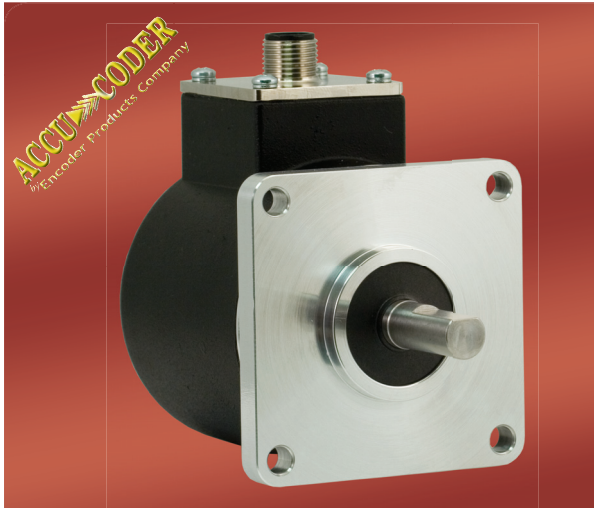


# Model MA63S Multiturn Absolute



## Features

- Standard Size 25 Package (2.5" x 2.5")
- Durable Magnetic Technology
- Servo and Flange Mounting
- Multiturn Absolute Encoder (14 Bit/40 Bit)
- SSI and CANopen Communications
- Proven New Turns Counting Technology - No Gears or Batteries
- IP67 Sealing Available

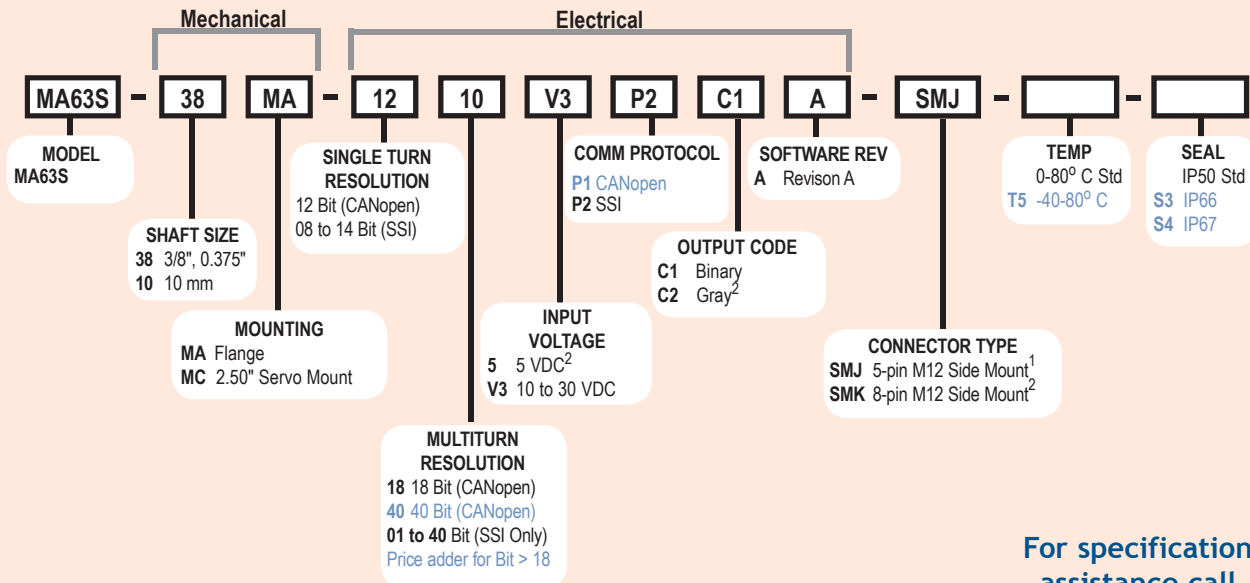
The Model MA63S Multiturn Absolute Accu-Coder™ is ideal for a wide variety of industrial applications that require an encoder with the capability of absolute positioning output, even in power-off scenarios. Its fully digital output and innovative use of battery-free multiturn technology make the Model MA63S exceptionally reliable. The MA63's robust and durable magnetic technology and available IP67 seal readily handle the harshest industrial environments, including those with elevated electrical noise. Available with several shaft sizes and mounting styles, the Model MA63S is easily designed into OEM and aftermarket applications.

