

Magnetic linear position encoder

Product series: EAS-006

Product part number: EAS-006-A
EAS-006-B

Version: Ver1.3.9



CONTENTS

1. Description	1
2. Product part number	1
3. EAS-006-A Dimensions	2
4. EAS-006-B Dimensions.....	3
5. Electrical characteristic	4
5.1. Electrical connection	4
5.2. General parameter	4
5.3. Environmental parameter.....	4
5.4. System parameter	4
6. RS485 protocol interface	5
6.1 Communication interface	5
6.2 Frame format.....	5

1. Description

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

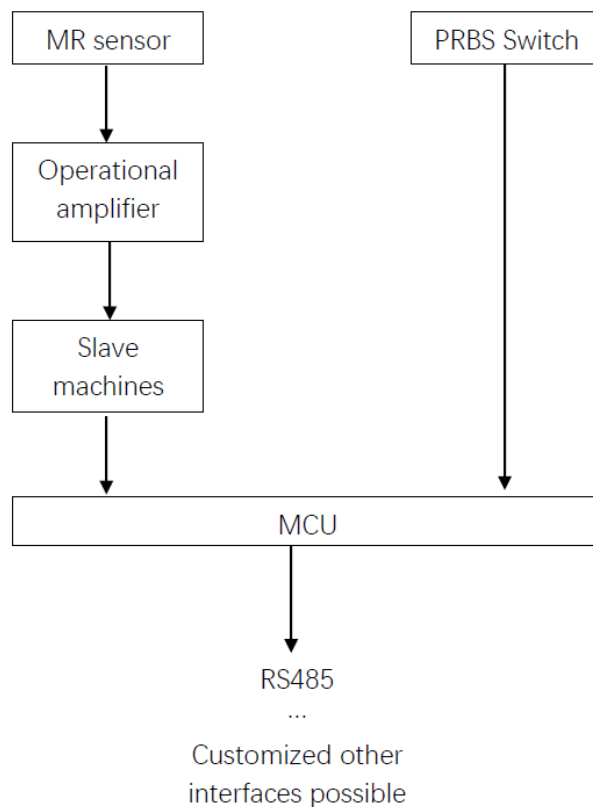
The sensor uses non-contact detection method based on TMR magnetic sensing technology. The magnetic scale has two magnetic tracks (incremental and absolute tracks).

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

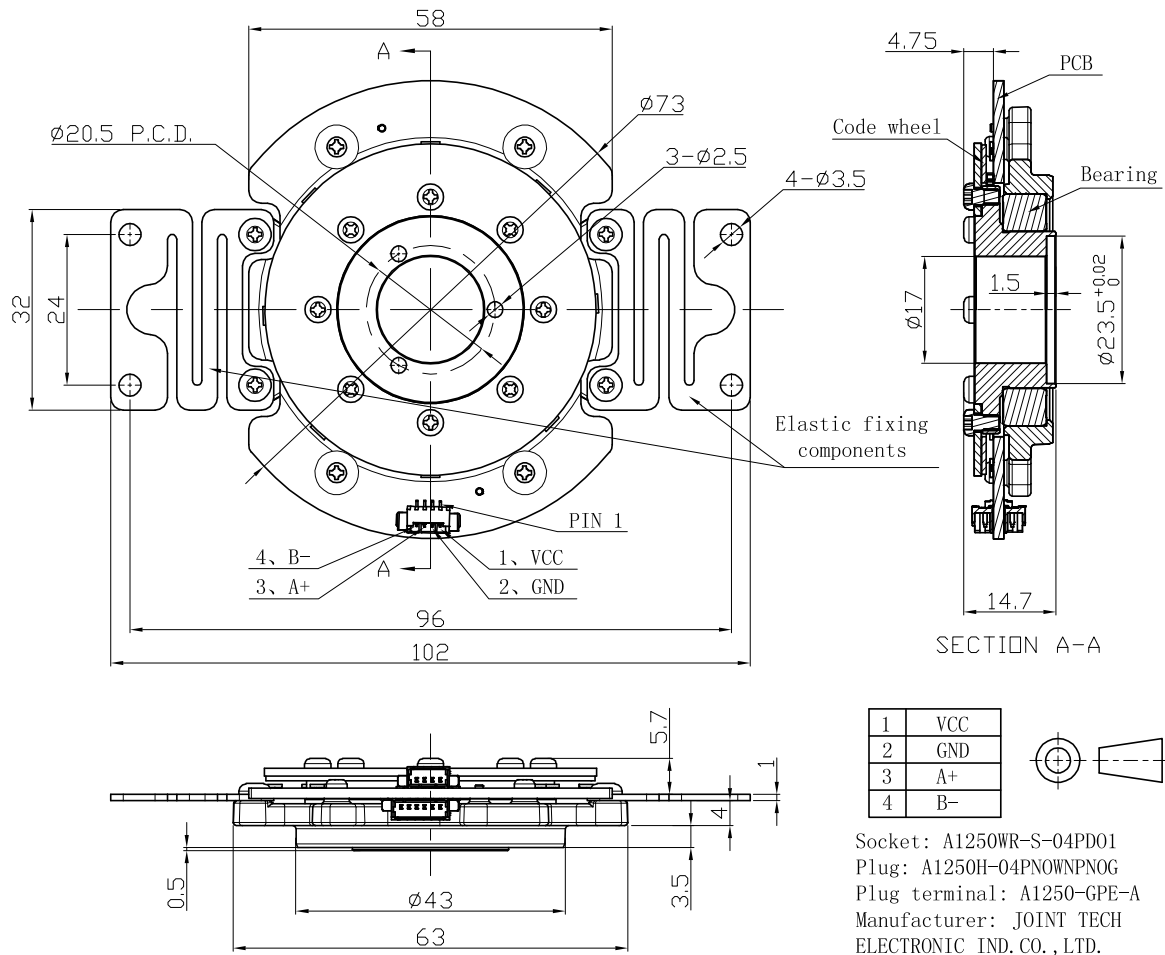
EAS series product has the following features:

