

# Incremental encoders

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

Resolution 1...2500 pulses

## HOG 11, HOG 11 + FSL



HOG 11

### 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 linedriver)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

### HOG 11

Approvals	UL approval / E256710, DNV approval
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### HOG 11 + FSL

Output switching capacity	0,05...6 A / 230 VAC 0,05...1 A / 125 VDC
Range of switching speed (ns)	850...4900 rpm ( $\Delta n = 2$ rpm/s)

### Features

- Offshore and salt water firm, DNV approval
- Logic level TTL or HTL, suitable to drive for lines max. 500 m (TTL)
- Very high resistance to shock and vibrations
- High protection IP 67, protection against inductive shaft current by hybrid bearing
- Big terminal box, turn by  $180^\circ$  or axial terminal cover

### Optional

- Combination with centrifugal switch FSL, with heating up to  $-50^\circ\text{C}$ , with earthing brushes, (no explosion protection)

### Technical data - mechanical design

Dimensions (flange)	$\varnothing 105$ mm
Shaft	$\varnothing 12$ ...20 mm end shaft $\varnothing 17$ mm cone shaft 1:10
Shaft loading	$\leq 250$ N axial $\leq 400$ N radial
Protection DIN EN 60529	IP 67
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 11

Operating speed	$\leq 6000$ rpm (mechanical)
Rotor moment of inertia	340 gcm <sup>2</sup>
Resistance	IEC 60068-2-6 Vibration 20 g, 10-2000 Hz IEC 60068-2-27 Shock 300 g, 6 ms
Explosion protection	II3G Ex nA IIC T4 Gc (gas) II3D Ex tc IIIC T135 $^\circ\text{C}$ Dc (dust)
Connection	Terminal box Terminal cover
Weight approx.	1.6 kg

### HOG 11 + FSL

Speed (n)	$\leq 1.25 \cdot ns$
Rotor moment of inertia	680 gcm <sup>2</sup>
Resistance	IEC 60068-2-6 Vibration 5 g, 10-2000 Hz IEC 60068-2-27 Shock 50 g, 11 ms
Connection	Terminal box
Weight approx.	2.6 kg

# Incremental encoders

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**Resolution 1...2500 pulses**

## HOG 11, HOG 11 + FSL

### Part number

#### Incremental encoder

HOG 11

				Voltage supply / signals
				I 9...30 VDC / output circuit HTL with inverted signals
				TTL 5 VDC / output circuit TTL with inverted signals (for output signals DN)
				R 9...26 VDC / output circuit TTL with inverted signals (for output signals DN)
				<u>See part number (pulses)</u>
				<u>Output signals</u>
				D K1, K2
				DN K1, K2, K0

#### Incremental encoder with centrifugal force switch FSL

HOG 11       + FSL

				Voltage supply / signals
				I 9...30 VDC / output circuit HTL with inverted signals
				TTL 5 VDC / output circuit TTL with inverted signals (for output signals DN)
				R 9...26 VDC / output circuit TTL with inverted signals (for output signals DN)
				<u>See part number (pulses)</u>
				<u>Output signals</u>
				D K1, K2
				DN K1, K2, K0

### 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.

### Accessories

#### Connectors and cables

HEK 8 Sensor cable for encoders

#### Mounting accessories

DMS 6 Torque arm size M6

#### Diagnostic accessories

HENQ 1100 Analyzer for encoders

# Incremental encoders

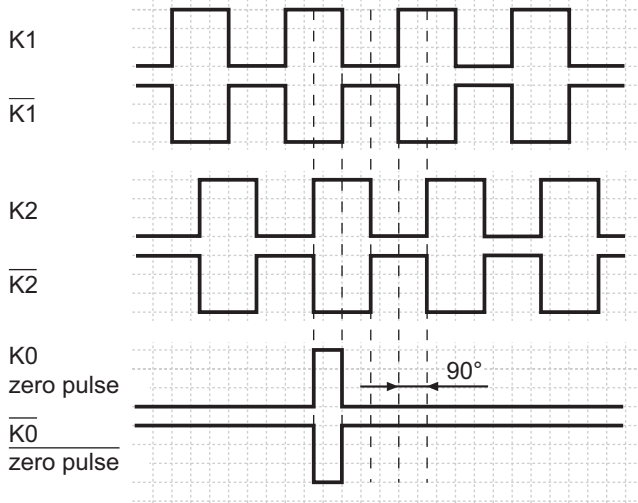
End shaft max.  $\varnothing 20$  mm or cone shaft  $\varnothing 17$  mm (1:10)

