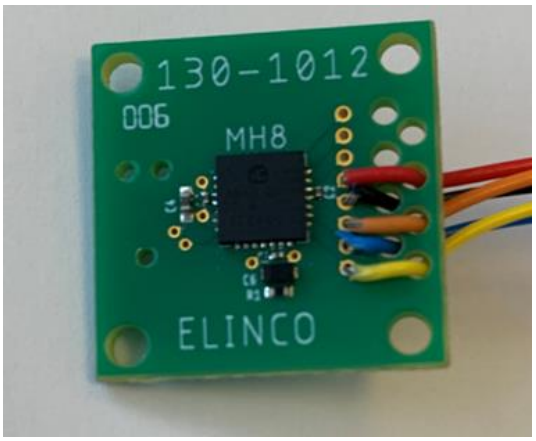
Elinco International JPC
Precision Rotating Components

www.E-JPC.com

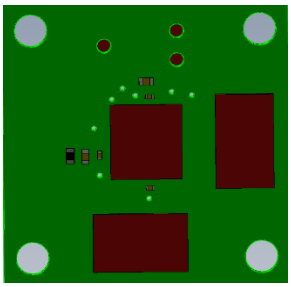
Encoder 35 X 35 X 5mm

PN 130-10XX

Resolution 1 to 2^18 cycles per rev.

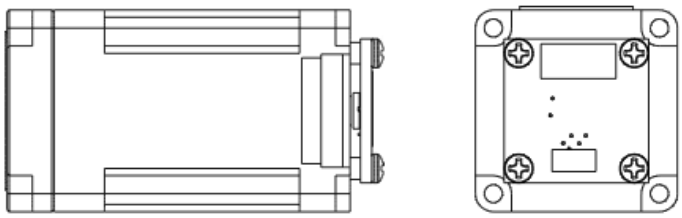


- Any output resolution with any input resolution
- Independently-programmed ABZ, UVW, and BiSS resolutions
- Absolute data interface for external revolution counters
- BiSS C-Mode interface (Encoder Profiles 3, 3S, and 4)
- 26-bit singleturn position and 32-bit revolution count via SPI
- Four capture registers for coded reference marks and touch-probe applications
- Eccentricity compensation
- Input frequency up to 700 kHz
- AB output frequency of up to 12.5 MHz
- Differential RS422 line driver outputs for ABZ or UVW
- Simultaneous single-ended outputs for ABZ, UVW, BiSS
- Automatic compensation of amplitude, offset, and phase errors
- Digital filtering for ultra-low output jitter
- Encoder Link interface for in-field re-configuration
- Internal EEPROM and oscillator
- LED intensity control by PWM output
- Low latency (2.4 µs or 5.0 µs)

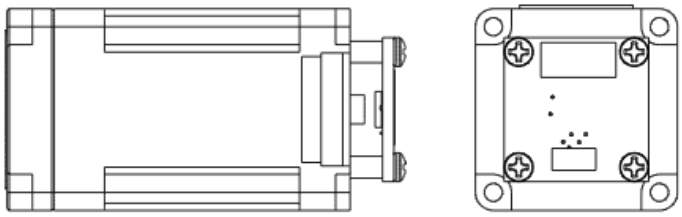


35mm X 35mm x 5mm

Magnet Embedded in Shaft (5mm height)



Magnet NOT Embedded in Shaft (10mm height)



Inputs	
Power Supply	3.1 to 3.6 V, 30 mA typical
Input Frequency	700 kHz maximum
Input Signal Amplitude	20 mV to 2 V differential in 2 ranges
Zero Input Amplitude	0 … 3.3 V differential
Sin/Cos Gain Range	– 3 … 40.5 dB in 1.5 dB steps

Signal Conditioning	
S/C Offset Correction	±25% of input in 0.02% steps
Sin/Cos Balance Corr.	±25% of input in 0.02% steps
Sin/Cos Phase Corr.	±26° in 0.02° steps
Auto Calibration	Sin/Cos offset, gain, balance, phase Zero offset, gain, phase Eccentricity

Sin/Cos Interpolator	
Position Update Rate	50 MHz
Accuracy (INL)	+/– 0.2°
Jitter (DNL)	+/– 0.1°
Noise and Jitter Filter	Configurable PI servo loop
Angle Hysteresis	0 to 4.92 output degrees
Effective Resolution	16 bits per input period minimum

ABZ / UVW Output Signals	
AB Resolution	1 … 2^{18} cycles per revolution
Max. AB Frequency	12.5 MHz
Min. AB Edge Distance	20 ns to 20 µs
Z Index Width	90°, 180°, or 360° of an AB cycle
UVW Resolution	1 to 32 UVW cycles per revolution
Driver Configuration	Push-pull (CMOS) differential or single-ended, or RS-422

BiSS Interface	
Encoder Profile	BP3, BP3S (Safety), BP4, EDS SE, or custom (with external µP)
Singleturn Resolution	4 … 2^{26} increments per revolution
Multiturn Count	0 … 32 bits in 4 bit increments
SCDS Feedback Bits	2 (nE, nW), 3, or 8
Max. Clock Frequency	10 MHz