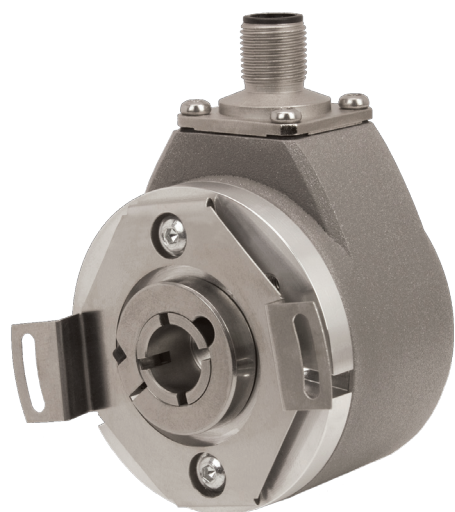


MODEL MA58H – MULTI-TURN ABSOLUTE ENCODER



Ø58 mm

FEATURES

- 58 mm Diameter Package
- 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
- Flex Mount Eliminates Couplings and Is Ideal for Motors or Shafts
- Meets CE/EMC Standards for Immunity and Emissions

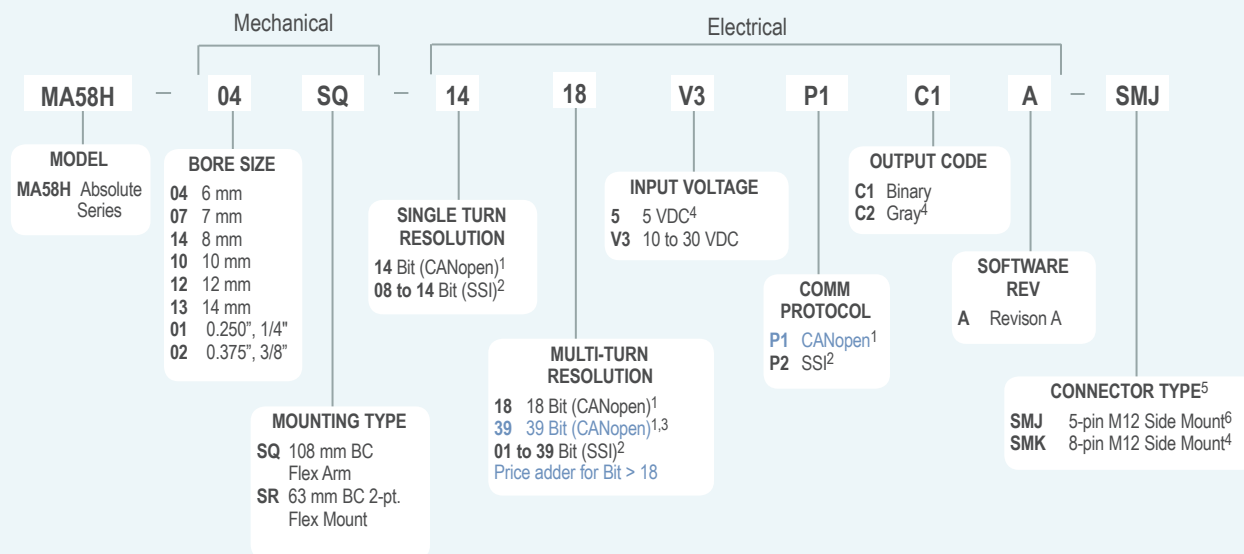
The Model MA58H Multi-Turn Absolute Encoder offers a high performance solution for your absolute feedback needs. It provides maintenance-free feedback thanks to its innovative battery-free and gear-free multi-turn technology. This encoder is especially suited for applications where position information must be retained after loss of system power (i.e., system resets, outages, etc.). Its rugged magnetic technology and high IP rating make the Model MA58H an excellent choice, even in the harshest industrial environments. Available with bores up to 3/8" or 14 mm and two flexible mounting options, the Model MA58H is easily designed into a variety of applications.

COMMON APPLICATIONS

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

MODEL MA58H ORDERING GUIDE

Blue type indicates price adder options. For single turn applications, see Model SA58H.



