

MODEL MA36H MULTI-TURN ABSOLUTE ENCODER



Ø36 mm

FEATURES

- Standard Size 36 mm Package (1.42")
- Durable Magnetic Technology
- Multi-Turn Absolute Encoder (14 Bit/39 Bit)
- SSI and CANopen Communications
- Proven Turns Counting Technology – No Gears or Batteries
- Flex Mount Eliminates Couplings and Is Ideal for Motors or Shafts

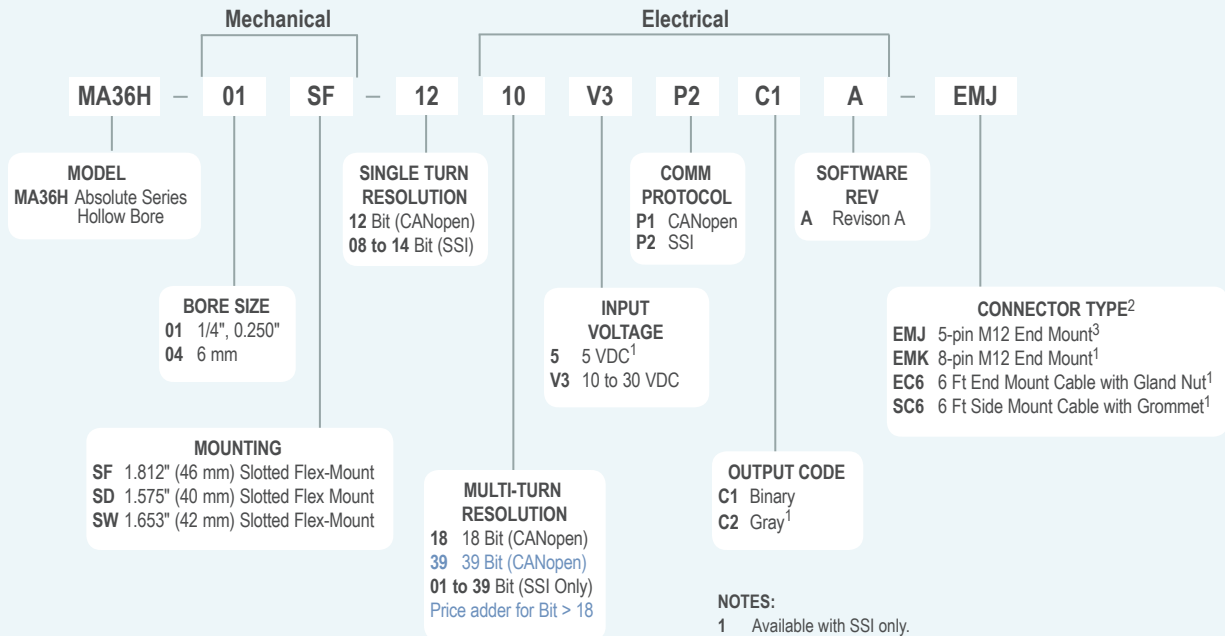
The Model MA36H Multi-Turn Absolute Encoder is ideal for a wide variety of industrial applications – especially where you need an encoder with the capability of output even in power-off scenarios. Its fully digital output and innovative use of battery-free multi-turn technology make the Model MA36H an ideal choice for applications with a high presence of noise. Its durable magnetic technology and high IP rating make it a perfect choice for dirty, industrial environments. Available with a 1/4" or 6 mm hollow bore and a selection of flexible mounting options, the Model MA36H is easily designed into a variety of applications.

COMMON APPLICATIONS

Robotics, Telescopes, Antennas, Medical Scanners, Windmills, Elevators, Lifts, Motors, Automatic Guided Vehicles, Rotary and X/Y Positioning Tables

MODEL MA36H ORDERING GUIDE

Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details. For single turn applications see Model SA36H.



NOTES:

- Available with SSI only.
- For mating connectors, cables, and cordsets see Encoder Accessories on page 102 or visit www.encoder.com. For Pin Configuration Diagrams, see page 107 or visit www.encoder.com.
- Available with CANopen only.

Please note that configuration options for this product have changed. Confirm configuration options before ordering or contact Customer Service for assistance.

