

MODEL A36HB - ABSOLUTE HOLLOW BORE ENCODER



Ø36 mm

SSI **CANopen**
Synchronous Serial Interface

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 (1.42") blind hollow bore encoder
- Flex mount eliminates couplings and is ideal for motors or shaft
- Meets CE/EMC standards for immunity and emissions

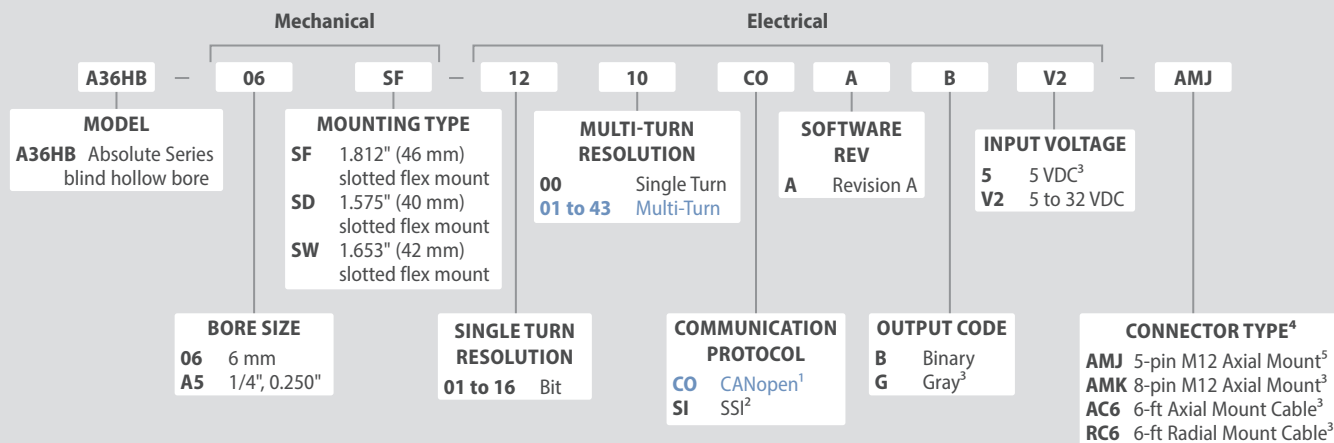
The Model A36HB absolute encoder offers a high performance solution for your absolute feedback needs. It provides maintenance-free feedback thanks to its innovative battery-free and gear-free multi-turn technology. This encoder is especially suited for applications where position information must be retained after loss of system power. Its rugged magnetic technology and high IP rating make the Model A36HB an excellent choice, even in tough industrial environments. Available with a 1/4" or 6 mm blind hollow bore and a wide selection of flexible mounting options, the Model A36HB 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 A36HB ORDERING GUIDE

Blue type indicates price adder options



Notes:

- Please refer to CANopen Interface Technical Reference Manual at encoder.com.
- Please refer to Technical Bulletin TB-529: Understanding EPC's SSI Encoders at encoder.com.
- Available with SSI only.
- 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.
- Available with CANopen only.

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See encoder.com for more information.

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MODEL A36HB SPECIFICATIONS

Electrical

Input Voltage.....	5 to 32 VDC max SSI or CANopen 5 VDC SSI Only
Input Current.....	50 mA typical for 5 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.....	± 0.0878°
Repeatability.....	± 0.0878°
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 Rate10 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

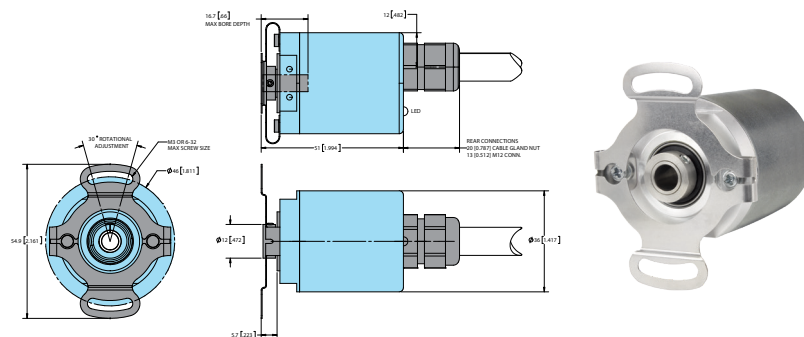
Mechanical

Max Shaft Speed.....	12,000 RPM
Bore Depth.....	17 mm (0.669")
User Shaft Radial Runout.....	0.005" max
Starting Torque.....	< 0.45 oz-in typical
Radial Shaft Load.....	17 lb (80 N) = bearing life of 1.4×10^8 revolutions
Axial Shaft Load.....	11 lb (50 N) = bearing life of 1.4×10^8 revolutions
Housing.....	All metal with protective finish
Weight.....	5 oz typical

