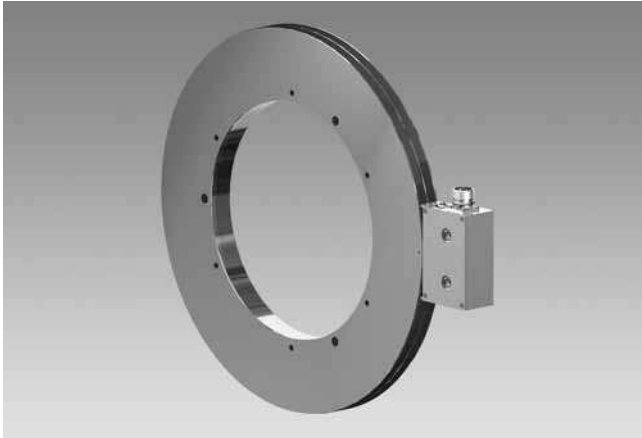


# Encoders without bearing

Magnetic sensing, hollow shaft max.  $\varnothing 340$  mm  
Incremental resolution 256...16384

## MHGE 400 - HDmag



MHGE 400 - Version for axial screw mounting

### Technical data - electrical ratings (square-wave)

Voltage supply	
Voltage supply (Signals)	4.75...30 VDC
Consumption w/o load	$\leq 70$ mA
Resolution (steps/turn)	256...16384
Phase shift	$90^\circ \pm 10^\circ$
Scan ratio	40...60 %
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Magnetic
Output frequency	$\leq 300$ kHz
Output signals	A+, B+, R+, A-, B-, R-
Output circuit	HTL (power linedriver) TTL (RS422)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

### Technical data - electrical ratings (sinewave)

Voltage supply	5 VDC
Consumption w/o load	$\leq 70$ mA
Resolution (steps/turn)	256
Phase shift	$90^\circ \pm 5^\circ$
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Magnetic
Output signals	A+, B+, R+, A-, B-, R-
Output circuit	Sine/cosine 1 Vpp
Harmonics share approx.	-40 dB
Offset sine/cosine amplitude	$\leq 20$ mV
Overlying constant share	$\leq 20$ mV
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

### Features

- Sinewave or square-wave signals
- Resolution max. 16384 pulses
- Robust and free from wear
- Electronics is fully encapsulated
- High protection standard
- Large tolerances: axial  $\pm 3$  mm, radial max. 2.2 mm
- Very compact dimensions
- Simple mounting, easy adaptation
- Several mounting possibilities

### Optional

- DNV approval

### Technical data - mechanical design

Sensor head	Standard signal processing
Dimensions (flange)	$\varnothing 405.4$ mm
Shaft	$\varnothing 70...340$ mm hollow shaft
Protection DIN EN 60529	IP 67 (sensor head), IP 68 (encoder wheel)
Operating speed	$\leq 2000$ rpm
Operating temperature	$-40...+100$ °C
Resistance	DIN EN 60068-2-6 Vibration 30 g, 55-2000 Hz DIN EN 60068-2-27 Shock 300 g, 2 ms
Axial tolerance	$\pm 3$ mm (wheel/head)
Radial tolerance	0.1...2.2 mm (wheel/head)
Accuracy of magnetic scale	$\pm 75$ "
Connection	Connector M23, 12-pin
Approvals	CE conform, ROHS compliant, Option: DNV approval

# Encoders without bearing

Magnetic sensing, hollow shaft max.  $\varnothing$ 340 mm  
Incremental resolution 256...16384

MHGE 400 - HDmag

## Part number

MHGE 400 B5 

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See part number (pulses)

### Voltage supply / signals

- S 5 VDC / sine
- R 4,75...30 VDC / square-wave (TTL)
- T 5 VDC  $\pm$ 5 % / square-wave (TTL)
- H 10...30 VDC / square-wave (HTL)
- U 5...30 VDC / square-wave (5 VDC = TTL / 10...30 VDC = HTL universal)

### Mounting type / hollow shaft ( $\varnothing$ mm)

Screw mounting

G160, G180, G210, G230, G250, G300, G310, G340

Clamping set mounting

Z70, Z75, Z80, Z85, Z90, Z95, Z100, Z110, Z120, Z130, Z140, Z150, Z160

Shrink fit mounting

H160, H180, H210, H230, H250, H300, H310, H340

## Part number (pulses)

256	1024	4096	16384
512	2048	8192	

Pulses at sinewave signals 256

## Accessories

### Connectors and cables

HEK 8	Sensor cable for encoders
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# Encoders without bearing

