

Description:

The E2 optical kit encoder is a non-contacting rotary to digital position feedback device designed to easily mount to and dismount from an existing shaft. The internal monolithic electronic module converts the real-time shaft angle, speed, and direction into TTL-compatible outputs. Simplicity and low cost make the E2 ideal for both high and low volume motion control applications.

The E2 consists of four parts: base, cover, hub/code wheel and encoder module.

The base and cover are made of a rugged 20% glass filled polycarbonate. Base options include transfer adhesive, bolt circle adapter plates, shoulder support and optional mounting hole diameters. Cover options include extended and through shafts. For additional information on these options see the next page.

The hub/code wheel adapts to standard diameters up to .394". A list of standard diameters can be found on the 4th page of this data sheet. Standard diameters are stocked. There is a quick turn around time for most special diameters.

The encoder module incorporates a lensed LED light source and monolithic photodetector array with signal shaping electronics to produce the two channel bounceless TTL outputs.

Electrical Specifications:

For complete details see the HEDS or EM1 data sheets.

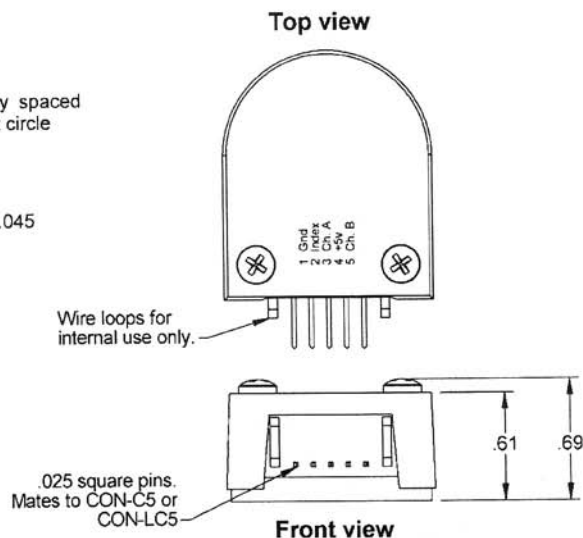
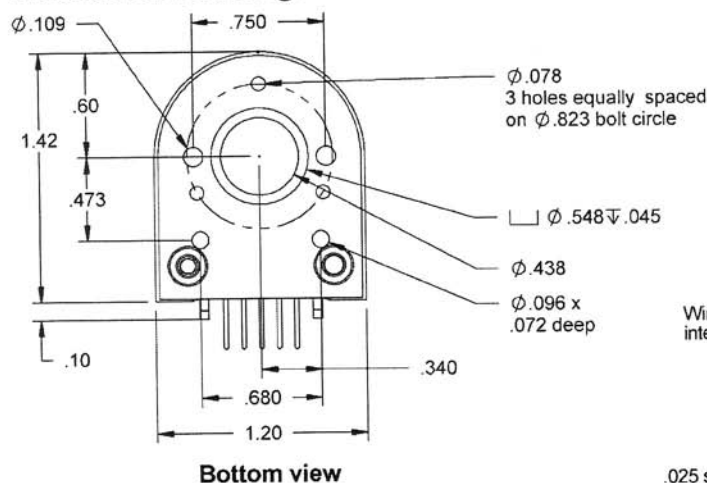
Phase Relationship:

B leads A for clockwise shaft rotation, and A leads B for counterclockwise rotation viewed from the cover/label side of the encoder (see the HEDS data sheet).

Features:

- > Quick, simple assembly and disassembly
- > Rugged screw-together housing
- > Low cost
- > Accepts ± 0.10 " axial shaft play
- > Small size
- > Tracks from 0 to 100,000 cycles/sec
- > 32 to 1024 cycles per revolution (CPR)
- > 128 to 4096 pulses per revolution (PPR)
- > 2 channel quadrature TTL squarewave outputs
- > Optional index (3rd channel)
- > -40 to +100°C operating temperature
- > Mounting compatibility with Agilent HEDS-5500
- > Fits shaft diameters .079" to .394" or 2mm to 10mm
- > Single +5V supply
- > Flush back, through shaft hole, or extended back
- > Flat or self-aligning base
- > Adapts to 1.812" bolt circle (2 or 3 holes)
- > US Digital warrants its products against defects in materials and workmanship for two years. See complete warranty for details.

Mechanical Drawing:



Mechanical Specifications:

Parameter	Dimension	Units
Moment of Inertia	8.0×10^{-6}	oz-in-s ²
Hub Set Screw Size	3-48	in.
Hex Wrench Size	.050	in.
Encoder Base Plate Thickness	.135	in.
3 Mounting Screw Size	0-80	in.
2 Mounting Screw Size	2-56 or 4-40	in.
3 Screw Bolt Circle Diameter	$.823 \pm .005$	in.
2 Screw Bolt Circle Diameter	$.750 \pm .005$	in.
Required Shaft Length	.445 to .570*	in.
With E-option	.445 to .795*	in.
With H-option	>.445*	in.

* Add .125" to the required shaft length when using the R-option adapter plate.

Pin-out:

Pin	Description
1	Ground
2	Index
3	A channel
4	+5VDC power
5	B channel

