Baumer
Passion for Sensors

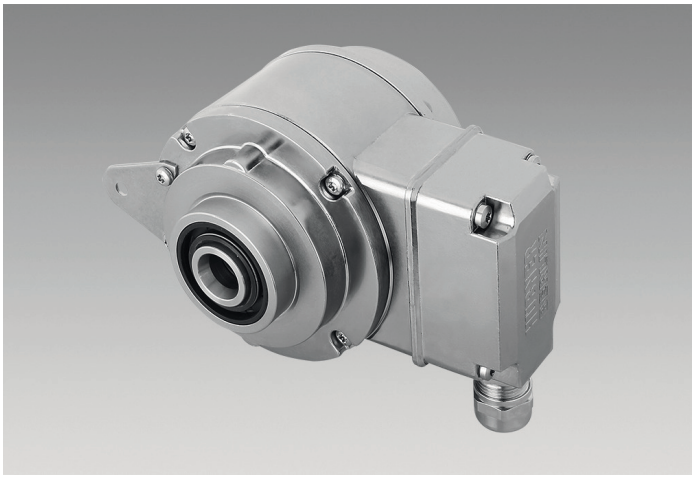
Incremental encoders

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
- Very high resistance to shock and vibrations
- Hybrid bearing for extended service life
- Large terminal box, turn by 180° or axial terminal cover



HTL TTL® HUBNER BERLIN A Baumer Brand

Technical data

Technical data - electrical ratings

Voltage supply	9...30 VDC 5 VDC ±5 %
Consumption w/o load	≤100 mA
Pulses per revolution	300 … 5000
Phase shift	90 ° ±20°
Duty cycle	40…60 %
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤120 kHz ≤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	≤350 m at 100 kHz (HTL-P) ≤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)	ø105 mm
Shaft type	ø12...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)

Technical data - mechanical design

Admitted shaft load	≤450 N axial ≤600 N radial
Protection DIN EN 60529	IP 67
Operating speed	≤6000 rpm (mechanical)
Operating torque typ.	6 Ncm
Rotor moment of inertia	340 gcm²
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) accord-ing to ISO 12944-2
Explosion protection	II 3 G Ex nA IIC T4 Gc (gas) II 3 D Ex tc IIIC T135°C Dc (dust)
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

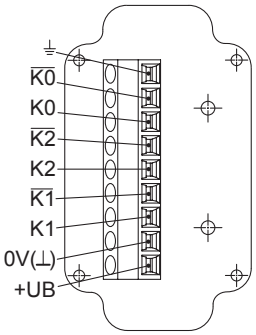
The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.
2020-02-13

HOG 11

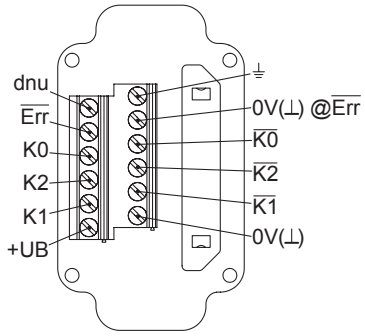
Blind hollow shaft or cone shaft
300…5000 pulses per revolution

Terminal assignment

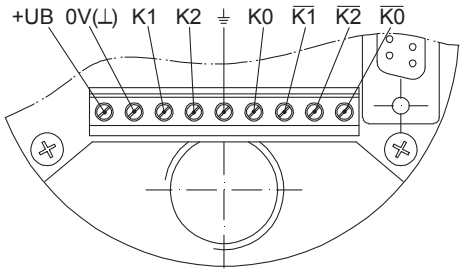
View A *(see dimension)*
Connecting terminal terminal box, radial



Option EMS: View A *(see dimension)*
Connecting terminal terminal box, radial

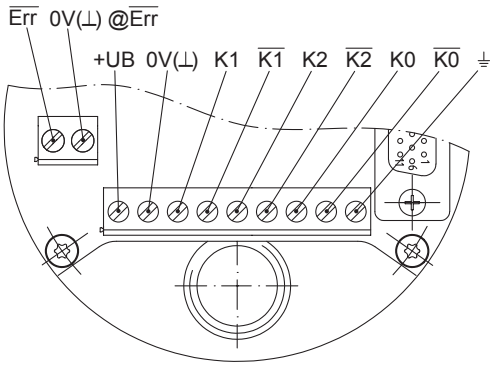


View B *(see dimension)*
Connecting terminal terminal cover, axial



Terminal assignment

Option EMS: View B *(see dimension)*
Connecting terminal terminal cover, axial

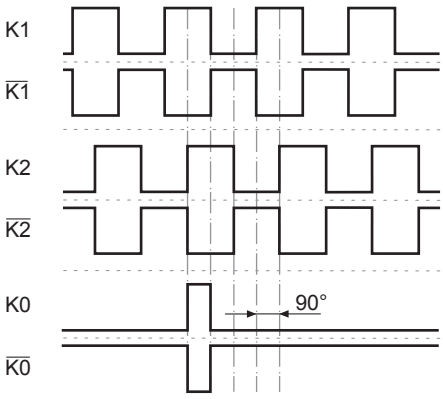


Terminal significance

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

Output signals

HTL/TTL
At positive rotating direction *(see dimension)*



2020-02-13 The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.