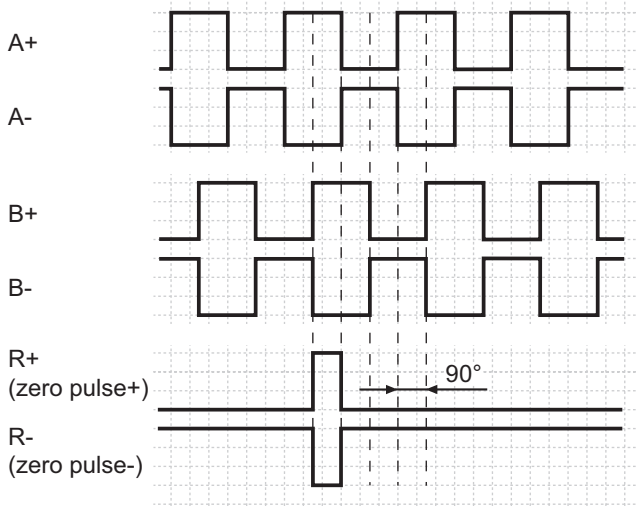
Magnetic sensing, hollow shaft max.  $\varnothing 340$  mm

Incremental resolution 256...16384

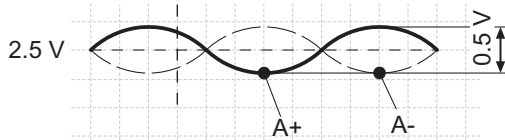
## MHGE 400 - HDmag

### Output signals

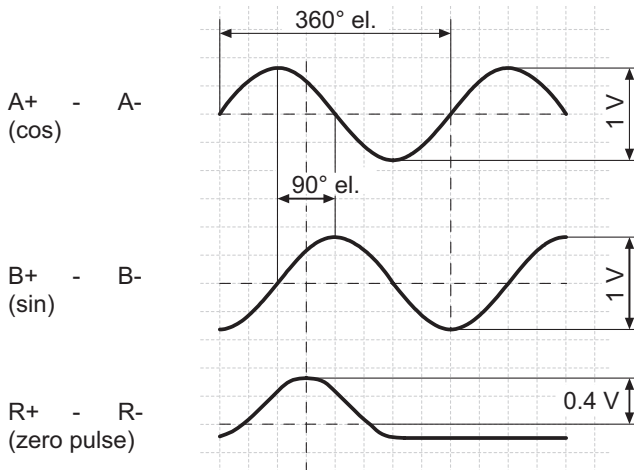
Version with square-wave signals HTL oder TTL  
at positive rotating direction



Version with sinewave signals



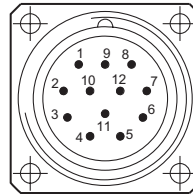
at positive rotating direction



### Terminal assignment

View A - Connector M23, male contacts, counter-clockwise

Male	Assignment
Pin 1	B-
Pin 2	do not use
Pin 3	R+
Pin 4	R-
Pin 5	A+
Pin 6	A-
Pin 7	do not use
Pin 8	B+
Pin 9	do not use
Pin 10	0 V
Pin 11	do not use
Pin 12	UB