Resolution 1...2500 pulses

## HOG 11, HOG 11 + FSL

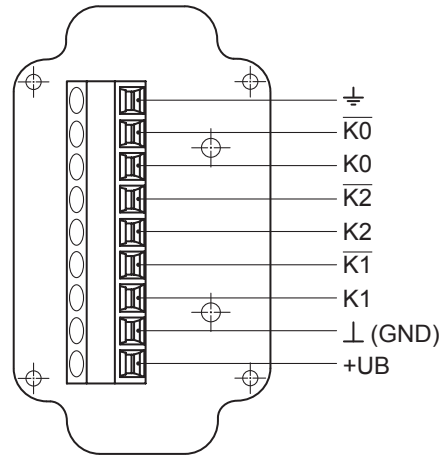
### Output signals

at positive rotating direction

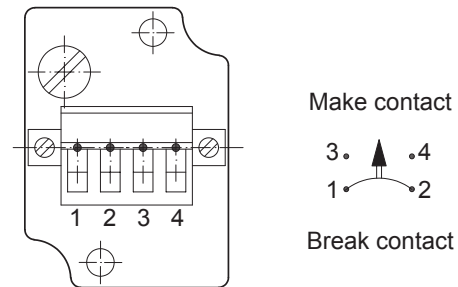


### Terminal assignment

View A - Connecting terminal in terminal box



View B - Connecting terminal mechanical speed switch



# Incremental encoders

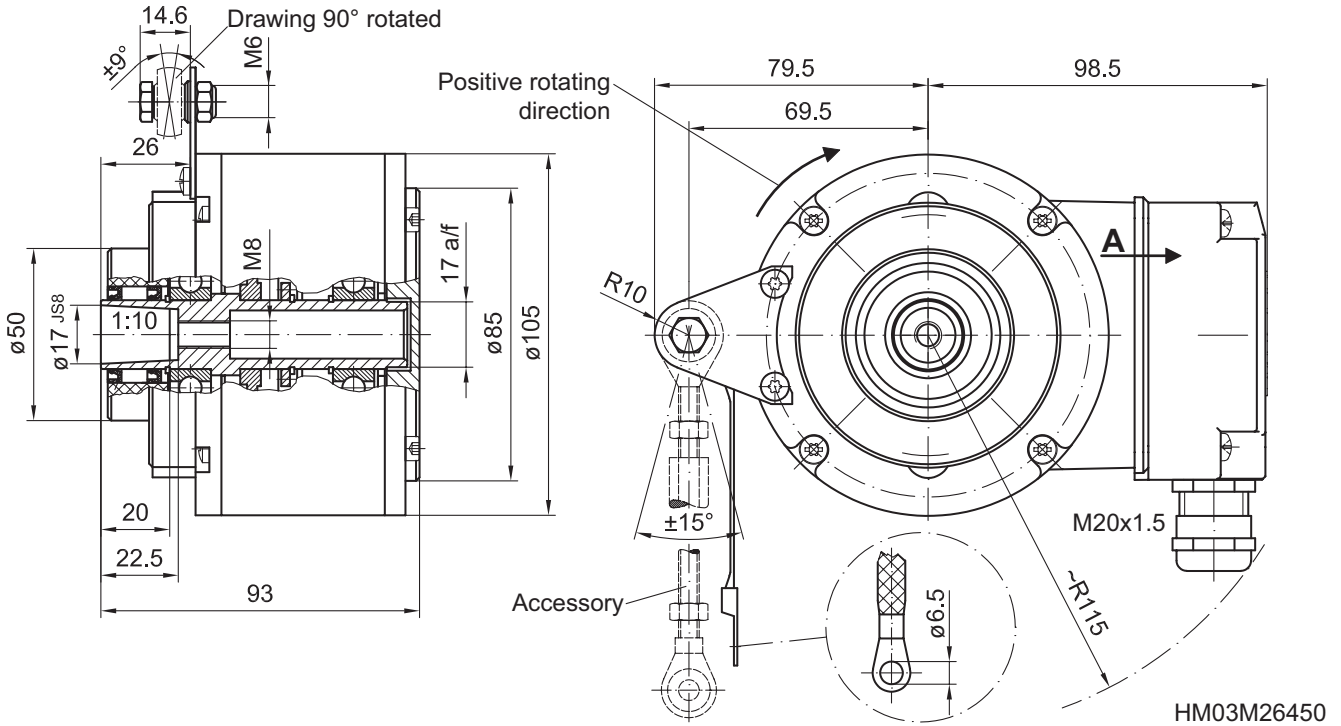
End shaft max.  $\varnothing 20$  mm or cone shaft  $\varnothing 17$  mm (1:10)

Resolution 1...2500 pulses

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## Dimensions

### HOG 11 - Radial terminal box and cone shaft



### HOG 11 + FSL - Combination with centrifugal switch FSL

