ADS58single turn

ADM58Multiturn Series

Main features:

- High protection**IP68**, industrial-grade encoder
- **SSI**,**CANopen**,**RS485**, analog output
- Multi-turn absolute value adopts international leading gear set design
- Zero point setting and counting direction setting function

Application:

- ✓ Speed sensing, angle, distance, trajectory, tilt
- ✓ radar angle survey
- ✓ Solar power tracking system feedback
- ✓ Iron and steel metallurgical equipment, paper printing, textile machinery
- ✓ Port lifting and transportation machinery, factory automation, etc.
- ✓ Use in non-explosion-proof environments

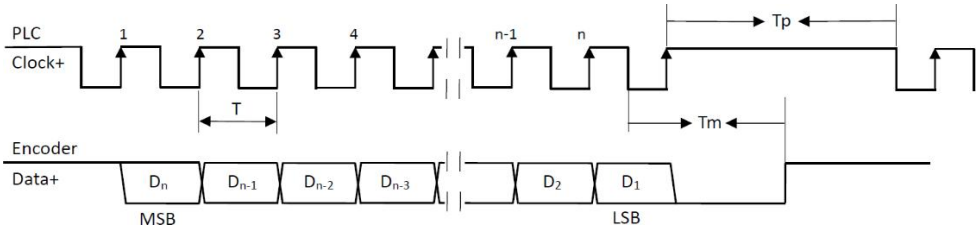
mechanical data		meet the standards	
materials	Housing: aluminum alloy or stainless steel 304/316L	CEcertificate	
	Flange: aluminum alloy or stainless steel304/316L	Emissioninterference	EN61000-6-4
	Shaft:stainless steel 304 or 316L	Anti-interference	EN61000-6-2
shaft load	Axial: max. 80N	Conform to ISO9001:2015 quality management system requirements	
	Radial: max. 150N	The IP68 testing process involves immersion in water up to a depth of 50 meters.	
level of protection	IP68(CNAS test has been passed, test report can be provided)		
maximum speed of revolution	6000RPM		
impact	≤100g ,3ms		
shake	≤10g （10Hz-2000Hz）		
weight	≈ 410g		
operating temperature	-40℃-+80℃		
storage temperature	-40℃-+85℃		

electric data

interface type	SSI	CANopen	RS485/Modbus RTU	4-20mA、0-5/10V
output coding system	Gray code or binary code	binary code	ASCII/Hex	analog quantity
outgoing circuit	RS422compliant line driver	ISO11898compliant quasi-optocoupler electrical isolation	RS485compliant optocoupler electrical isolation	-
clock frequency	100KHz - 1MHz	10K-1MHz	4800 - 115200bps	-
working voltage	10-30VDCor5 VDC; polarity protection			
no-load current	≤80mA			
repeatability	±1bit(actual accuracy is related to installation accuracy and shaft concentricity)			
resolution ratio	Single-lap resolution ≤ 13 bits (8192); Number of laps ≤ 14 bits (16384 laps)			
count direction	When connected to VCC: the data increases counterclockwise when facing the shaft; when connected to 0V: the data increases clockwise.			
external set	The setting is activated when briefly touched by VCC; the short touch duration is >100ms.			

Interface type:**SSI(**Synchronous Serial Interface**)**

Clock/Data: 4-wire RS422 mode, ±5V,a pair of clock trigger, a pair of data output.



$D_{1....}D_n$ =location data

MSB=high order data bit (first digit)

LSB=low order data bit (last bit of data)

T=1/fclock cycle≤1MHz

Tp=clock gap> monostable trigger time

Tm=monostable trigger time10us-30us

Wiring definition:SSI

the signal	**VCC**	**0V**	**Clock+**	**Clock-**	**Data+**	**Data-**	**P-set**	**Dir**
cables	brown	white	green	yellow	gray	pink	blue	red

Interface type:**CANopen**communication interface

Based on the CANopen communication protocol of CIA, the communication frequency is up to 1MHz.

Support the latest CANopen communication protocol, in line with DS301 V4.02 standard.It also supports device-specific protocols such as encoder protocol DS406 V3.2.Node address and baud rate configuration, optional rotary switch setting configuration on the back cover, also supports DS305 (LSS) function.

The operating mode can be selected from the following: polling, cyclic, synchronous mode. At the same time, resolution, set value, limit switch value and other additional parameters can be passed through

CANbus programming implementation. All programmed parameters can be stored in flash memory to avoid loss in case of power failure and reloaded when the device is re-powered. Position, speed, voltage, temperature, operating region state and cam state can be combined into a free application mode as PDO (PDO map)Message types supported are LMT, NMT, SDO, PDO, SYNC, EMCY.

Using EDS files (spreadsheet configuration files) provided by AYAN, it is easy to calibrate and program rotary encoders in the configuration software of various controllers.

