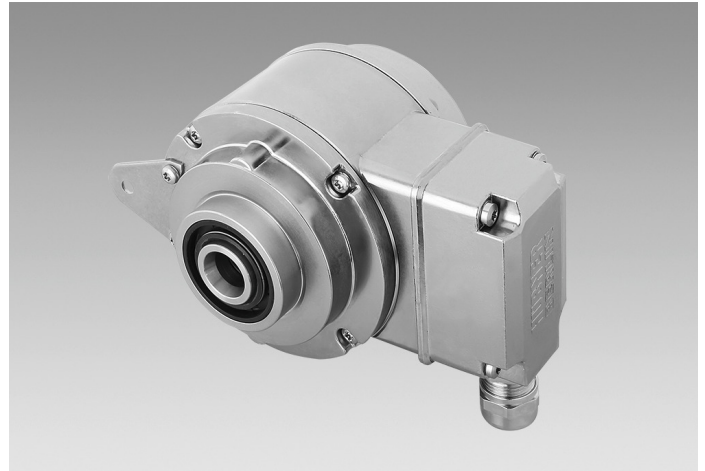


## HOG 11

Blind hollow shaft or cone shaft  
300...5000 pulses per revolution

### Overview

- Offshore and salt water firm, high protection IP 67
- TTL output driver for cable length up to 550 m
- Hybrid bearing for extended service life
- Large terminal box, turn by 180° or axial terminal cover



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### Technical data

#### Technical data - electrical ratings

Voltage supply	9...30 VDC 5 VDC $\pm 5\%$
Consumption w/o load	$\leq 100$ mA
Pulses per revolution	300 ... 5000
Phase shift	$90^\circ \pm 20^\circ$
Duty cycle	40...60 %
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Optical
Output frequency	$\leq 120$ kHz $\leq 300$ kHz (on request)
Output signals	K1, K2, K0 + inverted Error output (option EMS)
Output stages	HTL-P (power linedriver) TTL/RS422
Shaft insulation	Suitable up to 2.8 kV
Transmission length	$\leq 350$ m at 100 kHz (HTL-P) $\leq 550$ m at 100 kHz (TTL)
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE UL approval / E217823

#### Technical data - mechanical design

Size (flange)	$\varnothing 105$ mm
Shaft type	$\varnothing 12...20$ mm (blind hollow shaft) $\varnothing 17$ mm (cone shaft 1:10)

#### Technical data - mechanical design

Admitted shaft load	$\leq 450$ N axial $\leq 600$ N radial
Protection EN 60529	IP 67
Operating speed	$\leq 6000$ rpm (mechanical)
Operating torque typ.	6 Ncm
Rotor moment of inertia	340 gcm <sup>2</sup>
Material	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	-40...+100 °C -25...+100 °C (>3072 pulses) -50...+100 °C (optional)
Resistance	IEC 60068-2-6 Vibration 20 g, 10-2000 Hz IEC 60068-2-27 Shock 300 g, 6 ms
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions CX (C5-M) according to ISO 12944-2
Explosion protection	II 3 G Ex ec IIC T4 Gc (gas) II 3 D Ex tc IIIC T135°C Dc (dust) (only with option ATEX)
Connection	Terminal box Terminal cover 2x terminal box (with option M)
Weight approx.	1.6 kg 1.8 kg (with option M)

### Optional

- Function control with EMS
- Redundant sensing with two terminal boxes

## HOG 11

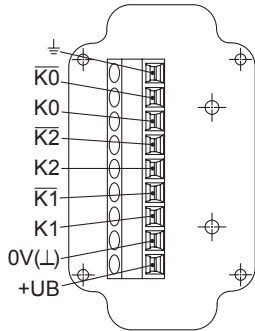
Blind hollow shaft or cone shaft

300...5000 pulses per revolution

### Terminal assignment

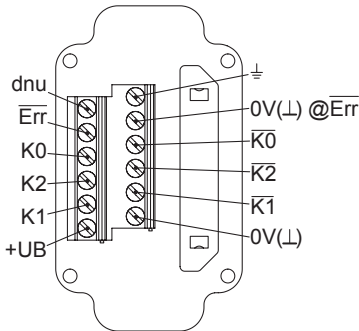
#### View A (see dimension)

