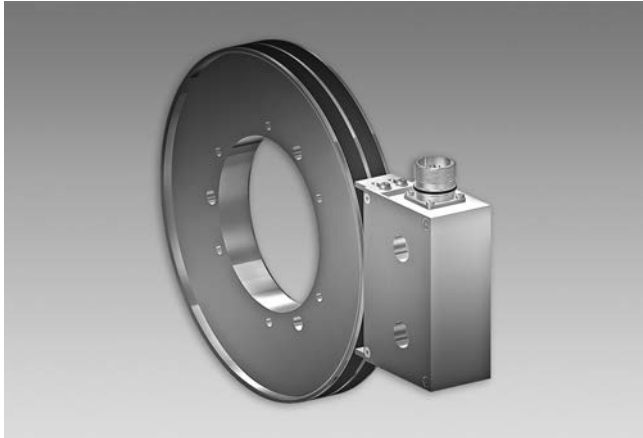


# Encoders without bearings - incremental

Magnetic sensing, through hollow shaft max.  $\varnothing 180$  mm

128...8192 pulses or 128 sinewave cycles per turn

## MHGE 200 - HDmag



MHGE 200 - Version for axial screw mounting

### Features

- Robust and wearless
- High protection through fully encapsulated electronics
- Large tolerances: axial  $\pm 3$  mm, radial max. 2.2 mm
- Very compact dimensions
- Simple mounting, easy adaptation

### Optional

- DNV approval on request
- Redundant sensing head on request
- Increased operating speed through triple-bandage
- Offshore version

### Technical data - electrical ratings

Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approvals	CE, UL approval / E217823, Option: DNV approval

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

Voltage supply	4.75...30 VDC
Consumption w/o load	$\leq 70$ mA
Pulses per revolution	128...8192
Phase shift	$90^\circ \pm 10^\circ$
Duty cycle	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 stages	HTL TTL/RS422

### Technical data - electrical ratings (SinCos)

Voltage supply	5 VDC
Consumption w/o load	$\leq 70$ mA
Sinewave cycles per revolution	128
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 stages	SinCos 1 Vpp
Difference of SinCos amplitude	$\leq 20$ mV
Harmonics typ.	-40 dB
DC offset	$\leq 20$ mV

### Technical data - mechanical design

Sensor head	Standard signal processing
Size (flange)	$\varnothing 201.7$ mm
Shaft type	$\varnothing 50...180$ mm (through hollow shaft)
Axial tolerance	$\pm 3$ mm (wheel/head)
Radial tolerance	0.1...2.2 mm (wheel/head)
Protection DIN EN 60529	IP 67 (head), IP 68 (wheel)
Operating speed	$\leq 4000$ rpm
Materials	Housing sensing head: aluminium alloy Wheel: stainless steel (1.4104, option DNV: 1.4313) Wheel: galvanized steel (version stainless)
Operating temperature	$-40...+100$ °C
Resistance	IEC 60068-2-6 Vibration 30 g, 55-2000 Hz IEC 60068-2-27 Shock 300 g, 2 ms
Accuracy of magnetic measure	$\pm 150$ "
Connection	Flange connector M23, 12-pin Terminal box

# Encoders without bearings - incremental

Magnetic sensing, through hollow shaft max.  $\varnothing$ 180 mm

128...8192 pulses or 128 sinewave cycles per turn

MHGE 200 - HDmag

## Part number

MHGE 200 

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### Connection

- C 1x flange connector M23, tangential 12-pin, male, CCW
- B 1x terminal box with cable gland M20, radial

Pulse number/sinewave cycles - see table

### Voltage supply / signals

- S 5 VDC / SinCos
- 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 or shrink fit mounting

G50, G75, G80, G85, G90, G95, G100, G110, G115, G120, G130, G150, G160, G170, G180

Clamping set mounting

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

Clamping set mounting stainless

Y70, Y75, Y80, Y85, Y90, Y95, Y100, Y110, Y120, Y130, Y140, Y150

Clamping ring mounting

K70, K75, K80, K85, K90, K95, K100, K105, K110, K115, K120, K130, K140, K150, K160

### Bandaging

B Encoder wheel standard bandage

T Encoder wheel with triple-bandage

## Pulse number/sinewave cycles

128	512	2048	8192
256	1024	4096	

Sinewave cycles only 128 at SinCos output.

