

| MHM5 SERIES

ETHERNET/IP ABSOLUTE MULTI-TURN ENCODER



Features

- Robust and compact design
- Solid shaft version Ø 10mm standard, with Ø 6mm optional
- Precision ball bearings with sealing flange
- High temperature performance -40° to +85°C
- Code disc made of unbreakable and durable plastic
- Precision, robust, gear train for turns counting - immune to stray magnetics or electrical interference
- Resolution: 13 bits = 8192 steps/turn (Optional 16 bits)
- Number of turns: 12 bits = 4096 turns (Optional 14 bits)
- Polarity inversion and short circuit protection
- Highly integrated circuit in SMD-technology



SPECIFICATIONS

Mechanical

Housing Diameter	Housing Diameter: 58mm
	Shaft Diameter: 10mm standard, 6mm optional
	Flat on shaft: 18mm long
Max. Shaft Loading	Axial: 40 N
	Radial: 110 N
Starting Torque	≤ 3 N•cm
Material	Shaft Material: Stainless Steel
	Bearing Housing: Aluminum (stainless steel option, consult factory)
	Cover: Coated Steel (stainless steel option)
Bearing Life @ Load (Axial/Radial)	40 N / 60 N = 150 X 10 ⁸
	40 N / 80 N = 100 X 10 ⁸
	40 N / 110 N = 55 X 10 ⁸
Maximum RPM (Continuous)	12,000 RPM
Moment of Inertia	< 30 g•cm ²
Weight	370 g

Electrical

Code	Binary
Output Format	Ethernet IP, CIP (Common Industrial Protocol)
Counts per Revolution	13 Bits Standard, 16 Bits Optional
Revolution Counter	12 Bits Standard, 14 Bits Optional
Accuracy	$\pm 0.0220^\circ$ (14-16bit), ± 0.0439 (≤ 13 bit)
Supply Voltage	10 – 30 Vdc (for power supplies that comply with EN 50178)
Current consumption	$\leq 230\text{mA}$ @ 10Vdc, $\leq 100\text{mA}$ @ 24 Vdc
Power Consumption	$\leq 2.5\text{ W}$
Protection Level	Reverse Polarity and Short Circuit Protection
Transmission Rate	10 / 100 Mbits
EMC: Emitted Interference	DIN EN61000-6-4
EMC: Noise Immunity	DIN EN 61000-6-2

Environmental

Protection Class	IP65 (EN 60529)
Temperature Range (Operation and Storage)	-40 to +85°C
Mechanical Resistance	Shock: $\leq 100\text{ g}$ half-sine, 6ms (EN 60068-2-27); $\leq 10\text{ g}$ half-sine, 16ms (EN 60068-2-29) Vibration: $\leq 10\text{ g}$ (10 Hz to 1 kHz) (EN 60068-2-6)
Humidity	98% Non-Condensing

Technology and Interface

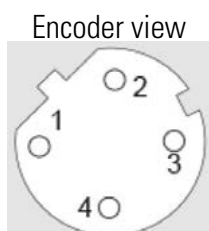
Sensor	Optical
Turns Counting	Mechanical gearing
Diagnostics	Memory
Programming Functions	Resolution, time base, velocity filter, preset, count direction, IP address
Features	Boot loader, Round axis, LED Indicator lights
Interface Cycle Time	$\geq 1\text{ ms}$
Start-up time	$< 250\text{ ms}$
MTTF	65 years @ 40°C

CONNECTION

Ethernet Connector

4 pinouts, female, D coded

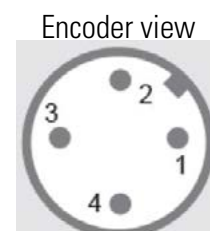
Pinout	Signal
1	Tx+
2	Rx+
3	Tx-
4	Rx-



Power Supply Connector

4 pinouts male, A coded

Pinout	Signal
1	VS (10-30Vdc)
2	N.C.
3	GND (0V)
4	N.C.

