Baumer
Passion for Sensors

Incremental encoders - combination

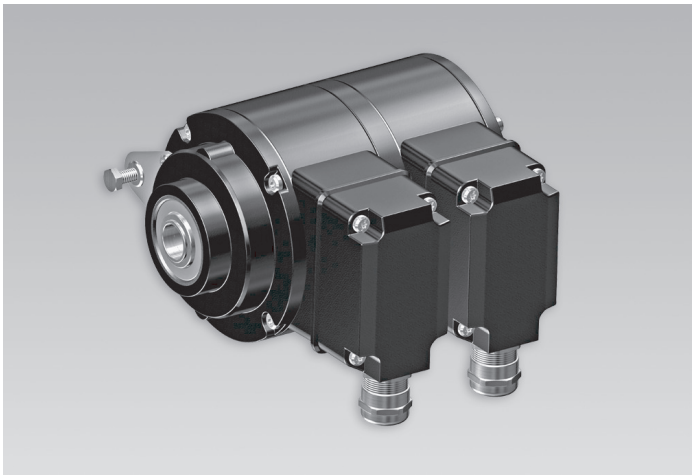
HOG 10 G

Twin encoder with two electrically separated systems

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

Overview

- Twin encoder featuring two separate systems
- 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 boxes, turn by 180°



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°
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
Sensing method	Optical
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

Technical data - mechanical design

Shaft type	ø16...20 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)
Admitted shaft load	≤450 N axial ≤600 N radial
Protection DIN EN 60529	IP 66
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)
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 C4 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	2x terminal box 4x terminal box (with option M)
Weight approx.	2,9 kg 3,3 kg (with option M)

Optional

- Function control with EMS (Enhanced Monitoring System)
- Redundant sensing with two terminal boxes for each system

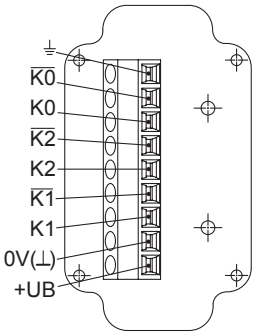
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HOG 10 G

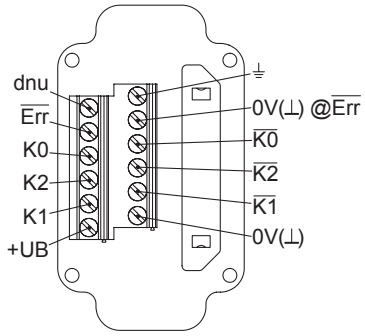
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Terminal assignment

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



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



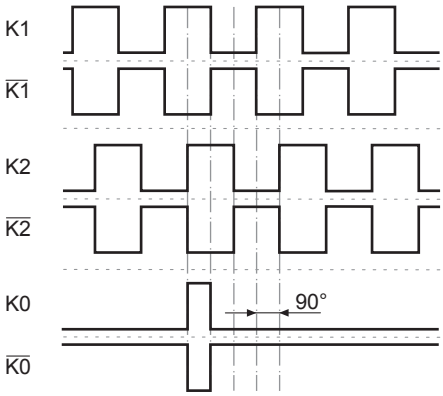
Terminal significance

Encoder incremental

+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)*



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)