## Accessories

### Connectors and cables

HEK 8      Sensor cable for encoders

# Encoders without bearings - incremental

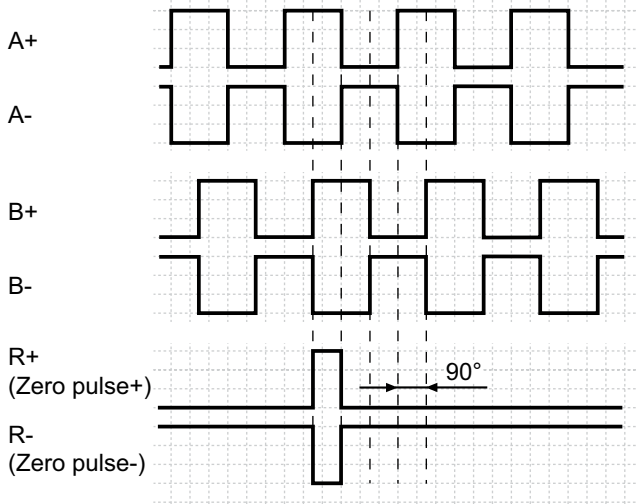
Magnetic sensing, through hollow shaft max.  $\varnothing 180$  mm

128...8192 pulses or 128 sinewave cycles per turn

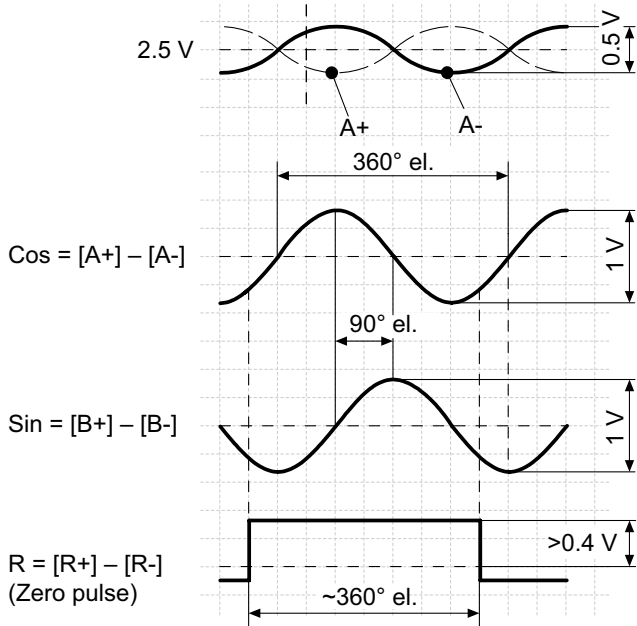
## MHGE 200 - HDmag

### Output signals

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



Version with SinCos signals at positive rotating direction

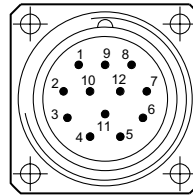


### Terminal assignment

#### View A

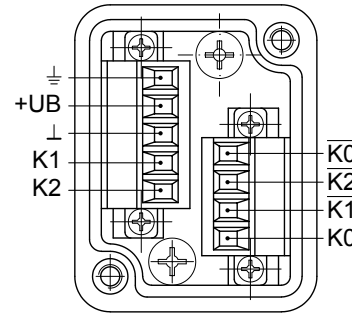
Flange connector M23, 12-pin, male contacts, CCW

Pin	Assignment
1	B-
2	Do not use
3	R+ (Zero pulse)
4	R- (Zero pulse inv.)
5	A+
6	A-
7	Do not use
8	B+
9	Do not use
10	⊥
11	Do not use
12	+UB



