Baumer
Passion for Sensors

Incremental encoders

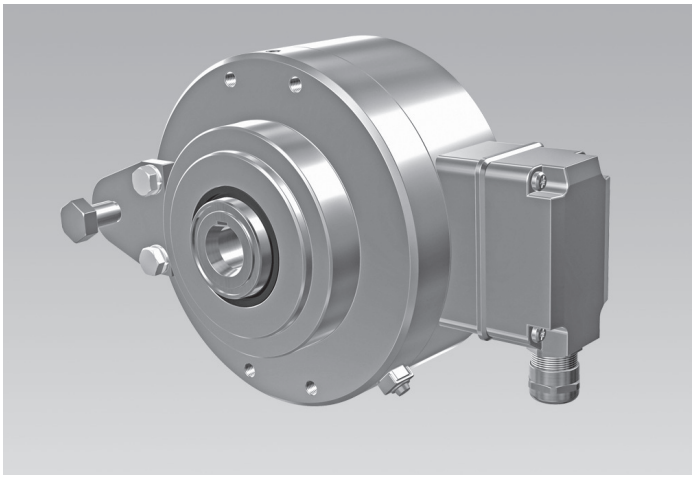
HOG 165

Blind hollow shaft ø20...38 mm

1024…8192 pulses per revolution

Overview

- Extremely high resistance to shock and vibrations
- Output stage HTL or TTL
- High protection IP 67, shaft insulation up to 2.8 kV
- Surface protection scratch and impact resistant
- Corrosion protection acc. to 12944-2 CX (C5-M)
- Large terminal box, turn by 180°



HTL TTL® HUBNER BERLIN A Baumer Brand

Technical data

Technical data - electrical ratings

Voltage supply	9...30 VDC 5 VDC ±5 % 9...26 VDC
Consumption w/o load	≤100 mA
Pulses per revolution	1024 … 8192
Phase shift	90 ° ±20°
Duty cycle	40…60 %
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤120 kHz
Output signals	K1, K2, K0 + inverted
Output stages	HTL TTL/RS422
Shaft insulation	2,8 kV
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE UL approval / E217823

Technical data - mechanical design

Size (flange)	ø165 mm

Technical data - mechanical design

Shaft type	ø20...38 mm (blind hollow shaft)
Admitted shaft load	≤500 N axial ≤650 N radial
Protection DIN EN 60529	IP 67
Operating speed	≤6000 rpm (mechanical)
Operating torque typ.	15 Ncm
Rotor moment of inertia	4,9 kgcm²
Material	Housing: aluminium alloy Shaft: stainless steel
Operating temperature	-40...+100 °C
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 nA IIC T4 Gc (gas) II 3 D Ex tc IIIC T135°C Dc (dust)
Connection	Terminal box
Weight approx.	6,1 kg

Optional

- Large torque support plate

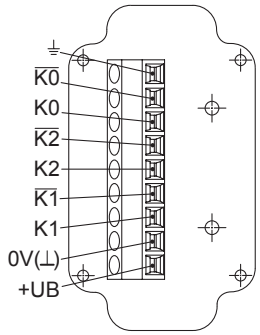
2020-02-24 The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.

