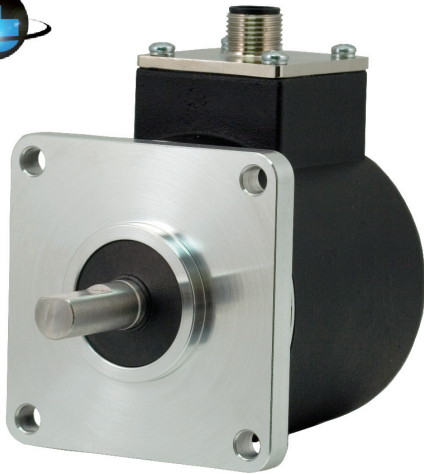


Model A25SB - Solid Shaft 63.5mm Absolute Encoder



SSI
Synchronous Serial Interface

Ø63.50 mm

CANopen

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
- IP67 Sealing Available
- Servo and Flange Mounting
- Standard Size 25 (63.50mm) Package
- Meets CE/EMC Standards for Immunity and Emissions

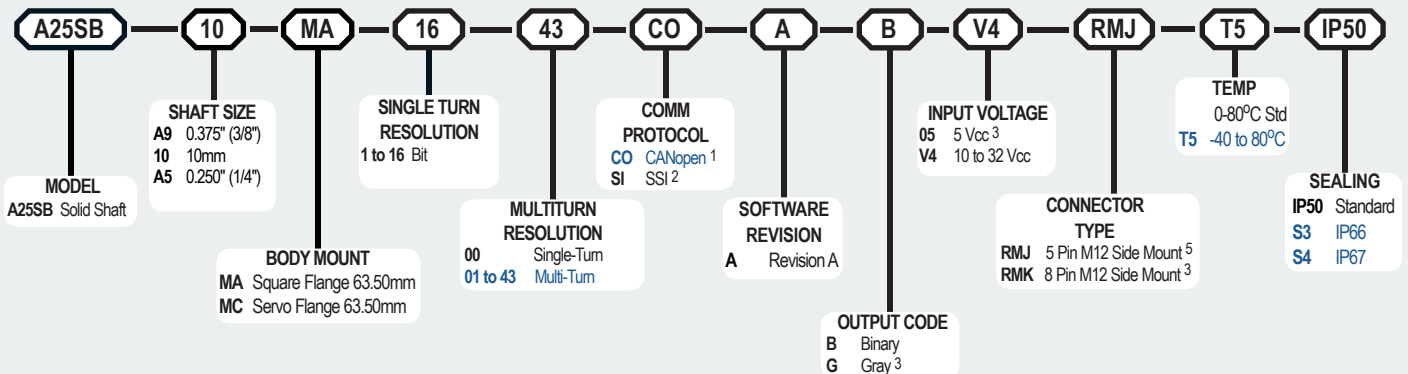
The Model A25SB Absolute Encoder offers a high performance solution for your absolute feedback needs. This encoder is especially suited for applications where position information must be retained after loss of system power. It provides maintenance-free feedback thanks to its innovative battery-free and gear-free multi-turn technology. This encoder is the perfect choice for harsh industrial applications thanks to its rugged magnetic technology, available IP67 rating, and proven double bearing design. Available with several shaft sizes and mounting styles, the Model A25SB is easily designed into OEM and aftermarket applications.

Common Applications

Robotics, Telescopes, Antennas, Medical Scanners, Wind Turbines, Elevators, Lifts, Motors, Automatic Guided Vehicles, Rotary and X/Y Positioning Tables

Model A25SB 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](http://www.encoder.co.uk) at www.encoder.co.uk
- 3 Available with SSI Only.
- 4 For Connectors, Cables and Cordsets please visit the [Accessories](http://www.encoder.co.uk) section at www.encoder.co.uk or in our Catalogue.
- 5 Available with CANOpen Only.

Model A25SB - Solid Shaft 63.5mm Absolute Encoder

Model A25SB Specifications

Electrical

Input Voltage 10 to 32 VDC max SSI or CANopen
5 VDC SSI Only
Input Current 50 mA typical for 10 to 32 VDC
80mA 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 0 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 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 TB-529:
Understanding EPC's SSI Encoders
Protection Galvanic Isolation

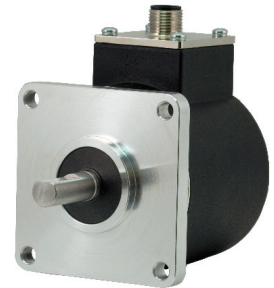
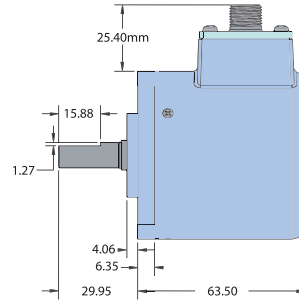
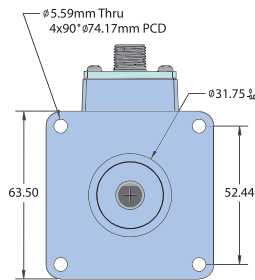
Mechanical

Max Shaft Speed 8,000 RPM
Shaft Material 303 Stainless Steel
Radial Shaft Load 80 lb (355 N) max. Rated load of 20 to 40 lb (88 to 177 N) = bearing life of 1.5 x10⁹ revolutions
Axial Shaft Load 80 lb (355 N) max. Rated load of 20 to 40 lb (88 to 177 N) = bearing life of 1.5 x10⁹ revolutions
Starting Torque 0.00706 Nm typical with no seal
0.02118 Nm typical with IP66 shaft seal
0.04943 Nm typical with IP67 shaft seal
Housing Black non-corrosive finish
Weight 20 oz typical

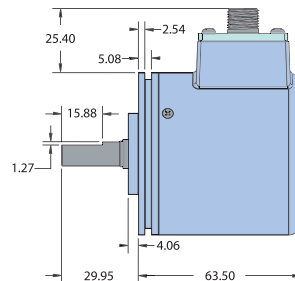
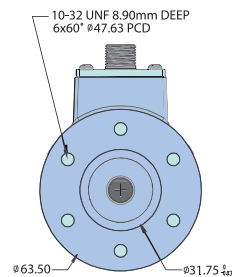
Environmental

Storage Temp -40° to 100° C
Humidity 95% RH non-condensing
Vibration 5 g @ 10 to 2000 Hz
Shock 100 g @ 6 ms duration
Sealing IP50 standard; IP66 or IP67 optional

Model A25SB Flange Mount (MA)



Model A25SB Servo Mount (MC)

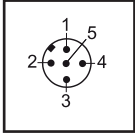


All dimensions are in mm with a tolerance of ± 0.127 or ± 0.254 unless otherwise specified.

Wiring Table

CANopen Encoders


Function	Pin
+VCC	2
Ground (GND)	3
CAN _{High}	4
CAN _{Low}	5
CAN _{GND} / shield	1



5-pin M12

SSI Encoders

Function	Pin
Ground (GND)	1
+VCC	2
SSI CLK+	3
SSI CLK-	4
SSI DATA+	5
SSI DATA-	6
PRESET	7
DIR	8
Shield	housing



8-pin M12