

MODEL SA58H – SINGLE TURN ABSOLUTE ENCODER

DISCONTINUED - PLEASE SEE REPLACEMENT [MODEL A58HB](#)



Ø58 mm

FEATURES

58 mm Diameter Package
Durable Magnetic Technology
Up to 14 Bits of Single Turn Resolution
SSI and CANopen Communication
Flex Mount Eliminates Couplings and Is Ideal for Motors or Shafts
Meets CE/EMC Standards for Immunity and Emissions SSI and CANopen

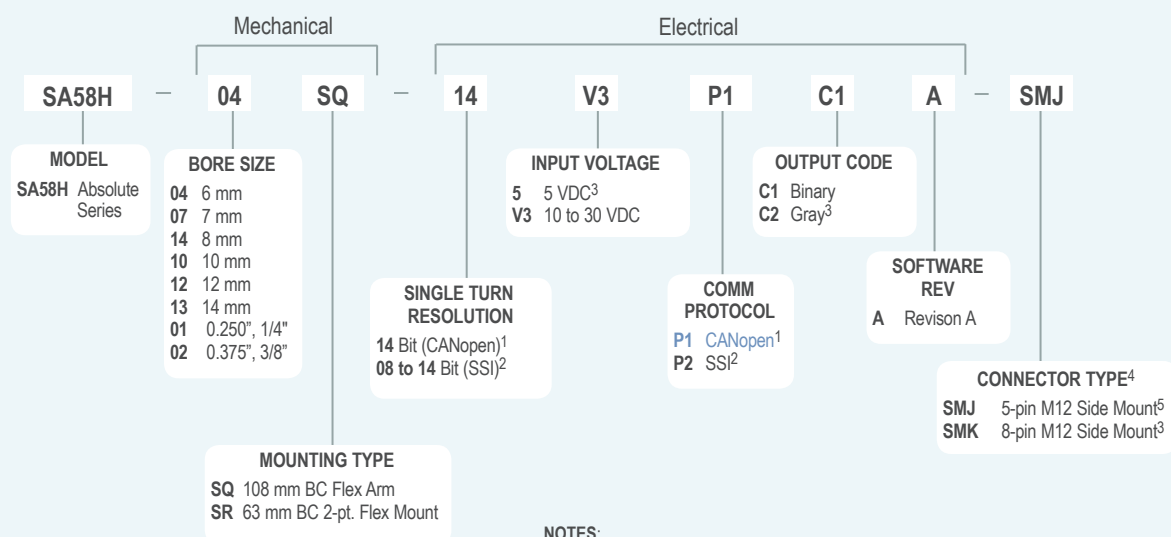
The Model SA58H Single Turn Absolute Encoder offers a high performance solution for your absolute feedback needs. This encoder is especially suited for applications where position information must be retained after loss of system power (i.e., system resets, outages, etc.). Its rugged magnetic technology and high IP rating make the Model SA58H 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 SA58H 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 SA58H ORDERING GUIDE

Blue type indicates price adder options. For multi-turn applications, see Model MA58H.



NOTES:

- 1 Please refer to [CANopen Interface Technical Reference Manual](#) at encoder.com.
- 2 Please refer to Technical Bulletin [TB-529: Understanding EPC's SSI Encoders](#) at encoder.com.
- 3 Available with SSI only.
- 4 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.
- 5 Available with CANopen only.

MODEL SA58H SPECIFICATIONS

Electrical

Input Voltage..... 10 to 30 VDC max
5 VDC SSI Only
Input Current 50 mA typical for 10 to 30 VDC
80 mA typical for 5 VDC

Power: Consumption...0.5 W max

Resolution:

Single Turn 14 bit (CANopen)
8 to 14 bit (SSI)

Accuracy $\pm 0.35^\circ$

Repeatability $\pm 0.2^\circ$

CE/EMC Immunity tested per EN 61000-6-2:2006
Emissions tested per EN 61000-6-3:2011

CANopen Interface

Protocol CANopen:
Communication profile C1A 301
Device profile for encoder C1A 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 (C1A 305) and the SDO proto-
col (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..... 100 kHz to 500 kHz
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 TB529:**
Understanding EPC's SSI Encoders

Protection Galvanic Isolation with SSI option

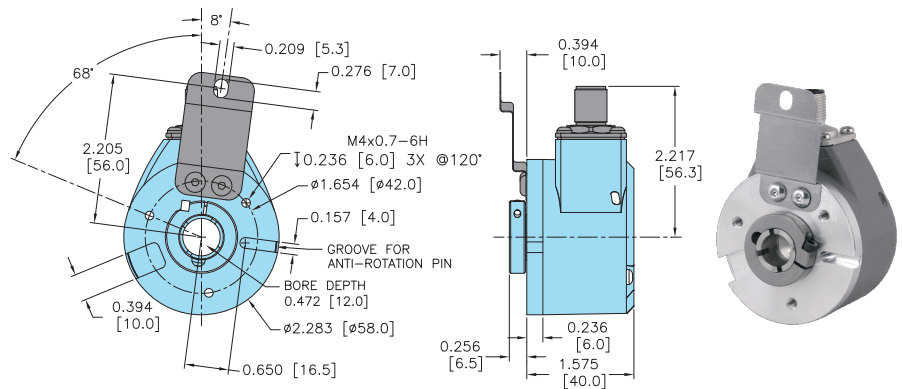
Mechanical

Max Shaft Speed..... 6000 RPM
Shaft Rotation Bi-directional
Radial Run-out 0.007" max
Axial Endplay..... ± 0.030 " max
Radial Shaft Load 18 lb max. Max load bearing life of 1×10^9
revolutions
Axial Shaft Load 11 lb max. Max load bearing life of 1×10^9
revolutions
Starting Torque 2.3 oz-in typical
Housing All metal with protective finish
Bearings..... 2 precision ball bearings
Weight..... 7.5 oz typical

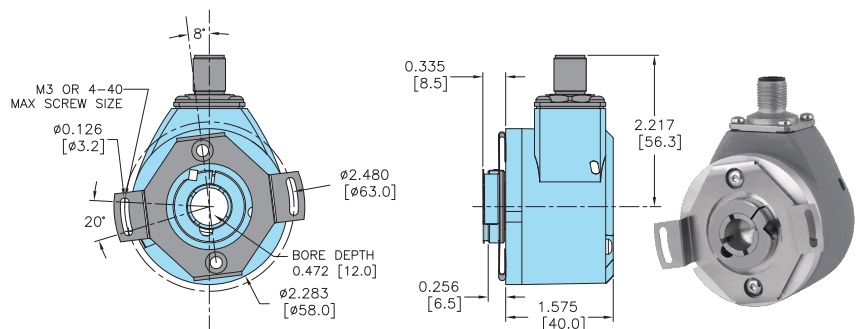
Environmental

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 SA58H 108 MM BC FLEX ARM (SQ)



MODEL SA58H 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.

Trim back and insulate unused wires.

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 _H	4
CAN _L	5
CAN _{SH} /Shield*	1

*M12 connector is connected to encoder housing.