

HDE SERIES

Made in
U.S.A.

Optical Incremental Shaft Position Encoder

FEATURES

- NEMA 4 Housing
- High Noise Immunity
- Short Circuit Protection
- Reverse Polarity Protection
- Heavy Duty Sealed Bearings
- Two Independent Shaft Seals
- Variety of Mounting Options
- Tachometer Mount 5PY Available
- New • Size 25 Flange Available
- Infrared LED and SMD Circuitry
- NPN, PNP, Diff. Line Driver and Other Outputs Available

APPLICATIONS

- Speed Controls
- Robotics
- Machine Tools
- Cut to Length
- Position Control
- Index Tables



Shown with "F" Mounting Option

SPECIFICATIONS

Input

Voltage: 5 or 12-28 VDC, others available
Current: 45 ma. @ 15 VDC typical

Output

Squarewave 50/50 duty cycle
0 - 20,000 pulses/sec.

* Please consult factory for details and technical bulletins.

Mechanical

Housing: Sealed anodized aluminum with dual oil tight shaft seals.

Shaft Rotation: Either direction

Shaft speed: 6000 RPM max. *

Bearings: Teflon® sealed chrome steel

Load: 30 lbs. radial - 10 lbs. axial *

Temperature Range: 32° to 149° F (0° to 65°C)

DESCRIPTION

The HDE series is a rotary optical incremental shaft encoder designed with high precision mechanical and opto-electronic components. It is enclosed in a sealed rugged anodized aluminum housing designed to operate in the most severe environments. Infrared LED and SMD circuitry provides high noise immunity. Two independent shaft seals prevent internal contamination due to moisture and dust. Teflon sealed chrome steel with grease lube (standard) and many other bearing

options provide for heavier shaft loads. Single channel, index pulse, quadrature, and other special outputs are available with standard resolutions up to 1270 PPR. Over four decades of engineering and manufacturing experience is embodied in every "HDE". FSI is committed to manufacturing quality products and providing complete customer satisfaction!



FSI / Fork Standards, Inc.

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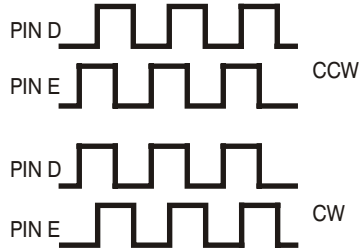
www.fsinet.com

COMMON OUTPUT OPTIONS



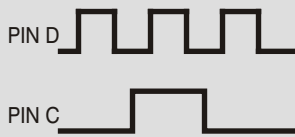
Option S Squarewave

A series of squarewaves corresponding to shaft rotation in either a clockwise (CW) or a counterclockwise (CCW) direction, will appear on Pin D.



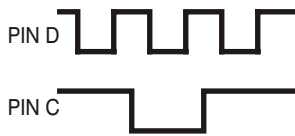
Option Q Quadrature

Quadrature Output on Pin E will lead the Pin D squarewave output for CCW shaft rotation and lag the Pin D squarewave output for CW shaft rotation.



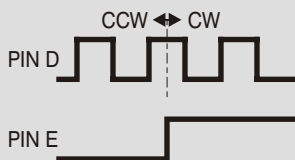
Option P Positive Index Pulse

In addition to the squarewaves, one positive going index pulse per revolution will be on Pin C.



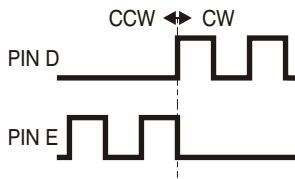
Option N Negative Index Pulse

In addition to the squarewaves, one negative going index pulse per revolution will be on Pin C.



Option D Count / Direction

Squarewave will appear on Pin D regardless of direction of shaft rotation. Pin E will be "high" for CW (Up Count) and "low" for CCW (Down Count).

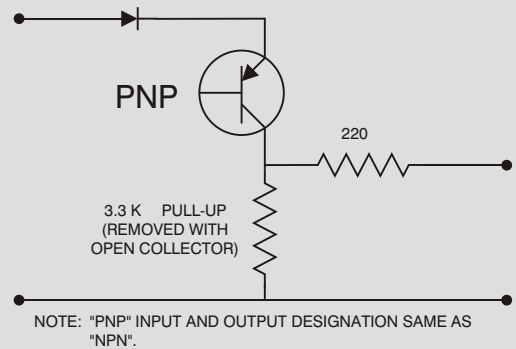
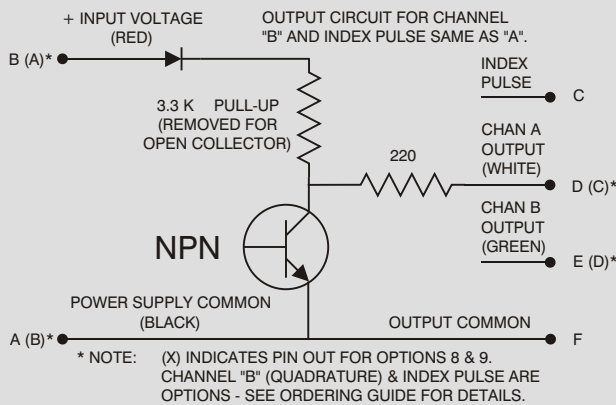


Option B Up / Down Count

A squarewave will appear on Pin D for CW shaft rotation and on Pin E for CCW shaft rotation.