#### View B

Connecting terminal terminal box



# Encoders without bearings - incremental

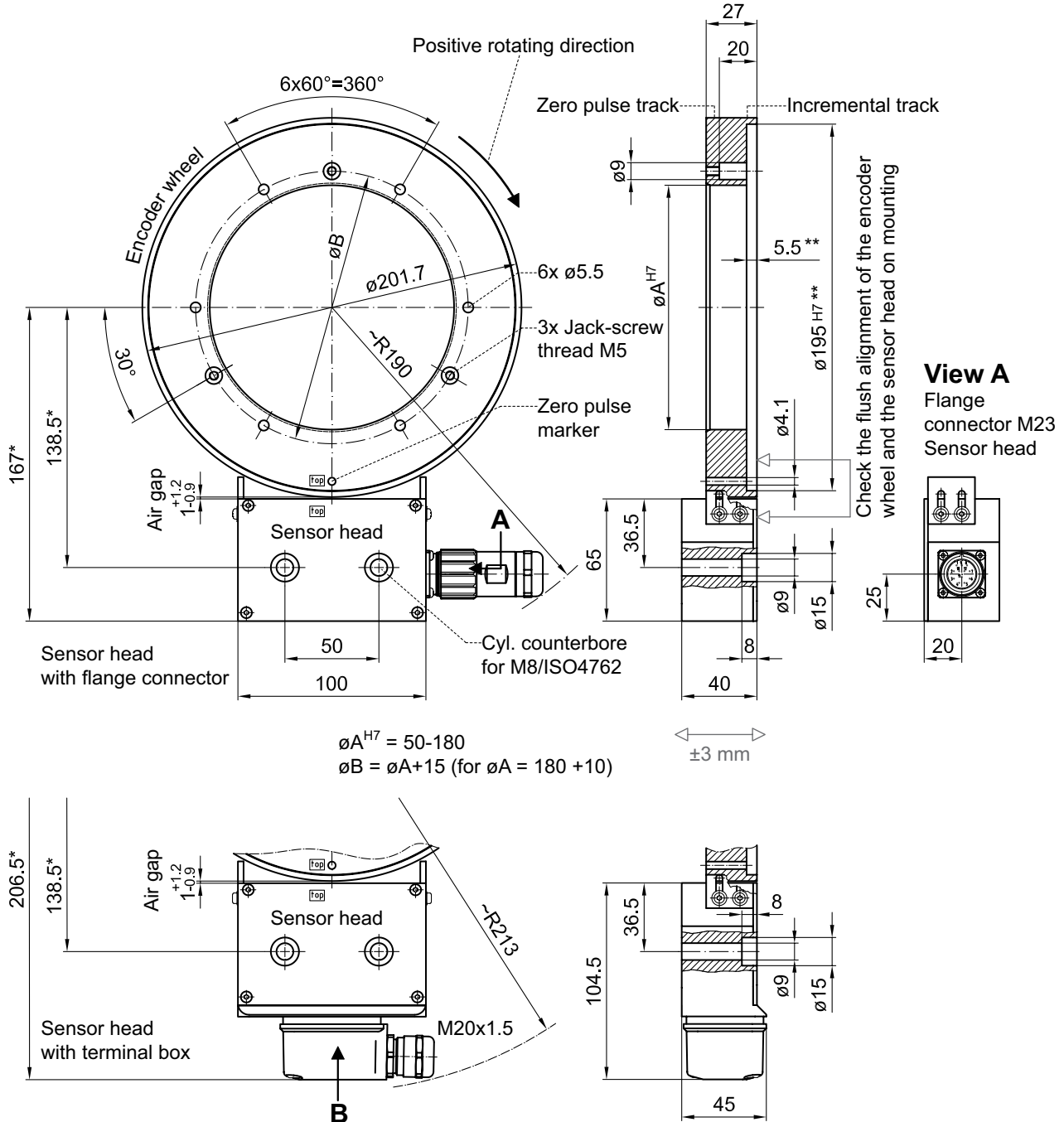
Magnetic sensing, through hollow shaft max.  $\varnothing 180$  mm

