

ENC-M15HI - High Resolution Modular Encoder With Index



FEATURES

- 1250 to 8192 Counts Per Revolution (CPR)
- Tracks 0 to 200,000 Counts Per Second
- 2-Channel Quadrature with Gated Index and Optional Commutation
- Powered From a Single +5VDC Power Supply
- Allows for ±0.010" Axial Shaft Play
- NEMA 23 to 42 Compatible
- 90° Index Pulse
- Shock and Vibration Resistant
- High Resistance to Dirt and Debris
- RoHS Compliant

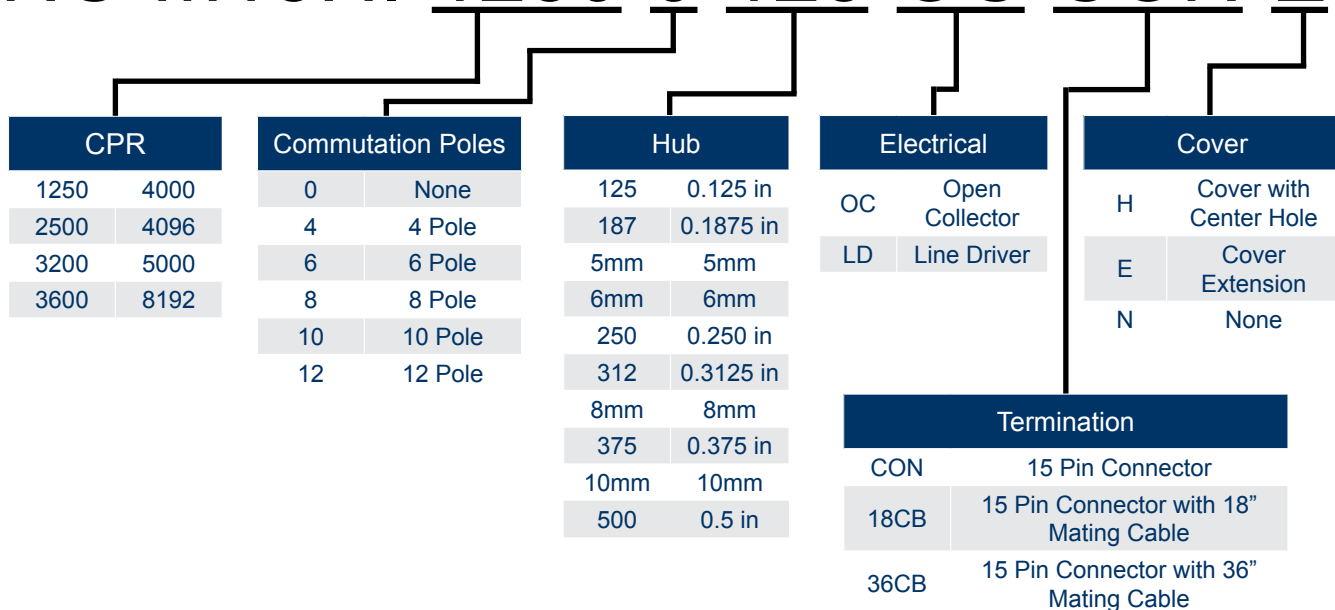


DESCRIPTION

The M15HI Modular Differential Encoders with Higher Resolution Index offers reliable performance at an economical price. This modular unit comes in a large range of resolutions with multiple pole commutations and reference pulse options. This magnetic encoder can handle shaft sizes that range from that range from 0.125" to 0.500". The patented EMI circuitry provides protection from high-frequency electrical noise and background magnetic fields. This low-profile design is perfect for Stepper Motor positioning and anti-stall feedback, DC brush-type motor positioning and anti-stall feedback, DC brush-type motor positioning, Brushless DC, and Servo Motor control using the commutation options. The M15HI comes enclosed in a rugged IP40 package for protection from debris. All M15HI's come standard with a 90° index that indicates the width of the index pulse.

