

# Incremental encoders

End shaft max.  $\varnothing 20$  mm or cone shaft  $\varnothing 17$  mm (1:10)

Resolution 1...2500 pulses

## HOG 10, HOG 10 + FSL



HOG 10

### Technical data - electrical ratings

Voltage supply	5 VDC $\pm 5$ % 9...26 VDC 9...30 VDC
Consumption w/o load	$\leq 100$ mA
Resolution (steps/turn)	1...2500
Phase shift	$90^\circ \pm 20^\circ$
Scan ratio	40...60 %
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Optical
Output frequency	$\leq 120$ kHz
Output signals	K1, K2, K0 + inverted
Output circuit	TTL (RS422) HTL (power line driver)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

### HOG 10

Approval	UL approval / E256710
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### HOG 10 + FSL

Output switching capacity	6 A / 230 VAC 1 A / 125 VDC
Range of switching speed (ns)	850...4900 rpm ( $\Delta n = 2$ rpm/s)

### Features

- Logic level TTL or HTL
- High resistance to shock and vibrations
- Protection against inductive shaft current by hybrid bearings
- Axial terminal cover or radial terminal box, pivotable through  $180^\circ$
- Also in conjunction with centrifugal switch FSL (no explosion protection)

### Optional

- Twin-encoder featuring two separate systems
- Version with heating (up to  $-50^\circ\text{C}$ , no explosion protection)

### Technical data - mechanical design

Housing	$\varnothing 105$ mm
Shaft	$\varnothing 12$ ...20 mm end shaft $\varnothing 17$ mm cone shaft 1:10
Admitted shaft load	$\leq 250$ N axial $\leq 400$ N radial
Protection DIN EN 60529	IP 66
Operating torque typ.	6 Ncm
Materials	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	$-40$ ... $+100$ $^\circ\text{C}$ $-50$ ... $+100$ $^\circ\text{C}$ (optional)

### HOG 10

Operating speed	$\leq 6000$ rpm (mechanical)
Rotor moment of inertia	340 gcm <sup>2</sup>
Resistance	DIN EN 60068-2-6 Vibration 10 g, 10-2000 Hz DIN EN 60068-2-27 Shock 200 g, 6 ms
Explosion protection	II3G Ex nA T4 X (gas) II3D Ex tD IP66 A22 T135 $^\circ\text{C}$ X (dust)
Connection	Terminal box Terminal cover
Weight approx.	1.6 kg

### HOG 10 + FSL

Speed (n)	$\leq 1.25 \cdot ns$
Rotor moment of inertia	400 gcm <sup>2</sup>
Resistance	DIN EN 60068-2-6 Vibration 5 g, 10-2000 Hz DIN EN 60068-2-27 Shock 50 g, 11 ms
Connection	Terminal box
Weight approx.	2.1 kg

# Incremental encoders

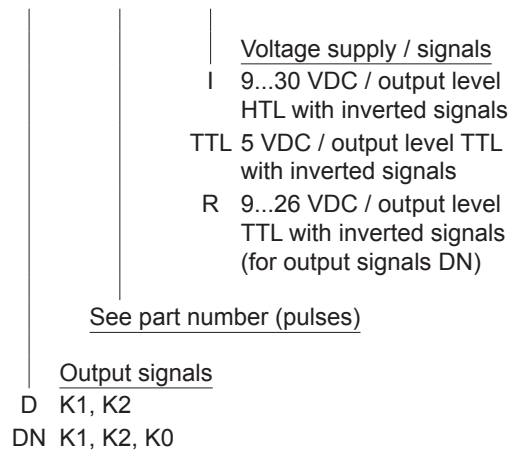
**End shaft max.  $\varnothing$ 20 mm or cone shaft  $\varnothing$ 17 mm (1:10)**  
**Resolution 1...2500 pulses**

## HOG 10, HOG 10 + FSL

### Part number

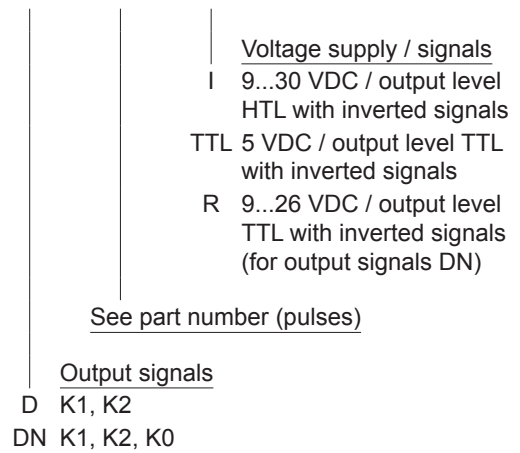
#### Incremental encoder

HOG 10



#### Incremental encoder with centrifugal force switch FSL

HOG 10  + FSL



### Part number (pulses)

1	12	64	250	900
2	15	72	256	1000
3	20	80	300	1024
4	25	100	360	1200
5	30	120	400	1250
6	40	128	500	2048
8	50	180	512	2500
10	60	192	600	
11	62	200	720	

Other pulse numbers upon request.