Option EMS (Enhanced Monitoring System): Status LED / error output	
Flash light red*	Error of signal sequenze, 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)

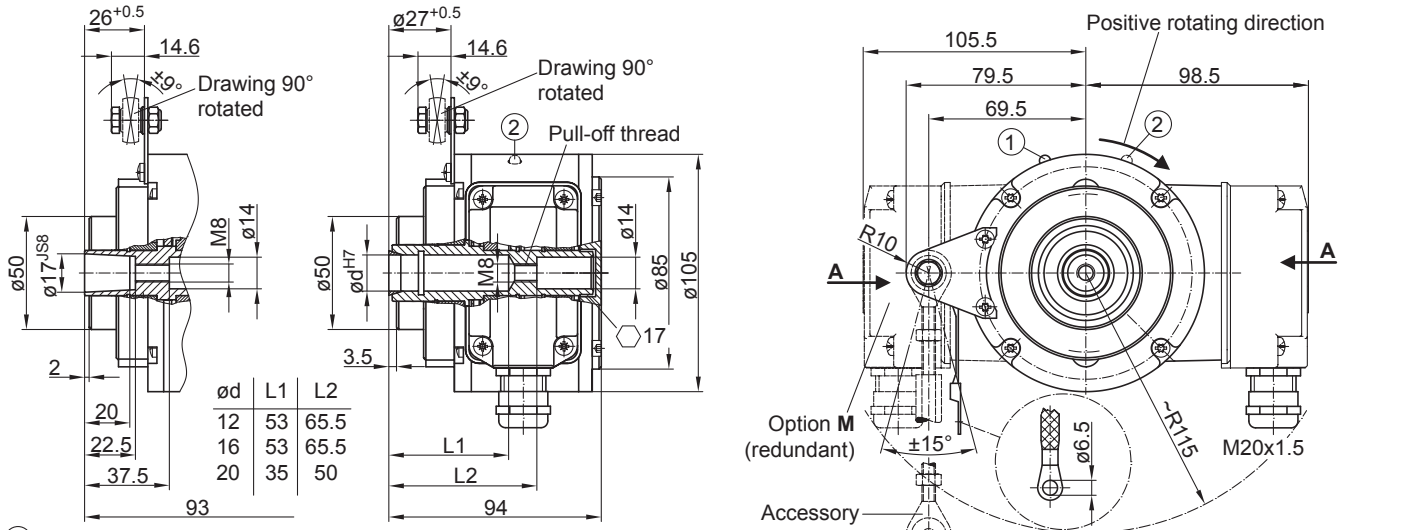
* Only at rotating device

2020-02-13 The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.