CUSTOM ORDER LAYOUT

ENC-M15HI-1250-0-125-OC-CON-E

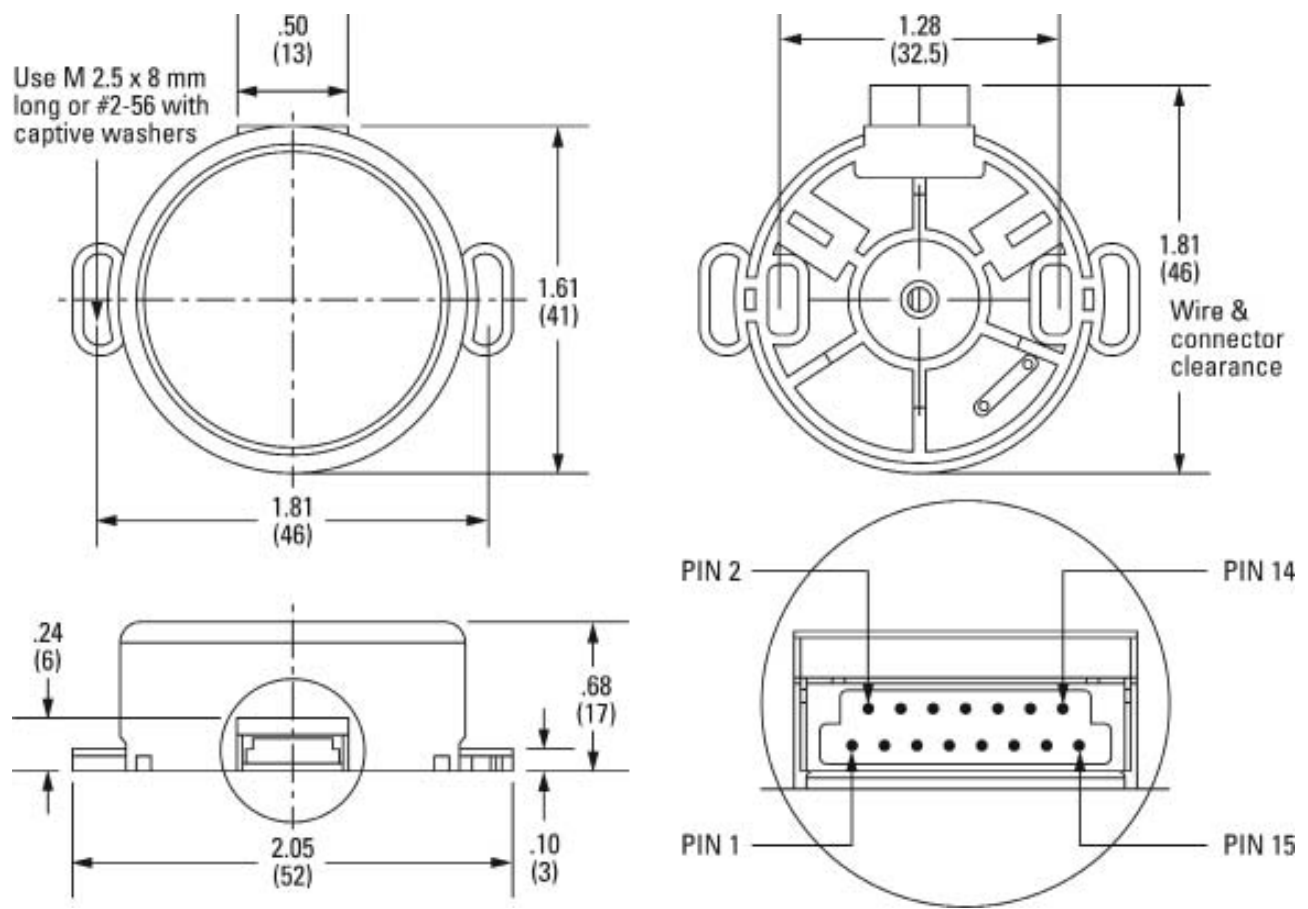


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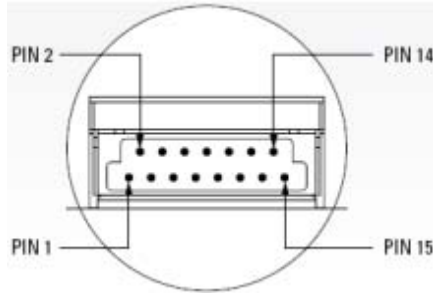
COVER OPTIONS

| Cover Options | Description |
|---------------|--|
| H | H-option provides a cylindrical cover with a center hole |
| E | E-option provides a cylindrical cover |
| N | The standard cylindrical cover will be supplied with this option |

