

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

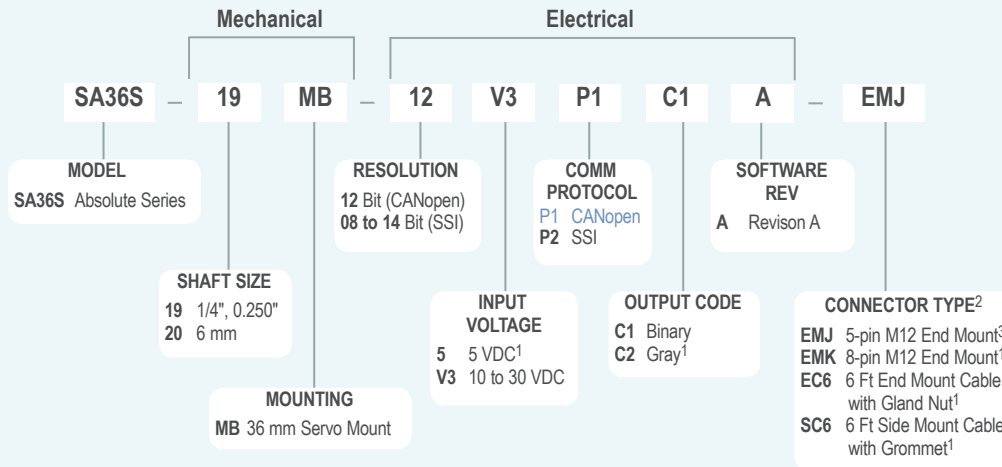
The Model SA36S Single Turn Absolute Encoder is ideal for a wide variety of industrial applications that require an encoder with the capability of absolute positioning output. Its fully digital output, rugged magnetic technology and high IP rating make the Model SA36S an excellent choice for all applications, 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 Current50 mA max with no external load

Power

Consumption.....0.5 W max

Resolution12 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 Number0 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 InputVia opto coupler

Clock Frequency.....100KHz to 500KHz

Data OutputRS485 / RS422 compatible

Output CodeGray or binary

SSI OutputAngular 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

ProtectionGalvanic Isolation

Mechanical

Max Shaft Speed.....12,000 RPM

Radial Shaft Load7 lb (32 N) = bearing life 1.10¹⁰ revs
3.6 lb (16 N) = bearing life 1.10¹¹ revs

Axial Shaft Load5 lb (20 N) = bearing life 1.10¹⁰ revs
2.3 lb (10 N) = bearing life 1.10¹¹ revs

Starting Torque< 0.45 oz-in typical

HousingFerrous chrome-plated magnetic screening

Weight.....5 oz typical

Environmental

Storage Temp-40° to 100° C

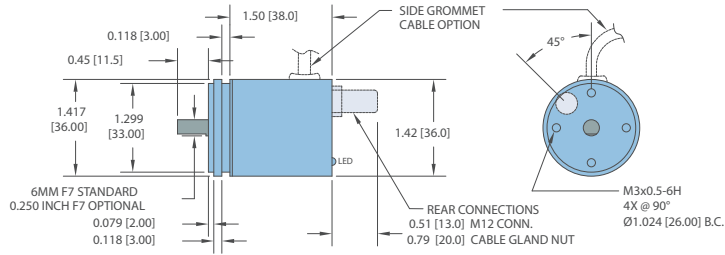
Humidity.....95% RH non-condensing

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 TABLE

For EPC-supplied mating cables, refer to wiring table provided with cable.

SSI ENCODERS			CANOPEN ENCODERS	
Function	Gland Cable† Wire Color	8-pin M-12	Function	Pin
Ground (GND)	White	1	+VDC	2
+VDC	Brown	2	Ground (GND)	3
SSI CLK+	Green	3	CAN _{High}	4
SSI CLK-	Yellow	4	CAN _{Low}	5
SSI DATA+	Gray	5	CAN _{GND} / Shield	1
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.