WIRING INFORMATION

NOTE: Standard pin out shown - Additional output types are available.



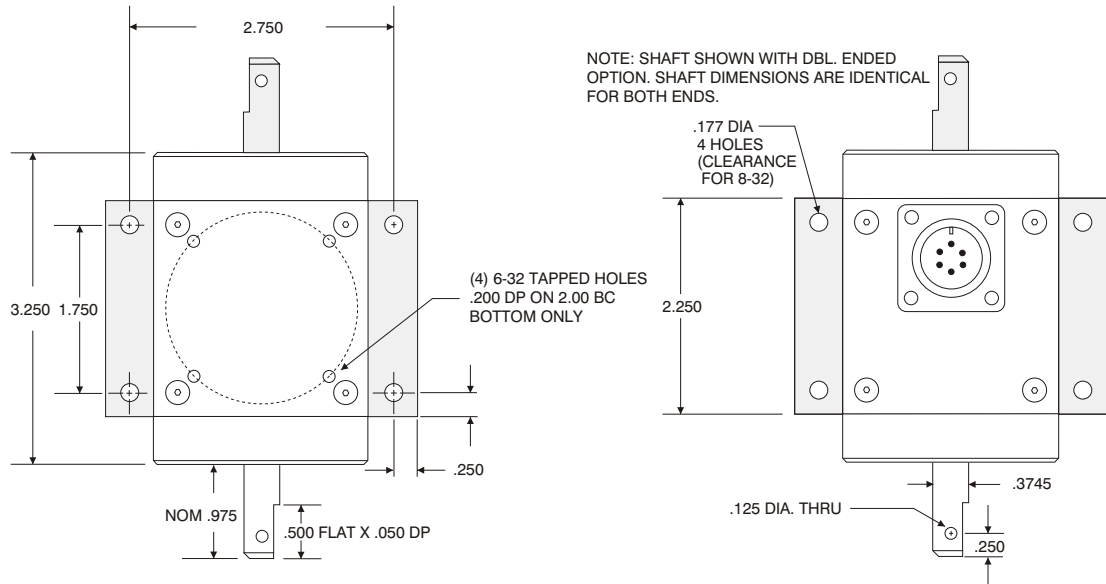
ACCESSORIES

B-3	Encoder mounting kit to replace 5PY tachometer - use with shaft dia. type "4"
B-4	Encoder mounting kit to replace size 25 flange encoder - use with shaft dia. type "5"
C-1	6 pin MS Series plug, clamp and boot - unassembled
C-1F-XX	C-1 plug and "XX" ft. of cable - assembled
C-1R-XX	C-1 plug with Red Lion pin-out and "XX" ft. of cable - assembled
C-3	7 pin MS Series plug, clamp, and boot - unassembled
C-4	6 pin MS Series right angle plug, clamp and boot - unassembled
C-4F-XX	C-4 plug and "XX" ft. of cable - assembled
F-2	3/8" bore flexicoupling, 1.50" length, 1.00" dia.
F-3	5/16" bore flexicoupling, 1.50" length, 1.00" dia.
F-4	1/4" - 5/16" - 3/8" Bore general purpose flexicoupling, 1.50" length, 1.00" dia.
F-5	1/4" Motor pilot to 1/4" - 5/16" - 3/8" bore flexicoupling, 1.25" body length, 1.00" dia.
F-6	3/8" Motor pilot to 1/4" - 5/16" - 3/8" bore flexicoupling, 1.25" body length, 1.00" dia.
WH-1-A	12" circumference measuring wheel with black tire - 80A durometer
WH-1-B	12" circumference measuring wheel with non-marking tire - 83A durometer
WH-1-C	12" circumference measuring wheel with non-marking tire - 92A durometer
WH-1-D	12" circumference measuring wheel with non-marking tire - 70A durometer

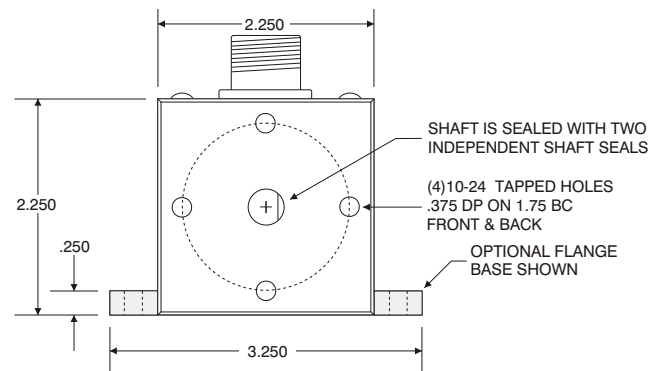
All wheels have 3/8" bore.

See users manual for additional information.

HDE MECHANICAL



**OVER 500 DISTRIBUTORS
WITHIN NORTH AMERICA TO SERVE YOU**



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Solutions that Count