HOG 11

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

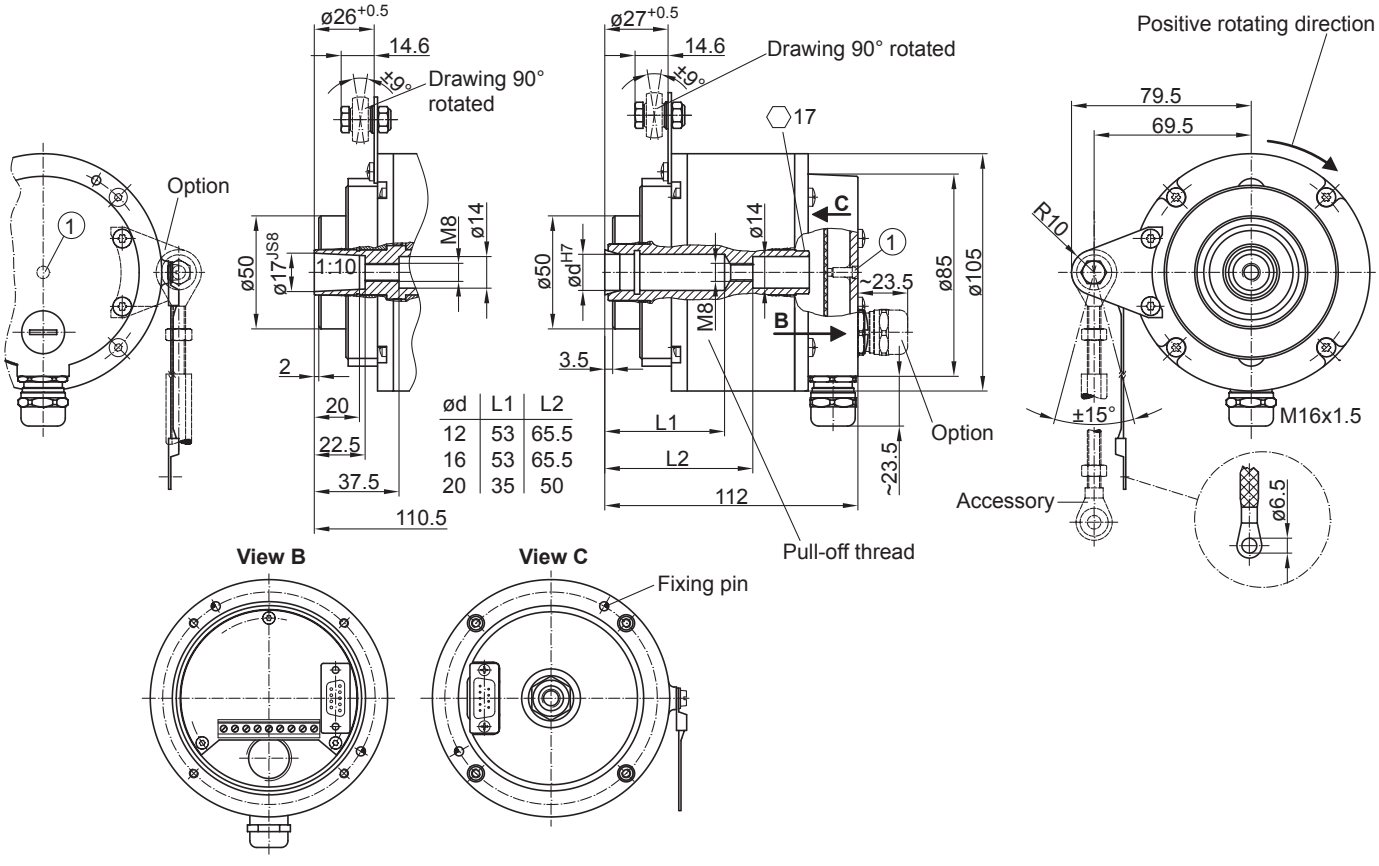
Dimensions



ød	L1	L2
12	53	65.5
16	53	65.5
20	35	50

① Status LED (option EMS)
② Status LED (option **M** (redundant) and EMS)

Version with radial terminal box



ød	L1	L2
12	53	65.5
16	53	65.5
20	35	50

① Status LED (option EMS)

Version with axial terminal cover

2020-02-13 The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.

HOG 11

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

Ordering reference

	HOG11	##	#	DN	####	###	SR	######	######
Product									
Incremental encoder	HOG11								
EMS - Enhanced Monitoring System									
Without EMS									
With EMS		.2							
Redundant sensing									
Without redundant sensing									
With redundant sensing			M						
Output signals									
K1, K2, K0				DN					
Pulse number(1)									
300					300				
500					500				
512					512				
1000					1000				
1024					1024				
1200					1200				
2048					2048				
2500					2500				
3072					3072				
4096					4096				
5000					5000				
Voltage supply / output stage									
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			
Sealing system									
Damp protection							SR		
Shaft diameter									
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	
Connection									
Terminal box, radial									KLK
Terminal cover, axial (not for option M redundant)									KLK-AX

(1) Other pulse numbers on request.

Accessories

Mounting accessories

11043628	Torque arm M6, length 67...70 mm
11004078	Torque arm M6, length 120...130 mm (≥71 mm)
11002915	Torque arm M6, length 425...460 mm (≥131 mm)
11054917	Torque arm M6 insulated, length 67...70 mm
11072795	Torque arm M6 insulated, length 120...130 mm (≥71 mm)
11082677	Torque arm M6 insulated, length 425...460 mm (≥131 mm)
11077197	Mounting kit for torque arm size M6 and earthing strap
11077087	Mounting and dismounting set

Accessories

Connectors and cables

	Sensor cable for encoders HEK 8

Diagnostic accessories

11075858	Analyzer for encoders HENQ 1100
11075880	Analyzer for encoders HENQ 1100 with a power pack

2020-02-13 The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.