MODEL MA36H SPECIFICATIONS

Electrical

Input Voltage.....	10 to 30 VDC max SSI or CANopen 5 VDC SSI Only
Input Current	50 mA max with no external load
Power	
Consumption.....	0.5 W max
Resolution (Single) ...	12 bit (CANopen) 8 to 14 bit (SSI)
Resolution (Multi)	Up to 39 bit multi-turn (CANopen or SSI)
Accuracy	+/- 0.35°
Repeatability	+/- 0.2°

CANopen Interface

Protocol.....	CANopen: Communication profile CiA 301 Device profile for encoder CiA 406 V3.2 class C2
Node Number	0 to 127 (default 127)
Baud Rate.....	10 Kbaud to 1 Mbaud with automatic bit rate detection
Note:	The standard settings, as well as any customization in the software, can be changed via LSS (CiA 305) and the SDO protocol (e.g., PDOs, scaling, heartbeat, node-ID, baud rate, etc.).

Programmable CANopen Transmission Modes

Synchronous.....	When a synchronization telegram (SYNC) is received from another bus node, PDOs are transmitted independently.
Asynchronous.....	A PDO message is triggered by an internal event (e.g., change of measured value, internal timer, etc.).

SSI Interface

Clock Input.....	Via opto coupler
Clock Frequency.....	100 KHz to 500 KHz
Data Output	RS485 / RS422 compatible
Output Code	Gray or binary
SSI Output	Angular position value
Parity Bit.....	Optional (even/odd)
Error Bit.....	Optional
Turn On Time	< 1.5 sec
Pos. Counting Dir.....	Connect DIR to GND for CW Connect DIR to VDC for CCW (when viewed from shaft end)
Set to Zero.....	Apply VDC for 2 sec
Protection	Galvanic Isolation

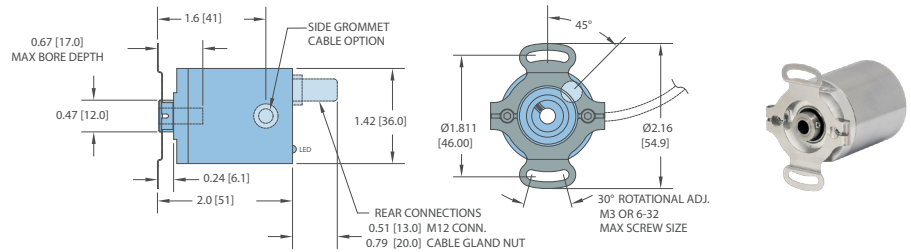
Mechanical

Max Shaft Speed	12,000 RPM
Bore Size.....	6 mm (0.250")
Bore Depth.....	17 mm (0.669")
User Shaft	
Radial Runout.....	0.005" max
Starting Torque	< 0.45 oz-in typical
Housing	Ferrous chrome-plated magnetic screening
Mounting	Hollow shaft with flex mount
Weight.....	5 oz typical

Environmental

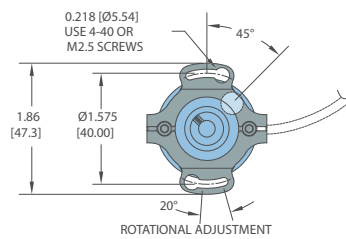
Operating Temp	-40° to 80° C
Storage Temp	-40° to 100° C
Humidity.....	95% RH non-condensing
Vibration.....	5 g @ 10 to 2000 Hz
Shock.....	100 g @ 6 ms duration
Sealing.....	IP67; shaft sealed to IP65

MODEL MA36H 1.812" (46 MM) SLOTTED FLEX MOUNT (SF)

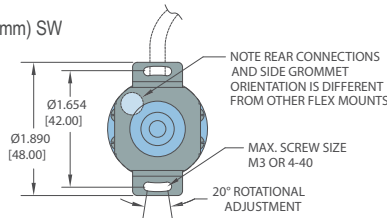


MODEL MA36H OPTIONAL FLEX MOUNTS

1.575" (40 mm) SD



1.653" (42 mm) SW



All dimensions are in inches with a tolerance of +0.005" or +0.01" unless otherwise specified. Metric dimensions are given in brackets [mm].

WIRING TABLES

SSI ENCODERS			CANOPEN ENCODERS	
Function	Cable† Wire Color	8-pin M-12	Function	Pin
Ground (GND)	White	1	+VDC	2
+VDC	Brown	2	Ground (GND)	3
SSI CLK+	Green	3	CAN _{High}	4
SSI CLK-	Yellow	4	CAN _{Low}	5
SSI DATA+	Gray	5	CAN _{GND} / Shield	1
SSI DATA-	Pink	6		
PRESET	Blue	7		
DIR	Red	8		
Shield	Side - Exit Housing End - Exit N/C	Housing		

†Standard cable is 24 AWG conductors with foil and braid shield.