

AAS58...R4 / AAM58...R4



Main Features:

- RS485 protocol output / programming
- Multi-turn tech: Gear Box, no battery
- Zero setting and counting direction setting function

Extensive Application:

- ✓ Speed sensing, angle, distance, locus, tilt
- ✓ Solar electrical energy generation
- ✓ Day tracking system feedback
- ✓ Iron and steel metallurgical equipment
- ✓ Port lifting and transportation machinery, factory automation
- ✓ Use in non-explosion proof environment

Mechanical specifications

Material	Shell: Aluminum shell Flange: Aluminum flange Shaft: Stainless steel
Maximum shaft load	Max 80N Axial Max 150N Radial
Levels of protection	IP65
Starting torque	25°C, ≤0.5Nm
Maximum speed	6000RPM
Impact resistance	≤ 100g ,3ms
Anti-vibration	≤ 10g (10Hz—2000Hz)
Weight	≈ 300g
Working temperature	-40°C—+80°C
Storage temperature	-40°C—+85°C

Qualification

EMC:
Emitted interference: EN61000-6-4
Noise immunity: EN61000-6-2
ISO9001:2015
CE authentication

Electrical specifications

Interface type	RS485 protocol output
Output code system	ASCII code
Baud rate	4800 9600 19200 38400 115200
Data response	8ms 4ms 2ms 1.8ms 1.8ms
Allowed addresses range	0 -- 99
no-load current	≤80mA
Steps per revolution	≤13 bits 8192
Revolutions (turn)	≤14 bits 16384
Repeatability precision	±2bits (related to the installation accuracy and the concentricity of the shaft)
Counting direction	Can be set
External position	Can be set, Turn-on delay > 100ms

RS485 communication instructions

1. Baud rate: 4800bps; 9600bps; 19200bps; 38400bps; 115200bps.

Frame format: data bits:8bits, stop bits:1bit, No Parity, uncontrolled flow

1) **Encoder for active mode**, encoder sends data to upper computer actively.

Data is 16 bits Hexadecimal ASCII code,

The format is YAB>±DATA↵, that is:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Y	Address		>	±	DATA											↵

“Y”: Leading letter, “>”: separator, “±”: sign bit.

DATA: ASCII format, 10bits, Consisting of 0 / 9, Range: -9,999,999,999 ~ +9,999,999,999. The last is carriage return.

2) **Encoder for passive mode**, question and answer mode.

The upper computer sends an inquiry to the encoder. Instruction is 4-bit hexadecimal ASCII code.

The format is: A+AB↵. AB is Allowed addresses range : 0~99.

The data format the encoder answers to the host computer is the same as the data format sent in active mode

2. Client setup software (The parameters of the encoder require software instructions to set the encoder.)



Shanghai AYAN Industry system co., Ltd. provides RS485 client software for customers to debug and test directly.

If you need details, please refer to **C_2.0 edition L2&R4 series handbook for user**, or Contact directly our technical support +86-21-56322427.

Mode of connection & Attention

Signal	VCC	0V	RS485 A	RS485 B	P-set	NC	Set-Allow	NC
Cable	Brown	White	Green	Yellow	Gray	Pink	Blue	Red
Seat	2	1	3	4	5	6	7	8

1. Wiring definition

1) P-set: External position line:

After a short contact with the VCC, the current position data is output to the base point position of the encoder. The base point value is 0 by default, but can be set to any value in the whole range by software.

2) Set-Allow Setting permissible line:

When connecting the working power supply VCC, baud rate is 19200 bps by default, function parameters can be set.

3) Shielding Line (Shield) default suspension.



