Baumer
Passion for Sensors

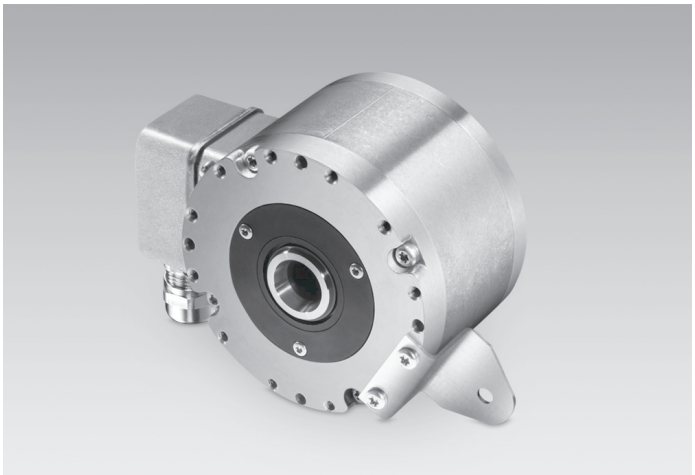
Incremental encoders

HOG 86E

Insulated blind hollow shaft ø12...16 mm, cone shaft ø17 mm
500...2500 pulses per revolution

Overview

- Robust, compact housing
- Two bearings with large distance, one at each end
- High shaft load up to 450 N
- Shaft insulation up to 2.8 kV
- Highest operating speed 10000 rpm
- TTL output driver for cable length up to 550 m
- Terminal box, turn by 180°



HTL TTL® HÜBNER 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	500 … 2500
Phase shift	90 ° ±20°
Duty cycle	45…55 %
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤170 kHz ≤300 kHz (on request)
Output signals	K1, K2, K0 + inverted
Output stages	HTL-P (power linedriver) TTL/RS422
Shaft insulation	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/CSA

Technical data - mechanical design

Size (flange)	ø99 mm

Technical data - mechanical design

Shaft type	ø12...16 mm (blind hollow shaft) ø17 mm (cone shaft 1:10)
Admitted shaft load	≤350 N axial ≤450 N radial
Motor shaft tolerance	±0,2 mm radial
Protection DIN EN 60529	IP 66
Operating speed	≤10000 rpm (mechanical)
Operating torque	≤6 Ncm
Rotor moment of inertia	160 gcm²
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	-40...+100 °C
Resistance	IEC 60068-2-6 Vibration 20 g, 10...2000 Hz IEC 60068-2-27 Shock 250 g, 6 ms
Corrosion protection	Option: 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	Terminal box Flange connector M23, 12-pin
Weight approx.	1,3 kg

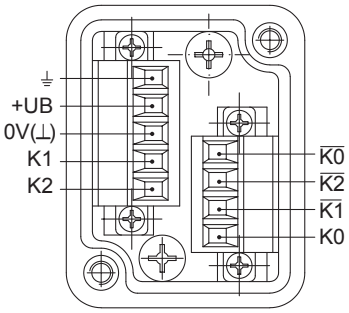
2020-03-12 The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.

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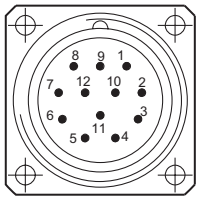
Insulated blind hollow shaft ø12...16 mm, cone shaft ø17 mm
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Terminal assignment

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



View B *(see dimension)*
Assignment flange connector



Flange connector M23,
male, 12-pin,
clockwise (CW)

