

# 3-Axis USB Incremental Encoder Interface



## Features:

- 3 x 32 bit 10Mhz position registers
- Marker input for each channel
- Fully featured, Renishaw probe input
- Dual input optical edge detector system
- Differential or single ended inputs
- 3 stage digital input filters
- USB 2.0 plug and play compatible
- Comprehensive user manual
- Support & demonstration software CD
- Windows XP / 7 / 8 32 and 64 bit.

## Applications:

- Manual CMM machines
- Position measurement
- Measurement systems
- Control system diagnostics
- Metrology
- Data acquisition

# 3-Axis USB Incremental Encoder Interface



## Overview

Designed to interface industry standard rotary shaft encoders and linear scales to PC compatible computers, the DEVA037 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 DEVA037 interface card provides three independent encoder channels each with a 16-bit hardware counter expanded to 32 bits in software with a maximum count rate of 10MHz. This 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', DotNET and LabVIEW. Plug 'n' Play software support for 32 bit and 64 bit versions of Windows XP/Vista, Win 7,8 and 10 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.

## Optical Edge Detector Input

The Deva037 incorporates a dual input optical edge detector system. Encoder positions can be latched when the optical level present at the signal input crosses a pre-programmed threshold. Furthermore, the reference input can be used to improve the signal quality by receiving light from the illumination source and cancelling out any disturbances present in the light signal.

## DevaCMM

For use with 3rd party CMM applications the Deva037 is compatible with the DevaCMM component which is a popular choice for interfacing to other Deva products such as the Deva001 and Deva004. A list of supported applications may be found on our website.

## Hardware features

- Renishaw touch trigger probe input.
- 3 stage digital filters ensure reliable operation in harsh environments.
- Support for differential or single ended input configurations RS422, NPN, PNP and TTL.
- Convenient USB connection.
- Dual input optical edge detector system.
- Convenient USB connection.

## Enclosure

The Deva037 can be supplied complete in a custom made aluminium enclosure with a choice of 19 inch rack or desktop / wall mount. The enclosure includes a 5V / 12V mains power supply which is capable of powering most encoders.

## 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

### 037 card

<b>Format</b>	USB 2.0 compliant
<b>No. of axes</b>	3 channels
<b>Counter size / rate</b>	32bit / 10Mhz
<b>Encoder Connection</b>	RS422 or TTL single ended
<b>Probe debounce</b>	50ms
<b>Encoder Connections</b>	Fused +5V & +12V
<b>Weight</b>	100g
<b>Size</b>	6 x 18 cm
<b>Enclosure</b>	
<b>Encoder Supply</b>	+5V @ 1A , +12V @ 1A
<b>Mains Supply</b>	88 - 264vac
<b>Weight</b>	1Kg
<b>Size</b>	25 x 16 x 4 cm

Order Code	Description
037-3INC-REN-USB	3-axis, incremental, Renishaw probe USB connection
037-3INC-REN-USB-E1	Enclosed 3-axis, incremental, Renishaw probe USB connection
037-3INC-REN-USB-E2	Compact enclosed 3-axis, incremental, Renishaw probe USB connection, (without power supply)
(For OPT options and codes, contact Sales)	
037-INC-DEVKIT	3-axis, incremental, Renishaw probe USB connection, Standard enclosure
037-RACK19	19" rack option



Deva Electronic Controls Ltd  
52 Woodside Business Park  
Birkenhead  
Wirral  
CH41 1EL  
United Kingdom

Tel: +44 (0)151 647 3222  
Fax: +44 (0)151 647 4511  
Email: sales@deva.co.uk  
Web: www.deva.co.uk