Connection definition:CANopen

the signal	**VCC**	**0V**	**CAN H**	**CAN H**	**CAN_GND**	**NC**	**NC**	**NC**
cables	brown	white	green	yellow	gray	pink	blue	red

Interface Type:**Modbus RTU**Communication Description

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

Frame format:8data bits ,1stopbit, even parity, no control flow

1） message format specification

Command word**04H**: Read measured values	Host Request: Address Command Word Data Address Data Length Check Code Slave response: address command word byte length data message check code
Command word**06H**: Set command	Host Request: Address Command Word Parameter Address Data Length Check Code Slave response: address command word byte length parametervalue checkcode

2） communication protocol between master and slave

Each frame of data sent by the master shall contain

the following information

(**hexadecimal**)slave address command word

information word check code

Slave address (1byte): Slave device number, master uses slave address to identify slave device for communication.Indicates that the slave at the address set by the user will receive information sent by the master. Each slave in a Modbus network must have a unique Address code, and only the slave that matches the address code can respond. Command word (1byte): The function code sent by the master to inform the slave what task to perform.

Information word (Nbytes): includes various data addresses, data lengths, and data information in two-machine communication. Check code (2bytes): used to detect data communication errors, using cyclic redundancy Modbus CRC16 check.

Interface Type:**RS485**Communication Description

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

Frame format:8data bits,1stopbit, no parity, no control stream

1) When the encoder is in active mode, the encoder actively sends data to the host computer. The data length is16-bithexadecimalASCII code, and the format is: YAB>±DATA, i.e.:

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

Where "Y"is the leading letter,> bit separator,±is the sign bit. DATAis data, ASCIIformat, 10 bits, composed of 0~9, ranging from-9,999,999,999 to +9,999,999,999. Finally, the carriage return (0D).

2) When the encoder is in passive mode, it is question-answer mode. The host computer sends inquiry instructions to the encoder, and the instructions are 4-bit16-aryASCII codes, and the format is A+AB.

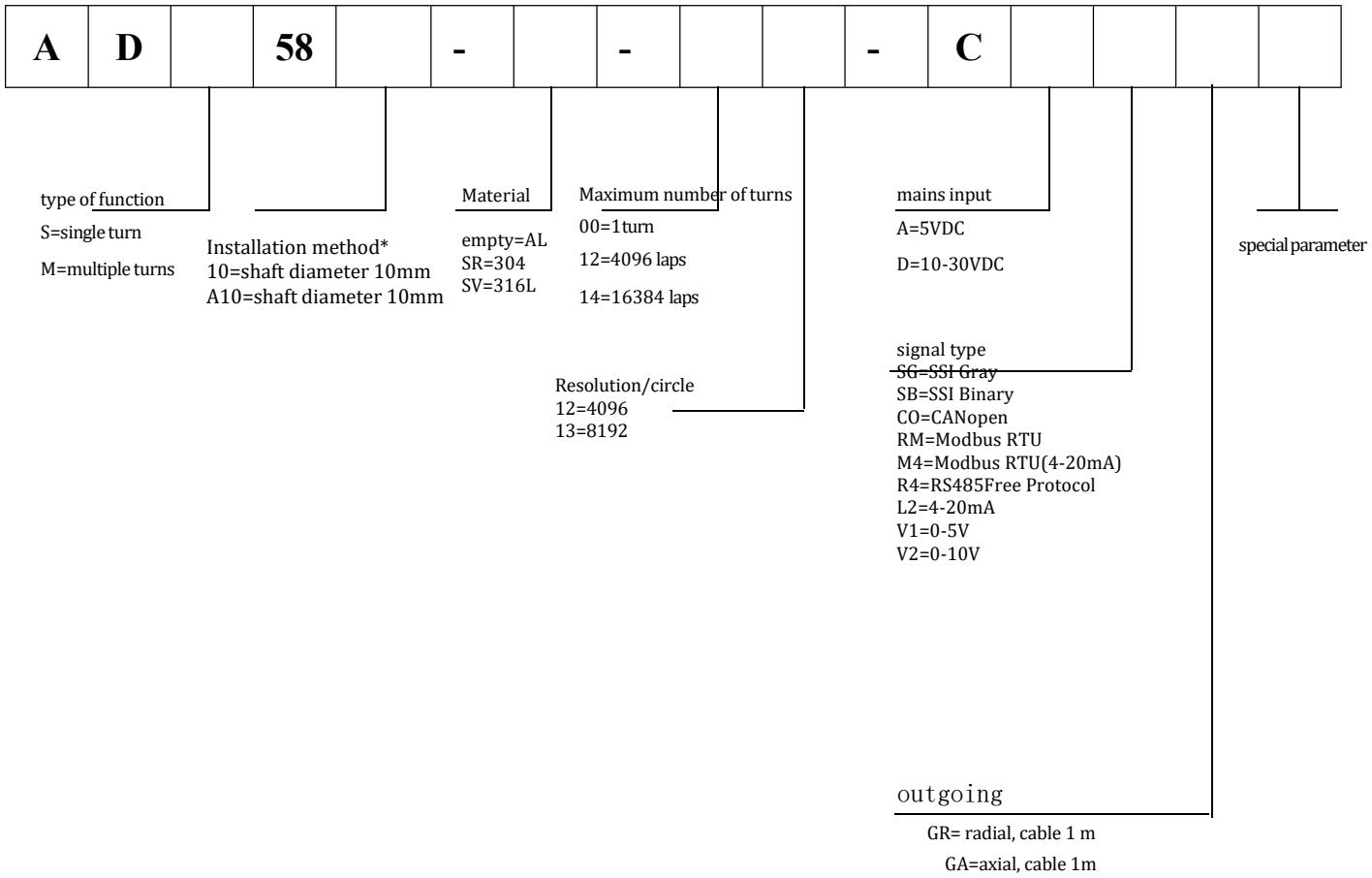
ABis the encoder address, ranging from0to99.

