

# Model MA58H - Hollow Bore 58mm Multi-Turn Absolute



## Features

- Multi-Turn Absolute Encoder (14 Bit/39 Bit)
- 58mm Diameter
- Durable Magnetic Technology
- Up to 14 Bits of Single Turn Resolution
- SSI and CANopen Communications
- Retains Absolute Position After a Power Outage

The Model MA58H absolute encoder is a heavy duty, rugged and reliable multi-turn hollow-bore absolute encoder. This encoder is designed for harsh factory and plant floor environments, and is especially suited to applications where you need an encoder to retain position information after power-off scenarios. The Model MA58H has an operating temperature range of -40° C to 85° C and a sealing rating of IP65 on the shaft, with the balance of the unit rated to IP67. Available with bores up to 3/8" or 14 mm, and with two flexible mounting options, the Model MA58H is easily designed into a variety of applications.

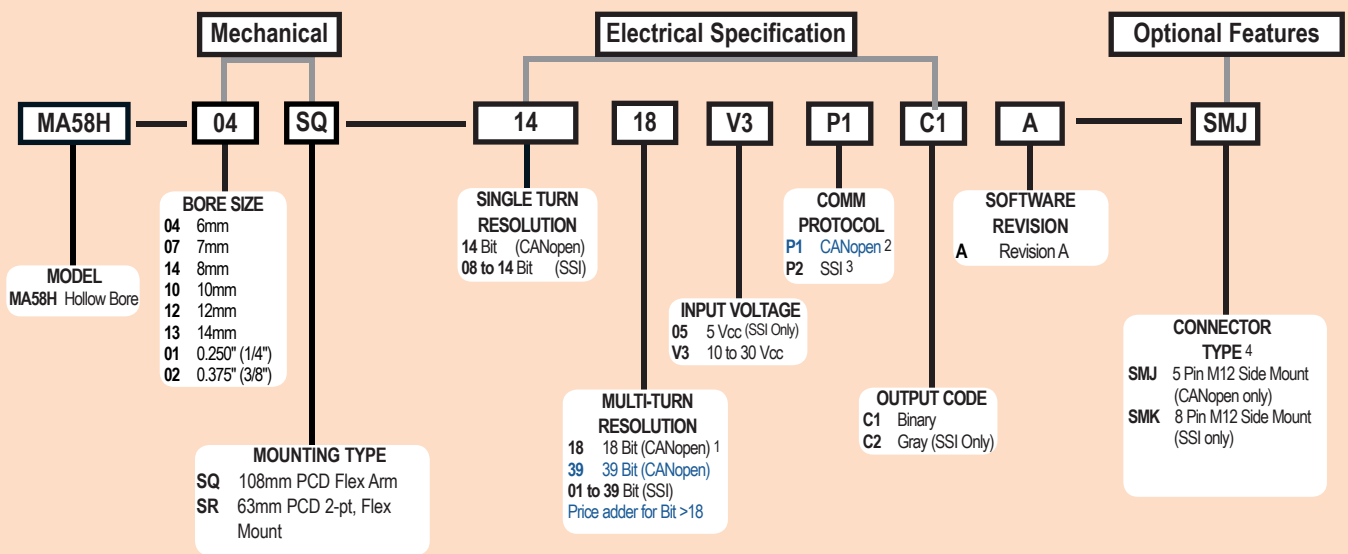
## Common Applications

Motion Control Feedback, Machine & Elevator Controls, Food Processing, Robotics, Material Handling, Conveyors, Textile Machines

## Model MA58H Ordering Guide

For Single Turn Applications - Please see the Model SA58H 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 Additional lead time required.
- 2 See *CANopen Interface Technical Reference Manual* at [www.encoder.com](http://www.encoder.com).
- 3 See Technical Bulletin TB529: *Understanding EPC's SSI Encoders* at [www.encoder.com](http://www.encoder.com)
- 4 For mating connectors and cordsets, see Accessories or visit [www.encoder.com](http://www.encoder.com). For Connector Pin Configuration Diagrams, see Wiring Table on following page.

