

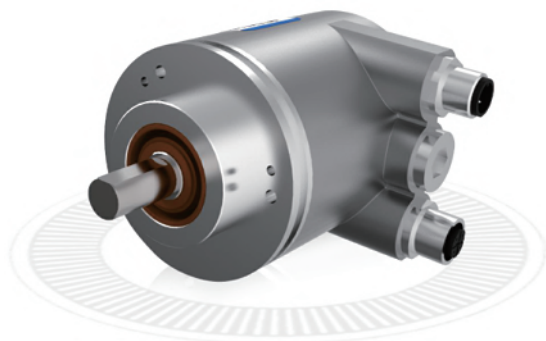


Motion control sensor

Absolute encoder

Multi-turn absolute encoder

MTDCA58S-Modbus TCP Series

**MTDCA58S series****Absolute encoder**

Induction principle of magnetism

Functional principle multi-turn

Multi-turn mechanical gear set without battery

Outer diameter $\Phi 60\text{mm}$ Solid shaft with a diameter of $\Phi 10\text{mm}$

30-bit resolution

Steps per lap: 65536 / 16 Bits

16384 circles/14 bits

Interface Modbus TCP

Operating voltage 10-30VDC

Protection rating IP67

Ethernet connection: Socket, M12, 4-pin, D-code

Power supply: Plug, M12, 5-pin, A-code

Mechanical parameters

shaft diameter	solid shaft $\Phi 10\text{mm}$
Main materials	aluminum alloy
shell material	aluminum alloy
Axial load	$\leq 40\text{N}$
Radial load	$\leq 80\text{N}$
bearing life	10change
Rotation speed	Maximum 6000 RPM
Impact resistance	100g, 6ms
Vibration resistance	10g, 10...2000Hz
Protection level	IP67
Operating temperature	- 40°C...+85°C
Storage temperature	- 40°C...+85°C
Connection method	Ethernet: Socket, M12, 4-pin, D-encoded Power supply: Plug, M12, 5-pin, A-code

Electrical parameters

Interface type	Modbus TCP
Transmission rate	10/100Mbit
Output code	binary
absolute precision	$\pm 0.2^\circ$
Operating voltage	10-30VDC
Consume current	$< 200\text{mA}$
Single-circle resolution	Maximum 16 bits / 65536
Multi-circle resolution	Maximum 14 bits / 16384
Output driver	Ethernet
Startup time	$< 1\text{ms}$
Interface cycle time	$> 10\text{ms}$
Power consumption	$< 2\text{W}$
Programming Function	Preset value settings, preset counting direction, IP address
Anti-interference	EN61000-6-2
Transmit jamming	EN61000-6-4
Interface circuit protection	Surge protection, reverse polarity protection, ESD protection

Terminal configuration

Modbus TCP output interface

Function	M12x1 connector						
Bus port 1	Signal	Transmit data+	Receive data+	Transmitting data -	Receive data -		D-coded
	Abbreviation codes	Tx+	Rx+	Tx-	Rx-		
	Needle size	1	2	3	4		
Power interface	Signal	Power+	Power+	power supply-	power supply-	shield	
	Abbreviation codes	+ Ub	+ Ub	GND	GND	PE	
	Needle size	1	2	3	4	5	

Ordering Information

MTDCA58

XX

S

10

12

13

PRM

①

②

③

④

⑤

⑥

?

① Extended serial number

XX

② spindle type

S: Solid shaft

③ shaft diameter

10: Φ10mm

④ Number of digits per circle

14: 16384

12: 4096

⑤ Number of laps

16: 65536

13: 8192

12: 4096

⑥ Connection method

PRM: Radial Modbus TCP interface, integrated bus coupler terminal box

Ethernet: Signal socket, M12, 4-pin, D-encoded

Power supply: Power plug, M12, 5-pin, A code

PAM: Axial Modbus TCP Interface, Integrated Bus Coupler Terminal Box

Ethernet: Signal connector, M12, 4-pin, D-coded;

Power supply: Power plug, M12, 5-pin, A-coded.

Note: Models in bold are either in regular stock or recommended for ordering.

Note 1: The list of digits per lap and digits per single lap shows commonly used digits ≤14-bit, single-circle bit depths ≤16 bits; other bit lengths should be determined upon request.

2. Please select ordering information: model series, shaft diameter, number of digits for each turn, number of digits per turn, and connection type.

3. If other electrical parameter settings are required, please add a description.

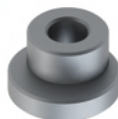
Ordering example: MTDCA58S121213PRM, the factory default data counting direction is clockwise accumulation.