128...8192 pulses or 128 sinewave cycles per turn

MHGE 200 - HDmag

## Dimensions

Version for axial screw mounting or shrink fit mounting



\* With air gap 1 mm  
 \*\* Not present if  $\varnothing A = 180$

# Encoders without bearings - incremental

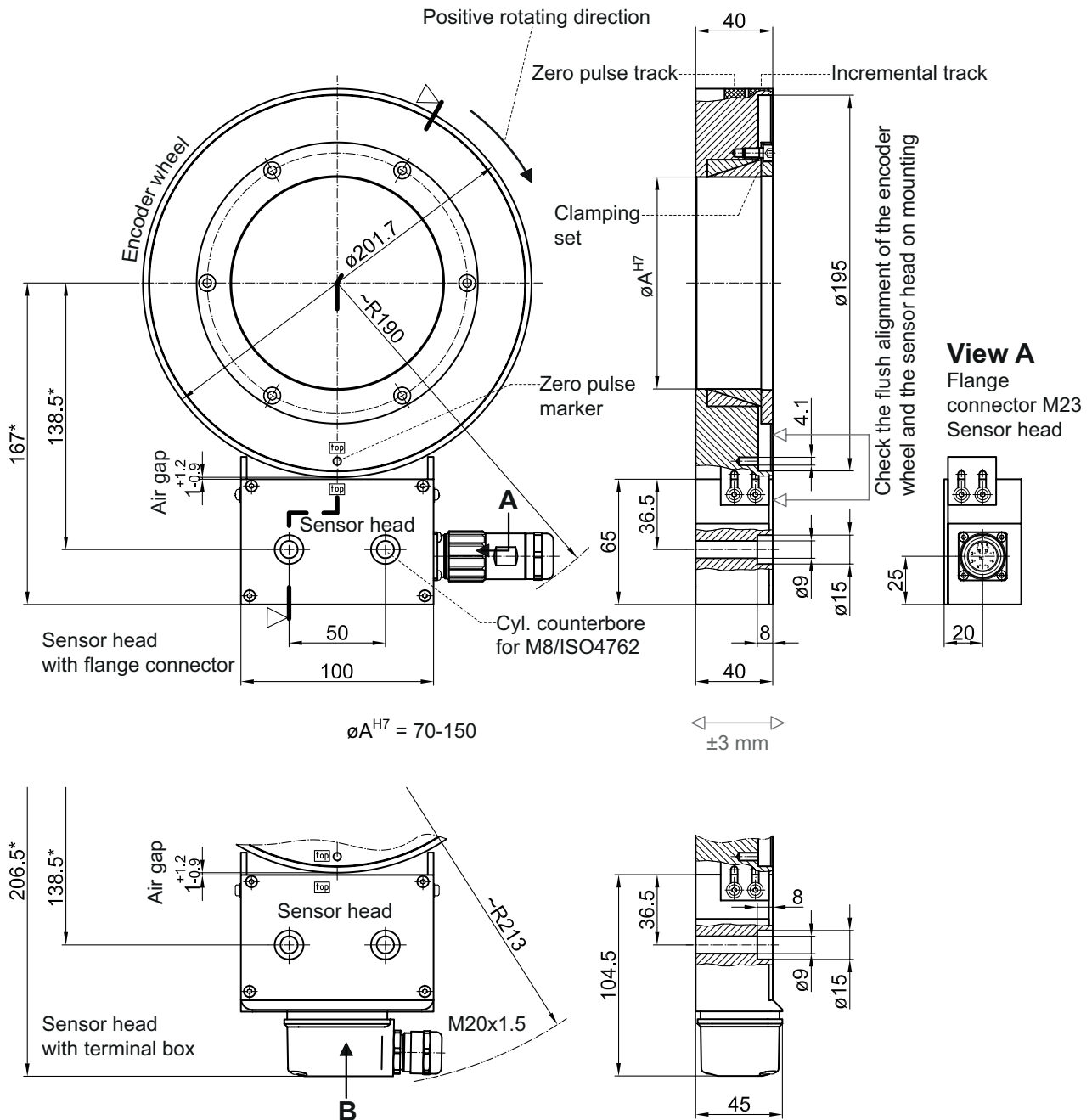
Magnetic sensing, through hollow shaft max.  $\varnothing 180$  mm

