

# Model A36HB - Hollow Blind Bore 36mm 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
- 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

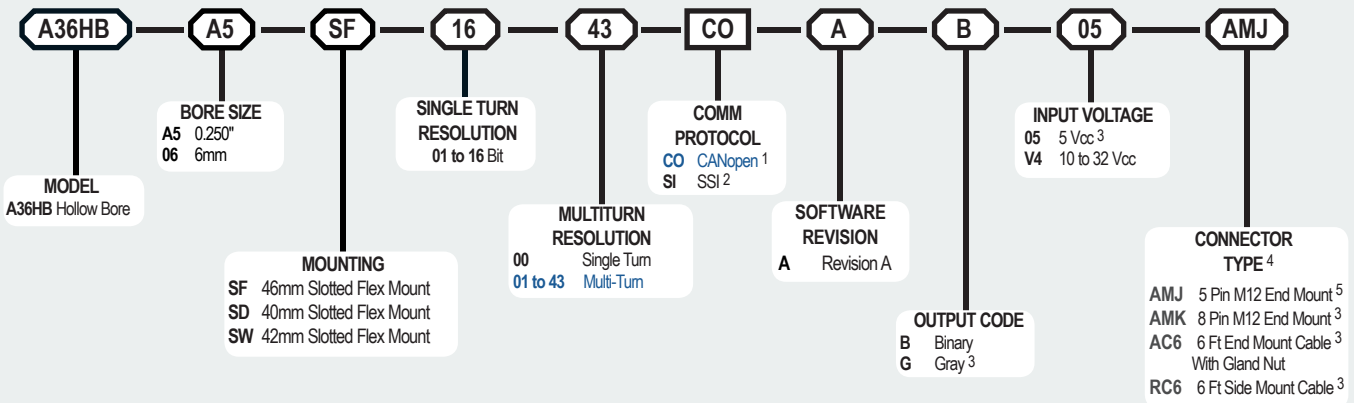
The Model A36HB Absolute Encoder offers a high performance solution for your absolute feedback needs. It provides maintenance-free feedback thanks to its innovative battery-free and gear-free multi-turn technology. This encoder is especially suited for applications where position information must be 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 XY Positioning Tables

## Model A36HB 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](http://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](http://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](http://www.encoder.co.uk) or in our Catalogue.
- 5 Available with CANopen Only.

# Model A36HB Hollow Blind Bore 36mm Absolute Encoder

## 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.).

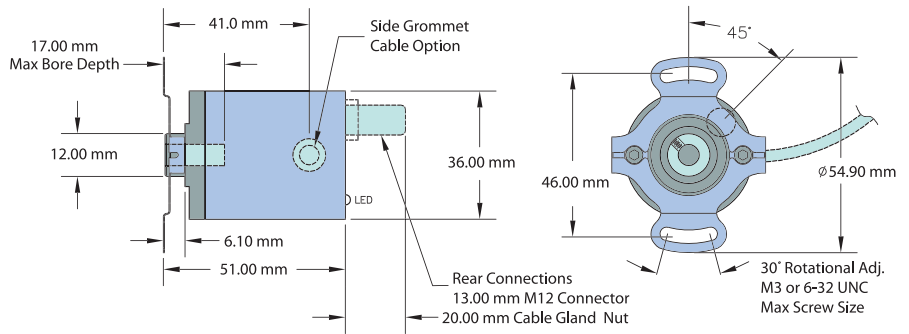
**Programmable CANopen Transmission Modes**  
 Synchronous ..... When a synchronization telegram (SYNC) is received from another bus node, PDOs are transmitted independently.  
 Asynchronous ..... A PDO message is triggered by an internal event (e.g., change of measured value, internal timer, etc.).

**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 BEPC's SSI Encoders  
 Protection ..... Galvanic Isolation

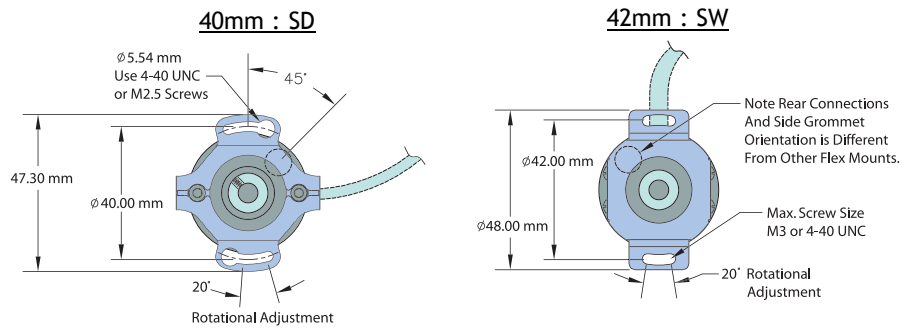
**Mechanical**  
 Max Shaft Speed ..... 12,000 RPM  
 Bore Size ..... 6 mm, .250"  
 Bore Depth ..... 17 mm  
 User Shaft  
 Radial Runout ..... 0.005" max  
 Starting Torque ..... < 0.0032 N-m typica  
 Radial Shaft Load ..... 17 lb (80 N) = bearing life of 1.4x108 revolutions  
 Axial Shaft Load ..... 11 lb (50 N) = bearing life of 1.4x108 revolutions  
 Housing ..... Ferrous chrome-plated magnetic screening  
 Mounting ..... Hollow shaft with flex mount  
 Weight ..... 630 grams typical

**Environmental**  
 Operating Temp ..... -40° to +80° 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 46mm Slotted Flex Mount (SF)



## Model A36HB Optional Flex Mounts (SD) (SW)



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 <sub>High</sub>	4
CAN <sub>Low</sub>	5
CAN <sub>GND</sub> / shield	1

#### SSI Encoders

Function	8-pin M12	Cable
Ground (GND)	1	White
+Vcc	2	Brown
SSI CLK+	3	Green
SSI CLK-	4	Yellow
SSI DATA+	5	Grey
SSI DATA-	6	Pink
PRESET	7	Blue
DIR	8	Red
Shield	housing	Side Exit - Housing End Exit - N/C