

ESE SERIES

Made in
U.S.A.

Optical Incremental Shaft Position Encoder

FEATURES

- Quadrature Output
- High Noise Immunity
- Short Circuit Protection
- Reverse Polarity Protection
- Input Voltage Range 12-28 VDC
- Sealed Connector
- Gold Plated Connector Contacts
- Double Ended 3/8" S/S Shaft
- Infrared LED and SMD Circuitry
- Heavy Duty Chrome Steel Bearings
- Low Power Consumption

APPLICATIONS

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



SPECIFICATIONS

Input

Voltage: 12-28 VDC
Current: 35 ma. @ 15 VDC typical

Output

Squarewave 50/50 duty cycle
0 - 10,000 pulses/sec.

* Please consult factory for details and technical bulletins.

Mechanical

Housing: Rugged anodized aluminum.

Shaft Rotation: Either direction

Shaft speed: 6000 RPM max. *

Bearings: Heavy duty chrome steel

Load: 30 lbs. radial *

10 lbs. Axial *

DESCRIPTION

The ESE Series optical shaft encoder represents a major price - performance breakthrough. It utilizes IRED light sources and precision mechanical components to provide long life and durability. Its quadrature output can be used to derive RPM, feet per minute and angular position. When used with simple controls, material can be cut to length and over and under speed conditions detected. The ESE package with its easy mounting and sealed connector is designed to meet the demands of

industry and its price, the goals of the OEM. Over four decades of engineering and manufacturing experience is embodied in every "ESE". FSI is committed to manufacturing quality products and providing complete customer satisfaction!



FSI Technologies Inc.

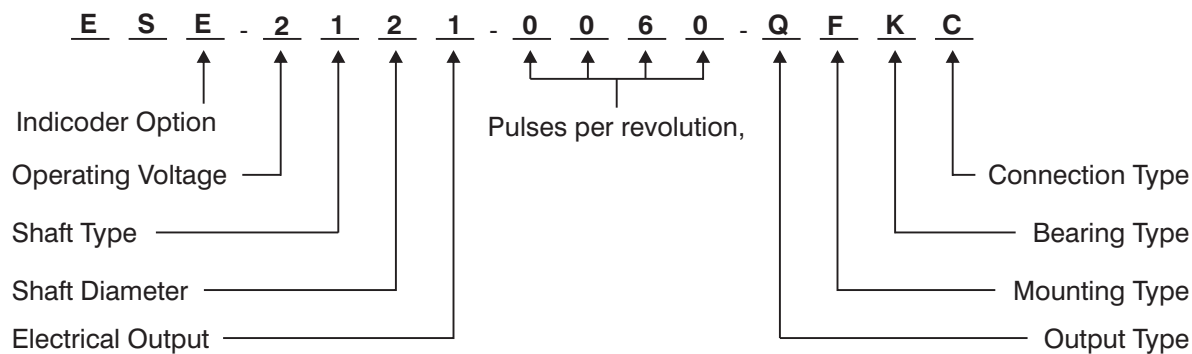
668 Western Ave. • Lombard, IL 60148-2097

(630) 932-9380 • FAX: (630) 932-0016

www.fsinet.com

ORDERING INFORMATION FOR RSE SERIES ENCODERS

Example



Family

ES "ESE" Family (ESE & ESI Prefix)

Indicoder Option

E Without Indicoder option
I With Indicoder option

Operating Voltage

1 5 VDC
2 12 - 28 VDC
8 5 - 28 VDC

Shaft Type

1 Single ended
2 Double ended

Shaft Diameter

1 1/4"
2 3/8"
3 5/16"

Electrical Output

1 Standard (NPN with pull up resistor)
2 Open Collector NPN
8 Red Lion pin-out, standard NPN, 4 conductor
9 Red Lion pin-out, open collector NPN, 4 cond.

Output Type

S Single Channel
Q Quadrature

Mounting Type

F Base flange: w/blind holes front, back & bottom
H Blind holes: front, back & bottom
B-4 Series 25 Encoder Mount ⊕ (requires 3/8" shaft)

⊕Note: Used in conjunction with F or H option.

Bearing Type (Chrome Steel)

V or None Precision ABEC 3, film seal, oil lube

Connection Style

C Water tight plastic connector "C-2" Style
D FSI DB-9 Style Connector
M Military Style Connector MS Series
R-3 3' Built-in Cable, No Connector
R-15 15' Built-in Cable, No Connector

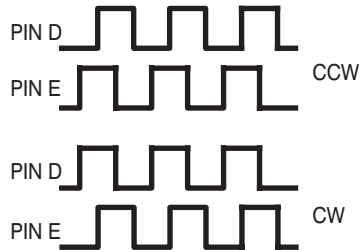
Certain options and choices may be incompatible or affect specification.

COMMON OUTPUT OPTIONS



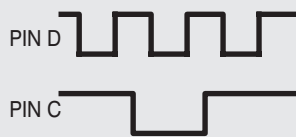
Option S Squarewave

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

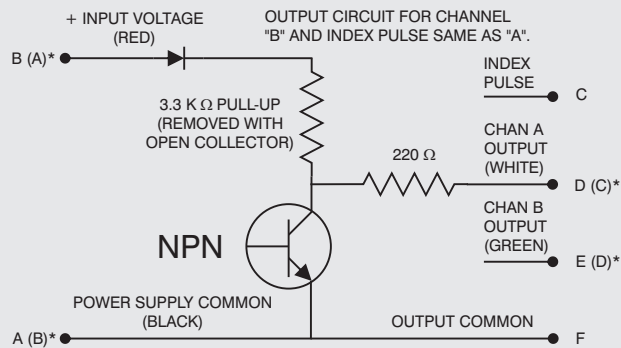
Quadrature Output on Pin E will lead the Pin D squarewave output for CCW shaft rotation and lag the Pin D squarewave output for CW shaft rotation.