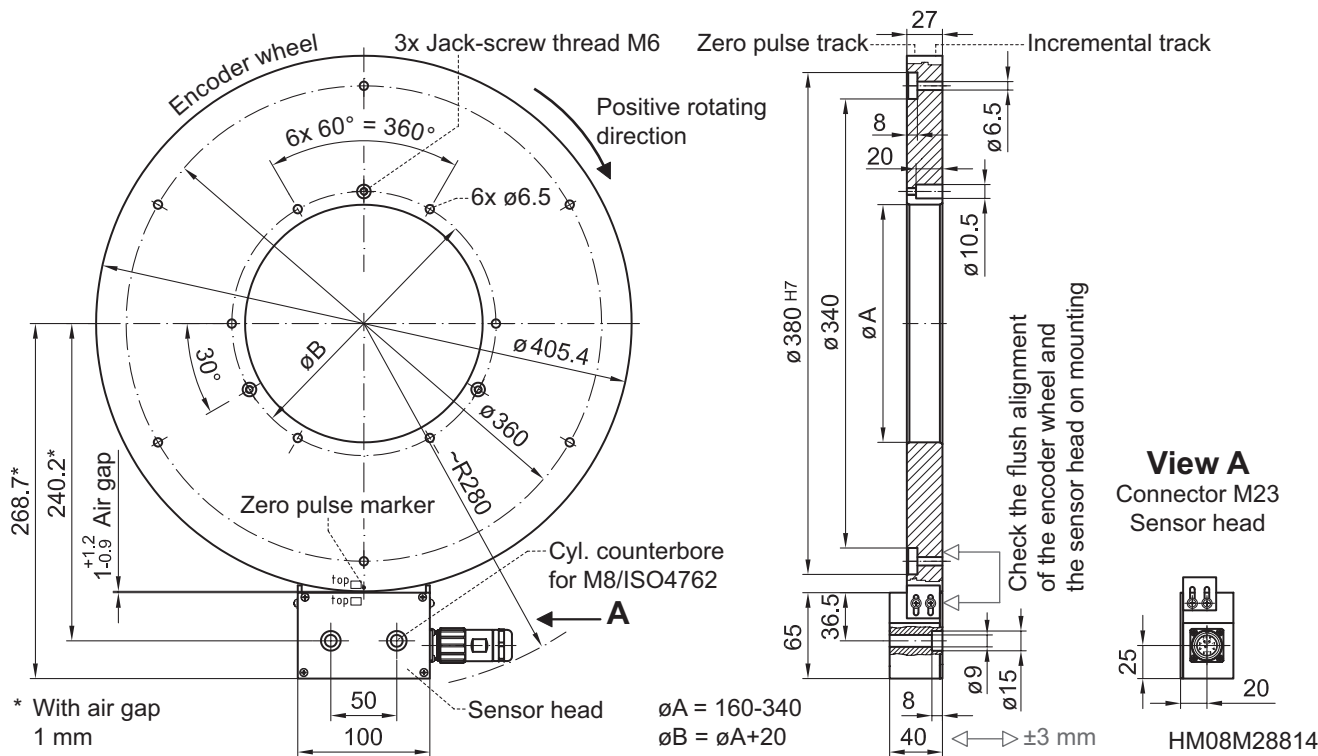
# Encoders without bearing

Magnetic sensing, hollow shaft max.  $\varnothing 340$  mm  
Incremental resolution 256...16384

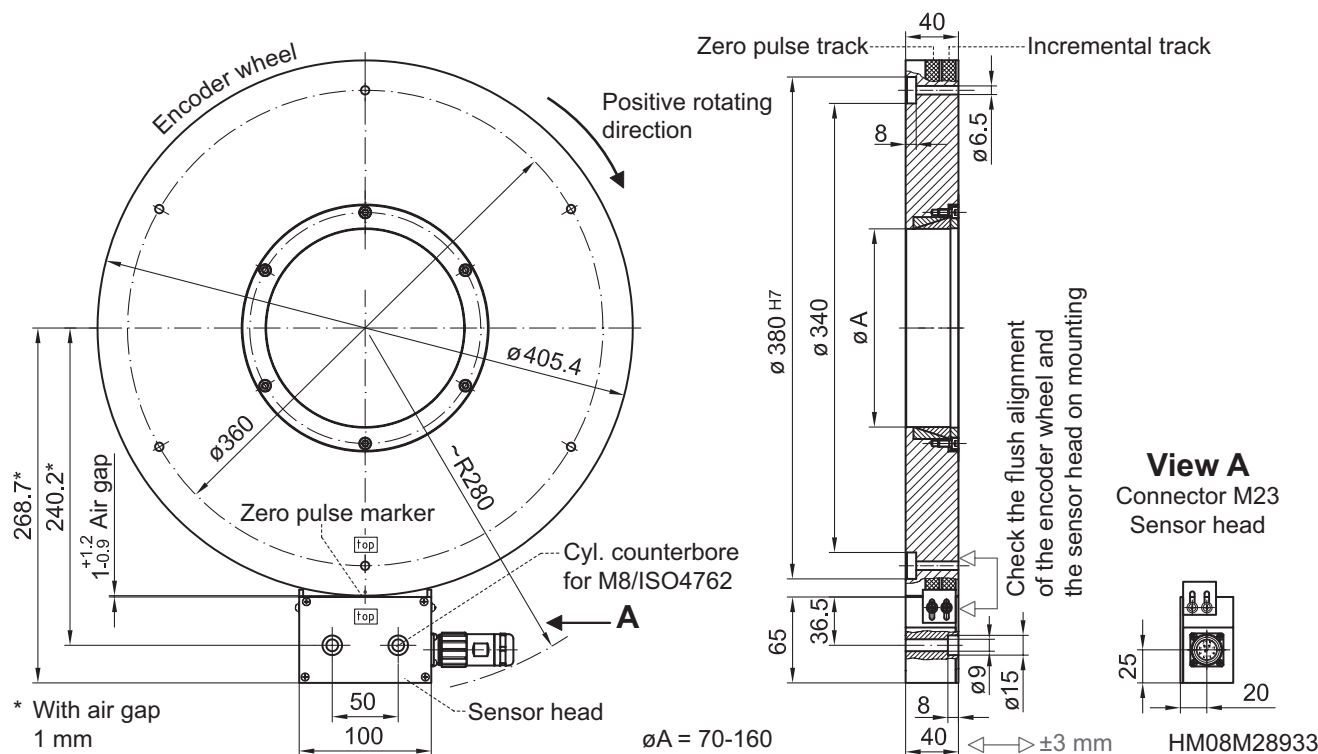
MHGE 400 - HDmag

## Dimensions

### Version for axial screw mounting



### Version for clamping set mounting





# **Encoders without bearing**

**Magnetic sensing, hollow shaft max.  $\varnothing$ 340 mm**

**Incremental resolution 256...16384**

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**MHGE 400 - *HDmag***