

Model A58HB - Hollow Bore 58mm Absolute Encoder



Features

- Single Turn/Multi-Turn Absolute Encoder (16 Bit ST / 43 Bit MT)
- SSI or CANOpen Communication
- Maintenance-Free and Environmentally Friendly Magnetic Design
- Energy Harvesting Magnetic Multi-Turn Technology
- No Gears or Batteries
- 58mm Diameter Hollow Bore (Blind) Encoder
- Flex Mount Eliminates Couplings and Is Ideal for Motors or Shafts
- Meets CE/EMC Standards for Immunity and Emissions

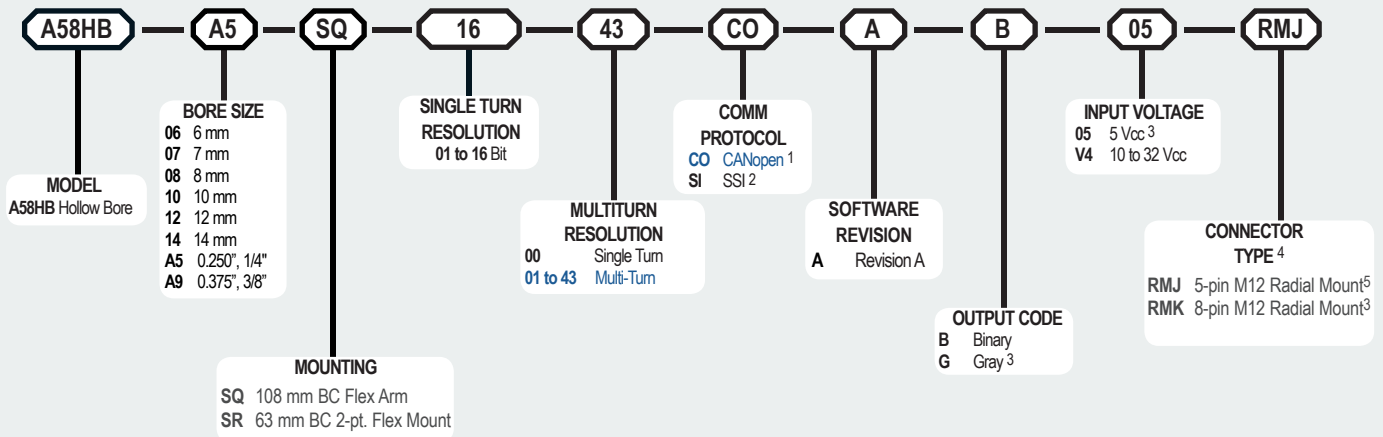
The Model A58HB Absolute Encoder offers a high performance solution for your absolute feedback needs. It provides maintenance-free feedback thanks to its innovative battery-free and gear-free multi-turn technology. This encoder is especially suited for applications where position information must be retained after loss of system power. Its rugged magnetic technology and high IP rating make the Model A58HB an excellent choice, even in tough industrial environments. Available with bores up to 3/8" or 14 mm and two flexible mounting options, the Model A58HB 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 XY Positioning Tables

Model A58HB Ordering Guide

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 Please Refer to the [CANOpen Interface Technical Manual](http://www.encoder.co.uk) at www.encoder.co.uk
- 2 Please Refer to Technical Bulletin: [TB-529 Understanding BEPC SSI Encoders](#) at www.encoder.co.uk
- 3 Available with SSI Only.
- 4 For Connectors, Cables and Cordsets please visit the [Accessories](#) section at www.encoder.co.uk or in our Catalogue.
- 5 Available with CANOpen Only.

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Model A58HB Specifications

Electrical

Input Voltage 10 to 32 VDC max
5 VDC SSI Only
Input Current 50 mA typical for 10 to 32 VDC
80 mA typical for 5 VDC
Power: Consumption ... 0.5 W max
Resolution (Single) 01 to 16 bit
Resolution (Multi) 01 to 43 bit
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 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 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

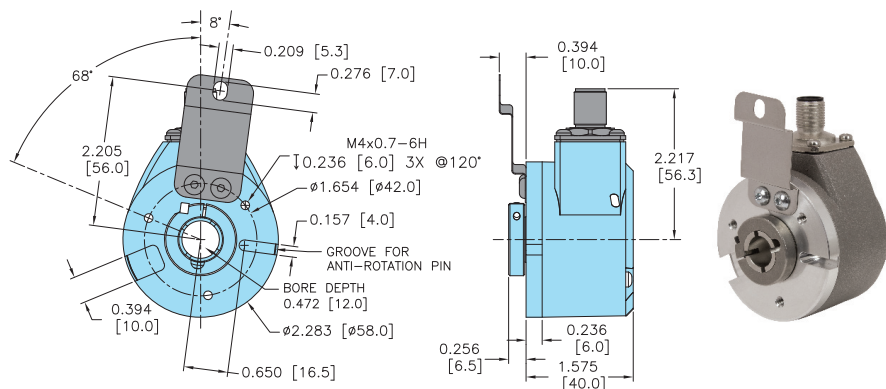
Mechanical

Max Shaft Speed 6,000 RPM
Shaft Rotation Bi-directional
Radial Run-out 0.177mm max
Axial Endplay ± 0.762 mm 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

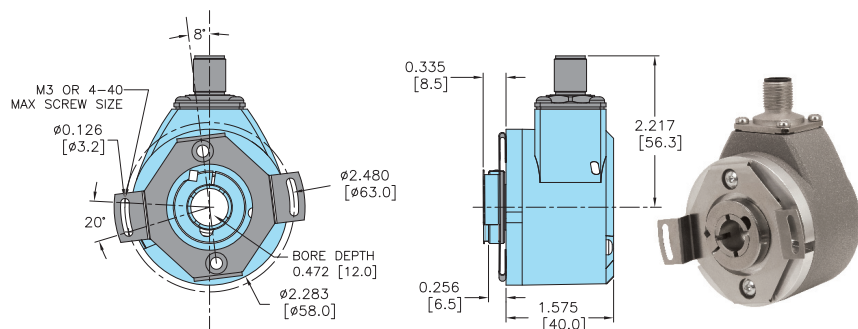
Environmental

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

Model A58HB 108mm PCD Flex Arm (SQ)



Model A58HB 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		CANopen ENCODERS	
Function	8-Pin M12	Function	5-Pin M12
Ground (GND)	1	+VCC	2
+VCC	2	Ground (GND)	3
SSI CLK+	3	CAN _{HIGH}	4
SSI CLK-	4	CAN _{LOW}	5
SSI DATA+	5	CAN _{SHD} / Shield*	1
SSI DATA-	6		
PRESET	7		
DIR	8		
Shield	Housing		

*M12 connector is connected to encoder housing.