

# Four Axis Encoder Interface Card for the ISA Bus



EN-EIC-325 (ISA Bus) shown larger than actual size.

## EN-EIC-325



- ✓ **Four 24-Bit Up/Down Latch Counters**
- ✓ **Each Counter has a Programmable Setpoint Value**
- ✓ **Provides the Excitation to the Encoders**

The Model EN-EIC-325 Four Axis Encoder Interface Card for the ISA BUS accommodates most of the popular optical encoders available. The board supports either square-wave or sinusoidal output encoders, both linear and rotary types. It can be directly connected to up to four encoders and will also provide necessary excitation to the encoders.

The card is equipped with four differential inputs for limit or home switches/marker/encoder index and 11 single-ended inputs for general use. Also, there are four opto-isolated outputs that may be used for set-points, carry/overflow or index/marker and three opto-isolated outputs for general use. The card has four 24-bit up/down latch counters. Each counter can be programmed for a preset value. There is an internal status register for rapid storing and clearing of signals.

### Specifications

#### Number of Encoders:

4 per board

#### Multiple Encoder Pulses:

1, 2 or 4 (software selectable)

**Encoder Outputs:** Sinusoidal or square-wave types

**Counter Size:** 24-bit up/down with latched buffer

#### Method of Communication

**with PC Bus:** I/O port addressing, 16 jumper selectable address ranges

#### Encoder Inputs: 4 Wave Signal Inputs (one per channel)

- single ended or differential for square wave
- differential for sinusoidal wave

#### 4 Wave Index (Marker) Inputs (one per channel)

- single ended or differential
- 11 general purpose inputs TTL/CMOS compatible Schmidt trigger single-ended

#### Encoder Outputs: 4 event signal outputs

- can be set to respond to following events - setpoint, overflow and index/marker
- 1 opto-isolated output per channel

#### 3 general purpose opto-isolated outputs

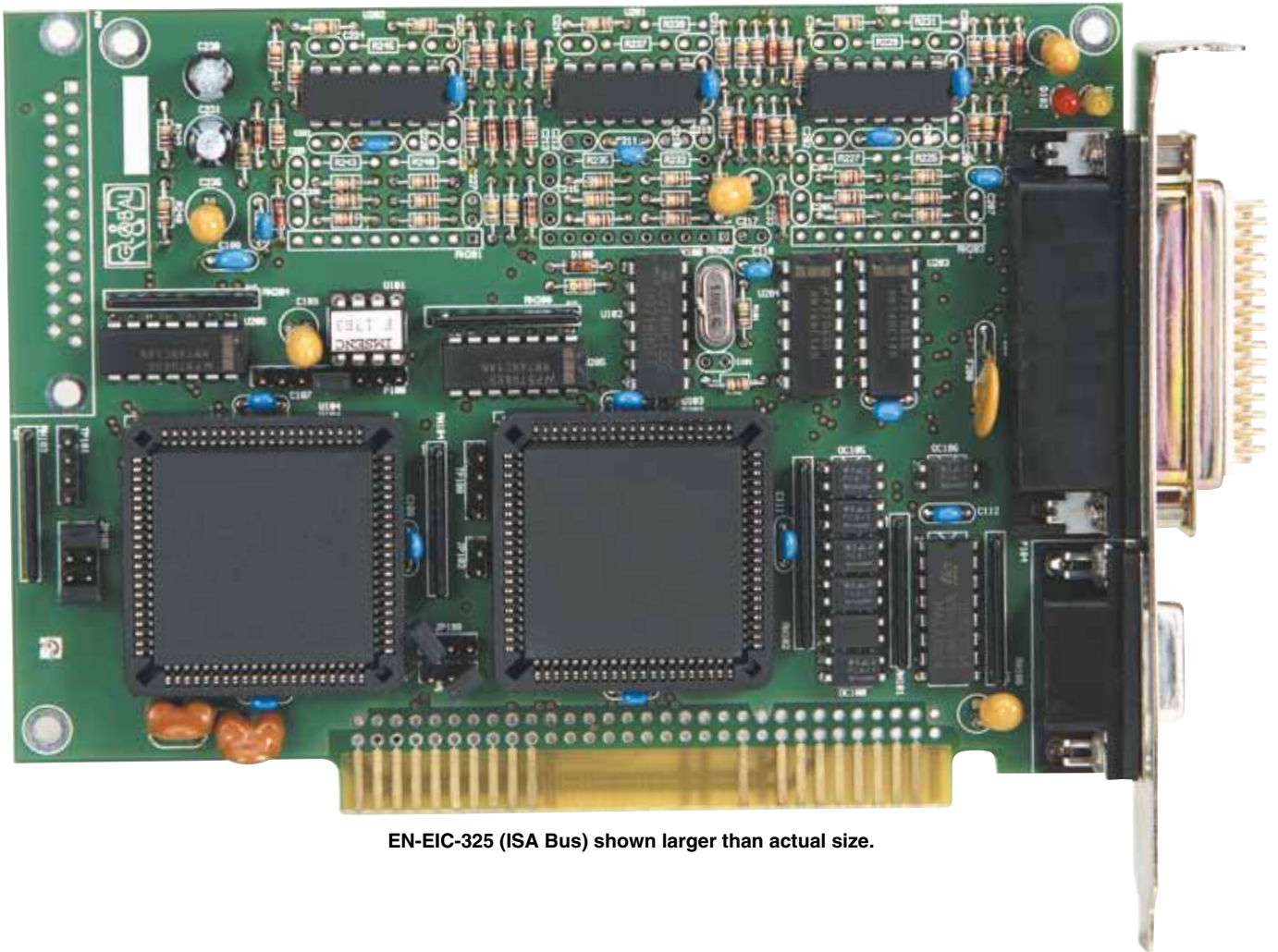
#### Power (All supplied from ISA bus):

