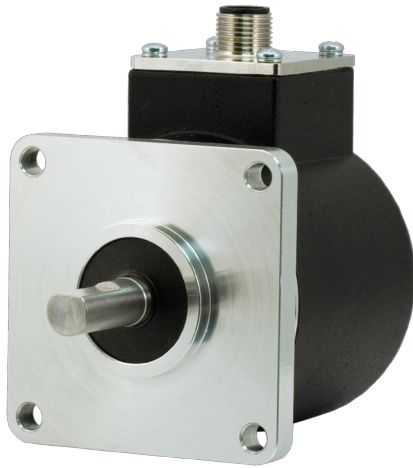


MODEL MA63S – MULTI-TURN ABSOLUTE ENCODER



Ø2.5"

FEATURES

- Standard Size 25 Package (2.5" x 2.5")
- Durable Magnetic Technology
- Multi-Turn Absolute Encoder (14 Bit ST / 39 Bit MT)
- SSI and CANopen Communication
- Proven Turns Counting Technology – No Gears or Batteries
- Servo and Flange Mounting
- IP67 Sealing Available
- Meets CE/EMC Standards for Immunity and Emissions

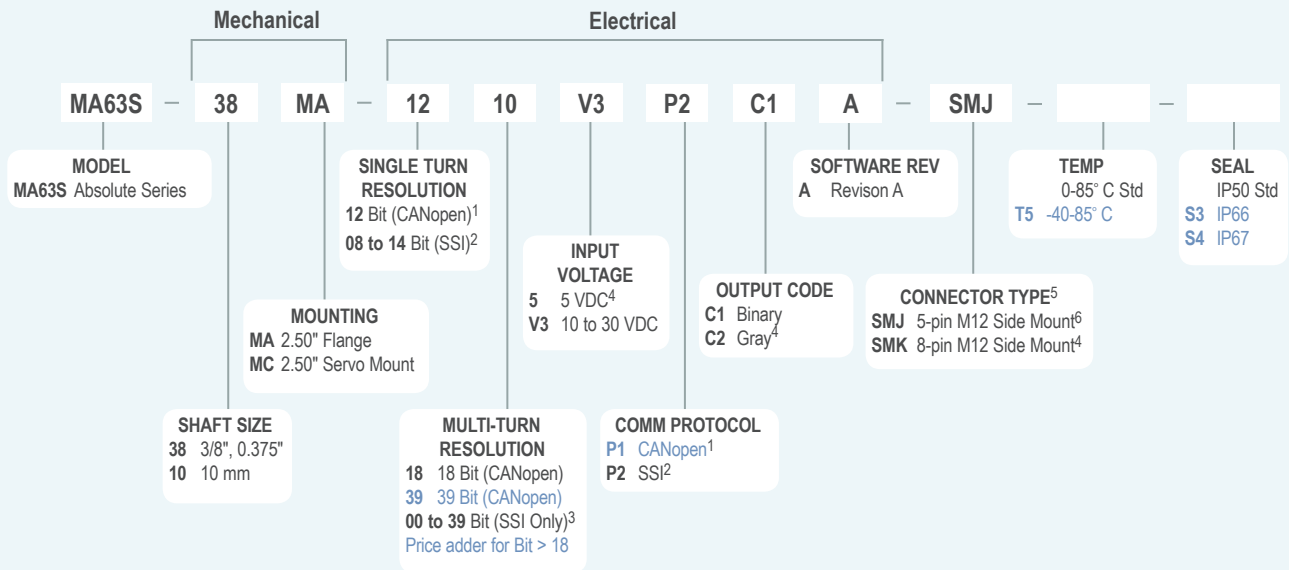
The Model MA63S Multi-Turn Absolute Encoder offers a high performance solution for your absolute feedback needs. This encoder is especially suited for applications where position information must be retained after loss of system power (i.e., system resets, outages, etc.). It provides maintenance-free feedback thanks to its innovative battery-free and gear-free multiturn technology. This encoder is the perfect choice for harsh industrial applications thanks to its rugged magnetic technology, available IP67 rating, and proven "encoder within an encoder" design. 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.



NOTES:

- Please refer to [CANopen Interface Technical Reference Manual](#) at encoder.com.
- Please refer to Technical Bulletin [TB-529: Understanding EPC's SSI Encoders](#) at encoder.com.
- For single turn resolution, enter 00 (SSI only)
- Available with SSI only.
- For mating connectors, cables, and cordsets see [Accessories](#) at encoder.com. For Connector Pin Configuration Diagrams, see Technical Information or see [Connector Pin Configuration Diagrams](#) at encoder.com.
- Available with CANopen only.

MODEL MA63S SPECIFICATIONS

Electrical

Input Voltage.....	10 to 30 VDC max SSI or CANopen 5 VDC SSI Only
Input Current	50 mA typical for 10 to 30 VDC 80mA typical for 5 VDC
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°
CE/EMC	Immunity tested per EN 61000-6-2:2006 Emissions tested per EN 61000-6-3:2011

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.....	100KHz to 500KHz. Higher frequencies may be available. Contact Customer Service.
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.....	Yes, see Technical Bulletin TB-529: Understanding EPC's SSI Encoders
Protection	Galvanic Isolation

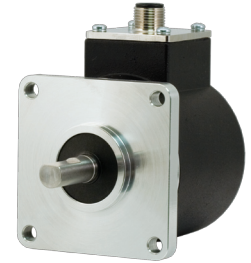
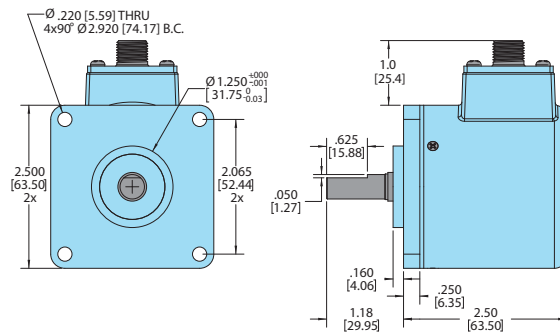
Mechanical

Max Shaft Speed	8,000 RPM
Shaft Material	303 Stainless Steel
Radial Shaft Load	80 lb max. Rated load of 20 to 40 lb for bearing life of 1.5×10^9 revolutions
Axial Shaft Load	80 lb max. Rated load of 20 to 40 lb for bearing life of 1.5×10^9 revolutions
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
Weight.....	20 oz typical

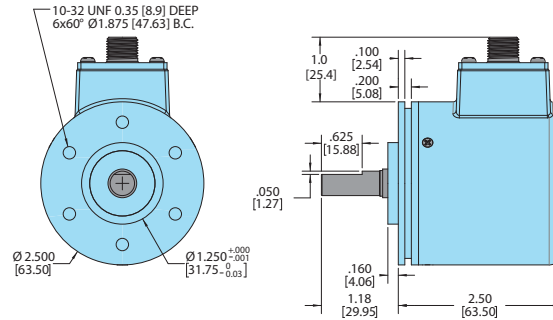
Environmental

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	IP50 standard; IP66 or IP67 optional

MODEL MA63S 2.5" FLANGE MOUNT (MA)



MODEL MA63S 2.5" SERVO MOUNT (MC)



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

For EPC-supplied mating cables, refer to wiring table provided with cable.

For CE (Conformity European) requirements, use M12 cordset with shield connected to M12 coupling nut.

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

CANOPEN ENCODERS	
Function	Pin
+VDC	2
Ground (GND)	3
CAN _{High}	4
CAN _{Low}	5
CAN _{GND} / Shield	1