and can also accommodate user-defined ranges with external reference input, which are jumper selectable.

With 8 precision voltage-to-current converters, this I/O card provides flexible and isolated analog output functionalities and are suitable for remote instrument control, reaction feedback, industrial process control, servo control and other industrial control applications.

Software control and drivers Drivers C/C++, VB, Delphi, Agilent VEE, and LabVIEW™

Isolated analog output

Number of channels	8 voltage outputs
Resolution	12 bits
Output ranges	(jumper selectable) Bipolar ±10 V, Unipolar 0 to 10 V, 0 to EXTREF
Settling time	16 µs (20 V step)
Maximum update interval	90 µs for four channels simultaneously
Gain error	±0.2% max.
DNL	±1 LSB
Output driving capacity	±5 mA
Isolation voltage	2500 VRMS
Output initial status	0 V (after Reset or Power-On)
Data transfers	programmed I/O

Current output

Number of channels	8
Resolution	12 bits
Output ranges	(software programmable) 0-20 mA, 4-20 mA, and 5-25 mA
Gain error	0.3%
Settling time	17 µs (0-20 mA)
Slew rate	1.3 mA/_s
DNL	±1 LSB maximum
Output resistance	10 G Ω typical
Current load resistance	0-500 Ω
Output initial status	4 mA (after Reset or Power-on)
Data transfer	programmed I/O

Isolated digital input

Number of channels	4
Maximum input range	24 V, non-polarity
Digital logic levels	5-24 V input high voltage, 0-1.5 V input low voltage
Input resistance	2.4 k Ω @ 0.5 W
Isolation voltage	2,500 VRMS
Data transfers	programmed I/O

Isolated digital output

Number of channels	4
Output type	photo-coupler transistors
Supply voltage	5 to 35 V
Isolation voltage	2,500 VRMS
Data transfers	programmed I/O

General specifications

I/O connector	37-pin D-sub female
Operating temperature	0 to 55 °C
Storage temperature	-20 to 80 °C
Relative humidity	5 to 95%, non-condensing
Dimensions	175 mm x 107 mm (not including connectors)

Termination board

No of terminations	37 pin
Mounting	DIN rail mounting and 1 meter cable
Cable	1 meter cable provided

PerkinElmer, Inc.
940 Winter Street
Waltham, MA 02451 USA
Phone: (800) 762-4000 or
(+1) 203-925-4602
www.perkinelmer.com



For a complete listing of our global offices, visit www.perkinelmer.com/lasoffices

©2007 PerkinElmer, Inc. All rights reserved. The PerkinElmer logo and design are registered trademarks of PerkinElmer, Inc. RamanFlex, RamanStation and Spectrum are trademarks of PerkinElmer, Inc. or its subsidiaries, in the United States and other countries. LabVIEW is a trademark of National Instruments. All other trademarks not owned by PerkinElmer, Inc. or its subsidiaries that are depicted herein are the property of their respective owners. PerkinElmer reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial or typographical errors.