

IMPORTANT INSTRUCTIONS

Model HDE Rotary Shaft Encoder

Made in
U.S.A.

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



CAUTION

**IMPROPER HANDLING OR
USE MAY DAMAGE ENCODER**

Please:

Don't exceed the proper operating voltage.

Don't tap or pound a fitting onto the shaft.

Don't drill holes in the shaft or housing.

Don't remove cover plates.

Don't attempt to oil or lubricate bearings.

* For additional application and technical information please call FSI.



WARNING

**FSI Products are not intended
for use as final safety devices.**

Note: Designs incorporating controls of any kind should be carefully considered to provide for their eventual failure.

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!



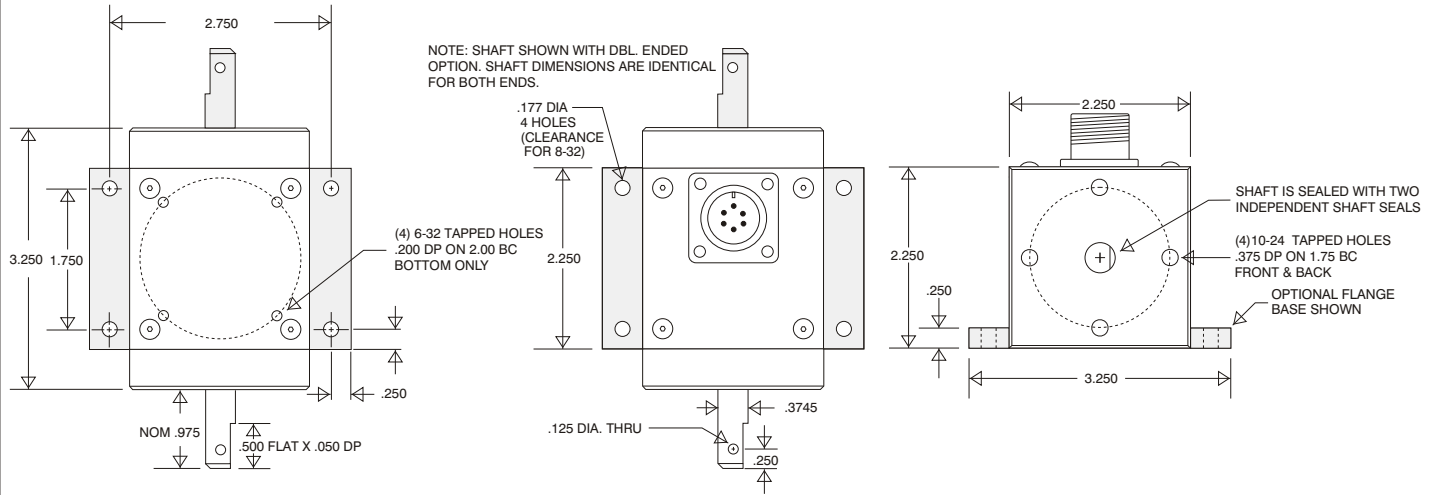
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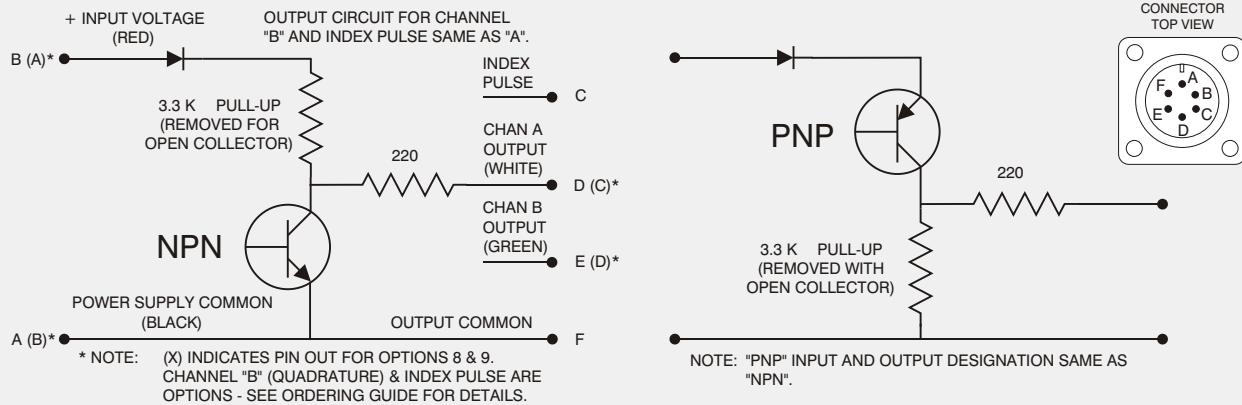
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HDE MECHANICAL



WIRING INFORMATION

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



IMPORTANT NOTICE: Most of FSI's products are designed for general and not for specific applications. Because of this, we usually are not aware of how they eventually will be used. However, they are frequently employed in controlling automatic machinery or processes.

Although FSI makes products of high reliability, every product, given enough time, can be expected to fail. Statistically, devices can fail after a short period of time or a long period of time or anything in between. In essentially all cases, failure means (1) failure to provide a logic signal or power to an electrical load when it should or (2) the providing of such a signal or power when it should be absent. Less often, failure means failure to meet some other specification. But, in all cases, it means to do something unwanted or unexpected.

Since the failure of automatic machinery or processes can create hazardous conditions for personnel or property, whatever the definition of failure might be, it is necessary to consider the consequences of failure and design the application in which the FSI product is used so that failure will not create a hazard to personnel or property. The design must insure that any failure will result in a fail-safe condition and there will be no danger to personnel and/or property involved in the use of the product. *FSI products are not intended for use as final safety devices.*

Designs incorporating controls of any kind should be carefully considered to provide for their eventual failure.

The use of this product is beyond the control of the manufacturer, no guarantee or warranty, expressed or implied, is made as to such effects incidental to such use, handling or possession or the results to be obtained, whether in accordance with the directions of the claimed so to be. The manufacturer expressly disclaims responsibility therefore. Furthermore, nothing contained herein shall be construed as a recommendation to use any product in conflict with existing laws and/or patents covering any material or use.

Warranties of Sale, disclaimer thereof and limitations of liability are covered exclusively by FSI's printed warranty statement for controls. These instructions do not expand, reduce, modify or alter FSI's warranty statement and no warranty or remedy in favor of a customer or any other person arises out of these instructions.

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Solutions that Count