Connecting terminal terminal box, radial



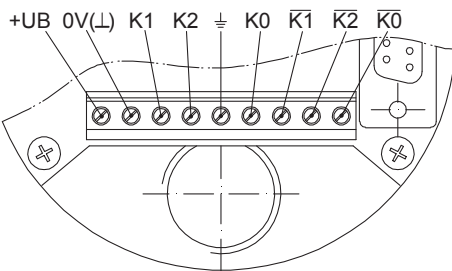
#### Option EMS: View A (see dimension)

Connecting terminal terminal box, radial



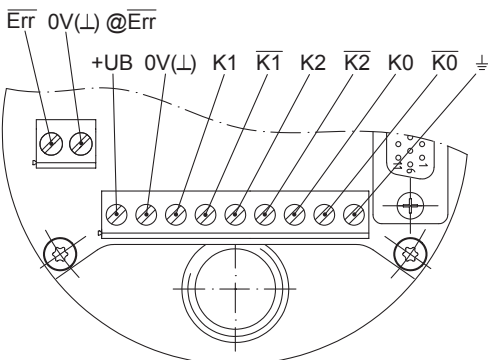
#### View B (see dimension)

Connecting terminal terminal cover, axial



#### Option EMS: View B (see dimension)

Connecting terminal terminal cover, axial



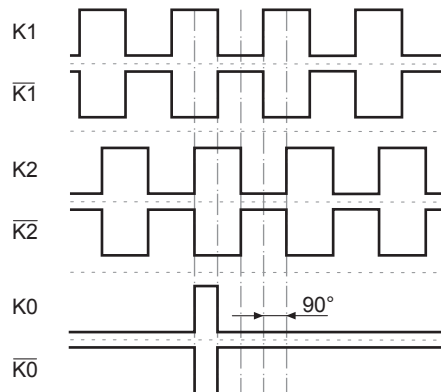
### Terminal significance

+UB	Voltage supply
0V (⊥)	Ground
⊥	Earth ground (housing)
K1	Output signal channel 1
K1	Output signal channel 1 inverted
K2	Output signal channel 2 (offset by 90° to channel 1)
K2	Output signal channel 2 inverted
K0	Zero pulse (reference signal)
K0	Zero pulse inverted
Err	Error output (option EMS)
dnu	Do not use

### Output signals

#### HTL/TTL

At positive rotating direction (see dimension)