- True absolute value system
- Absolute position dual track system
- Customized sensor chips
- The system is self-calibrating
- Resolution up to 24 bits
- The repeatability is 3.6 arc seconds
- Absolute positioning accuracy 15~20 arcseconds
- RS485 interface

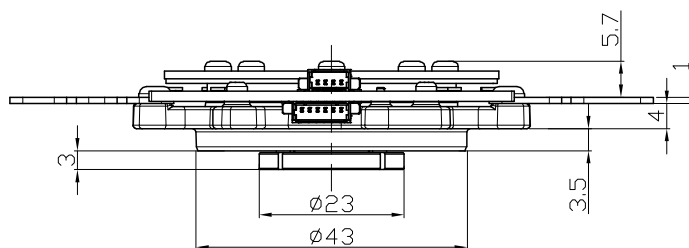
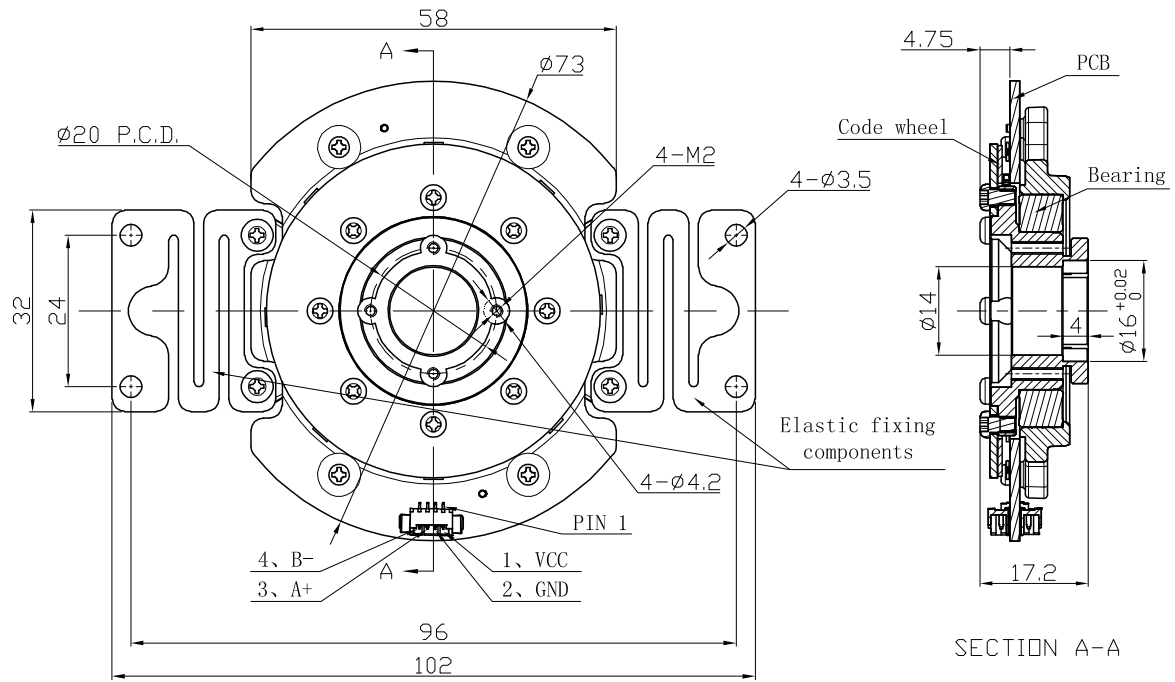
2. Product part number



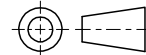
3. EAS-006-A Dimensions



4. EAS-006-B Dimensions



1	VCC
2	GND
3	A+
4	B-



Socket: A1250WR-S-04PD01
 Plug: A1250H-04PNOWNPNOG
 Plug terminal: A1250-GPE-A
 Manufacturer: JOINT TECH
 ELECTRONIC IND. CO., LTD.

