



| MHK5 SERIES

ETHERNET/IP ABSOLUTE MULTI-TURN ENCODER



Features

- Robust and compact design
- Blind shaft version. 15mm standard ID with options down to 6mm ID
- 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	58 mm
Shaft Bore	Blind shaft style, 30 mm depth, Ø15 mm standard, reduction sleeves available down to Ø6 mm
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)
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

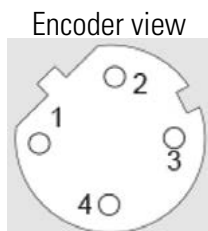
Sensor	Optical
Turns Counting	Mechanical gearing
Diagnostics	Memory
Programming Functions	Resolution, time base, velocity filter, preset, count direction, IP address
Features	Boot loader, Round axis, LED Indicator lights
Interface Cycle Time	$\geq 1\text{ ms}$
Start-up time	$< 250\text{ ms}$
MTTF	65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

CONNECTION

Ethernet Connector

4 pinouts, female, D coded

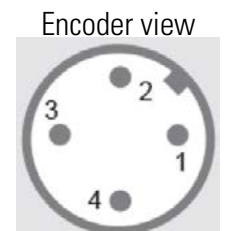
Pinout	Signal
1	Tx+
2	Rx+
3	Tx-
4	Rx-



Power Supply Connector

4 pinouts male, A coded

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

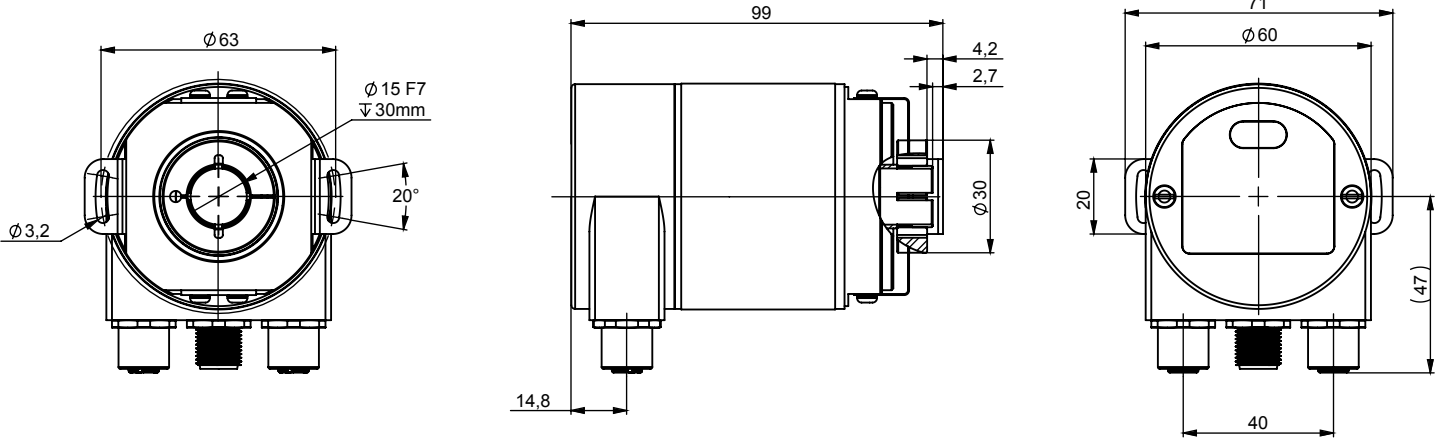




DIMENSIONS

All dimensions are in millimeters

MHK5 ETHERNET IP



ORDERING OPTIONS

Example : MHK5-EEA1B-1213-B150-PRM

	MHK5	-	EEA1B	-	1213	-	B150	-	PRM
Family	<p>58 mm diameter, Absolute Geared Multi-Turn. MHK5 = Aluminum, Blind Shaft Encoder MXK5 = Stainless steel Shafted some specifications may change, consult factory</p>								
Electronics	<p>EEA1B = Ethernet IP</p>								
Resolution	<p>12 13 12 16 14 13 14 16 First number is the turns counter Second number is the single turn resolution</p>								
Mechanics	<p>MHK5 B150 = Aluminum version & 15mm Blind Shaft with 9445/017 DAC Tether & IP65 MXK5 B15V = Stainless steel version & 15mm Blind Shaft with 9445/017 DAC Tether & IP67</p>								
Connection	<p>PRM = Radial M12</p>								



AGENCY APPROVALS & CERTIFICATIONS



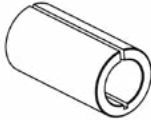
ACCESSORIES

Flexmount Kit



Normally is part of the model number construction. For replacement part, use the part number below.
M9445/017
comes with all hardware for installation on the encoder

Brass Reduction Sleeve



9432/06 = 6mm ID
9432/08 = 8 mm ID
9432/9.52 = 9.52 mm (3/8") ID
9432/10 = 10 mm ID
9432/12 = 12 mm ID
9432/12.7 = 12.7 mm (1/2") ID
9432/14 = 14 mm ID

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