The data format that the encoder replies to the host computer is the same as the data format sent in the active mode.

Wiring definition:RS485and analog

the signal	**VCC**	**OV**	**485 A**	**485 B**	**P-set**	Analog +	**Set-Allow**	Analog-
cables	brown	white	green	yellow	gray	pink	blue	red

Type Description

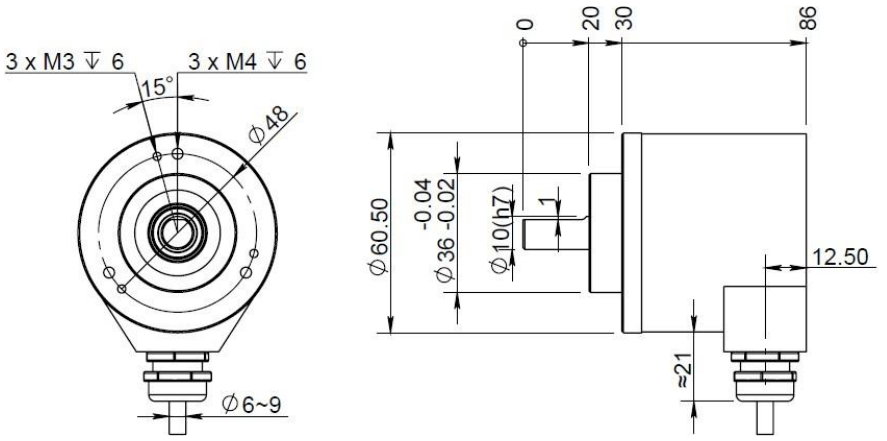


Shaft diameter *: 10= shaft diameter 10mm, encoder housing made of aluminum alloy, clamping flange (drawing see mechanical size), order model ADS5810,ADM5810

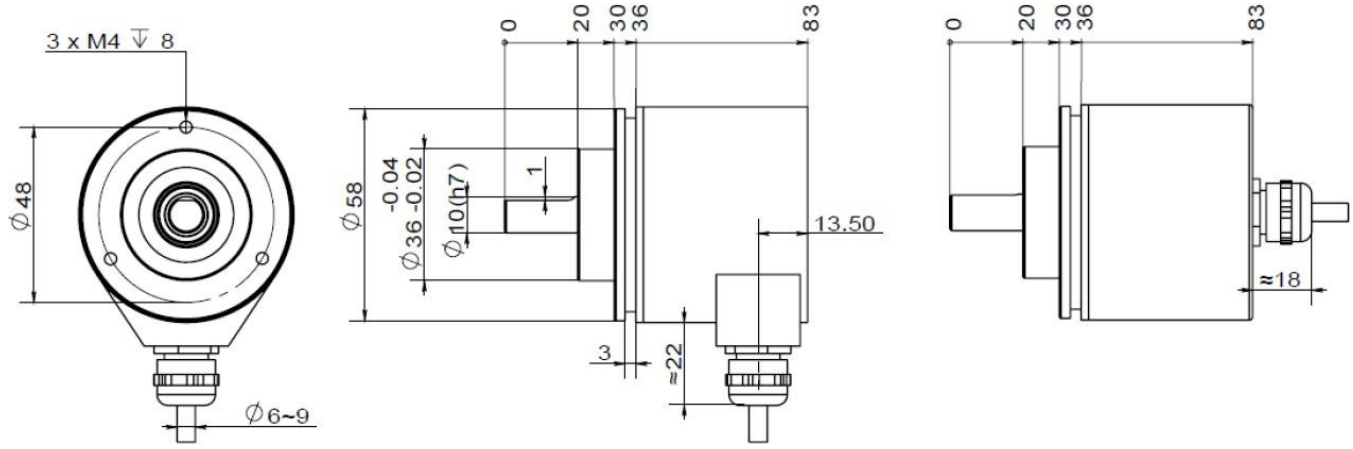
A10= shaft diameter 10mm, encoder housing stainless steel, clamping synchronizing flange (drawing see mechanical size), order models ADS58A10-SR, ADM58A10-SR

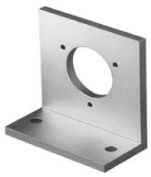
MechanicalDimensions Unit:mm

Aluminium alloy housing size5810	radial cable	axial cable



Stainless steel housing size58A10	radial cable	axial cable



Annex (General annex below, please refer to annex for more information)(sold separately)		
mounting bracket	Spring steel coupling	Stainless steel coupling
		
Model AZJ80	AL3B	AL4A-B
Applicable toseries 5810 and 58A10	5810 and 58A10	5810 and 58A10