Description: MTDCA58S series, solid 10mm shaft, output binary code, 12-bit per revolution (4096 resolution), 13-bit per revolution (8192 resolution), Modbus TCP protocol, integrated bus coupler terminal box, 2 sockets (D-coded), 1 plug (A-coded), M12X1.

Attachments (sold separately) Note: For other flexible support selections, please refer to the Flexible Support Selection Table.



coupling
Model (standard): 8215 10-10



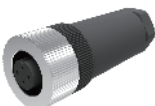
Eccentric connector
Model (Standard): 8531
(Note: Use at least three fixed eccentrics to mount the encoder)



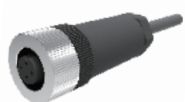
signal plug
Model (Standard): 9204-1B



Connectors and cables
Model: 9204-1B/X-20.001
Connector A: Signal plug, M12, 4-pin, straight, D-coded, plastic casing. Connector B: Bare wire end, X-meter cable, green, 4-core Ethernet cable, Ø6.5.



power outlet
Model (Standard): 9212B



Connectors and cables
Model: 9212B/X-22.002
A-type connector: Power socket, M12, 5-pin, straight connector, A-code, plastic shell. B-type connector: Bare wire end, X-meter cable, gray, 4-core twisted pair shielded cable, 2*2*0.25mm², Ø6.8.



signal plug
Model (Standard): 9204-1MB



Connectors and cables
Model: 9204-1MB/X-20.001
Connector A: Signal plug, M12, 4-pin, straight, D-coded, metal casing. Connector B: Bare wire end, X-meter cable, green, 4-core Ethernet cable, Ø6.5.



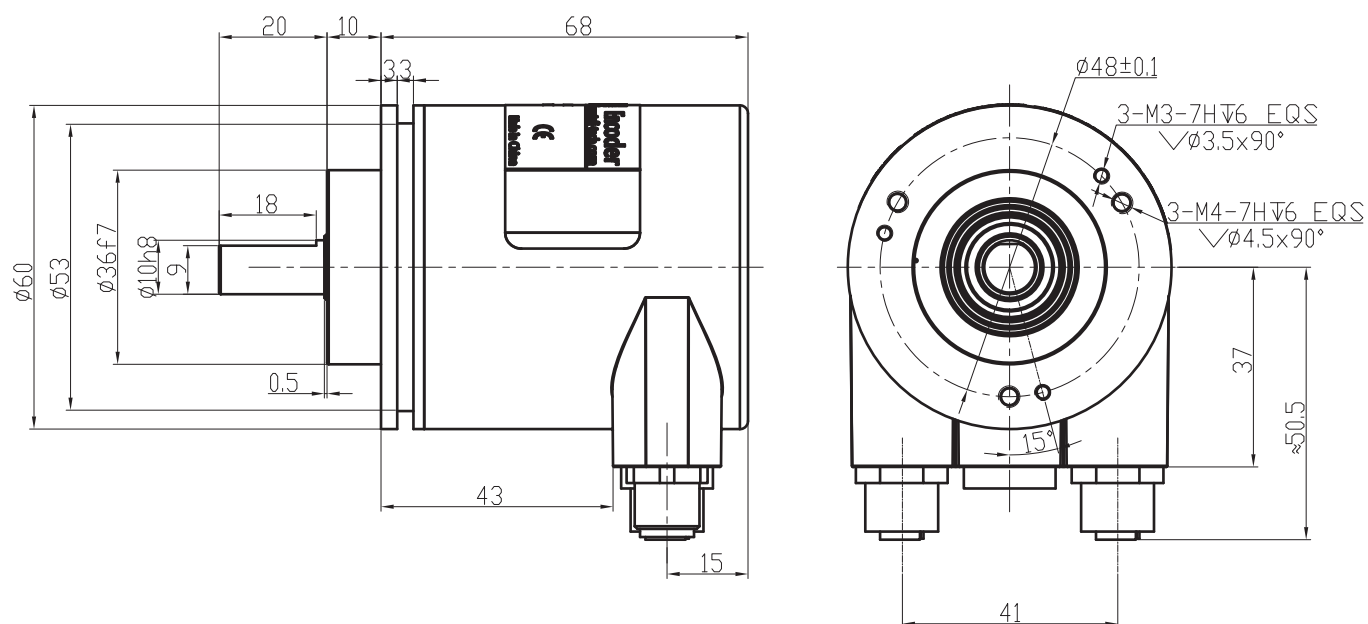
power outlet
Model (Standard): 9212MB



Connectors and cables
Model: 9212MB/X-22.002
A-type connector: Power socket, M12, 5-pin, straight, A-code, metal casing. B-type connector: Bare wire end, X-meter cable, gray, 4-core twisted pair shielded cable, 2*2*0.25mm², Ø6.8.

Mechanical drawings

MTDCA58S10 Radial



MTDCA58S10 Axial

