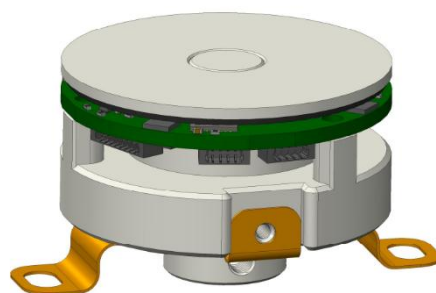
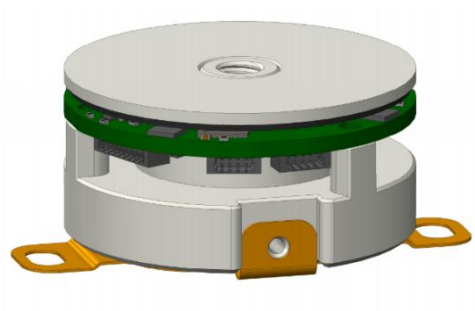


Magnetic rotary absolute position encoder

Product series: EAS-034

Product part number: EAS-034-T60
EAS-034-H60

Version: Ver1.0.8



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1. Description

EAS-034 series product is an absolute rotation detection magnetic encoder. The sensor can be used in a movement control system to detect the position, speed of the system.

The sensor uses non-contact detection method based on MR magnetic sensing technology. The magnetic scale has two magnetic tracks (incremental and absolute tracks).

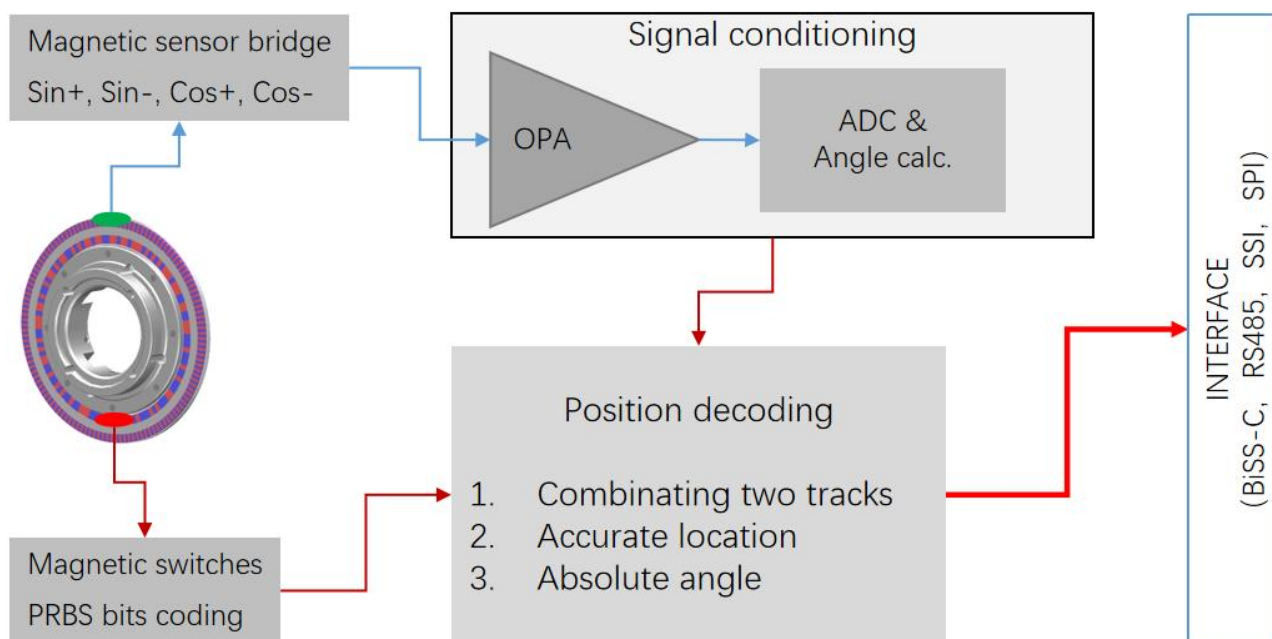
The sensor has build-in signal processing circuit, and a digital output of RS485 format.