Please indicate the required switching rotation speed when ordering with centrifugal force switch (permanent parameter defined at works).

### Accessories

#### Connectors and cables

HEK 8 Sensor cable for encoders

#### Mounting accessories

ET.51.100x Torque arm size M6

#### Diagnostic accessories

HENQ 1100 Analyzer for encoders

# Incremental encoders

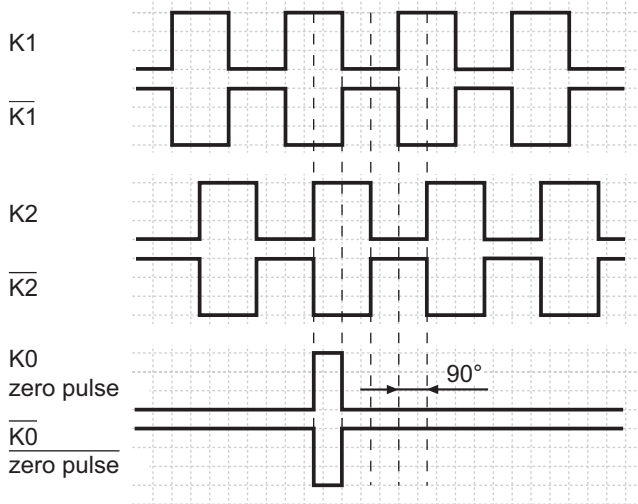
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Resolution 1...2500 pulses

## HOG 10, HOG 10 + FSL

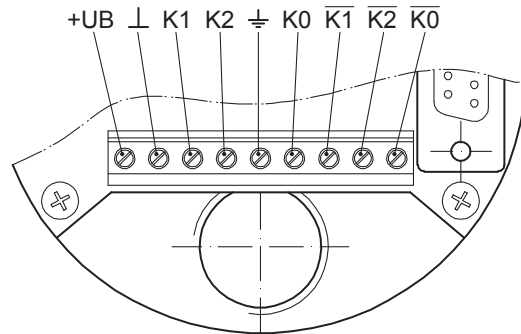
### Output signals

at positive rotating direction

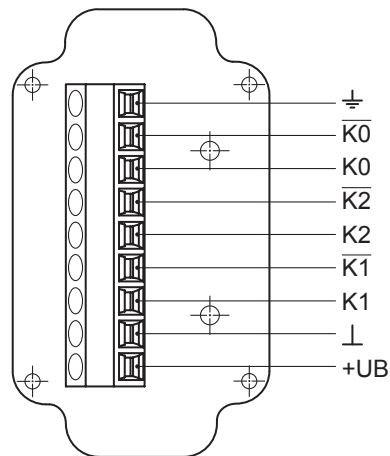


### Terminal assignment

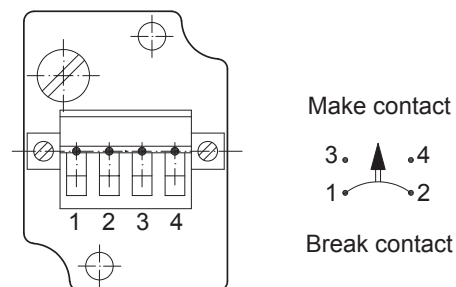
**View A** - Connecting terminal in axial terminal cover



