# 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

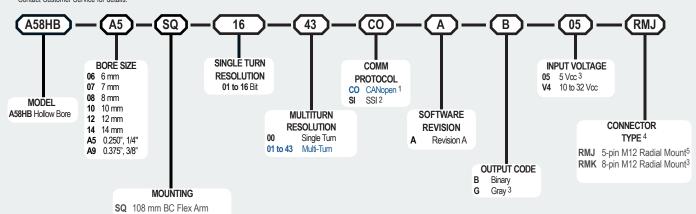
The Model A58HB Absolute Encoder offers a high performance solution for your absolute feedback needs. It provides maintenance-free feedback thanks to its innovative battery-free and gear-free multi-turn technology. This encoder is especially suited for applications where position information must be 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 X/Y 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

SR 63 mm BC 2-pt. Flex Mount

#### NOTES:

- 1 Please Refer to the <u>CANOpen Interface Technical Manual</u> 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 <u>Accessories</u> section at www.encoder.co.uk or in our Catalogue.
- 5 Available with CANopen Only.

Rev:

## Model A58HB Hollow Bore 58mm Absolute Encoder



## **Model A58HB Specifications**

Electrical

10 to 32 VDC max Input Voltage 5 VDC SSI Only

.50 mA typical for 10 to 32 VDC Input Current 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 .<± 0.35° Repeatability. .<± 0.2°

.Immunity tested per EN 61000-6-2:2006 CE/EMC

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

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

Service.

.RS485 / RS422 compatible Data Output

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 ......+/- 0.762mm max

Radial Shaft Load.....8.16Kg Max load bearing life of 1 x 109

Revolutions

Axial Shaft Load .... .4.98Kg Max load bearing life of 1 x 109

Revolutions

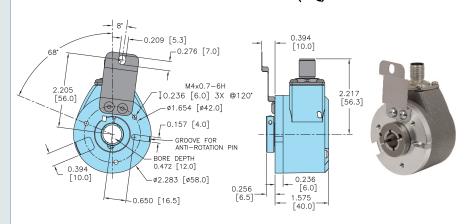
.0.0162 N-m typical Starting Torque .All metal with protective finish Housing. .2 precision ball bearings Bearings

Weight. .212 grams typical

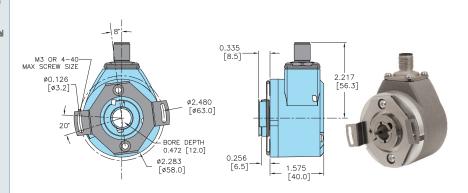
#### Environmental

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

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**

5-Pin M12
2
3
4
5
1

\*M12 connector is connected to encoder housing