- True absolute value system
- Absolute position dual track system
- The system is self-calibrating
- Support battery-powered low-power multi-loop counting function
- Resolution up to 24 bits
- The repeatability is 25 arc seconds
- System accuracy is 80 arcseconds
- RS485 interface

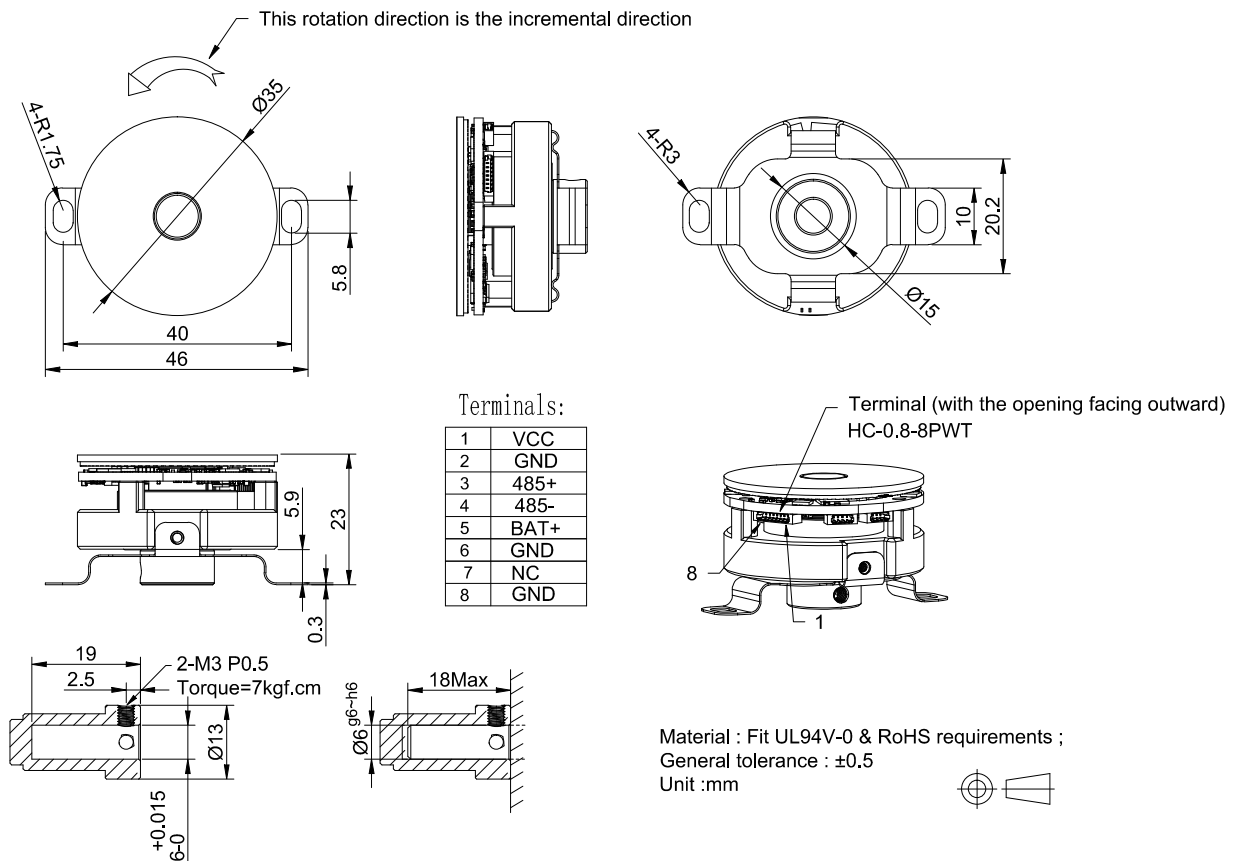
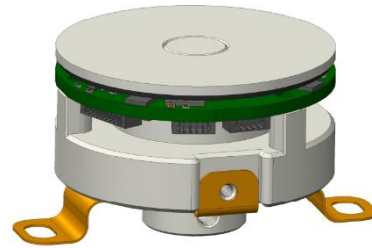
2. Typical application