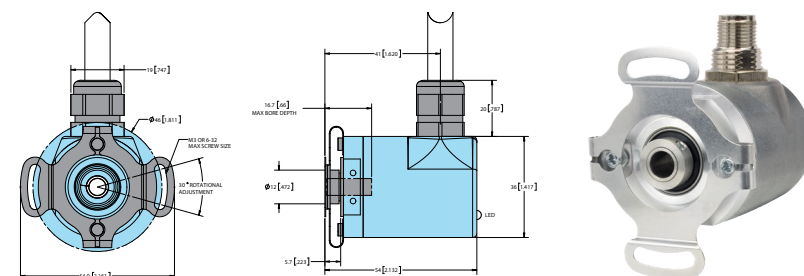
Environmental

Operating Temp	-40° to 85° C
Storage Temp.....	-40° to 100° C
Humidity	95% RH non-condensing
Vibration	30.6 g @ 10 to 2000 Hz
Shock	510 g @ 6 ms duration
Sealing.....	IP67; shaft sealed to IP65

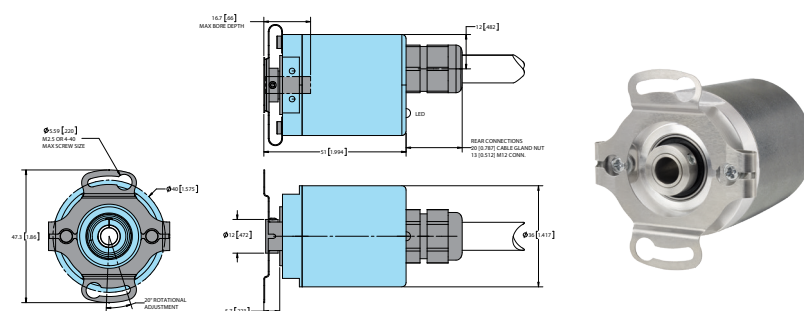
MODEL A36HB 1.812" (46 MM) SLOTTED FLEX MOUNT (SF)



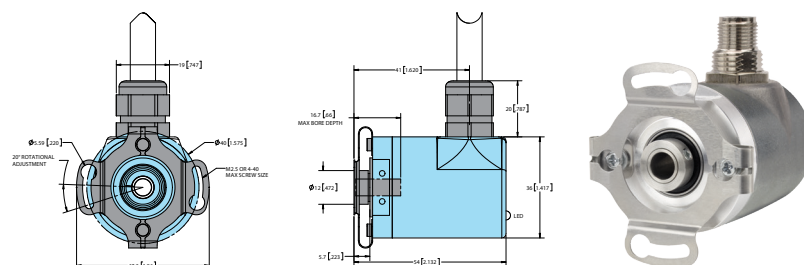
MODEL A36HB 1.812" (46 MM) (SF) RADIAL



1.575" (40 MM) SD AXIAL



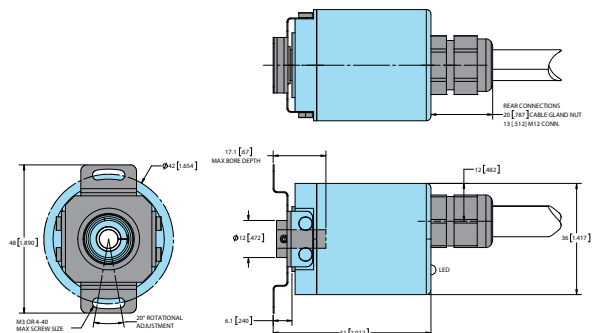
1.575" (40 MM) SD RADIAL



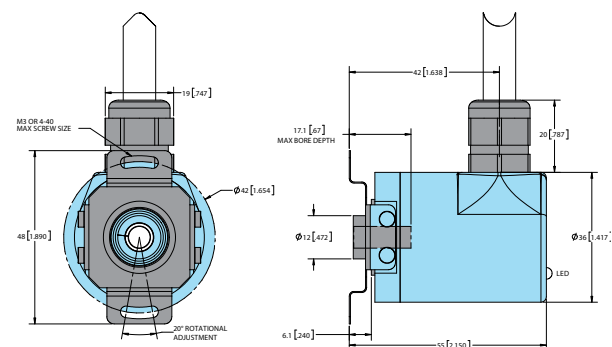
Primary dimensions are in mm, secondary dimensions [inches] in brackets for reference only.

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1.653" (42 MM) SW AXIAL



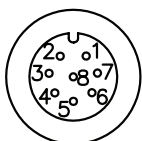
1.653" (42 MM) SW RADIAL



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.

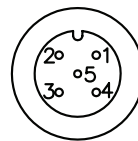
SSI Encoders 8-pin M12



Function	Gland cable wire color†	8-Pin M12
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

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

CANopen Encoders 5-pin M12



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