

ENC-M15 - High Resolution Modular Encoder



FEATURES

- 100 to 2,048 Cycles Per Revolution (CPR)
- Tracks 0 to 200,000 Counts Per Second
- Third Index Channel or No Index
- 2-Channel Quadrature Squarewave Output
- Operating Temperatures:
 - Open-Collector: -40° to +125°C
 - Line Driver: -40° to +85°C
- Powered From a Single +5VDC Power Supply
- Shock and Vibration Resistant
- High Resistance to Dirt and Debris
- Long Operational Life
- RoHS Compliant

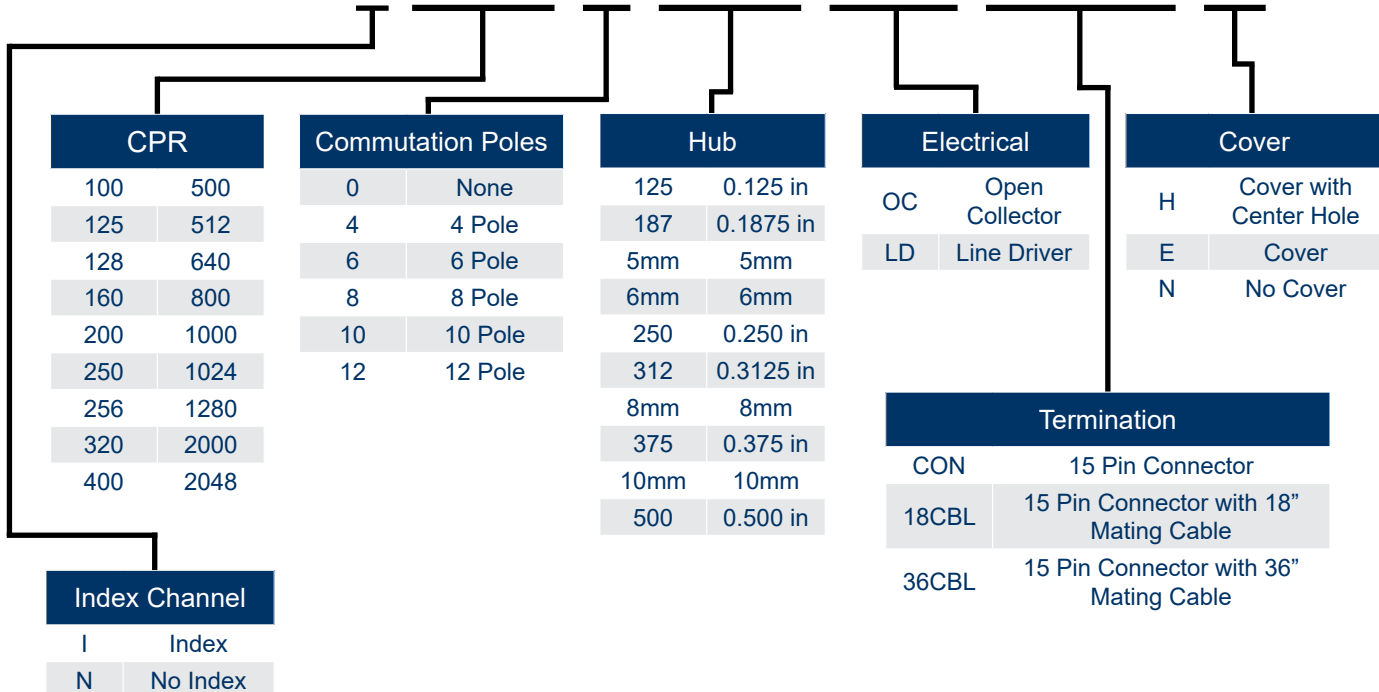


DESCRIPTION

The M15 high-resolution, Magnetic Incremental Encoder, with or without 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 .125" to .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, brushless DC, and servo motor control using the commutation options. The M15 comes enclosed in a rugged IP40 package for protection from debris.