5. Electrical characteristic

5.1. Electrical connection

Lead	NAME
1	VCC
2	GND
3	A+
4	B-

5.2. General parameter

Operating and storage temperature	–40℃ to +105℃ (Note: The operating temperature of the diode on the encoder is –40℃ to +85℃)
Humidity	70%Rh
External magnetic field (thickness direction)	±100 mT
Shock (dependent on installation)	100 g
Vibration (dependent on installation)	80 g

5.3. Environmental parameter

Supply voltage	4.75V~5.25V
Current	100 mA~150 mA
Connector	4-pin
Start-up time	100 ms
ESD (HBM)	HBM, Class 2, ±2 kV

5.4. System parameter

Parameter	Unit	Min	Typ	Max	Comment
Resolution	bit		24		
Maximum speed	RPM		10000		EAS-006-A
			1000		EAS-006-B
Repeatability	arcsec			±3.6	Bidirectional 3 cycles
Absolute position error	arcsec	±15		±20	
Input bandwidth	kHz			2	
Noise	°		±0.0005		

6. RS485 protocol interface

6.1 Communication interface

Communication parameter	
Baud rate	2.5MHz
Baud rate	8bits
Parity check	NC
Stop bit	1 (8N1)

6.2 Frame format

Command frame (Upper computer → Encoder)

Frame length: 1 byte

	Byte 0
Value (Hex)	02
Explanation	Fixed

Data frame (encoder → Upper computer)

Frame length: 6 byte

	Byte 0	Byte 1	Byte 2-4	Byte 5
Value(Hex)	02	-	-	-
Explanation	Fixed	Status bit	Lap position	CRC 校验值

字节说明

	Explanation
Byte 0	Fixed as 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 position Byte3: Middle position Byte4: High position
Byte 5	The XOR value of the first 5 bytes

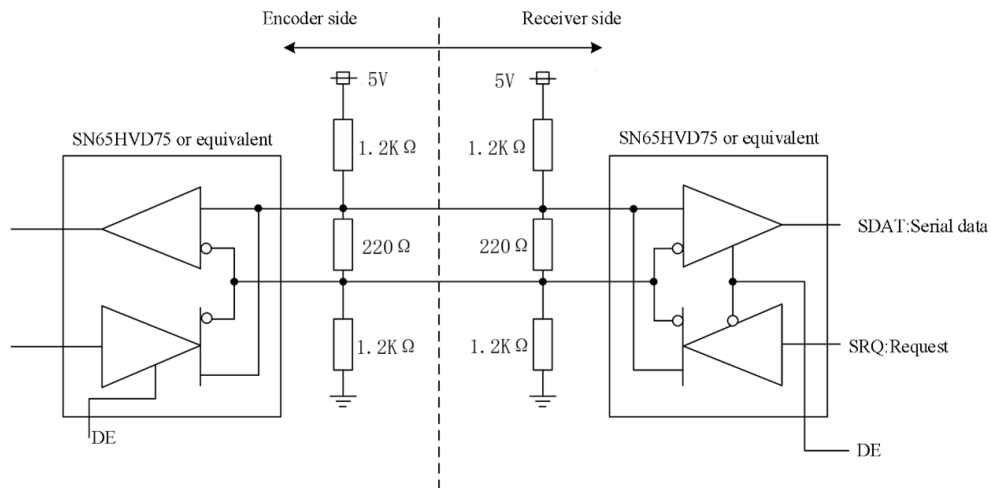


Figure Example of transmit and receive interface circuits

When the encoder transmits data, do not send any requests to the encoder. If any requests are sent to the encoder in error during this period, the encoder's interface circuit may be interrupted. In addition to transmitting data, the encoder is always in receive mode.

The information provided herein by ESSTMAGS Technology is believed to be accurate and reliable. Publication neither conveys nor implies any license under patent or other industrial or intellectual property rights. ESSTMAGS reserves the right to make changes on product specifications for the purpose of improving product quality, reliability, and functionality. ESSTMAGS does not assume any liability arising out of the application and use of its products. ESSTMAGS's customers using or selling this product for use in appliances, devices, or systems where malfunction can reasonably be expected to result in personal injury do so at their own risk and agree to fully indemnify ESSTMAGS for any damages resulting from such application.