Option N Negative Index Pulse

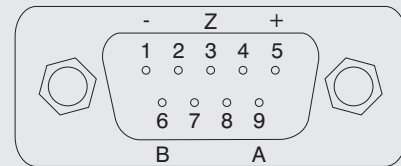
In addition to the squarewaves, one negative going index pulse per revolution will be on Pin C.

WIRING INFORMATION



* NOTES: (1) (X) INDICATES PIN OUT FOR OPTIONS 8 & 9.
(2) CHANNEL "B" QUAD & INDEX PULSE ARE OPTIONS - SEE ORDERING GUIDE.

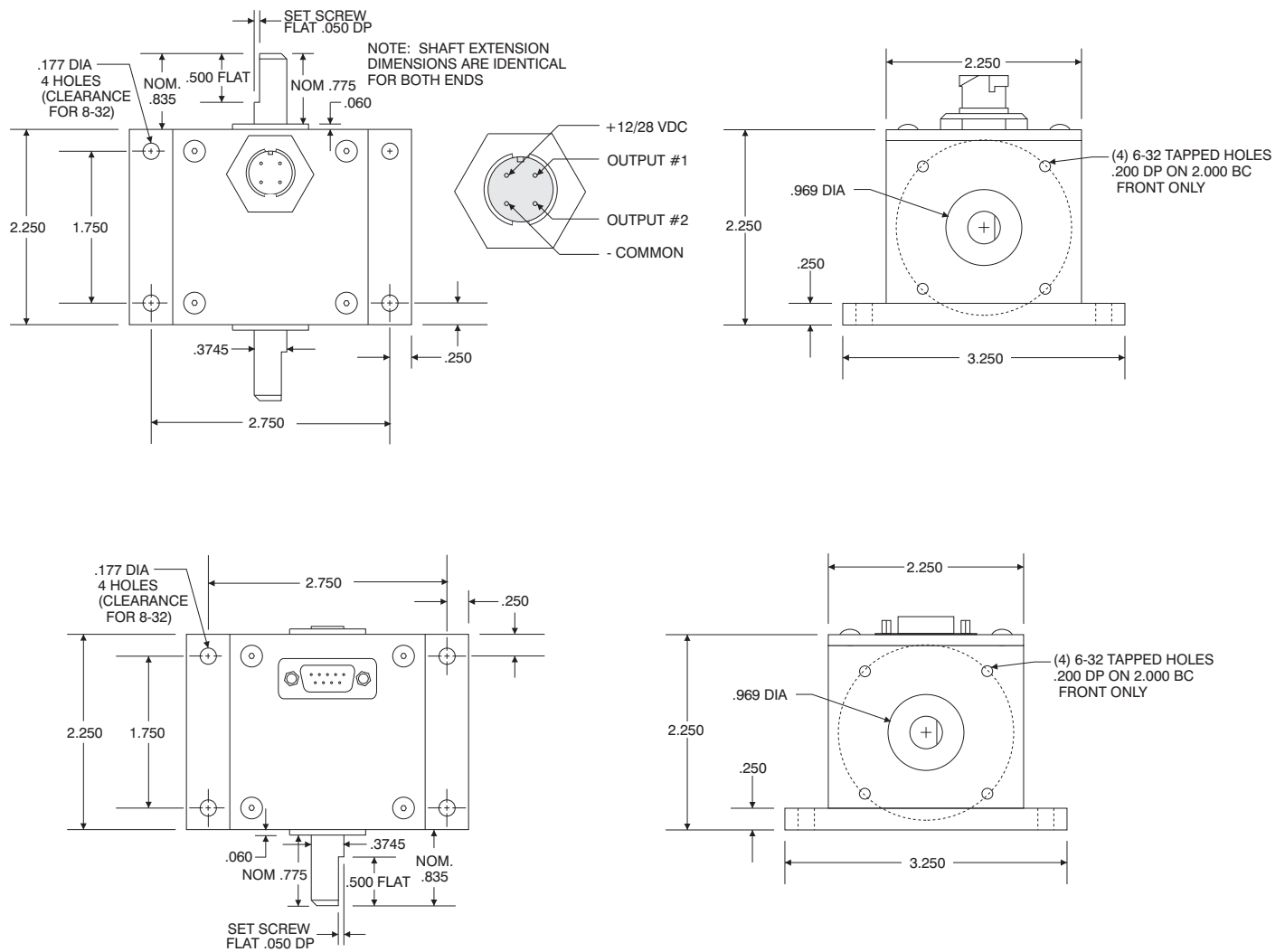
"M" and "R" connection styles, letters are pin designations.



VIEW OF THE CONNECTOR ON THE ENCODER.

"D" connection style, letters are channel designations.

MECHANICAL INFORMATION (examples)



OVER 700 DISTRIBUTORS WITHIN NORTH AMERICA TO SERVE YOU



FSI Technologies Inc.

668 Western Ave. • Lombard, IL 60148-2097

© 2010 FSI Technologies Inc. All rights reserved.

(630) 932-9380 • FAX: (630) 932-0016

Bulletin # 2952-1000-06

www.fsinet.com

Printed in U.S.A. by FSI Press