

# ENC-M9I Miniature Modular Magnetic Encoder with Index



FEATURES

- High Accuracy-Less than 10 Arc Minutes
- No Moving Parts
- Gap Between Sensor and Target is Highly Resistant to Liquid or Solid
- Customizable as a Replacement Part or to Fit New Designs
- 0.9 Inch Diameter Modular Unit

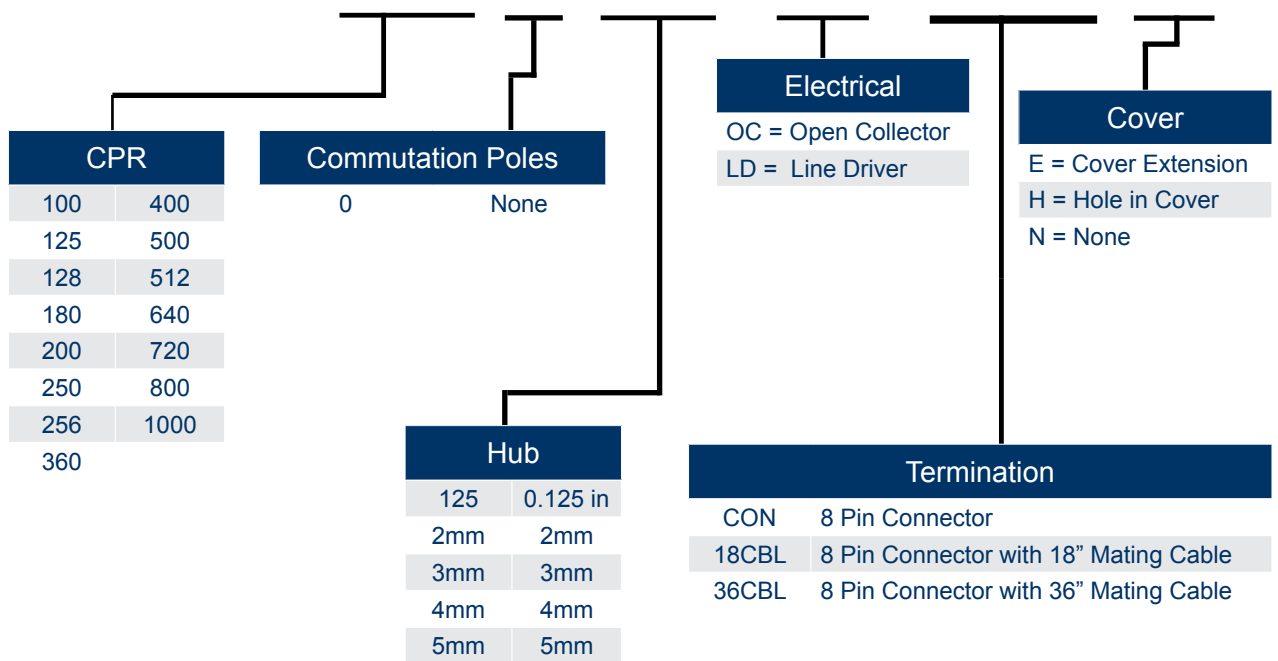


DESCRIPTION

The ENC-M9I Miniature Modular Magnetic Encoder is the smallest off-axis modular magnetic encoder on the market. It offers reliable performance at an economical price with resolutions up to 1000 PPR (Pulse Per Revolution). The ENC-M9I includes electromagnetic interference (EMI) protection circuitry and a differential magnetic sensor circuit design that protects it from interfering magnetic fields. Its 800KHz data rate allows up to 12,000 RPM at 1024 PPR. The magnetic technology provides operational advantages over conventional optical encoders in high-temperature, shock and vibration environments.

