ENCODER PRODUCTS COMPANY

MODEL SA36S – SINGLE TURN ABSOLUTE ENCODER

Ø36 mm

FEATURES

Standard Size 36 mm Package (1.42")
Durable Magnetic Technology
Up to 14 Bits of Single Turn Resolution
SSI and CANopen Communications

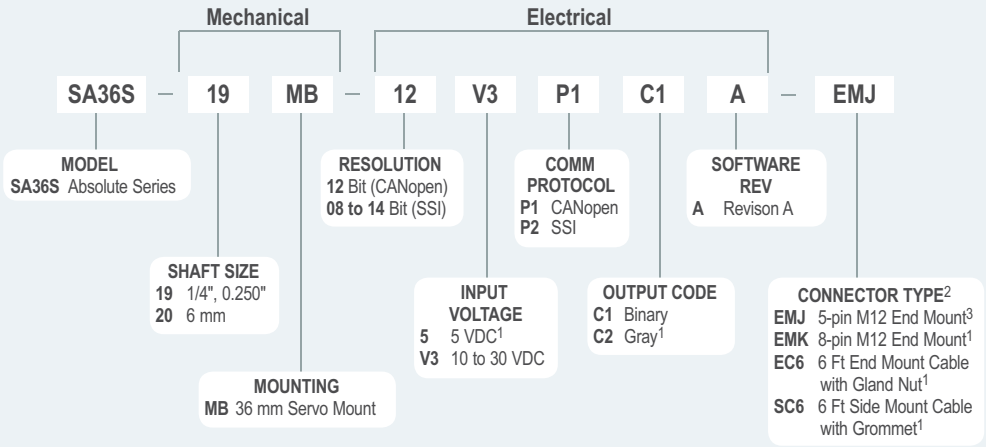
The Model SA36S Single Turn Absolute Accu-Coder™ is ideal for a wide variety of industrial applications that require an encoder with the capability of absolute positioning output. Its fully digital output, rugged magnetic technology and high IP rating make the Model SA36S an excellent choice for all applications, especially ones with a high presence of noise. Available with a 6 mm or 1/4" shaft and a servo mount, the Model SA36S is easily designed into a variety of applications.

COMMON APPLICATIONS

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

MODEL SA36S ORDERING GUIDE

Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.
For multi-turn applications see Model MA36S.



NOTES:

1 Available with SSI only.
2 For mating connectors, cables, and cordsets see Encoder Accessories on page 102 or visit www.encoder.com. For Pin Configuration Diagrams, see page 107 or visit www.encoder.com.
3 Available with CANopen only.

Please note that configuration options for this product have changed. Confirm configuration options before ordering or contact Customer Service for assistance.

MODEL SA36S SPECIFICATIONS

Electrical

Input Voltage.....10 to 30 VDC max SSI or CANopen
5 VDC SSI Only
Input Current .....50 mA max with no external load

Power
Consumption.....0.5 W max

Resolution .....12 bit (CANopen)
8 to 14 bit (SSI)
Accuracy .....+/- 0.35°
Repeatability .....+/- 0.2°

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
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.....Apply VDC for 2 sec
Protection .....Galvanic Isolation

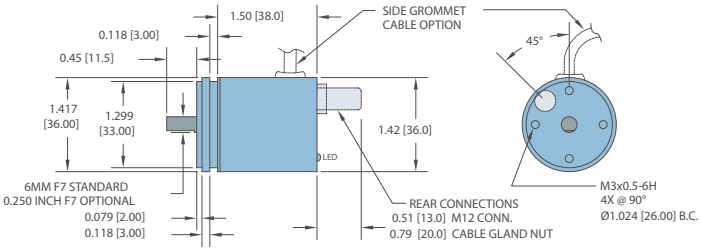
Mechanical

Max Shaft Speed.....12,000 RPM
Radial Shaft Load .....7 lb (32 N) = bearing life 1.10^{10} revs
3.6 lb (16 N) = bearing life 1.10^{11} revs
Axial Shaft Load .....5 lb (20 N) = bearing life 1.10^{10} revs
2.3 lb (10 N) = bearing life 1.10^{11} revs
Starting Torque .....<0.45 oz-in typical
Housing .....Ferrous chrome-plated magnetic screening
Weight.....5 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.....IP67, shaft sealed to IP65

MODEL SA36S SOLID SHAFT



All dimensions are in inches with a tolerance of +0.005" or +0.01" unless otherwise specified.
Metric dimensions are given in brackets [mm].

WIRING TABLES

SSI ENCODERS

Function	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.

CANOPEN ENCODERS

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