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## Model MA58H Specifications

### Electrical

Input Voltage .....	10 to 30 Vcc max 5 Vcc SSI Only
Input Current .....	50 mA typical for 10 to 30 Vcc 80 mA typical for 5 Vcc
Power Consumption .....	0.5 W max
Resolution	
Single-Turn .....	14 bit (CANopen) 8 to 14 bit (SSI)
Multi-Turn .....	Up to 39 bit Multi-T
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 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 VCC for CCW (when viewed from shaft end)
Set to Zero .....	Yes, see <b>Technical Bulletin TB529: Understanding EPC's SSI Encoders</b>
Protection .....	Galvanic Isolation with SSI option

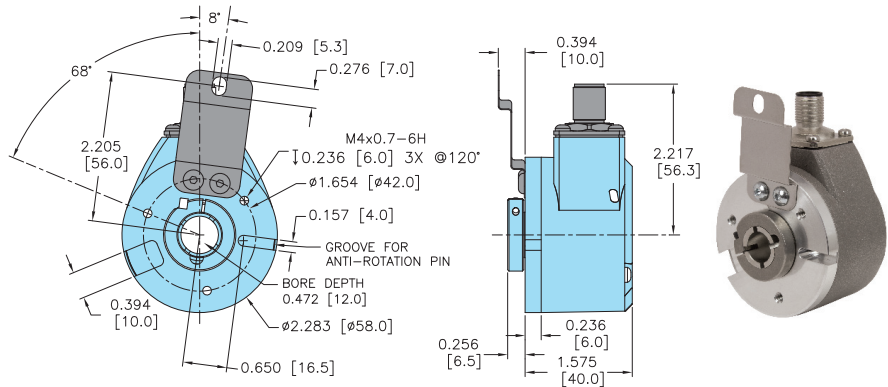
### Mechanical

Max Shaft Speed .....	6,000 RPM
Shaft Rotation .....	Bi-directional
Radial Run-out .....	0.177mm max
Axial Endplay .....	+/- 0.762mm max
Radial Shaft Load .....	8.16Kg Max load bearing life of 1 x 10 <sup>9</sup> Revolutions
Axial Shaft Load .....	4.98Kg Max load bearing life of 1 x 10 <sup>9</sup> Revolutions
Starting Torque .....	0.0162 N-m typical
Housing .....	All metal with protective finish
Bearings .....	2 precision ball bearings
Weight .....	212 grams typical

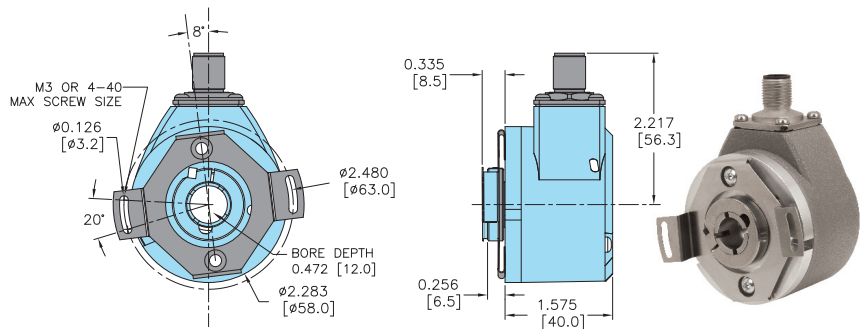
### Environmental

Operating Temp .....	-40° to +85° C
Storage Temp .....	-25° to +100° C
Vibration .....	5.1 g @ 10 Hz to 2000 Hz
Shock .....	100 g @ 6 ms duration
Sealing .....	IP67, shaft sealed to IP65

## Model MA58H 108mm PCD Flex Arm (SQ)



## Model MA58H 63mm PCD 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 BEPC-supplied mating cables, refer to wiring table provided with cable.

#### SSI ENCODERS

Function	8-Pin M12
Ground (GND)	1
+VCC	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
+VCC	2
Ground (GND)	3
CAN <sub>HIGH</sub>	4
CAN <sub>LOW</sub>	5
CAN <sub>END</sub> / Shield*	1

\*M12 connector is connected to encoder housing.

For CE requirements, use cable cordset with shield connected to M12 coupling nut.