ORDERING INFORMATION

## ENC-M9I-100-0-125-OC-CON-H



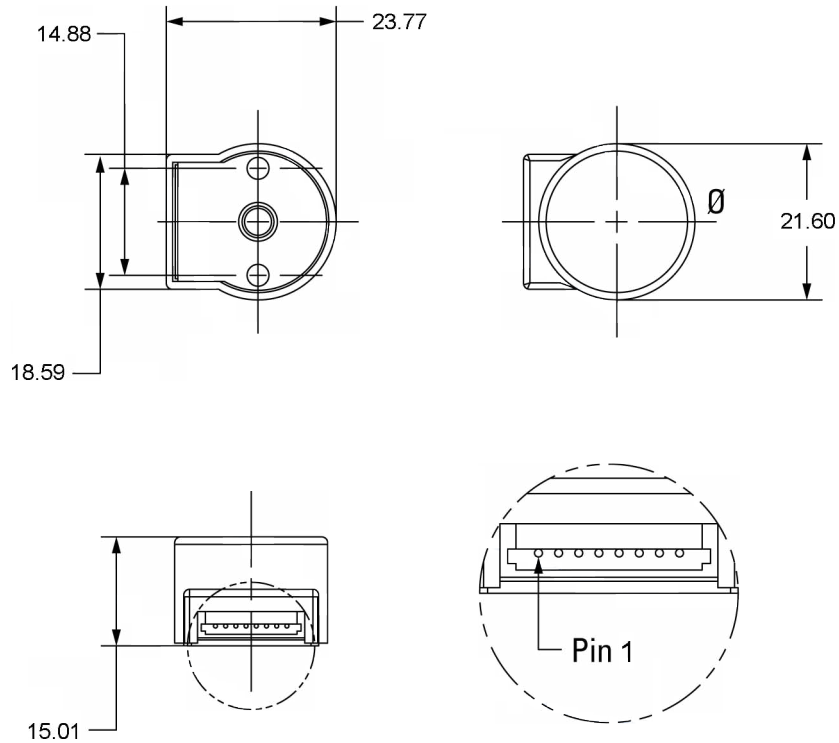
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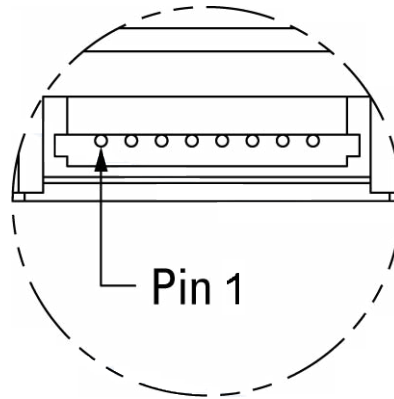
SPECIFICATIONS

Item	Cycles Per Rev (CPR)	Commutation	Bore Size	Index Channel	Cover	Electrical
ENC-M9I-100-0-125-OC-CON-H	100	0	0.125 in	Yes	Cover With Center Hole	Open Collector
ENC-M9I-125-0-2mm-LD-18CBL-N	125	0	2mm	Yes	None	Line Driver
ENC-M9I-180-0-3mm-OC-36CBL-E	180	0	3mm	Yes	Cover Extension	Open Collector
ENC-M9I-250-0-4mm-OC-CON-H	250	0	4mm	Yes	Cover With Center Hole	Open Collector
ENC-M9I-360-0-5mm-LD-CON-H	360	0	5mm	Yes	Cover With Center Hole	Line Driver
ENC-M9I-400-0-125-OC-18CBL-E	400	0	0.125 in	Yes	Cover Extension	Open Collector
ENC-M9I-500-0-2mm-OC-36CBL-H	500	0	2mm	Yes	Cover With Center Hole	Open Collector
ENC-M9I-640-0-3mm-LD-CON-H	640	0	3mm	Yes	Cover With Center Hole	Line Driver
ENC-M9I-800-0-5mmOC-CON-N	800	0	5mm	Yes	None	Open Collector
ENC-M9I-1000-0-4mm-LD-18CBL-E	1000	0	4mm	Yes	Cover Extension	Line Driver

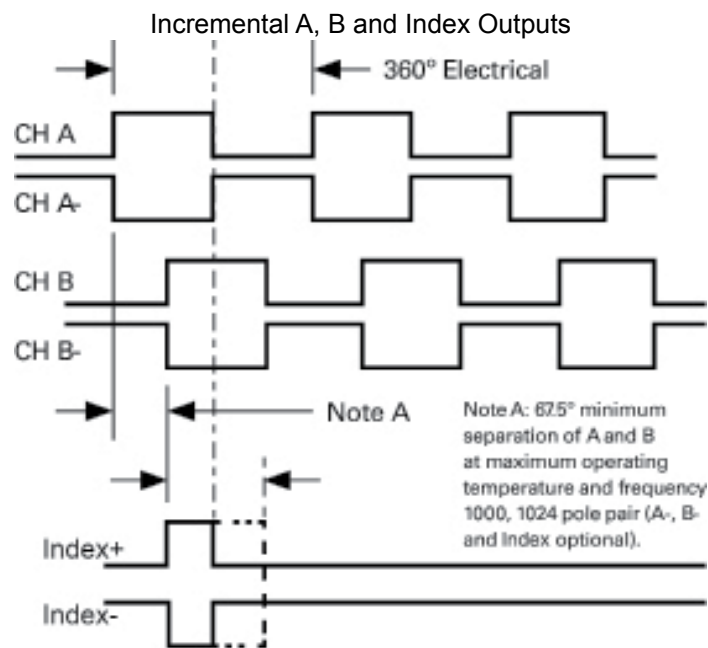
DIMENSIONS

Note: Dimensions are in millimeters





Pin #	Function	Color
1	Power (+5VDC)	Red
2	Ground	Blk
3	A+	Yellow
4	A-	Yellow / White
5	B+	Blue
6	B-	Blue / White
7	C+	Orange
8	C-	Orange / White



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	12000	RPM