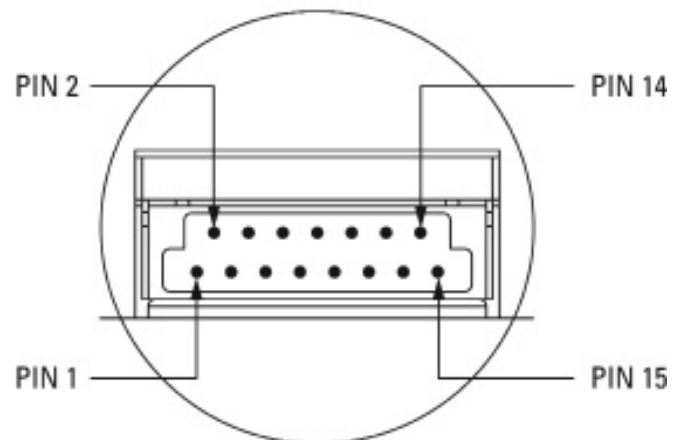
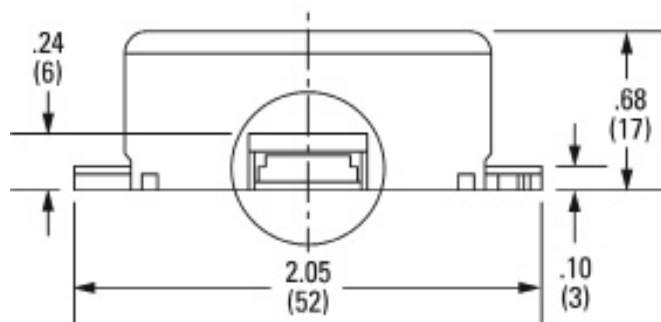
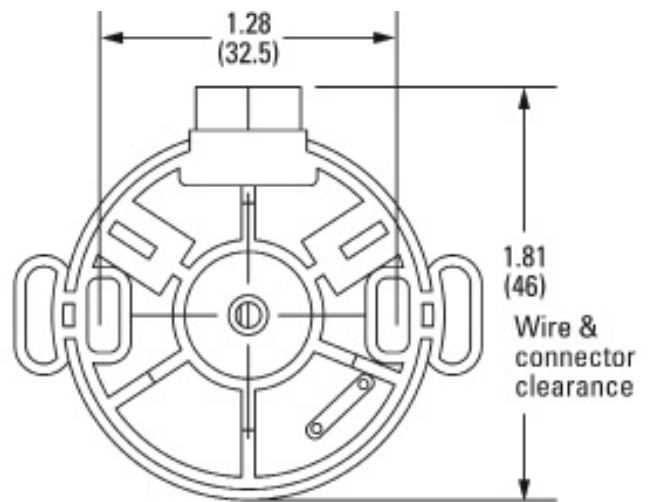
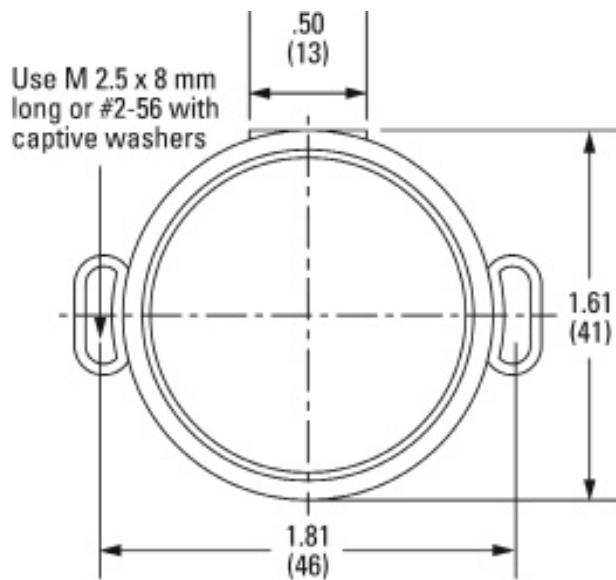
CUSTOM ORDER LAYOUT