## Common Applications

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

## Model MA63S Ordering Guide

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 1-800-366-5412

### Notes:

- 1 Available with CANopen only
- 2 Available with SSI only

# Model MA63S Multiturn Absolute

## Model MA63S Specifications

### Electrical

- Input Voltage ..... 10 to 30 VDC max SSI or CAN  
5 VDC 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 ..... Less than 0.15° (CANopen)  
Less than 0.35° (SSI)

### 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 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 CAN 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... 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 VDC for 2 sec

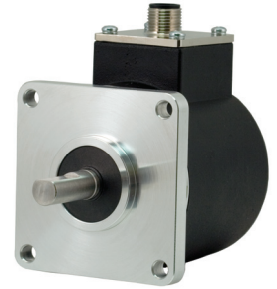
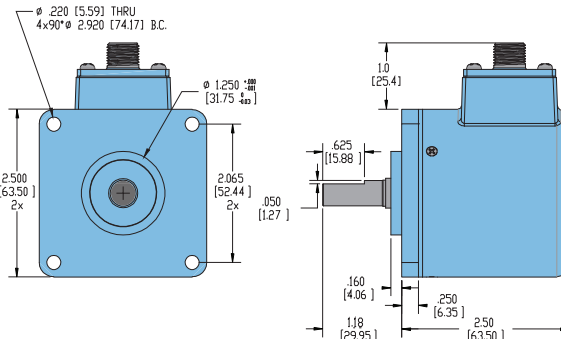
### Mechanical

- Max Shaft Speed .. 8,000 RPM
- Shaft Size ..... 10 mm, 0.375"
- Shaft Material ..... 303 Stainless Steel
- Radial Shaft Load . 80 lb maximum
- Axial Shaft Load ... 80 lb maximum
- Starting Torque ..... 1.0 oz-in typical with no seal  
3.0 oz-in typical with IP66 shaft seal  
7.0 oz-in typical with IP67 shaft seal
- Housing ..... Black non-corrosive finish
- Mounting ..... Flange or Servo type
- Weight ..... 20 oz typical

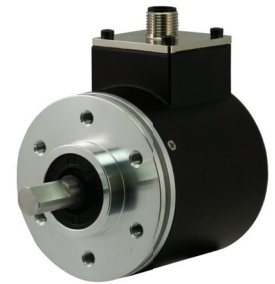
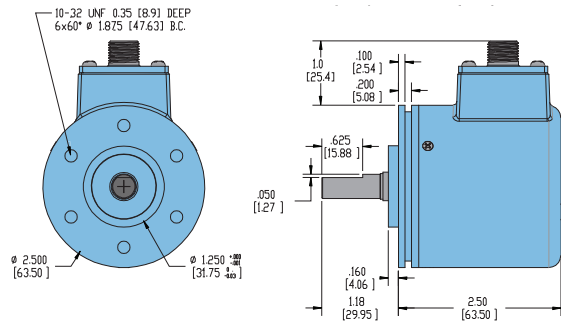
### Environmental

- Operating Temp .... 0° to +80° C standard  
-40° to +80° C extended temperature option
- Storage Temp ..... -25° to +100° C
- Humidity ..... 95% RH non-condensing
- Vibration ..... 5 g @ 10 to 2000 Hz
- Shock ..... 100 g @ 6 ms duration
- Sealing ..... IP50 standard; IP66 or IP67 optional

## Model MA63S Flange Mount (MA)



## Model MA63S 2.5" Servo Mount (MB)



All dimensions are in inches with a tolerance of  $\pm 0.005"$  or  $\pm 0.01"$  unless otherwise specified. Metric dimensions are given in brackets [metric].

### Wiring Table

#### CANopen Encoders

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

5-pin M12

#### SSI Encoders

Function	Pin
Ground (GND)	1
+VDC	2
SSI CLK+	3
SSI CLK-	4
SSI DATA+	5
SSI DATA-	6
PRESET	7
DIR	8
Shield	housing

8-pin M12