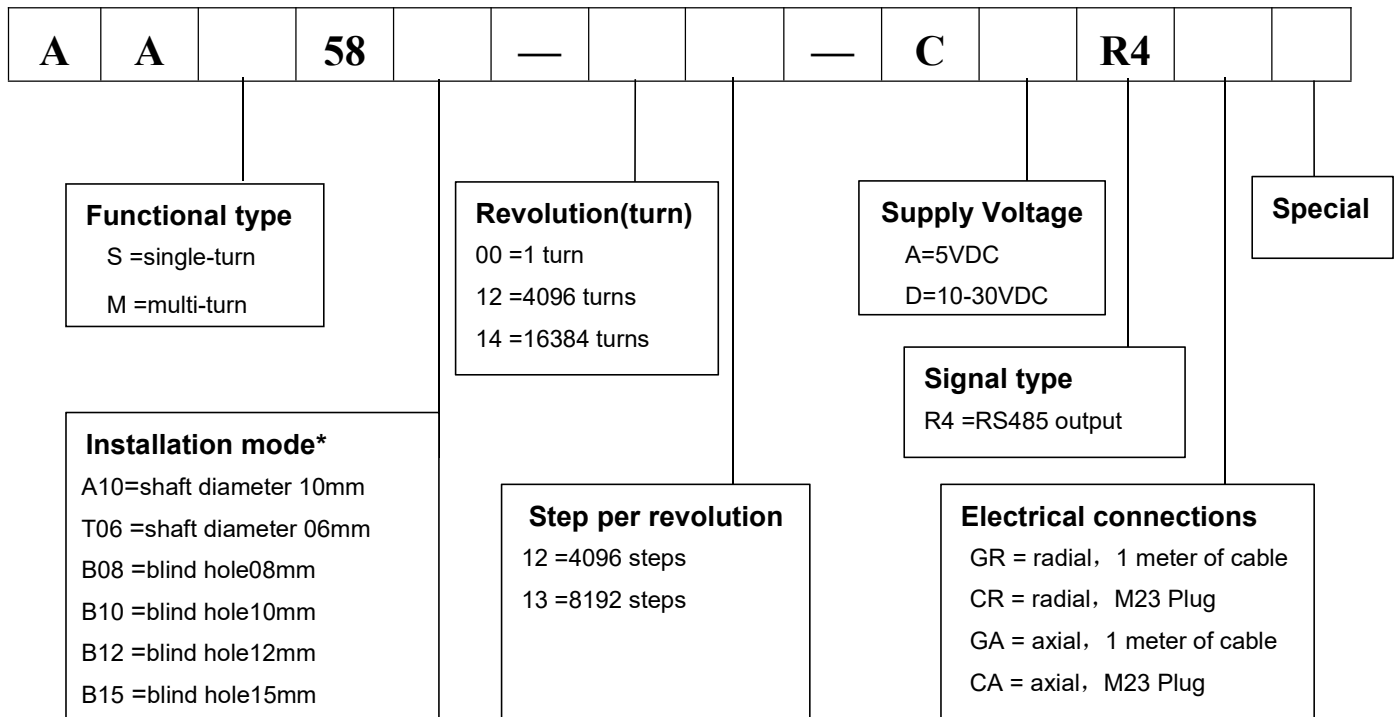
Encoder end

M23 Plug (12pin)

2. Attentions

- 1) Communication rate and transmission distance are a pair of contradictions. The higher the rate, the closer the transmission distance is, but the more stable it is, and vice versa.
- 2) When the external electromagnetic interference is strong, the external bit line needs to connect the VCC, to the encoder but after the end of the position, it is suggested that the encoder should be forced to connect with 0V so as to prevent the encoder from suddenly returning to zero because of the external interference.
- 3) When external electromagnetic interference is strong, it is best to use double shield cable for the extension line of encoder.
- 4) When there is a motor in the system, the encoder power supply needs to be isolated from other power sources, and the encoder cable and power cable need to be wired separately.
- 5) As the circuit of RS485 is in the differential form, A+ and B- are all with voltage, and the internal circuit will be damaged due to ordinary time grounding or high voltage.