128...8192 pulses or 128 sinewave cycles per turn

## MHGE 200 - HDmag

### Dimensions

#### Version for clamping set mounting



\* With air gap 1 mm

# Encoders without bearings - incremental

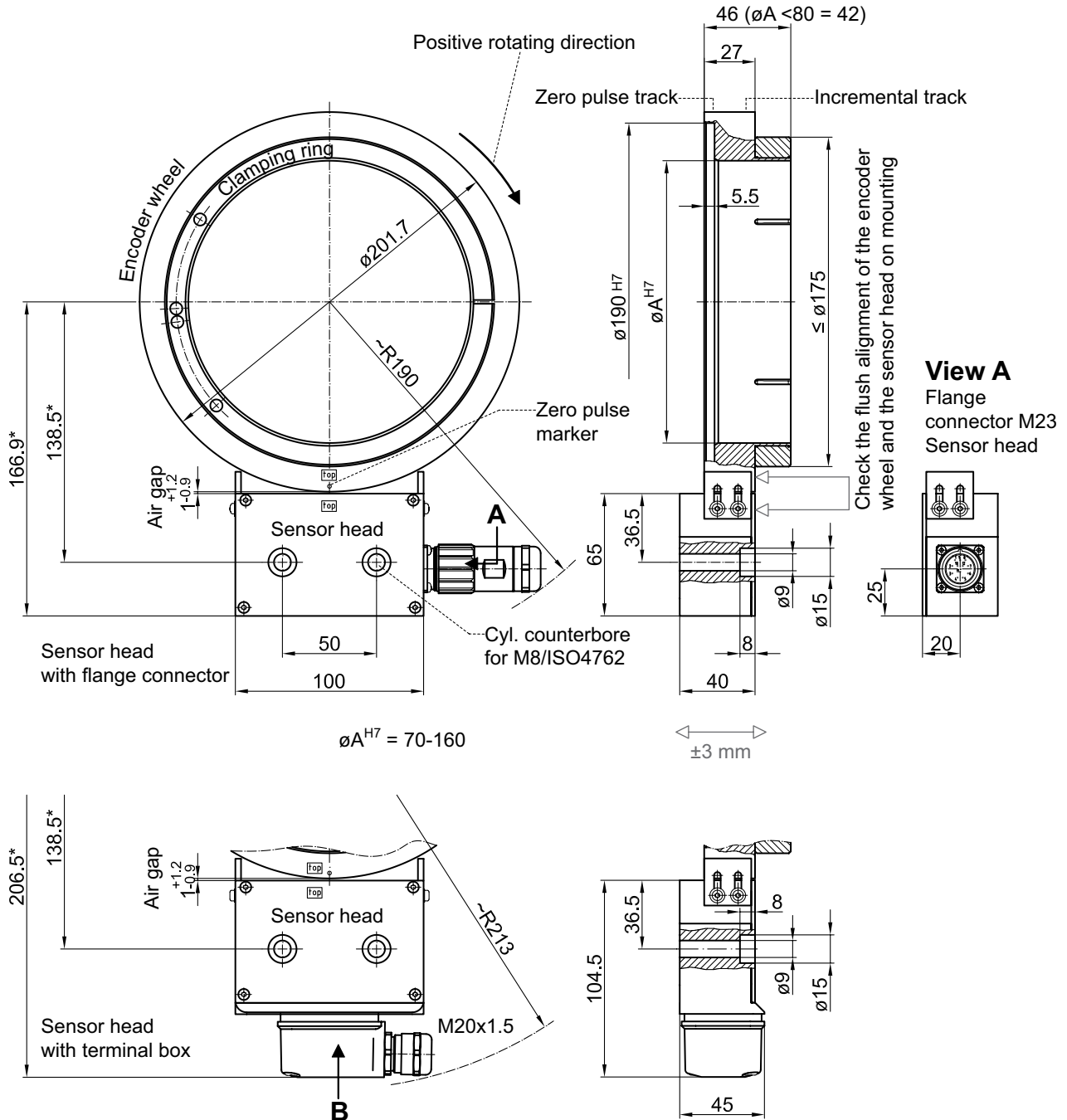
Magnetic sensing, through hollow shaft max.  $\varnothing 180$  mm

128...8192 pulses or 128 sinewave cycles per turn

MHGE 200 - HDmag

## Dimensions

### Version for clamping ring mounting



\* With air gap 1 mm