Model SA58H - Hollow Bore 58mm Single Turn Absolute

Ø58 mm

Features
- 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 SA58H absolute encoder is a heavy duty, rugged and reliable single-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 SA58H 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 SA58H is easily designed into a variety of applications.
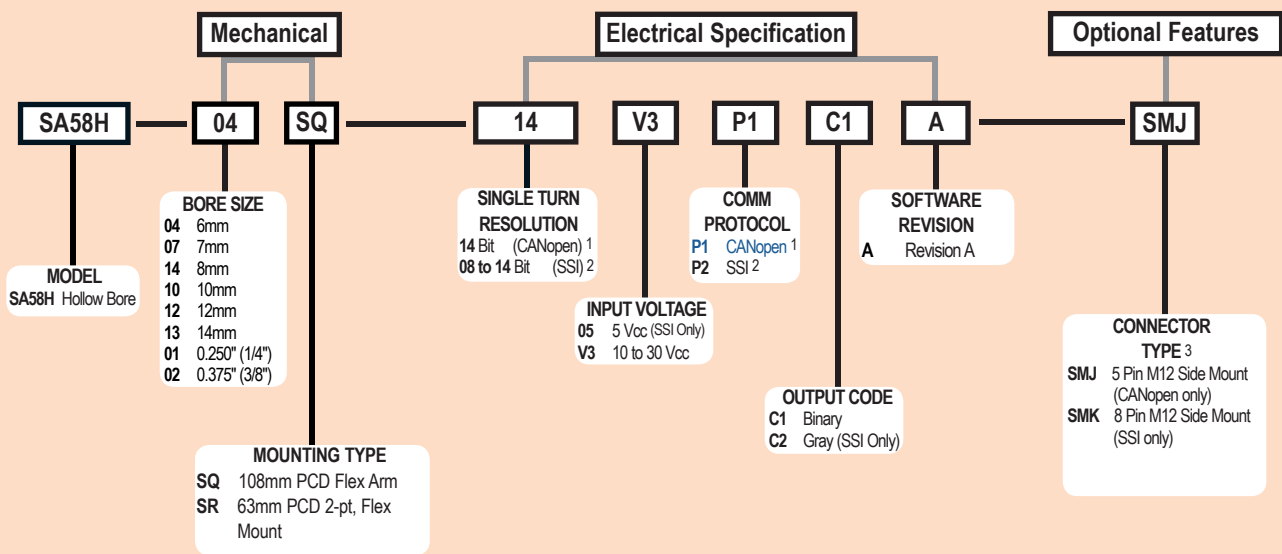
Common Applications
Motion Control Feedback, Machine & Elevator Controls, Food Processing, Robotics, Material Handling, Conveyors, Textile Machines

Model SA58H Ordering Guide

For MultiTurn Applications - Please see the Model MA58H Page

Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.

Mechanical		Electrical Specification					Optional Features
SA58H	04	SQ	14	V3	P1	C1	A	SMJ

MODEL
SA58H Hollow Bore

BORE SIZE
- 04 6mm
- 07 7mm
- 14 8mm
- 10 10mm
- 12 12mm
- 13 14mm
- 01 0.250" (1/4")
- 02 0.375" (3/8")

MOUNTING TYPE
- SQ 108mm PCD Flex Arm
- SR 63mm PCD 2-pt, Flex Mount

SINGLE TURN RESOLUTION
- 14 Bit (CANopen) [1]
- 08 to 14 Bit (SSI) [2]

INPUT VOLTAGE
- 05 5 Vcc (SSI Only)
- V3 10 to 30 Vcc

COMM PROTOCOL
- P1 CANopen [1]
- P2 SSI [2]

OUTPUT CODE
- C1 Binary
- C2 Gray (SSI Only)

SOFTWARE REVISION
- A Revision A

CONNECTOR TYPE [3]
- SMJ 5 Pin M12 Side Mount (CANopen only)
- SMK 8 Pin M12 Side Mount (SSI only)

For specification assistance call Customer Service at +44 (0)1978 262100

NOTES:
1 See *CANopen Interface Technical Reference Manual* at www.encoder.co.uk
2 See *Technical Bulletin TB529: Understanding EPC's SSI Encoders* at www.encoder.co.uk
3 For mating connectors and cordsets, see Accessories or visit www.encoder.com. For Connector Pin Configuration Diagrams, see Wiring Table on following page.

Absolute Encoders

Model SA58H - Hollow Bore 58mm Single Turn Absolute

Model SA58H 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)	14 bit (CANopen)
	8 to 14 bit (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

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 independantly
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 TB529: Understanding EPC's SSI Encoders**

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 1×10^9 Revolutions
Axial Shaft Load	4.98Kg Max load bearing life of 1×10^9 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 SA58H 108mm PCD Flex Arm (SQ)
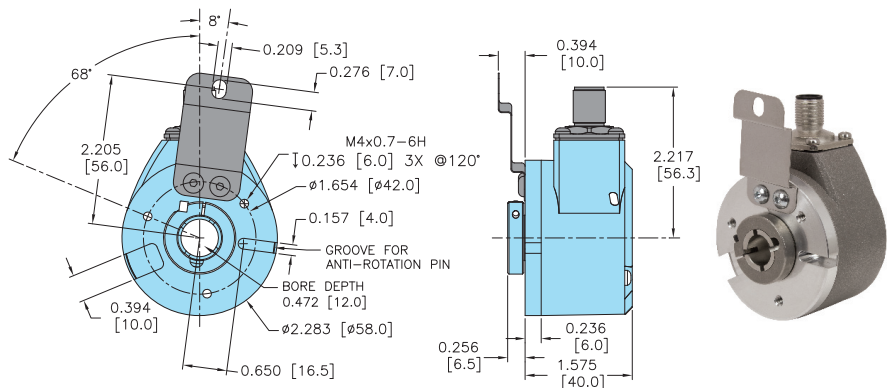
Model SA58H 63mm PCD 2 Pt, Flex Mount (SR)
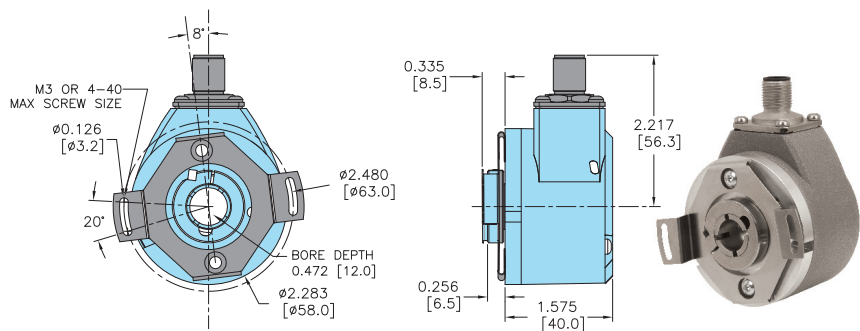
All dimensions are in inches with a tolerance of +0.005" or +0.01" unless otherwise specified.
Metric dimensions are given in brackets (mm)

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$_{HIGH}$	4
CAN$_{LOW}$	5
CAN$_{GND}$ / Shield*	1

*M12 connector is connected to encoder housing.

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

Absolute Encoders

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