Selection data

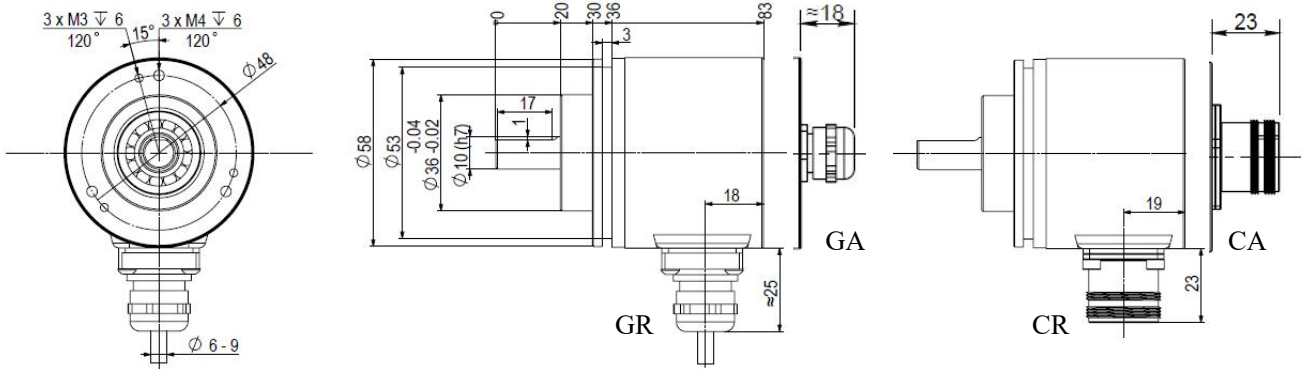


* A = Clamping synchronous flange, T = Synchronous flange, B = blind hole

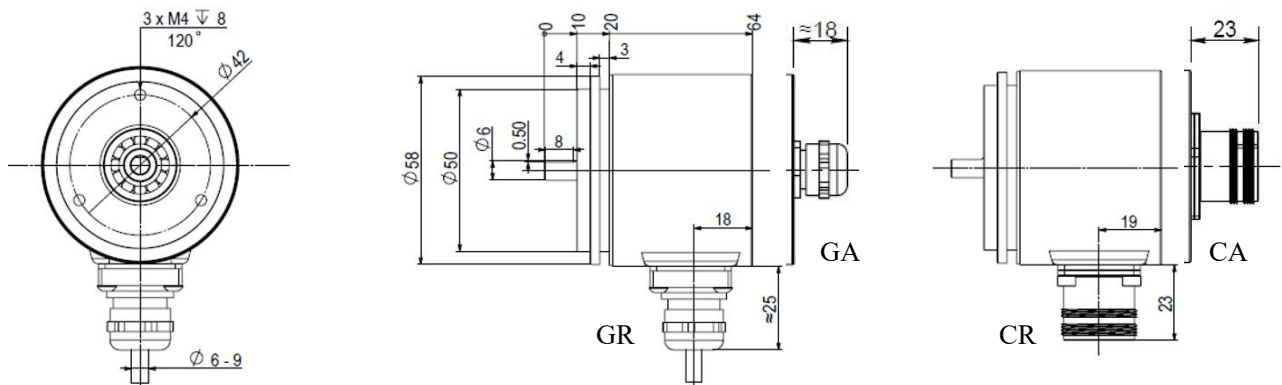
Mechanical dimension

Unit: mm

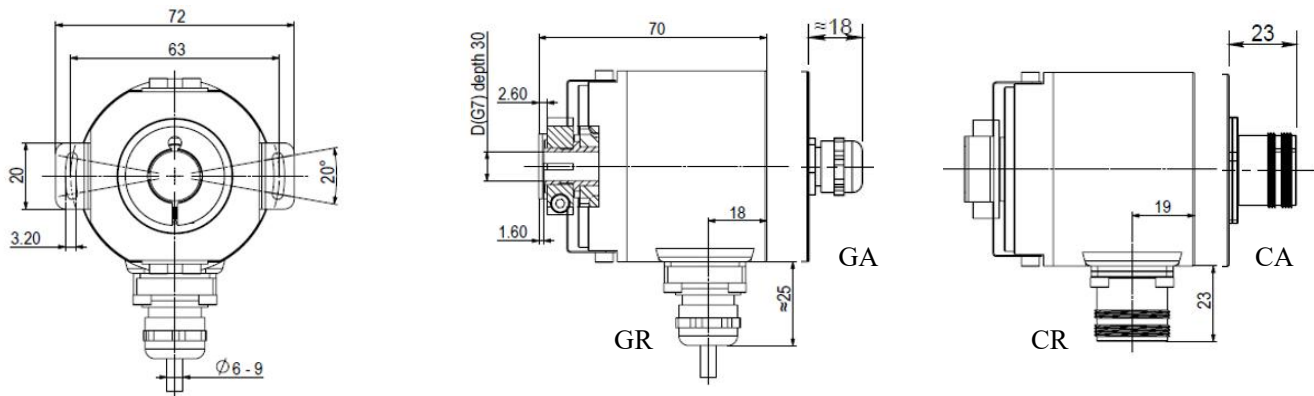
Clamping synchronous flange (58A10) ↓	Cable output	M23 plug output
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Synchronous flange (58T06) ↓	Cable output	M23 plug output
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Blind hole (58B) ↓	Cable output	M23 plug output
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Accessories (Please refer to the attached information for more information)

Mounting brackets	Stainless steel couplings	Spring steel couplings	M23 plug
MODEL AZJ80	AL4A-B	AL3B	C12C
Apply to 58A	58A&58T	58A&58T	M23 plug