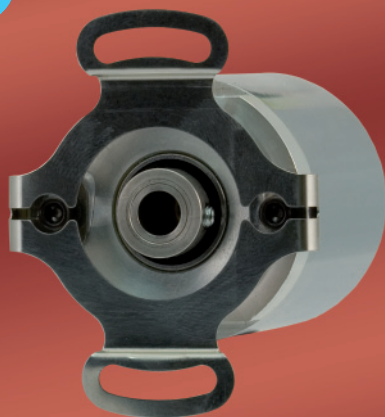


# Model MA36H - Hollow Bore 36mm MultiTurn Absolute



Ø36 mm

## Features

- Standard Size 36 mm Package
- Durable Magnetic Technology
- Multiturn Absolute Encoder (14 Bit/40 Bit)
- SSI and CANopen Communications
- Proven New Turns Counting Technology - No Gears or Batteries
- Flex Mount Eliminates Couplings and is Ideal for Motors or Shafts

The Model MA36H Multiturn Absolute Encoder is ideal for a wide variety of industrial applications that require an encoder with the capability of absolute positioning output. Its fully digital output and innovative use of battery-free multiturn technology make the Model MA36H an excellent choice for all applications, especially ones with a high presence of noise. Its durable magnetic technology and high sealing 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.

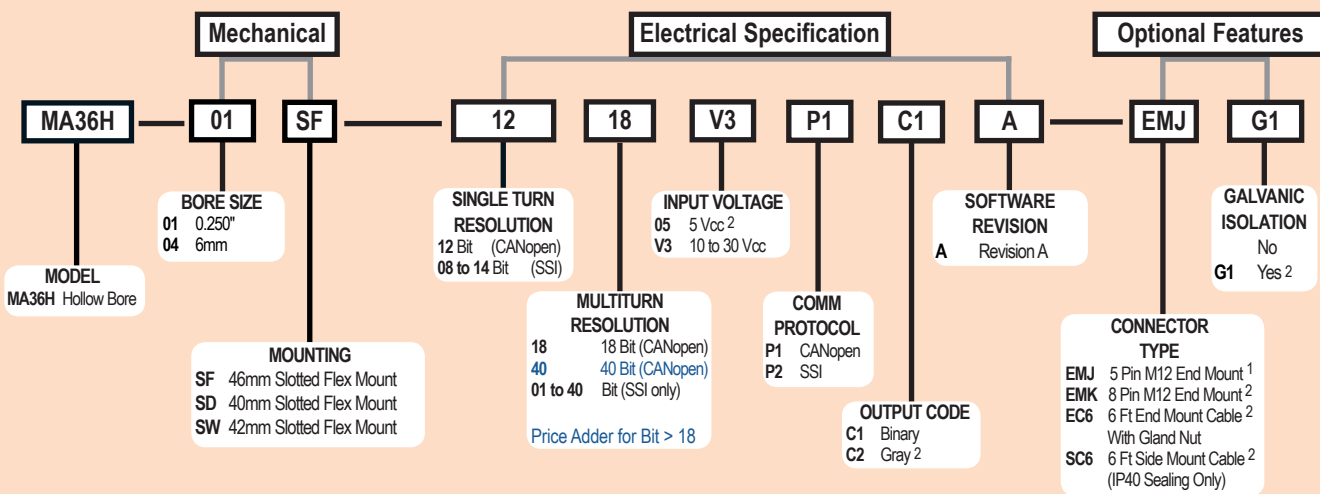
## Common Applications

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

## Model MA36H Ordering Guide

For Single Turn Applications - Please see the Model SA36H Page

Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.



For specification assistance call  
Customer Service at  
+44 (0)1978 262100

### NOTES:

- 1 ONLY available with CANopen.
- 2 ONLY available with SSI.