ENC-M15I-100-0-125-OC-CON-H

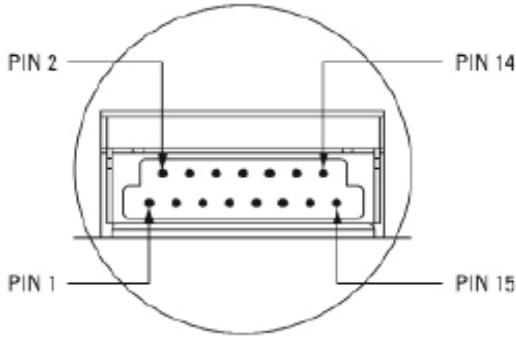


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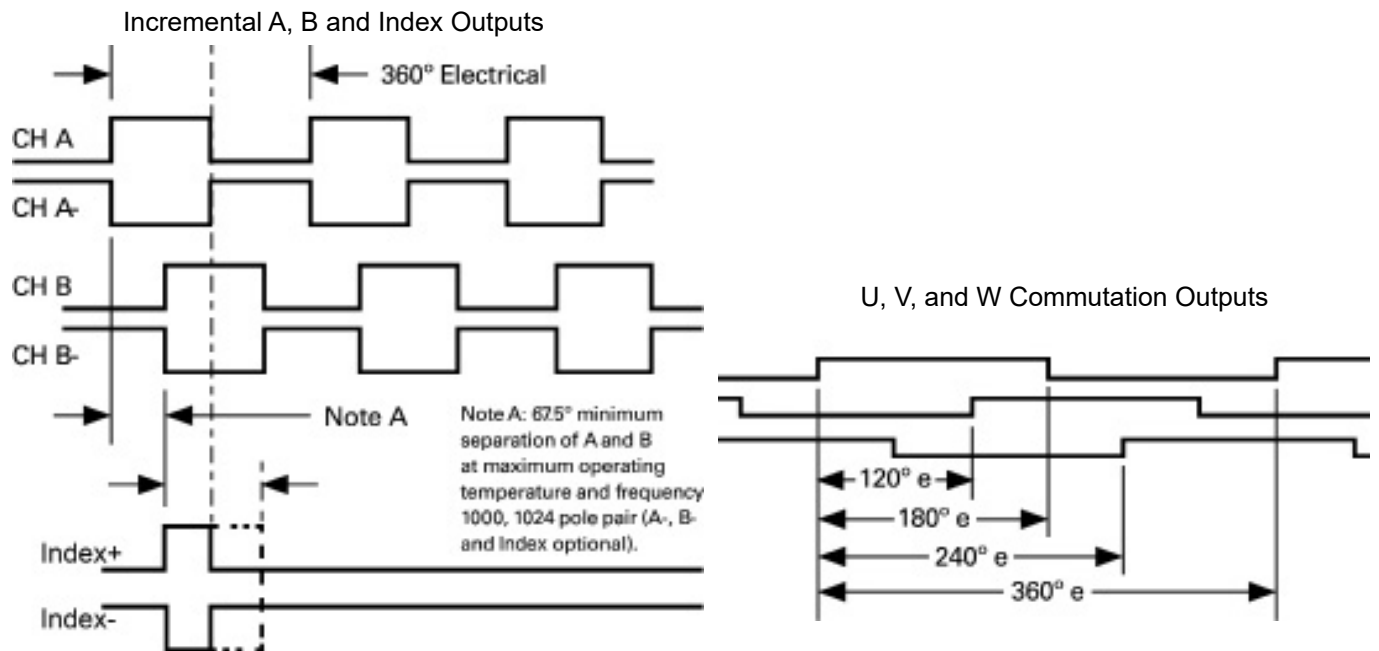
Cover Options	Description
H	H-option provides a cylindrical cover with a center hole
E	E-option provides a cylindrical cover
N	The standard cylindrical cover will be supplied with this option



Dimensions are in inches (mm)



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)

Parameter	Max	Units
Supply Current A, B, Index, OC	39	mA
Supply Current A, B, Index, LD	65	mA
Supply Current A, B, Index, CP, OC	63	mA
Supply Current A, B, Index, CP, LD	105	mA

Recommended Operating Conditions	Min	Max	Units
Open-Collector Temperature	-40	125	°C
Line Driver Temperature	-40	85	°C
Supply Voltage	4.5	5.5	Volts
Count Frequency	-	200	kHz

Parameter	Max	Units
Vibration (20 to 2kHz)	3	g
Shaft Axial Play	± 0.01	in.
Max Speed	10000	RPM