### Option EMS: Status LED / error output

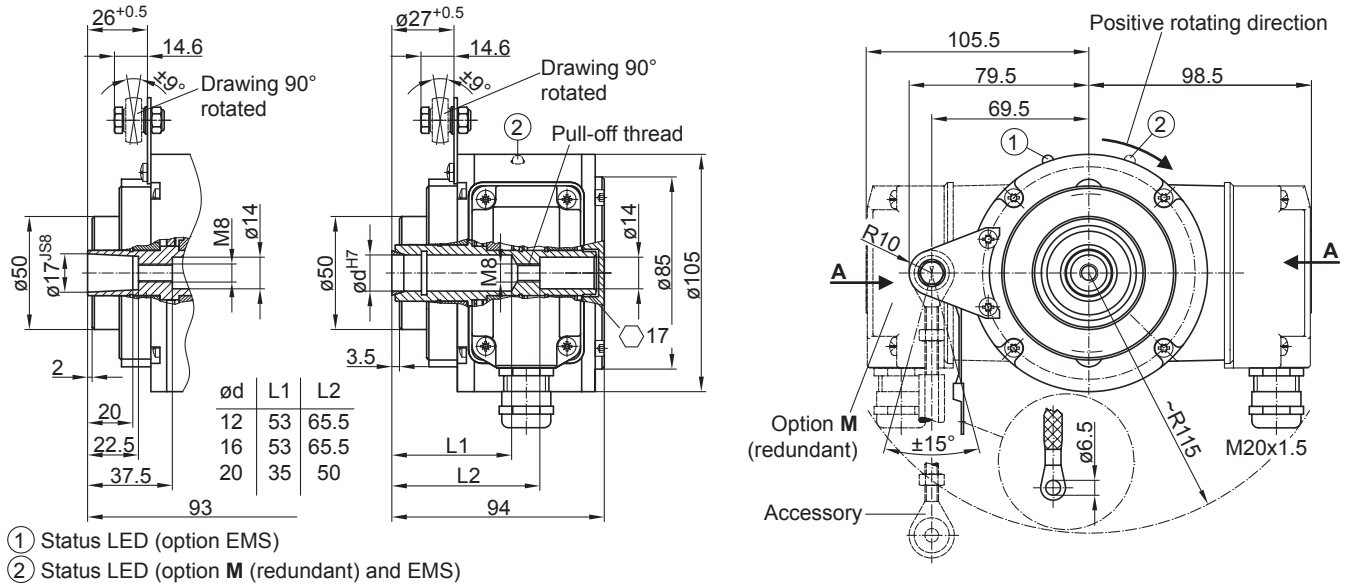
Flash light red*	Error of signal sequence, zero pulse or pulses (Error output = HIGH-LOW alternation)
Red	Overload output transistors (Error output = LOW)
Flash light green	Device o.k., rotating (Error output = HIGH)
Green	Device o.k., stopped (Error output = HIGH)
No light	No voltage supply connection or wrong connection (Error output = LOW)

