

MODEL A36HB – ABSOLUTE HOLLOW BORE 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 Magnetic Design
- Energy Harvesting Magnetic Multi-Turn Technology
- No Gears or Batteries
- Standard Size 36 mm (1.42") Hollow Bore (Blind) Encoder
- Flex Mount Eliminates Couplings and Is Ideal for Motors or Shafts
- Meets CE/EMC Standards for Immunity and Emissions

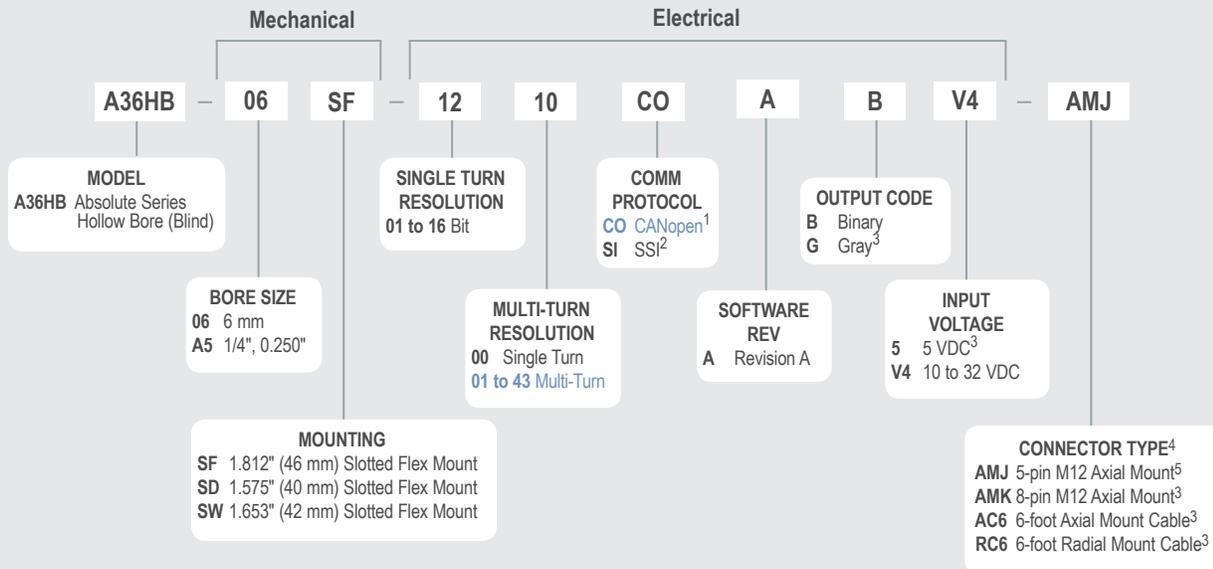
The Model A36HB Absolute Encoder offers a high performance solution for your absolute feedback needs. It provides maintenance-free feedback thanks to its innovative battery-free and gear-free multi-turn technology. This encoder is especially suited for applications where position information must be 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 hollow bore (blind) 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. Not all configuration combinations may be available. Contact Customer Service for details.



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 A36HB 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
	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°
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

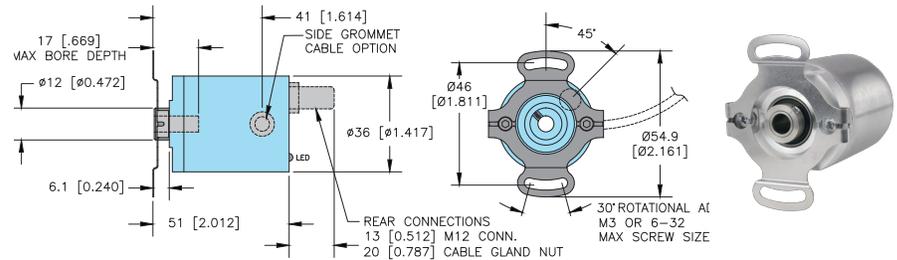
Mechanical

Max Shaft Speed.....	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 1.4x10 ⁸ revolutions
Axial Shaft Load	11 lb (50 N) = bearing life of 1.4x10 ⁸ revolutions
Housing	Ferrous chrome-plated magnetic screening
Weight.....	5 oz typical

Environmental

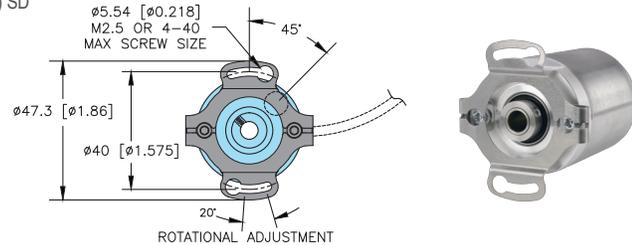
Operating Temp	-40° to 85° C
Storage Temp	-40° to 100° C
Humidity.....	95% RH non-condensing
Vibration.....	5 g @ 10 to 2000 Hz
Shock.....	100 g @ 6 ms duration
Sealing.....	IP67; shaft sealed to IP65

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

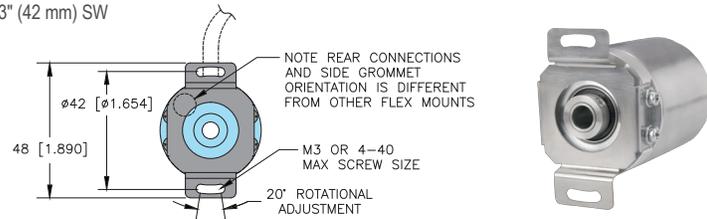


MODEL A36HB OPTIONAL FLEX MOUNTS

1.575" (40 mm) SD



1.653" (42 mm) SW



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

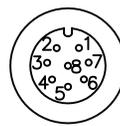
WIRING TABLE

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.

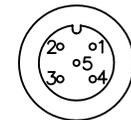
Trim back and insulate unused wires.

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

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

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

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