MHM510-LINK | SERIES
POWERLINK ABSOLUTE MULTI-TURN ENCODERS

MHM510-LINK, THE STANDARD Ø 58 MM ENCODER WITH POWERLINK TRANSMISSION

- Compact and robust design
- Ø 10 mm shafted version
- Precision bearing with seal
- High performance at temperatures up to 60°C
- Encoder disc made of durable unbreakable material
- Mechanical count of the number of revolutions per gear
- Resolution: 13-bit = 8,192 ppr (max. 16-bit)
- Number of revolutions: 12-bit = 4,096 revolutions (max. 14-bit)
- Surge and reverse polarity protection
- Integrated SMC technology
- M12 connectors

● SPECIFICATIONS

MECHANICAL SPECIFICATIONS

Material (stainless steel option)	Cover: Aluminum	Vibrations (EN 60068-2-6)	≤ 10 g (10 Hz...1,000 Hz)	
	Base: Aluminum			
	Shaft: Stainless steel	Weight (aluminum version)	700 g	
Maximum loads	Axial: 40 N	Operating temperature	0...60 °C	
	Radial: 110 N	Storage temperature	-40...+85 °C	
Shaft inertia	≤ 30 g.cm²	Relative humidity	98% non-condensing	
		Degree of protection	Cover: IP65	
Torque	≤ 3 N.cm		Base: IP64	
Speed (max. continuous)	6,000 rpm	Theoretical mechanical life 10^9 revolutions (F_{axial}/F_{radial})		
Shock resistance (EN 60068-2-27)	≤ 100 g (half sine, 6 ms)	40 N/60 N	40 N/80 N	40 N/110 N
Shock resistance (EN 60028-2-29)	≤ 10 g (half sine, 16 ms)	25	10	4

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ELECTRICAL SPECIFICATIONS

Transmission	100 Mbps	**Internal cycle time**	500 µs
IP addressing	By rotary switches	**Frequency on the LSB**	800 kHz max. (valid code)
Power supply	10 – 30 VDC	**Accuracy**	+ ½ LSB
Consumption	100 mA max. (24 VDC)	**EMC**	EN 61000-6-4, EN 61000-6-2
Power	4 W max.	**Electrical lifetime**	> 10^5 h

PROTOCOLS

TCP/UDP	The TCP protocol ensures error-free data transmission. The UDP protocol can be used for improved real-time transmission.
http	A web browser can be used for reading, configuring, and diagnosing the encoder.
smtp	Encoder messages can be transmitted by email via the SMTP protocol.

DIMENSIONS
MHM510-LINK — M12 connectors

*Stainless steel

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DIAGNOSIS VIA LEDS

LED	Color	Description of LED on
Rx1	Yellow	Inbound and outbound traffic – port 1
Link 1*	Green	Connected to another Ethernet component – port 1
Collision 1*	Red	Ethernet collision - port 1
Rx2+*	Yellow	Inbound and outbound traffic – port 2
Link 2*	Green	Connected to another Ethernet component – port 2
Collision 2*	Red	Ethernet collision - port 2
Error*	Red	-
Run*	Green	-
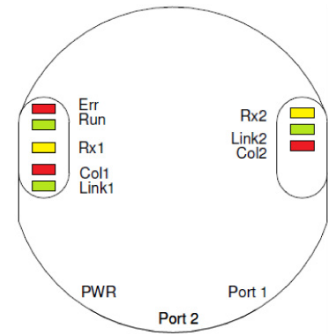
* A1 versions only

PROGRAMMABLE SETTINGS

Direction of code change	Used to set whether the code increases with a clockwise turn and decreases with a counterclockwise turn, or vice versa.
Resolution (number of positions per revolution)	The resolution parameter is used to program the desired number of steps per revolution. Any value between 1 and the physical resolution of the encoder (8,192 as standard) is programmable.
Global resolution "Max-Range"	This is the total resolution required on the measurement scale. This value should not exceed the maximum encoder resolution (25-bit: 33.554.432).
Reset to value X	The preset value represents the desired position value at any position on the axis. This parameter is used to set the desired value at the desired location.

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INTERFACE

The node number is configured using 2 rotary switches (between 1 and 239).

Ethernet Powerlink
4-pin female, D-coded

Pin	Signal
1	Tx+
2	Rx+
3	Tx-
4	Rx-

Encoder view
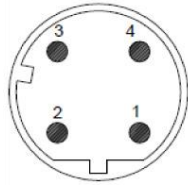
Power supply
5-pin male, A-coded

Pin	Signal
1	VS (10-30 VDC)
2	VS (10-30 VDC)
3	0 V
4	0 V
5	PE

Encoder view
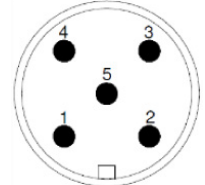
REFERENCE

(Special versions available on request, e.g. special flange/electronics/connections, etc.)

MHK5	E1: EPL V1 E2: EPL V2	A1	B	12	13	C	10	0	PRM
Absolute multi-turn encoder	Powerlink version	Version	Code: Binary	Number of revolutions: 2^{12} (4,096)	Resolution in the revolution: 2^{13} (8,192)	Standard flange	Shaft diameter: 10 mm	Without mechanical option	M12 connector

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