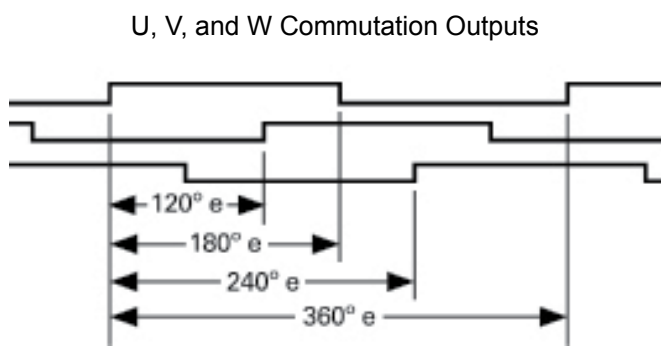
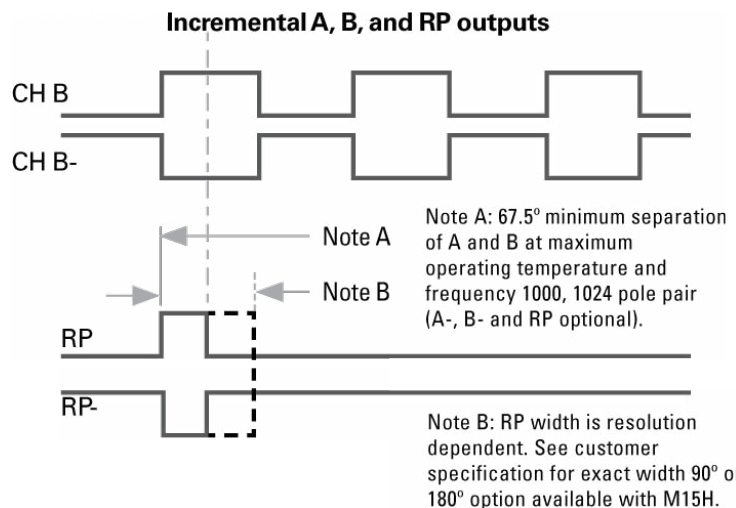
DIMENSIONS



Dimensions are in millimeters



| Pin# | Wire Color | Open-Collector | Line Driver | Index Pulse, Open-Collector | Index Pulse, Line Driver Communication |
|------|--------------|----------------|-------------|-----------------------------|--|
| 1 | Yellow | A+ | A+ | A+ | A+ |
| 2 | Yellow/White | -- | A- | -- | A- |
| 3 | Blue | B+ | B+ | B+ | B+ |
| 4 | Blue/White | -- | -- | -- | B- |
| 5 | Orange | Index + | Index+ | Index+ | Index+ |
| 6 | Orange/White | -- | Index- | -- | Index- |
| 7 | Green | -- | -- | U+ | U+ |
| 8 | Green/White | -- | -- | -- | U- |
| 9 | Brown | -- | -- | V+ | V+ |
| 10 | Brown/White | -- | -- | -- | V- |
| 11 | White | -- | -- | W+ | W- |
| 12 | White/Grey | -- | -- | -- | W- |
| 13 | Red | +5V Power | +5V Power | +5V Power | +5V Power |
| 14 | Black | GND | GND | GND | GND |
| 15 | Grey | -- | -- | -- | -- |



| Terminology | Description |
|-----------------------------|---|
| CPR (N): | The Number of Cycles Per Revolution |
| One Shaft Rotation: | 360 mechanical degrees, N cycles |
| One Electrical Degree (°e): | 1/360th of one cycle |
| One Cycle (C): | 360 electrical degrees (°e). Each cycle can be decoded into 1 or 4 codes, referred to as X1 or X4 resolution multiplication |
| Symmetry: | A measure of the relationship between (X) and (Y) in electrical degrees, nominally 180°e |
| Quadrature (Z): | The phase lag or lead between channels A and B in electrical degrees, nominally 90°e |
| Index (CH I): | The index output goes high once per revolution, coincident with the low states of channels A and B, nominally 1/4 of one cycle (90°e) |

| Recommended Operating Conditions | Min | Max | Units |
|----------------------------------|-----|-----|-------|
| Open-Collector Temperature | -40 | 125 | °C |
| Line Driver Temperature | -40 | 85 | °C |
| Supply Voltage | 4.5 | 5.5 | VDC |
| Count Frequency | - | 2.4 | mHz |
| Current | - | 70 | mA |

| Parameter | Max | Units |
|------------------------|-------|-------|
| Vibration (20 to 2kHz) | 3 | g |
| Max Speed | 10000 | RPM |