+5 V, 200 mA max; +12 V, 100 mA max; -12 V, 50 mA max

**Encoder Connectors:** Mini D-Sub 44 pin (mating connector supplied)

**Output Connectors:** D-Sub 9 pin

**Operating Ambient:** 0 to 50°C (32 to 122°F), up to 80% RH non-condensing



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**Dimensions:**

153 L x 107 mm W (6.0 x 4.2")

**Weight:** 150 g (5.3 oz)

**ENCODER SIGNALS  
SQUARE-WAVE SIGNAL**

**Signals:** Square wave A phase and B phase shifted by 90°, single-ended or differential

**Compatibility:**

HTL 0.5-5V or TTL compatible

**Rate:** 500 Kpps max

**SINUSOIDAL SIGNALS**

**Signals:** Two incremental sinusoidal signals (phase A and B shifted by 90°) differential

**Signal Range (Encoder Output)**

**Impedance:** <1 KΩ: current output encoders, >± 100 μA; voltage output encoders, >± 100 mV for phases A, B and for the reference marker/index pulse

**Encoder Excitation:** 5 Vdc

**Light Source Current:** 900 mA total max, protected by a polyswitch resettable fuse

**Rate:** 500 Kpps max

**ENCODER COUNTER:**

**Counter:** 24-bit up/down counter +24 bit latched buffer per counter

**Setpoint:** Independently programmable setpoint for each counter

**Buffers:** User may freeze the buffers without stopping the counters from counting

**Operation:** Independent operation mode for each axis

**Encoder Pulses:** Single/multiple encoder pulses (1, 2 or 4 - software selectable)

**Counter Reset:** Counter may be reset when index is reached (software selectable)

**Output/Interrupt Options for each Encoder (Independently Selectable):** Set-point reached, counter carry flag, index/marker

To Order	
Model No.	Description
EN-EIC-325	Four axis encoder interface card for the ISA bus
EN-EIC-325-CONN	Extra mating connector for encoder input port

Each card is supplied with one mating connector for the 44 pin encoder input port. For an extra mating connector for the encoder input port, order part number **EN-EIC-325-CONN**.

Each card also includes example software and source code illustrating how to communicate with the card under DOS as well as Windows drivers (EN-EIC-325 supports Windows 98) with complete Visual Basic examples.

**Ordering Example:** EN-EIC-325 four axis encoder interface card for the ISA bus and OCV-1 OMEGACARE<sup>SM</sup> 1-year extended warranty for EN-EIC-325 (adds 1 year to standard 1-year warranty).



OMEGACARE<sup>SM</sup> extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE<sup>SM</sup> covers parts, labor and equivalent loaners.