- Server motor
- High accuracy angle control system

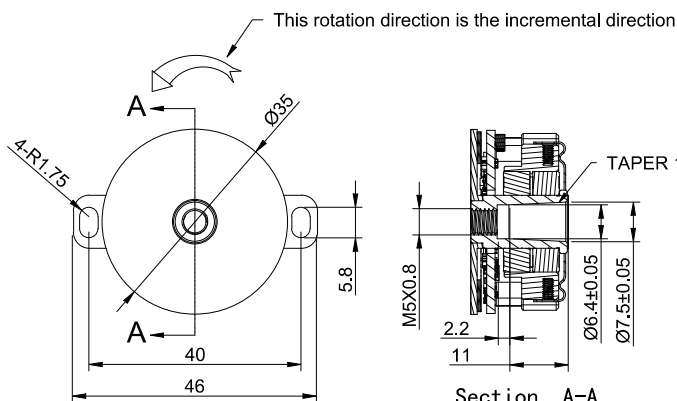
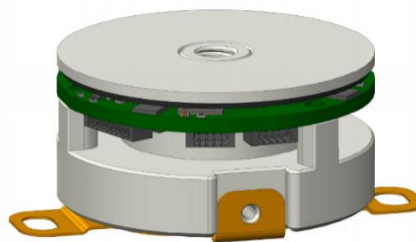
3. Function diagram



4. EAS-034-H60 Dimensions



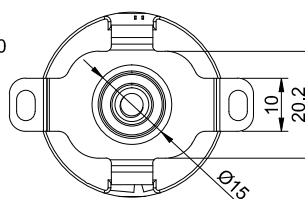
5. EAS-034-T60 Dimensions



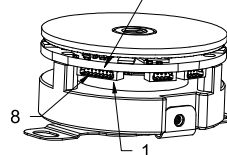
Section A-A

Terminals:

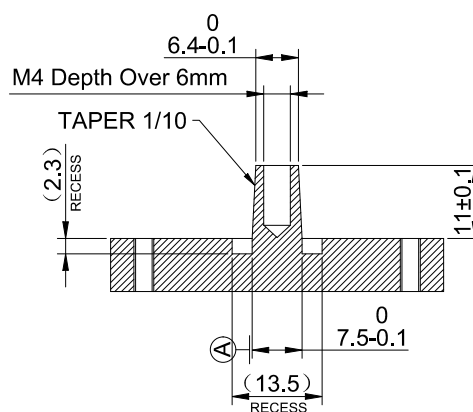
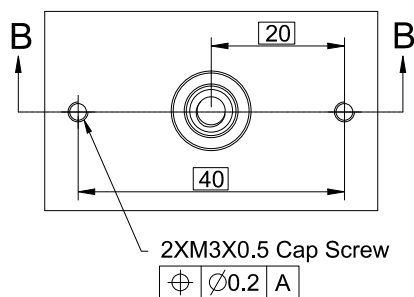
1	VCC
2	GND
3	485+
4	485-
5	BAT+
6	GND
7	NC
8	GND



Terminal (with the opening facing outward)
HC-0.8-8PWT



Material : Fit UL94V-0 & RoHS requirements ;
General tolerance : ± 0.5
Unit : mm



Section B-B

6. Electrical characteristic

6.1 Electrical connection

LEAD	NAME
1	VCC
2	GND
3	485+
4	485-
5	BAT+
6	GND
7	NC
8	GND

6.2 General parameter

工作和存储温度	-40°C to +105°C (*)
湿度	70 %RH
外磁场	±20 mT
压力	Max 600 bar
冲击	100 g
振动	80 g
(*) 编码器上二极管的工作温度为-40°C to +85°C	

6.3 Environmental parameter

Supply voltage (VCC to GND)	4.75 V ~ 5.25 V
Current (VCC to GND)	100 mA~150 mA
Supply voltage (BAT+ to GND)	3.3 V ~ 4.0 V
Current (BT+ to GND)	200 μA
Connector	8-pin
Start-up time	100 ms
ESD (HBM)	HBM, Class 2, ±2 kV