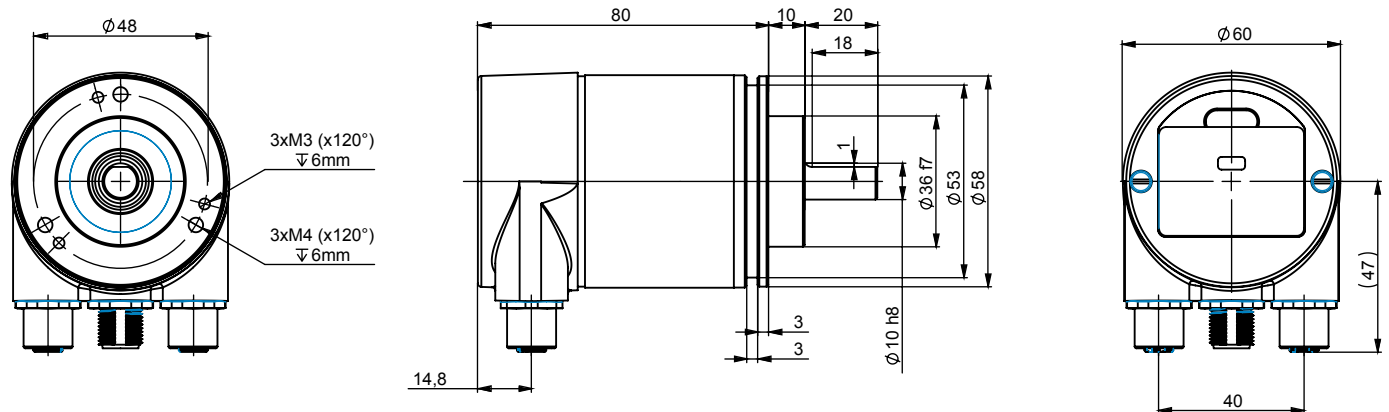




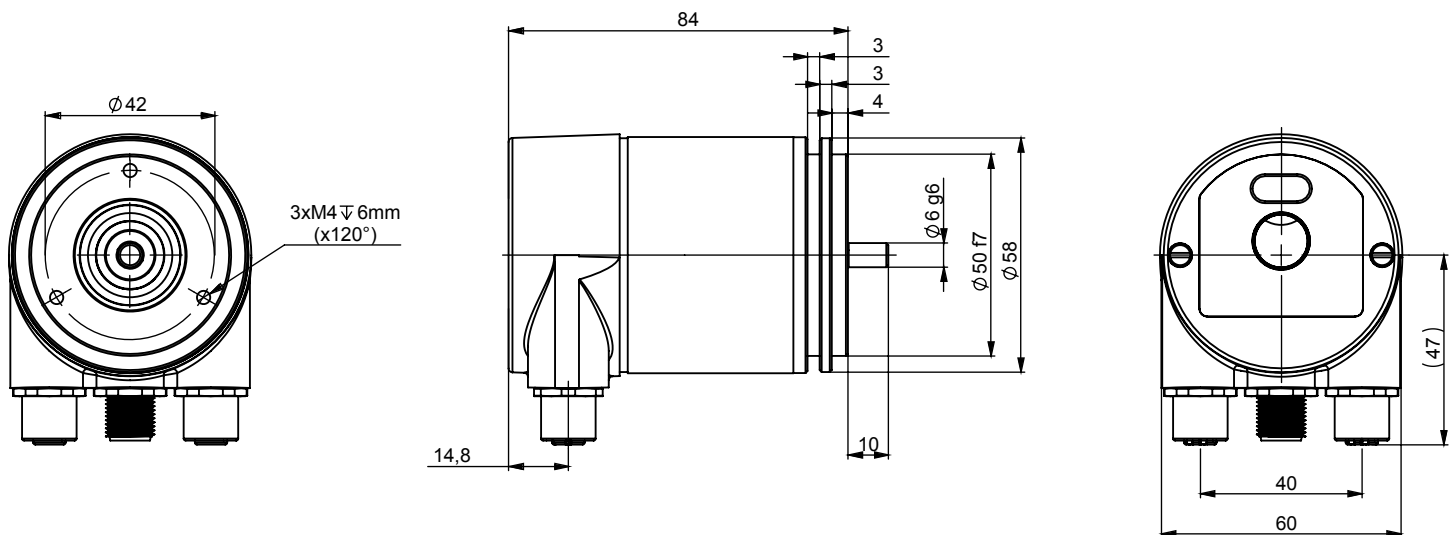
DIMENSIONS

All dimensions are in millimeters

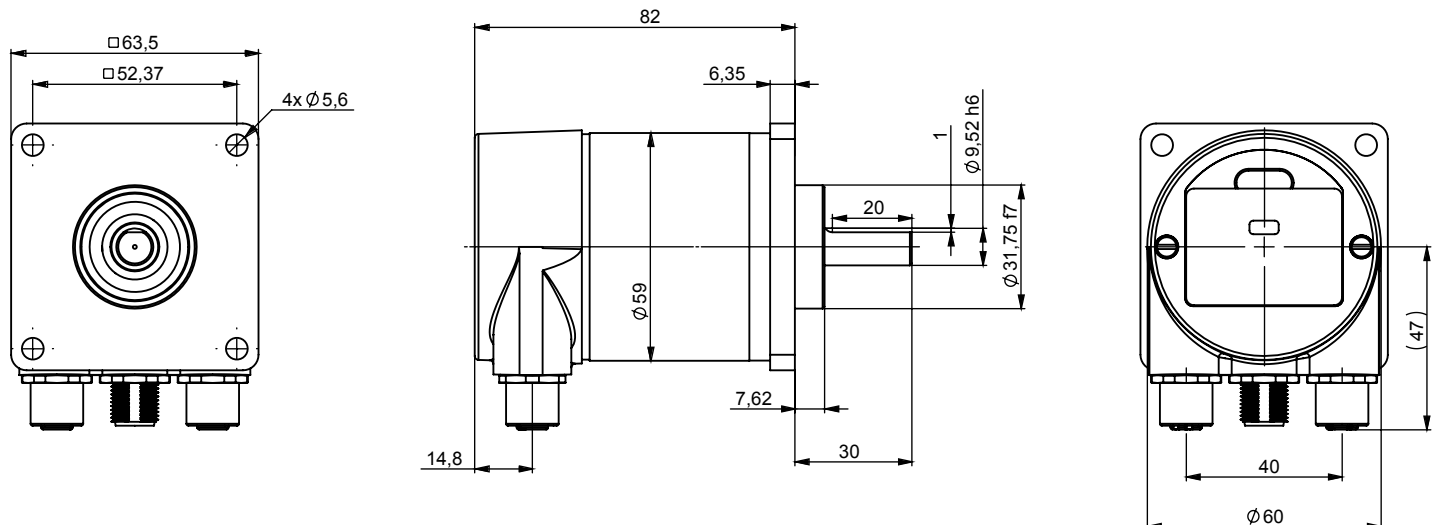
MHM5 - 10 mm Shaft and facemount



MHM5 - 06 mm Shaft and servomount



MHM5 - 9.58 mm (3/8") Shaft and square flange mount





ORDERING OPTIONS

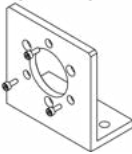

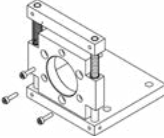


Example : MHM5-EEA1B-1213-C100-PRM

	MHM5	-	EEA1B	-	1213	-	C100	-	PRM
Family									
58 mm diameter, Absolute Geared Multi-Turn.									
MHM5 = Aluminum, Shafted Encoder									
MXM5 = Stainless steel Shafted									
some specifications may change, consult factory									
Electronics									
EEA1B = Ethernet IP									
Resolution									
12 13									
12 16									
14 13									
14 16									
First number is the turns counter									
Second number is the single turn resolution									
Mechanics									
MHM5									
C100 = Aluminum version & 10mm shaft & clamping flange & IP65									
S060 = Aluminum version & 6 mm shaft & servo flange & IP65									
C10S = Aluminum version & 10mm shaft & clamping flange & IP67									
9A70 = Aluminum version & 9.52 mm (3/8") shaft & 2.5" (63.5mm) square flange & IP65									
MXM5									
C10V = Stainless steel version & 10mm shaft & clamping flange & IP67									
Connection									
PRM = Radial M12									



AGENCY APPROVALS & CERTIFICATIONS



Mounting Bracket Right Angle 	M9202 Note: for mounting aluminum version
Bellows Type Coupling 	9403/6-6 = 6mm x 6mm 9403/6-10 = 6mm x 10mm 9403/10-9 = 10mm x 10mm
Mounting Bracket Spring Loaded For Use with Measuring Wheel 	M9212
Measuring Wheel 200mm Circumference 	9108/10 = Smooth, Polyurethane 9109/10 = Studded, Rubber 9110/10 = Knurled, Aluminum Uses 10mm shaft diameter
Measuring Wheel 500mm Circumference 	9101/10 = Smooth, Polyurethane 9102/10 = Studded, Rubber 9103/10 = Knurled, Aluminum Uses 10mm shaft diameter

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