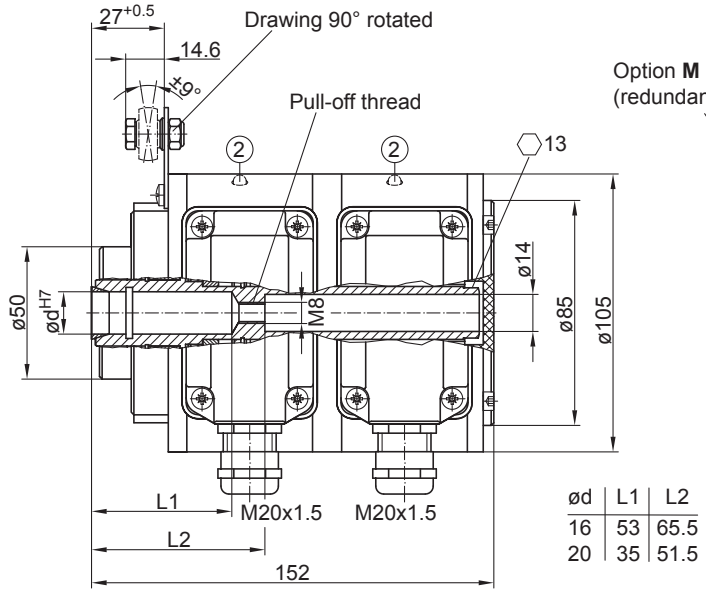
* Only at rotating device

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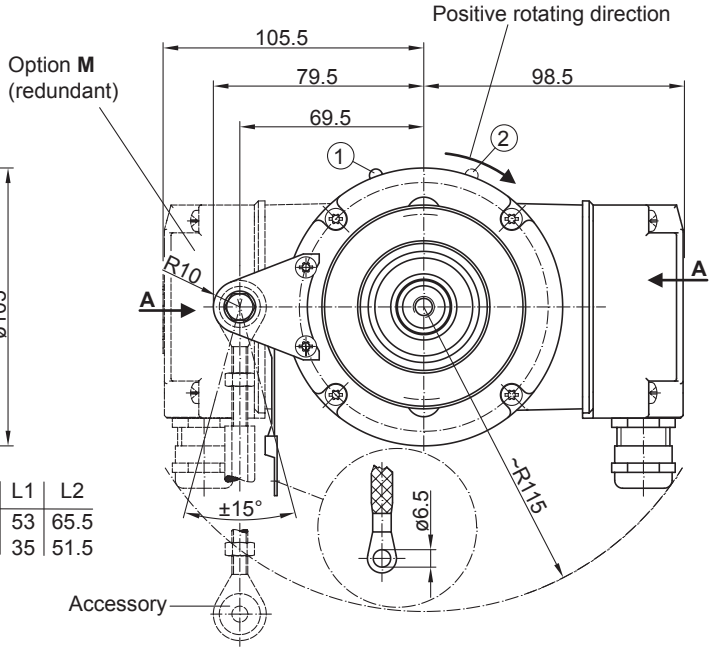
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Dimensions

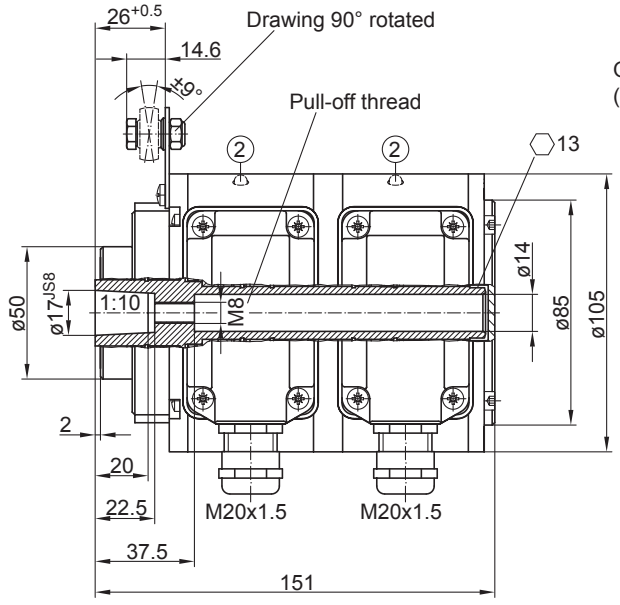


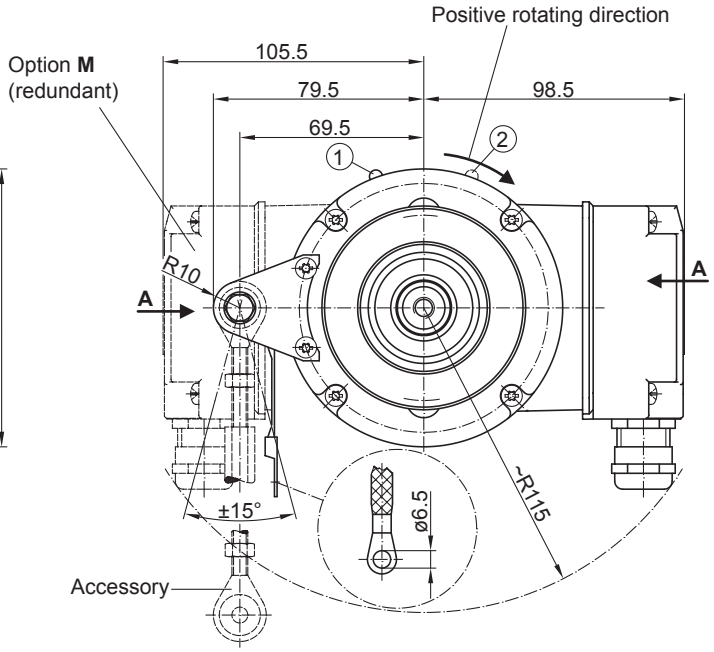
ød	L1	L2
16	53	65.5
20	35	51.5



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

Blind hollow shaft





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

Cone shaft

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Ordering reference

	HOG10	##	G	#	DN	####	###	/	DN	####	###	##	######
Product													
Twin encoder	HOG10												
EMS - Enhanced Monitoring System													
Without EMS													
With EMS		.2											
Redundant encoder													
With redundant encoder			G										
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						
Output signals (G)													
K1, K2, K0									DN				
Pulse number (G)[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 (G)													
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													
Dust protection												LR	
Damp protection												SR	

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Ordering reference

HOG10	##	G	#	DN	####	###	/	DN	####	###	##	######

Shaft diameter

Blind hollow shaft ø16 mm	16H7
Blind hollow shaft ø20 mm	20H7
Cone shaft ø17 mm (1:10)	17K

(1) Other pulse numbers on request.

Accessories

Mounting accessories

11077197	Mounting kit for torque arm size M6 and earthing strap
11077087	Mounting and dismounting set
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)

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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