

MODEL A36SB - ABSOLUTE SHAFT ENCODER



Ø36 mm



FEATURES

- Single Turn/Multi-Turn Absolute Encoder (16 Bit ST / 43 Bit MT)
- SSI or CANopen® communication
- Maintenance-free and environmentally friendly all-magnetic design
- Energy harvesting magnetic multi-turn technology
- No gears or batteries
- Standard Size 36 mm package (1.42")
- Meets CE/EMC standards for immunity and emissions

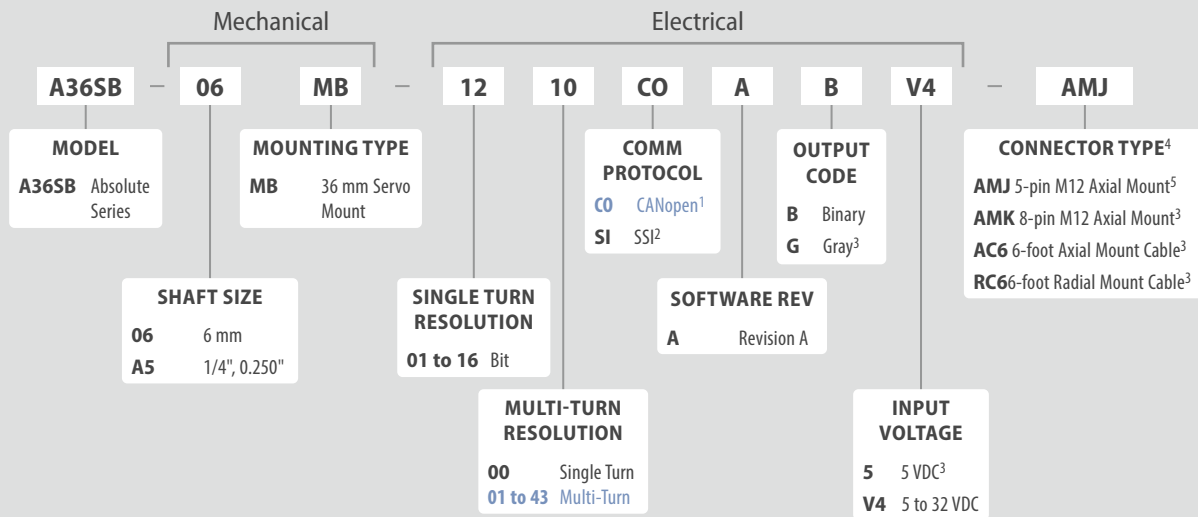
The Model A36SB Absolute Encoder offers a high performance solution for your absolute feedback needs. It provides maintenance-free feedback thanks to its innovative battery-free and gear-free multi-turn technology. This encoder is especially suited for applications where position information must be retained after loss of system power. Its rugged magnetic technology and high IP rating make the Model A36SB an excellent choice, even in tough industrial environments. Available with a 1/4" or 6 mm shaft and a servo mount, the Model A36SB 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 A36SB ORDERING GUIDE

Blue type indicates price adder options



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 A36SB - ABSOLUTE SHAFT ENCODER

MODEL A36SB 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 Consumption0.5 W max
 Resolution (Single).....01 to 16 bit
 Resolution (Multi)01 to 43 bit
 Accuracy.....± 0.35°
 Repeatability.....± 0.2°
 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.....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 TB-529: Understanding EPC's SSI Encoders
 Protection.....Galvanic Isolation

Mechanical

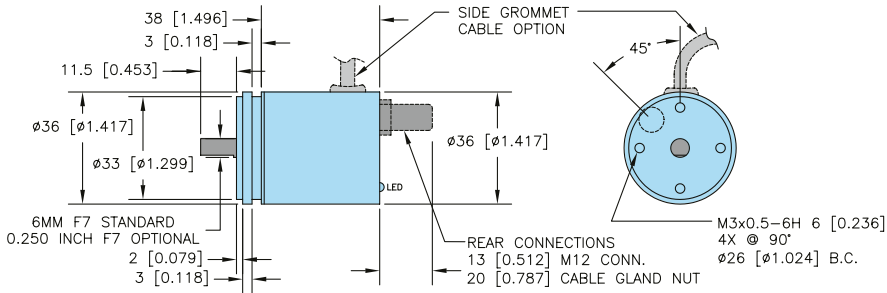
Max Shaft Speed.....12,000 RPM
 Radial Shaft Load17 lb (80 N) = bearing life of 1.4x10⁸ revolutions
 Axial Shaft Load11 lb (50 N) = bearing life of 1.4x10⁸ revolutions
 Starting Torque.....< 0.45 oz-in typical
 Housing.....Ferrous chrome-plated magnetic screening
 Weight5 oz typical

Environmental

Operating Temp.....-40° to 85° C
 Storage Temp.....-40° to 100° C
 Humidity.....95% RH non-condensing
 Vibration5 g @ 10 to 2000 Hz
 Shock100 g @ 6 ms duration
 Sealing.....IP67; shaft sealed to IP65

MODEL A36SB - ABSOLUTE SHAFT ENCODER

MODEL A36SB SOLID SHAFT



Primary dimensions are in mm, secondary dimensions SI units [inches] in brackets for reference only.

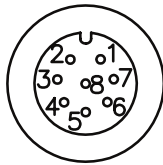
WIRING TABLE

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.

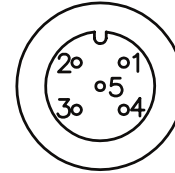
SSI Encoders

8-pin M12



CANopen® Encoders

5-pin M12



Function	Gland Cable Wire Color [†]	8-Pin M-12
Ground (GND)	White	1
+VDC	Brown	2
SSI CLK+	Green	3
SSI CLK-	Yellow	4
SSI DATA+	Gray	5
SSI DATA-	Pink	6
PRESET	Blue	7
DIR	Red	8
Shield	Side-Exit Housing End-Exit N/C	Housing

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

[†]Standard cable is 24 AWG conductors with foil and braid shield

EPC RESERVES THE RIGHT TO UPDATE, REVISE AND AMEND ALL SOFTWARE AND TECHNICAL DATA OR CONTENT AT ANY TIME. EPC SHALL HAVE NO LIABILITY OF ANY KIND OR NATURE FOR ANY TECHNICAL ERRORS OR OMISSIONS IN ANY SOFTWARE OR TECHNICAL DATA. See encoder.com for more information.