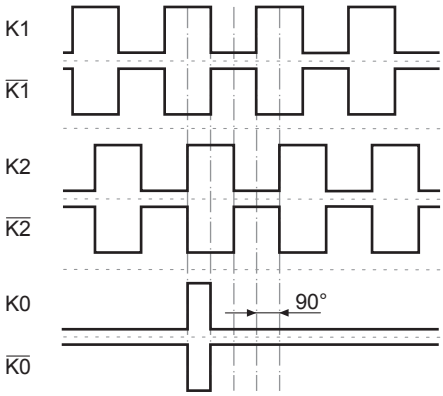
Pin	Assignment
1	$\overline{K2}$
2	dnu
3	K0
4	$\overline{K0}$
5	K1
6	$\overline{K1}$
7	dnu
8	K2
9	dnu
10	0V (⊥)
11	dnu
12	+UB

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
dnu	Do not use

Output signals

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

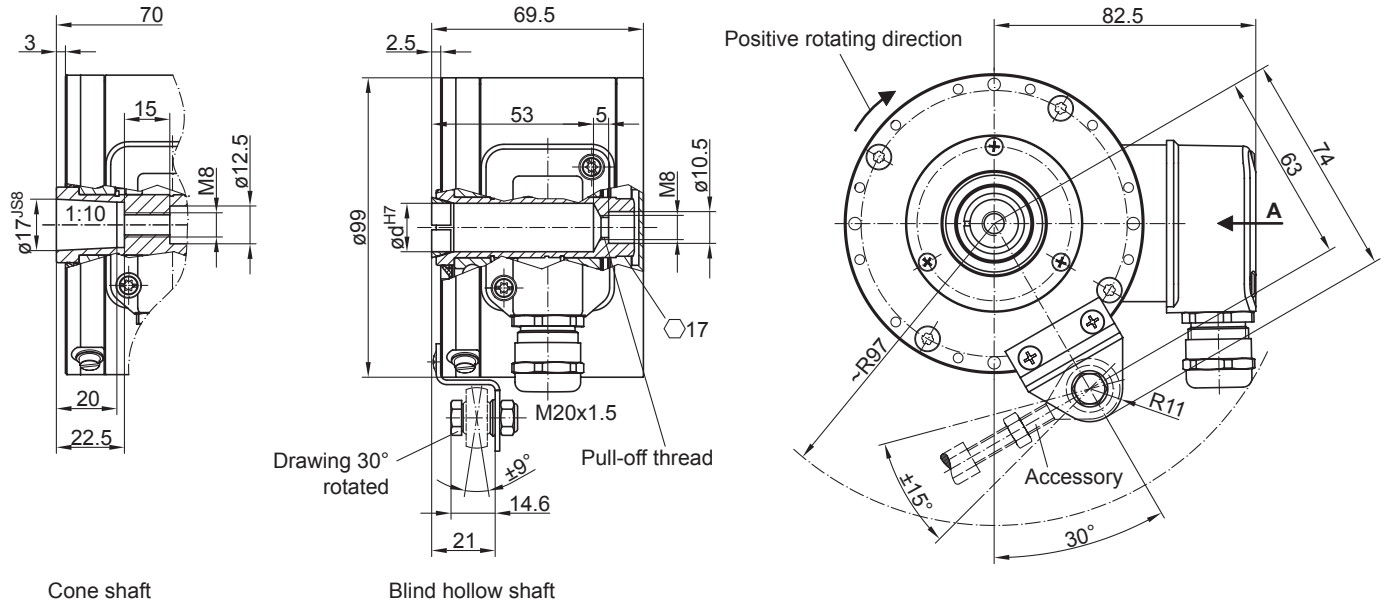


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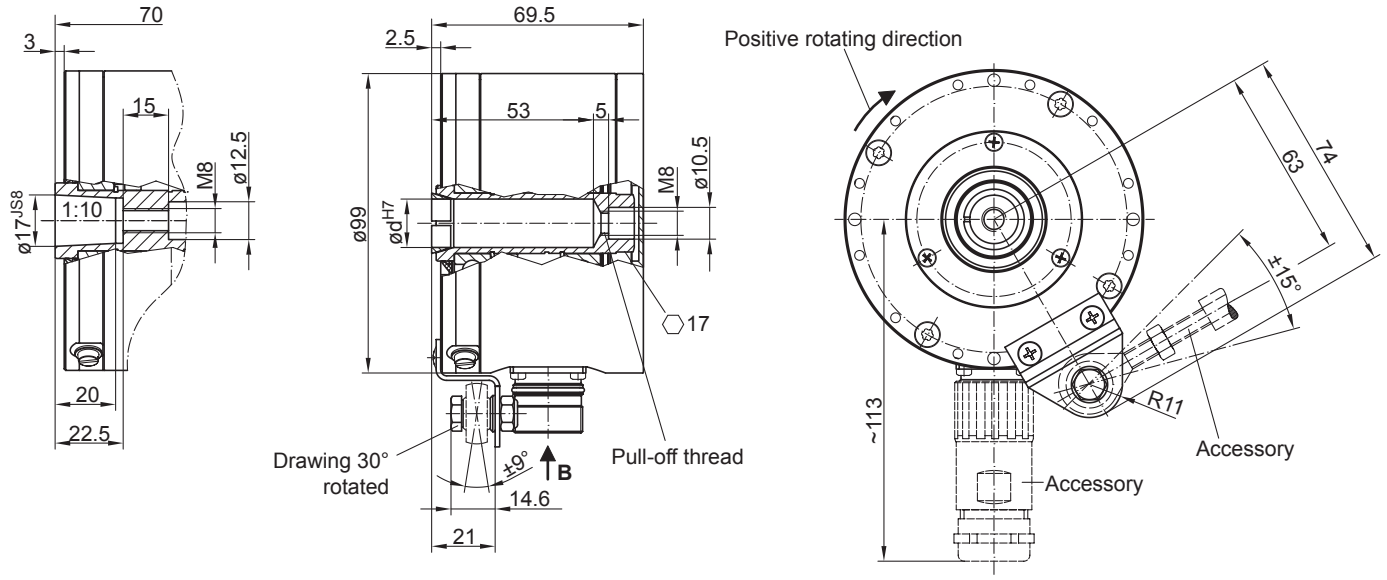
Insulated blind hollow shaft ø12...16 mm, cone shaft ø17 mm
500...2500 pulses per revolution

Dimensions



Cone shaft Blind hollow shaft

HOG 86E T - Version mit radialem Klemmenkasten



Cone shaft Blind hollow shaft

HOG 86E F - Version with radial flange connector M23

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HOG 86E

Insulated blind hollow shaft ø12...16 mm, cone shaft ø17 mm
500...2500 pulses per revolution

Ordering reference

	HOG86E	#	P	#	DN	####	###	##
Product								
Incremental encoder	HOG86E							
Connection								
1x terminal box, radial		T						
1x flange connector M23, radial		F						
Insulation								
PA insulated			P					
Shaft diameter								
Blind hollow shaft ø12 mm, fit H7				2				
Blind hollow shaft ø16 mm, fit H7				6				
Blind hollow shaft ø12 mm, fit F6				9				
Blind hollow shaft ø16 mm, fit G7				8				
Cone shaft ø17 mm (1:10)				7				
Output signals								
K1, K2, K0 + inverted					DN			
Pulse number(1)								
500						500		
512						512		
1000						1000		
1024						1024		
1250						1250		
2048						2048		
2500						2500		
Voltage supply / output stage								
9...30 VDC / output stage HTL with inverted signals							I	
5 VDC / output stage TTL with inverted signals							T	
9...30 VDC / output stage TTL with inverted signals							R	
Corrosion protection								
Without								
Suitable for ambient conditions C4 according to ISO 12944-2								C4

(1) Other pulse numbers on request.

Accessories

Mounting accessories

11071906	Mounting kit 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)
11071904	Mounting kit for torque arm size M6

Connectors and cables

	Sensor cable for encoders HEK 8
11068577	Mating connector M23, solder version, 12-pin, CCW

Accessories

Diagnostic accessories

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

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