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.
- Additional lead time required.
- 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 MA58H SPECIFICATIONS

Electrical

Input Voltage.....10 to 30 VDC max
5 VDC SSI Only
Input Current50 mA typical for 10 to 30 VDC
80 mA typical for 5 VDC

Power: Consumption..0.5 W max

Resolution:

Single Turn14 bit (CANopen)
8 to 14 bit (SSI)
Multi-TurnUp to 39 bit multi-turn

Accuracy..... $\pm 0.35^\circ$

Repeatability..... $\pm 0.2^\circ$

CE/EMCImmunity 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.....1 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 InputVia opto-coupler

Clock Frequency.....100 kHz to 500 kHz. Higher frequencies
may be available. Contact Customer
Service.

Data OutputRS485 / RS422 compatible

Output CodeGray 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 TB529:**

Understanding EPC's SSI Encoders

ProtectionGalvanic Isolation with SSI option

Mechanical

Max Shaft Speed.....6000 RPM

Shaft RotationBi-directional

Radial Run-out0.007" max

Axial Endplay..... ± 0.030 " max

Radial Shaft Load18 lb max. Max load bearing life of 1×10^9
revolutions

Axial Shaft Load11 lb max. Max load bearing life of 1×10^9
revolutions

Starting Torque2.3 oz-in typical

HousingAll metal with protective finish

Bearings.....2 precision ball bearings

Weight.....7.5 oz typical

Environmental

Operating Temp -40° to 85° C

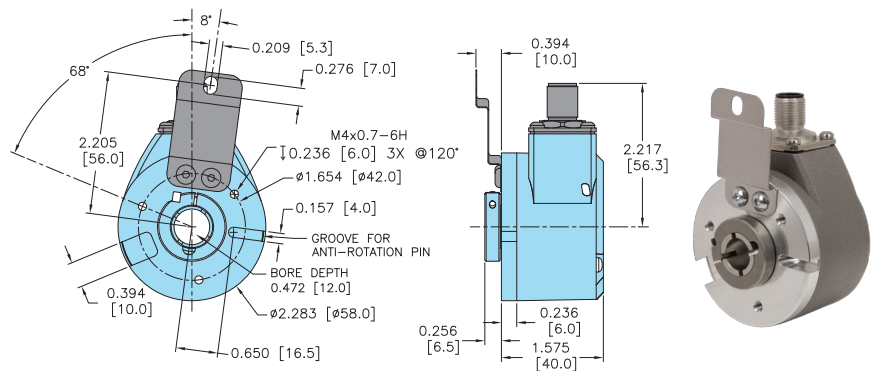
Storage Temp -40° to 100° C

Vibration.....5.1 g (10 Hz up to 2000 Hz)

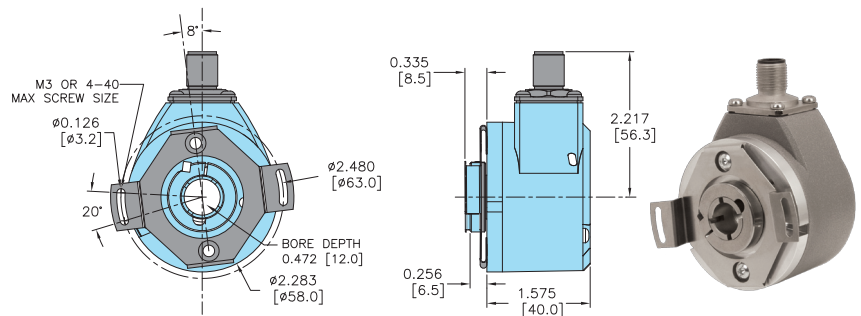
Shock.....100 g (6 ms)

Sealing.....IP67, shaft sealed to IP65

MODEL MA58H 108 MM BC FLEX ARM (SQ)



MODEL MA58H 63 MM 2 PT. FLEX MOUNT (SR)



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 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	8-Pin M12
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	5-Pin M12
+VDC	2
Ground (GND)	3
CAN _{HIGH}	4
CAN _{LOW}	5
CAN _{GND} / Shield*	1

*M12 connector is connected to encoder housing.