# Model MA36H - Hollow Bore 36mm MultiTurn Absolute



## Model MA36H Specifications

### Electrical

Input Voltage ..... 10 to 30 Vcc max SSI or CAN  
5 Vcc SSI Only  
Input Current ..... 50 mA max with no external load  
Power Consumption ..... 0.5 W max  
Resolution (Single) ..... 12 bit (CAN)  
8 to 14 bit (SSI)  
Resolution (Multi) ..... Up to 40 bit multiturn (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

The standard settings as well as any customisation 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 CAN Transmission Modes

Synchronous ..... When a synchronisation 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 ..... 100KHz to 500KHz  
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 Vcc for 2 sec

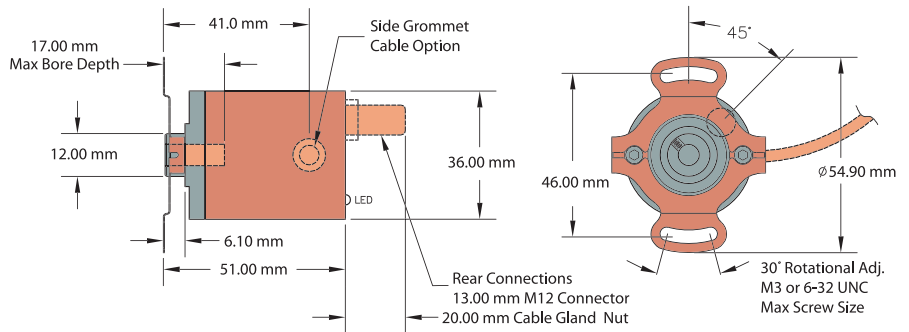
### Mechanical

Max Shaft Speed ..... 12,000 RPM  
Bore Size ..... 6 mm, .250"  
Bore Depth ..... 17 mm  
User Shaft  
Radial Runout ..... 0.005" max  
Starting Torque ..... <0.0032 N-m typical  
Housing ..... Ferrous chrome-plated magnetic screening  
Mounting ..... Hollow shaft with flex mount  
Weight ..... 630 grams typical

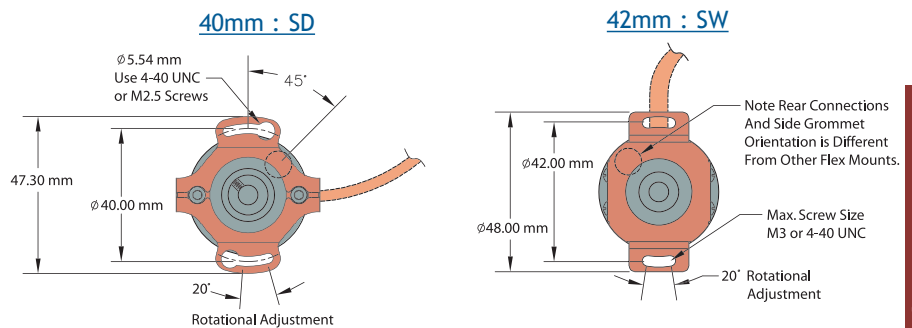
### Environmental

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 ..... IP64, shaft sealed to IP65

## Model MA36H 46mm Slotted Flex Mount (SF)



## Model MA36H Optional Flex Mounts (SD) (SW)



All dimensions are in mm with a tolerance of  $\pm 0.127$  or  $\pm 0.254$  unless otherwise specified.

### Wiring Table

#### CANopen Encoders

Function	Pin
U <sub>B</sub>	2
Ground (GND)	3
CAN <sub>High</sub>	4
CAN <sub>Low</sub>	5
CAN <sub>GND</sub> / shield	1

#### SSI Encoders

Function	8-pin M12	Cable
Ground (GND)	1	White
+Vcc	2	Brown
SSI CLK+	3	Green
SSI CLK-	4	Yellow
SSI DATA+	5	Grey
SSI DATA-	6	Pink
PRESET	7	Blue
DIR	8	Red
Shield	housing	Side Exit - Housing End Exit - N/C