\* Only at rotating device

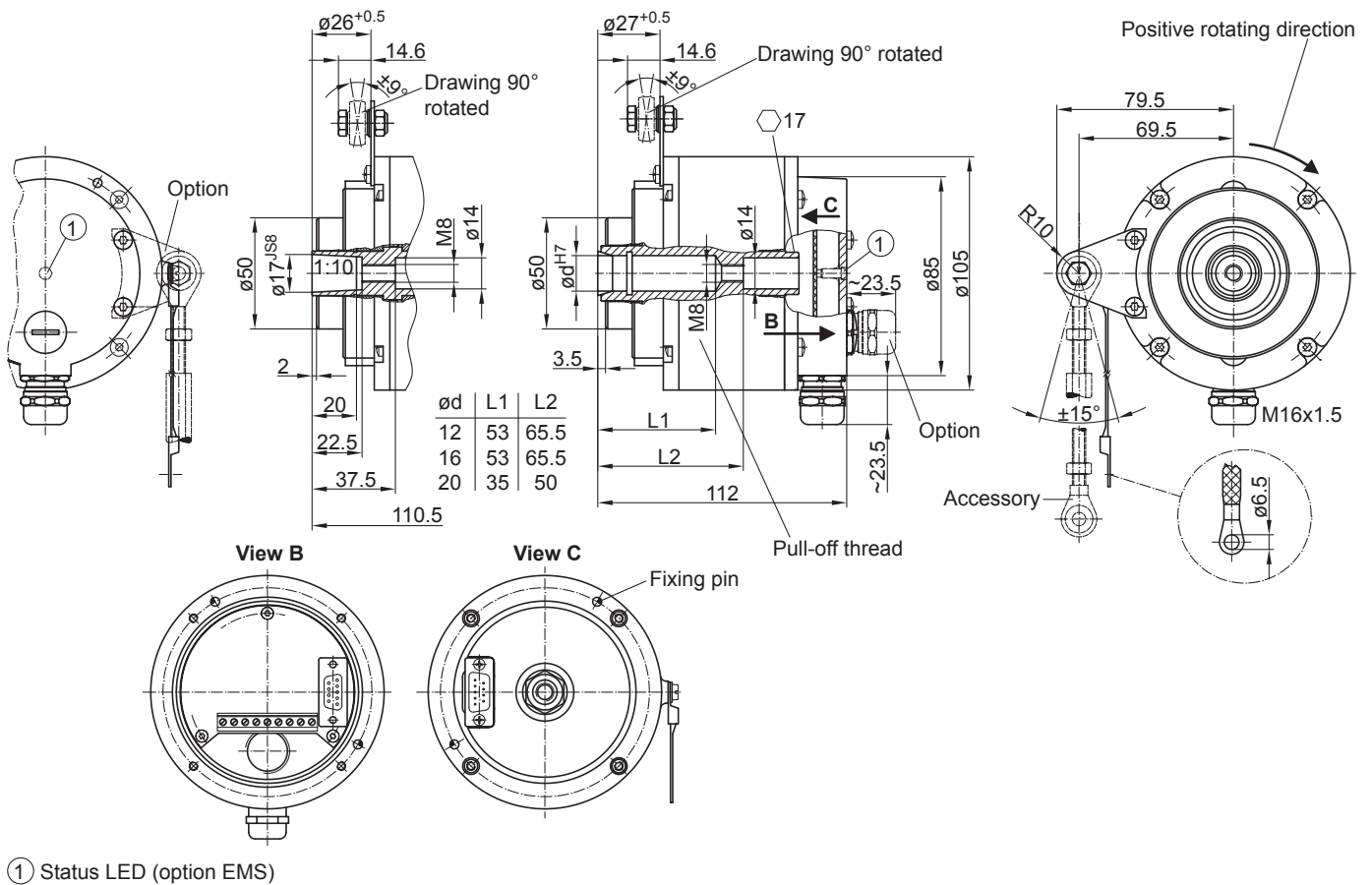
## HOG 11

Blind hollow shaft or cone shaft  
300...5000 pulses per revolution

### Dimensions



Version with radial terminal box



Version with axial terminal cover

# HOG 11

 Blind hollow shaft or cone shaft  
 300...5000 pulses per revolution

## Ordering reference

	HOG11	##	#	DN	####	###	SR	#####	#####
<b>Product</b>									
Incremental encoder	HOG11								
<b>EMS - Enhanced Monitoring System</b>									
Without EMS									
With EMS		.2							
<b>Redundant sensing</b>									
Without redundant sensing									
With redundant sensing			M						
<b>Output signals</b>									
K1, K2, K0				DN					
<b>Pulse number<sup>(1)</sup></b>									
300					300				
500					500				
512					512				
1000					1000				
1024					1024				
1200					1200				
2048					2048				
2500					2500				
3072					3072				
4096					4096				
5000					5000				
<b>Voltage supply / output stage</b>									
9...30 VDC / output stage HTL with inverted signals							I		
5 VDC / output stage TTL with inverted signals							TTL		
9...30 VDC / output stage TTL with inverted signals							R		
<b>Sealing system</b>									
Damp protection							SR		
<b>Shaft diameter</b>									
Blind hollow shaft ø12 mm								12H7	
Blind hollow shaft ø16 mm								16H7	
Blind hollow shaft ø20 mm								20H7	
Cone shaft ø17 mm (1:10)								17K	
<b>Connection</b>									
Terminal box, radial									KLK
Terminal cover, axial (not for option M redundant)									KLK-AX

(1) Other pulse numbers on request.

## Accessories

### Mounting accessories

11054918	Torque arm M6 stainless, length 67...70 mm
11072787	Torque arm M6 stainless, length 120...130 mm (≥71 mm)
11072737	Torque arm M6 stainless, length 425...460 mm (≥131 mm)
11077197	Mounting kit for torque arm size M6 and earthing strap
11077087	Mounting and dismounting set

## HOG 11

Blind hollow shaft or cone shaft

300...5000 pulses per revolution

### Accessories

#### Diagnostic accessories

11075858	Analyzer for encoders HENQ 1100
11075880	Analyzer for encoders HENQ 1100 B