



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

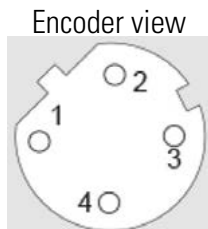
Sensor	Optical
Turns Counting	Mechanical gearing
Diagnostics	Memory
Programming Functions	Resolution, time base, velocity filter, preset, count direction, IP address
Features	Boot loader, Round axis, LED Indicator lights
Interface Cycle Time	$\geq 1\text{ ms}$
Start-up time	$< 250\text{ ms}$
MTTF	65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

CONNECTION

Ethernet Connector

4 pinouts, female, D coded

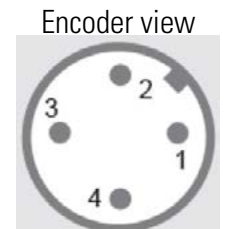
Pinout	Signal
1	Tx+
2	Rx+
3	Tx-
4	Rx-



Power Supply Connector

4 pinouts male, A coded

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

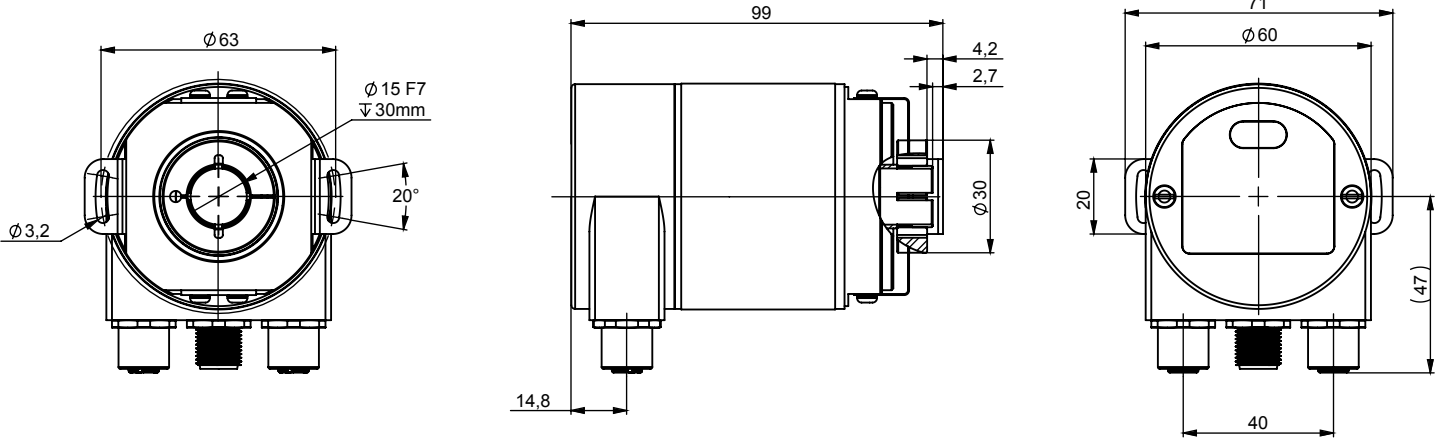




DIMENSIONS

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



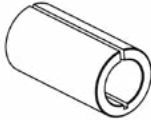
ACCESSORIES

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

Sensata Technologies, Inc. ("Sensata") data sheets are solely intended to assist designers ("Buyers") who are developing systems that incorporate Sensata products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products. Sensata data sheets have been created using standard laboratory conditions and engineering practices. Sensata has not conducted any testing other than that specifically described in the published documentation for a particular data sheet. Sensata may make corrections, enhancements, improvements and other changes to its data sheets or components without notice.

Buyers are authorized to use Sensata data sheets with the Sensata component(s) identified in each particular data sheet. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER SENSATA INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN. SENSATA DATA SHEETS ARE PROVIDED "AS IS". SENSATA MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE DATA SHEETS OR USE OF THE DATA SHEETS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. SENSATA DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO SENSATA DATA SHEETS OR USE THEREOF.

All products are sold subject to Sensata's terms and conditions of sale supplied at www.sensata.com SENSATA ASSUMES NO LIABILITY FOR APPLICATIONS ASSISTANCE OR THE DESIGN OF BUYERS' PRODUCTS. BUYER ACKNOWLEDGES AND AGREES THAT IT IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL LEGAL, REGULATORY AND SAFETY-RELATED REQUIREMENTS CONCERNING ITS PRODUCTS, AND ANY USE OF SENSATA COMPONENTS IN ITS APPLICATIONS, NOTWITHSTANDING ANY APPLICATIONS-RELATED INFORMATION OR SUPPORT THAT MAY BE PROVIDED BY SENSATA.

Mailing Address: Sensata Technologies, Inc., 529 Pleasant Street, Attleboro, MA 02703, USA.

CONTACT US

Americas

+1 (800) 350 2727
sensors@sensata.com

Europe, Middle East & Africa

+33 (3) 88 20 8080
position-info.eu@sensata.com

Asia Pacific

sales.isasia@list.sensata.com
China +86 (21) 2306 1500
Japan +81 (45) 277 7117
Korea +82 (31) 601 2004
India +91 (80) 67920890
Rest of Asia +886 (2) 27602006
ext 2808