

## 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					
	Shaft Material: Stainless Steel					
Material	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•cm²					
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	± 0.0220° (14-16bit), ± 0.0439 (≤13bit)
Supply Voltage	10 – 30 Vdc (for power supplies that comply with EN 50178)
Current consumption	≤ 230mA @ 10Vdc, ≤100mA @ 24 Vdc
Power Consumption	≤ 2.5 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	<b>Shock</b> : $\leq$ 100 g half-sine, 6ms (EN 60068-2-27); $\leq$ 10 g half-sine, 16ms (EN 60068-2-29)				
	<b>Vibration:</b> ≤ 10 g (10 Hz to 1 kHz) (EN 60068-2-6)				
Humidity	98% Non-Condensing				

# Technology and Interface

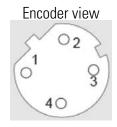
Sensor	Optical
Turns Counting	Mechanical gearing
Diagnostics	Memory
Programming Functions	Resolution, time base, velocity filter, preset, count direction, IP address
Features	Boot loader, Round axis, LED Indicator lights
Interface Cycle Time	≥1 ms
Start-up time	< 250 ms
MTTF	65 years @ 40° C



## **Ethernet Connector**

4 pinouts, female, D coded

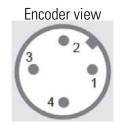
Pinout	Signal
1	Tx+
2	Rx+
3	Tx-
4	Rx-



# Power SupplyConnector

4 pinouts male, A coded

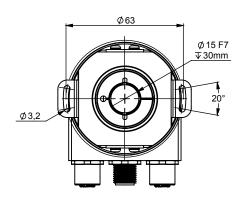
Pinout	Signal					
1	VS (10-30Vdc)					
2	N.C.					
3	GND (0V)					
4	N.C.					

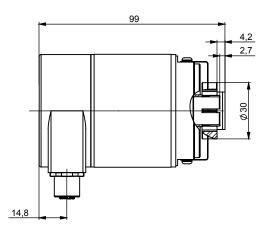


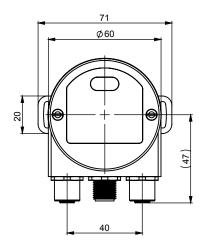
Page 2



## MHK5 ETHERNET IP









Example: MHK5-EEA1B-1213-B150-PRM

MHK5 -	EEA1B	-	1213	-	B150	-	PRM
Family							
58 mm diameter, Absolute Geared Multi-Turn. MHK5 = Aluminum, Blind Shaft Encoder MXK5 = 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 —							
MHK5 B150 = Aluminum version & 15mm Blind Shaft with 9 MXK5 B15V = Stainless steel version & 15mm Blind Shaft w							
Connection							
PRM = Radial M12							





#### **AGENCY APPROVALS & CERTIFICATIONS**

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# 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 9432/08 = 8 mm ID 9432/10 = 10 mm ID 9432/12 = 12 mm ID 9432/12 = 14 mm ID

Page 4

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