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Terminal assignment

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

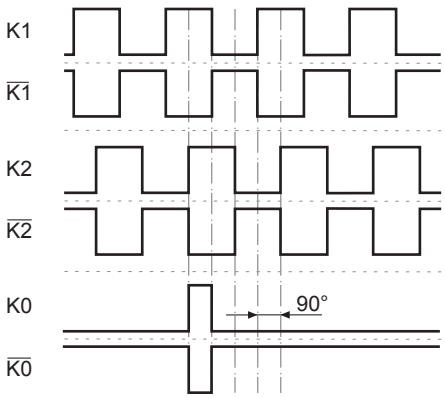


Terminal significance

+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

Output signals

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



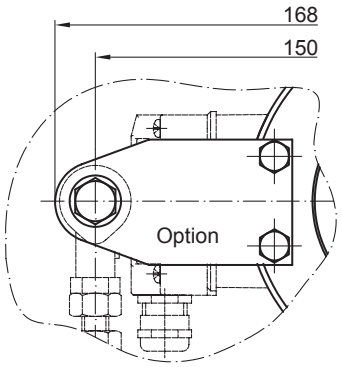
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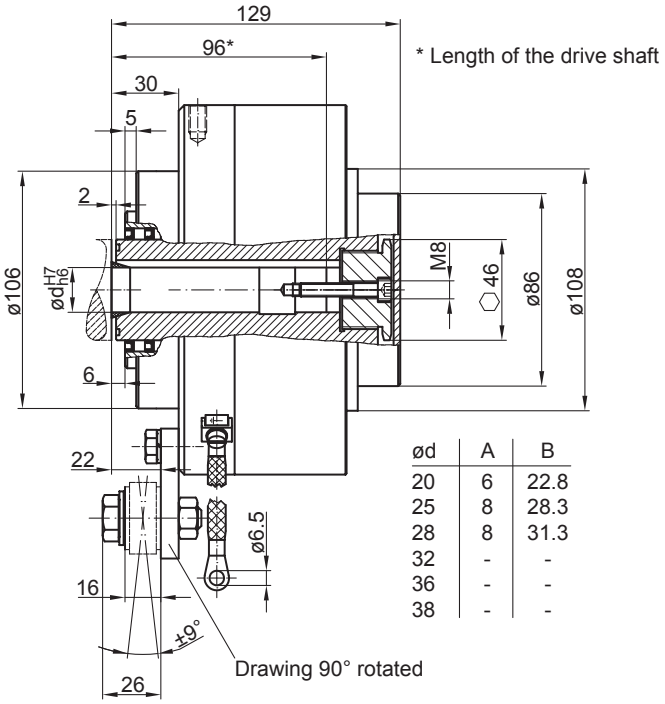
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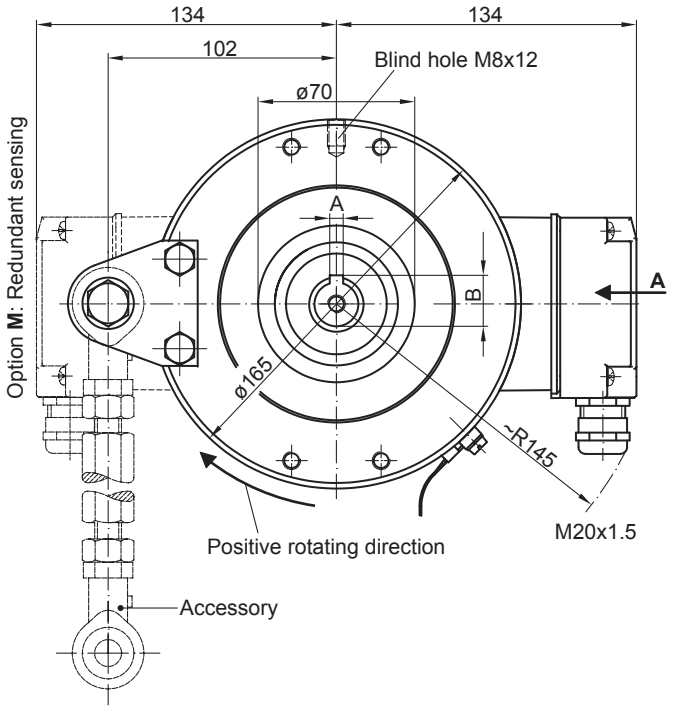
Dimensions





* Length of the drive shaft

ød	A	B
20	6	22.8
25	8	28.3
28	8	31.3
32	-	-
36	-	-
38	-	-



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Ordering reference

	HOG165	#	DN	####	###	######	KLK
Product							
Incremental encoder	HOG165						
Redundant sensing							
Without redundant sensing							
With redundant sensing		M					
Output signals							
K1, K2, K0			DN				
Pulse number							
1024				1024			
2048				2048			
2500				2500			
4096				4096			
5000				5000			
8192				8192			
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		
Shaft diameter							
Blind hollow shaft ø20 mm						20H7	
Blind hollow shaft ø20 mm with keyway						20H7 PF	
Through hollow shaft ø25 mm						25H7	
Blind hollow shaft ø25 mm with keyway						25H7 PF	
Blind hollow shaft ø28 mm						28H7	
Blind hollow shaft ø28 mm with keyway						28H7 PF	
Blind hollow shaft ø32 mm						32H7	
Blind hollow shaft ø36 mm						36H7	
Blind hollow shaft ø38 mm						38H7	
Connection							
Terminal box, radial							KLK

Accessories

Mounting accessories	
11054922	Torque arm M12, length 145...170 mm
11054921	Torque arm M12, length 180...205 mm
11072741	Torque arm M12, length 480...540 mm (≥200 mm)
11054924	Torque arm M12 insulated, length 145...170 mm
11072723	Torque arm M12 insulated, length 480...540 mm (≥200 mm)
11069336	Mounting kit for torque arm size M12 and an earthing strap
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

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