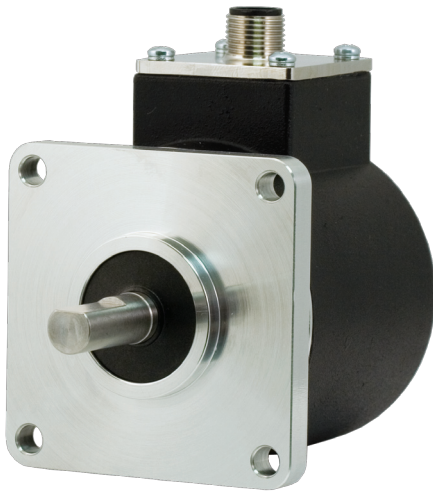


MODEL MA63S – MULTI-TURN ABSOLUTE ENCODER



FEATURES

- Standard Size 25 Package (2.5" x 2.5")
- Durable Magnetic Technology – No Gears or Batteries
- Servo and Flange Mounting
- Multi-Turn Absolute Encoder (14 Bit/39 Bit)
- SSI and CANopen Communications
- IP67 Sealing Available

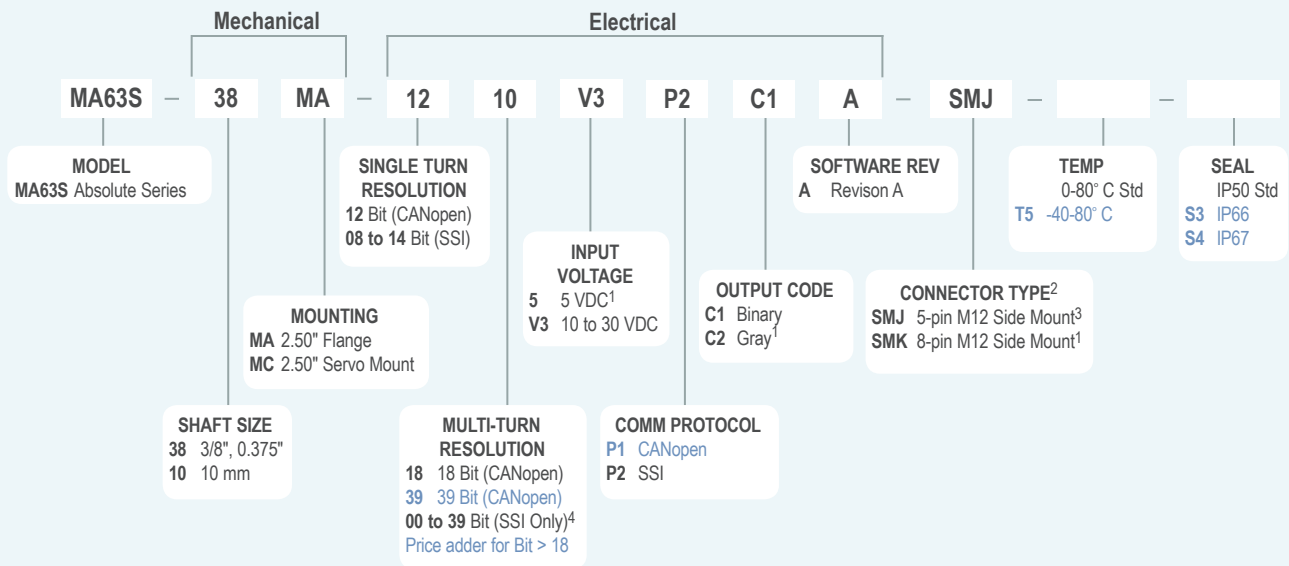
The Model MA63S Multi-Turn Absolute Encoder is ideal for a wide variety of industrial applications – especially where you need an encoder with the capability of output even in power-off scenarios. Its fully digital output and innovative use of battery-free multi-turn technology make the Model MA63S exceptionally 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.



NOTES:

- 1 Available with SSI only.
- 2 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.
- 3 Available with CANopen only.
- 4 For single-turn resolution, enter '00' (SSI only).

MODEL MA63S 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.....	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
Protection	Galvanic Isolation

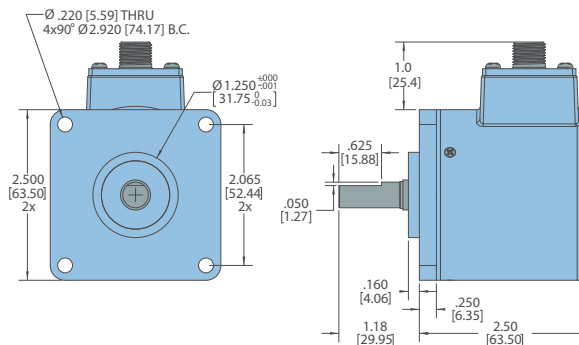
Mechanical

Max Shaft Speed.....	8,000 RPM
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
Weight.....	20 oz typical

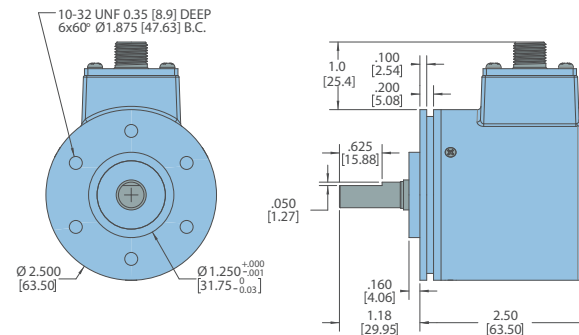
Environmental

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 2.5" FLANGE MOUNT (MA)



MODEL MA63S 2.5" SERVO MOUNT (MC)



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

WIRING TABLES

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