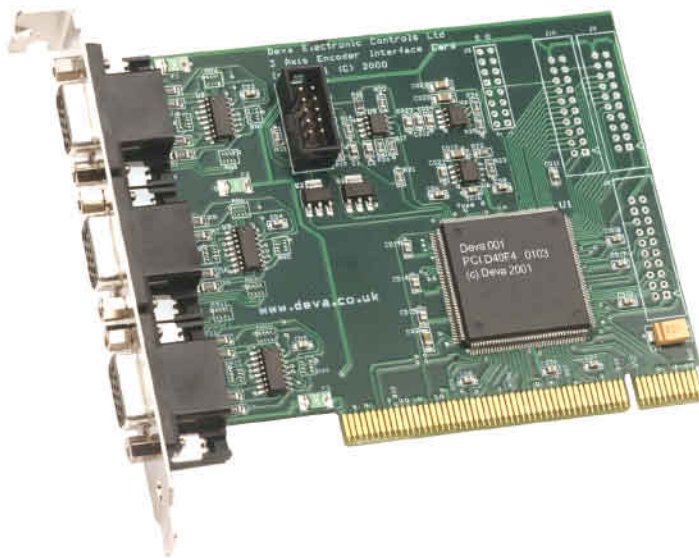


# 3-Axis PCI Incremental Encoder Interface



## Features:

- 3 x 32 bit 10Mhz position registers
- Marker input for each channel
- Fully featured, Renishaw probe input
- Synchronisation and triggering facilities
- 48 configurable digital IO
- Differential or single ended inputs
- 3 stage digital input filters
- +5V &  $\pm 12V$  fused encoder supplies
- 32bit PCI 2.2 plug and play compatible
- Comprehensive user manual
- Support & demonstration software CD

## Applications:

Position measurement  
Measurement systems  
Manual CMM machines  
Automation & process control  
Control system diagnostics  
Metrology  
Data acquisition

# 3-Axis PCI Incremental Encoder Interface



## Quality Features.....Quality Performance

Designed to interface industry standard rotary shaft encoders and linear scales to PC compatible computers, the DEVA001 incremental encoder interface makes it possible to measure position, velocity and acceleration in such wide ranging applications as robotics, co-ordinate measuring machines and CNC machine tools.

Based on a custom designed ASIC quadrature counter, the DEVA001 interface card provides three independent encoder channels each with a 32-bit position counter with a maximum count rate of 10MHz. The DEVA001 also contains a wealth of synchronisation and triggering facilities which enables both OEMs and end users to create powerful and highly flexible PC based measurement systems.

A comprehensive software support package includes libraries and examples for modern rapid application development tools such as Visual Basic, Visual 'C' and LabVIEW. Plug 'n' Play software support for Windows 98/2000/ME/XP and NT4 enables simple installation and automatic configuration of up to 6 interfaces supporting a total of 18 encoders. The card is also supplied with a multi-axis digital readout program which is useful for system verification and experimentation.

### Event System

The Deva001 now contains a powerful event system which allows events generated by a variety of hardware features to trigger actions such as the latching of encoder positions and the time stamper. The Deva001 device driver implements an array of FIFO buffers which may be programmed to collect latched data on one or more events.

#### Event sources

Marker Input Pulse generator  
Probe Input Axis comparators  
Interval timer TTL inputs

#### Event actions

Latch one or more positions  
Latch the time stamper  
Trigger TTL outputs

### Hardware features

- Renishaw touch trigger probe input
- 3 stage digital filters ensure reliable operation in harsh environments.
- Pulse generator can trigger an event every 'n' counts of an encoder.
- Time stamper can latch the time when an event occurs.
- Axis comparator can trigger an event when an axis reaches a pre-programmed value.
- Sync connector allows synchronisation between multiple cards.
- Support for differential or single ended input configurations RS422, NPN, PNP and TTL.
- Single 32bit PCI expansion slot to ensure fast read / write access cycles.

### Quality

We aim to provide our customers with the highest quality products and customer support. Our team of experienced engineers are available to discuss your specific applications.

To ensure the user is up and running in the shortest possible time, our products are supplied with comprehensive manuals, demonstration software and all required connectors and shells.

Our products are designed and manufactured in the UK and include a 36 month, no quibble warranty.

## Specification

<b>Format</b>	5V PCI 2.2 compliant
<b>Base Address</b>	1 x 4kb
<b>Interrupts</b>	1
<b>No. of axes</b>	3 channels
<b>Counter size / rate</b>	32bit / 10Mhz
<b>Encoder Connection</b>	RS422 or TTL single ended
<b>Interval Timer</b>	1 x 8 bits 0.1ms resolution
<b>Pulse Generator</b>	1 x 16 bits
<b>Axis Comparator</b>	2 x 32 bits
<b>Time Stamper</b>	1 x 16bit 1us resolution
<b>Probe debounce</b>	50ms
<b>Digital IO</b>	48 TTL level
<b>Encoder Supply</b>	Fused +5V & ±12V
<b>Weight</b>	0.16Kg;0.36lb
<b>Size</b>	9.5 x 12.5 cm; 3.7 x 3.9 in

Order Code	Description
001-3INC-REN-PCI	3-axis,incremental, Renishaw probe

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