6.4 System parameter

Parameter	Unit	Min	Typ	Max	Comment
分辨率	bit		24		输出数据
最大转速	RPM		10,000		
编码速率	kHz		18		
重复性	arcsec			±25	
系统精度	arcsec		±80		(*)
噪声	arcsec		±0.5		

7. RS485 protocol interface

7.1 Communication interface

Communication parameters	
Baud rate	2.5 MHz
Byte length	8 bits
Parity check	NC
Stop position	1 (8N1)

7.2 Frame format

Command frame (Upper computer → Encoder)

Frame length: 1 byte

	Byte 0
Value (Hex)	02
Explanation	Fix

Data frame (encoder → Upper computer)

Frame length: 6 byte

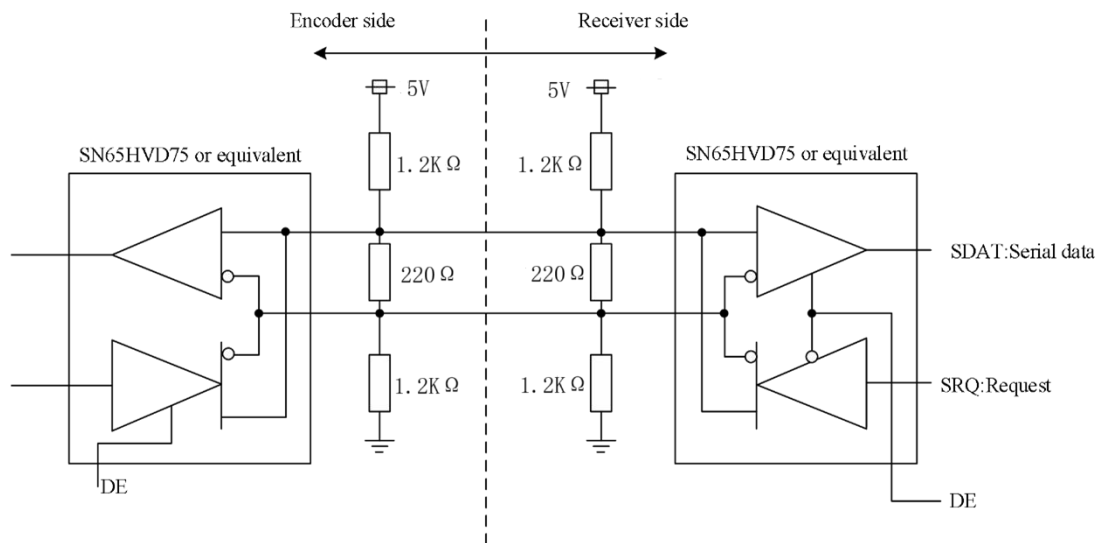
	Byte 0	Byte 1	Byte 2-4	Byte 5
Value(Hex)	02	-	-	-
Explanation	Fix	Status bit	Lap position	CRC check value

Byte Explanation

	Explanation
Byte 0	Fixed 02
Byte 1	Encoder status bit7: Reserve bit6: Reserve bit5: Reserve bit4: flash_crc_error bit3: magic_error bit2: Reserve bit1: Reserve bit0: PRBS_error
Byte 2-4	Byte2: Low; Byte3: Middle; Byte4: High;
Byte 5	The XOR value of the first 5 bytes

	Explanation
Byte 0	Fixed 1a
Byte 1	Encoder status bit7: Reserve bit6: Reserve bit5: Reserve bit4: flash_crc_error bit3: magic_error bit2: Reserve bit1: Reserve bit0: prbs_error
Byte 2	Low-order byte of angle
Byte 3	Middle-order byte of angle
Byte 4	High-order byte of angle
Byte 5	17
Byte 6	Low byte of circle number
Byte 7	High byte of circle number
Byte 8	00
Byte 9	00
Byte 10	Check bit CRC

The example of the circuit diagram of the sending and receiving interfaces is shown below.



When the encoder transmits data, do not send any requests to the encoder. If during this period any request is wrongly sent to the encoder, the interface circuit of the encoder may be interrupted.

The encoder is always in the receiving mode except for transmitting data.

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