**View C** - Connecting terminal in radial terminal box



**View D** - Connecting terminal mechanical centrifugal switch



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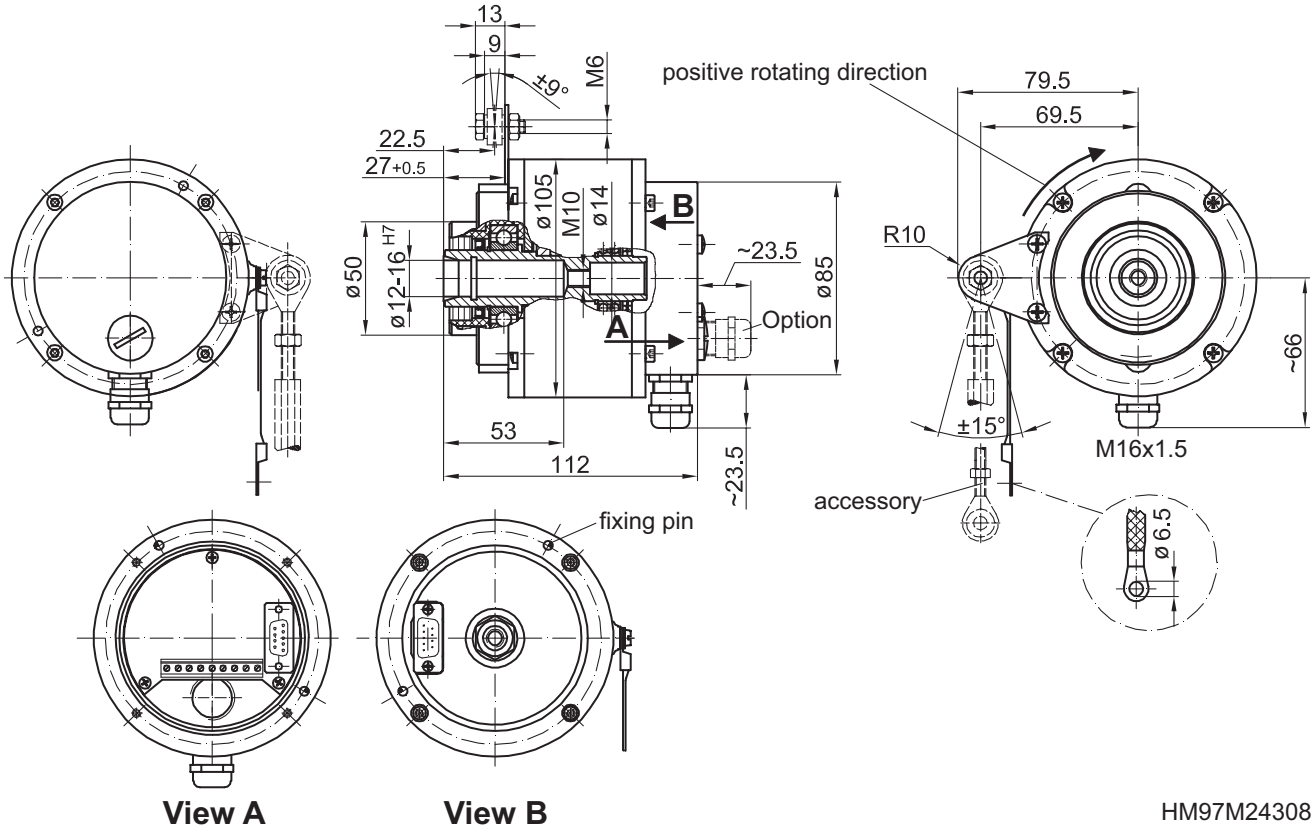
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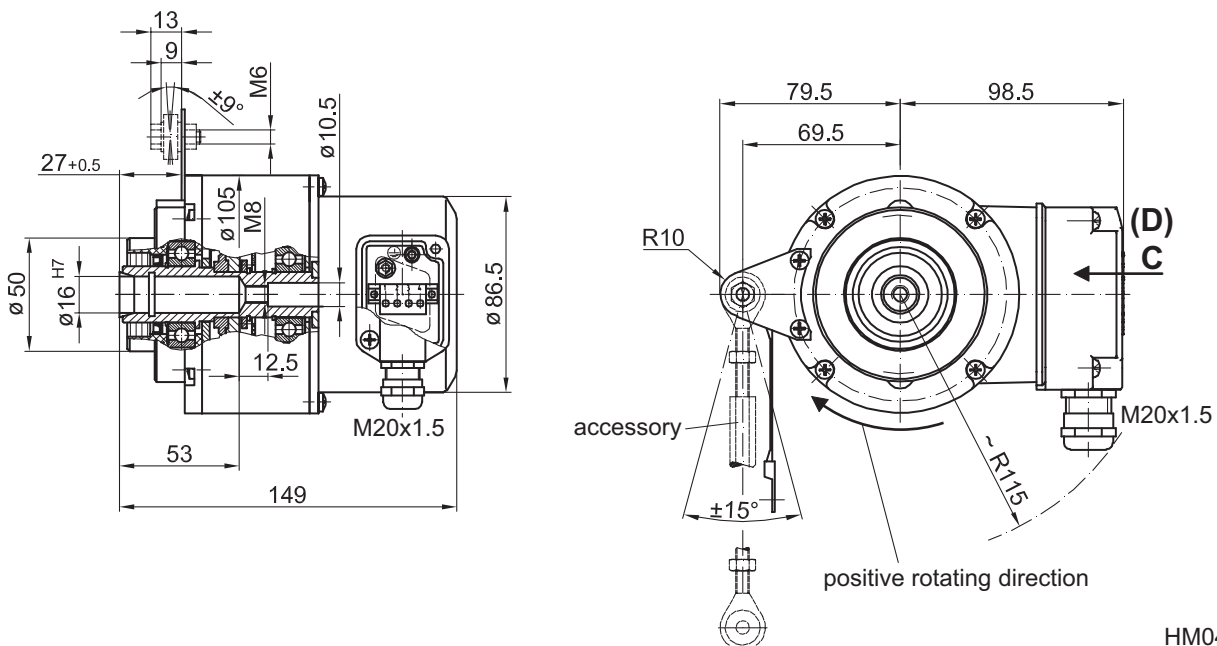
## Dimensions

### HOG 10 - Axial terminal cover and end shaft



HM97M24308

### HOG 10 + FSL - Combination with centrifugal switch FSL



HM04M26715