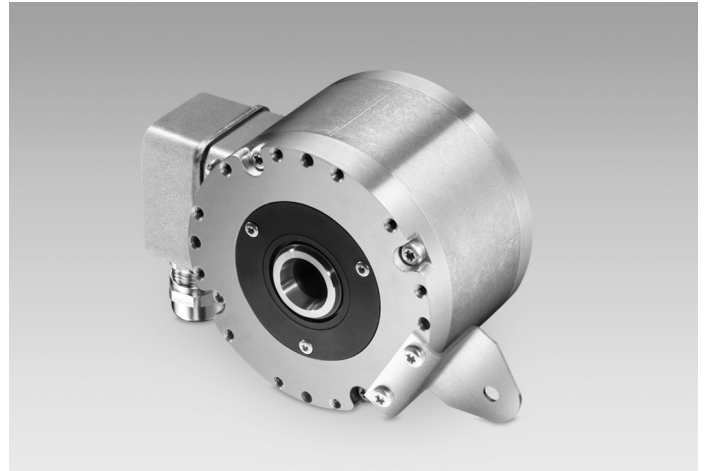


## HOG 86E

Insulated blind hollow shaft  $\varnothing 12 \dots 16$  mm, cone shaft  $\varnothing 17$  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°



**HUBNER**  
BERLIN  
A Baumer Brand

### 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	500 ... 2500
Phase shift	$90^\circ \pm 20^\circ$
Duty cycle	45...55 %
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Optical
Output frequency	$\leq 170$ kHz $\leq 300$ kHz (on request)
Output signals	K1, K2, K0 + inverted
Output stages	HTL-P (power linedriver) TTL/RS422
Shaft insulation	2,8 kV
Transmission length	$\leq 350$ 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/CSA

#### Technical data - mechanical design

Size (flange)	$\varnothing 99$ mm
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#### Technical data - mechanical design

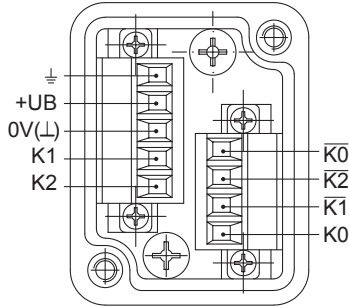
Shaft type	$\varnothing 12 \dots 16$ mm (blind hollow shaft) $\varnothing 17$ mm (cone shaft 1:10)
Admitted shaft load	$\leq 350$ N axial $\leq 450$ N radial
Motor shaft tolerance	$\pm 0,2$ mm radial
Protection EN 60529	IP 66
Operating speed	$\leq 10000$ rpm (mechanical)
Operating torque	$\leq 6$ Ncm
Rotor moment of inertia	160 gcm <sup>2</sup>
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	$-40 \dots +100$ °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
Explosion protection	II 3 G Ex nA IIC T4 Gc (gas) II 3 D Ex tc IIIC T135°C Dc (dust) (only with option ATEX)
Connection	Terminal box Flange connector M23, 12-pin
Weight approx.	1,3 kg

# HOG 86E

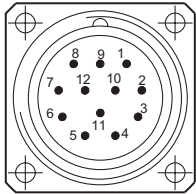
Insulated blind hollow shaft  $\varnothing 12 \dots 16$  mm, cone shaft  $\varnothing 17$  mm  
500...2500 pulses per revolution

## 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)

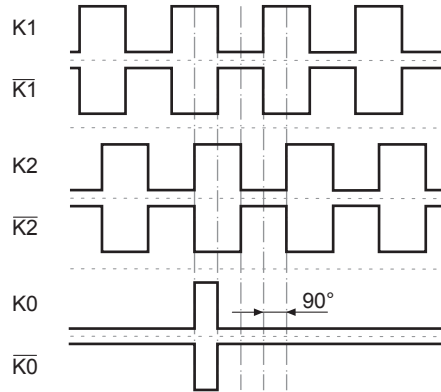
Pin	Assignment
1	K2
2	dnu
3	K0
4	$\overline{K0}$
5	K1
6	$\overline{K1}$
7	dnu
8	K2
9	dnu
10	0V ( $\perp$ )
11	dnu
12	+UB

## Terminal significance

+UB	Voltage supply
0V ( $\perp$ )	Ground
$\perp$	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

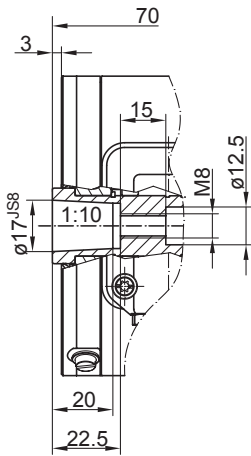
**HTL/TTL**  
At positive rotating direction (see dimension)



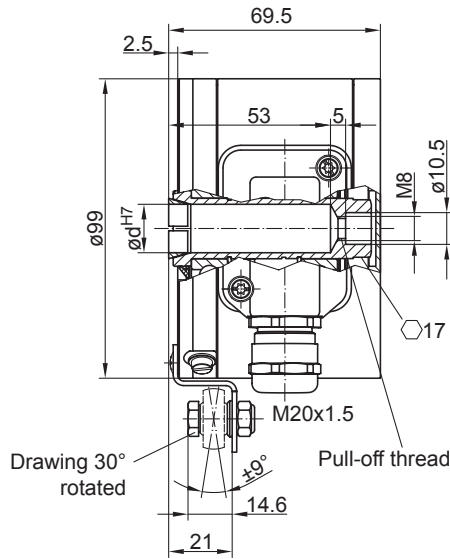
# HOG 86E

Insulated blind hollow shaft  $\varnothing 12 \dots 16$  mm, cone shaft  $\varnothing 17$  mm  
500...2500 pulses per revolution

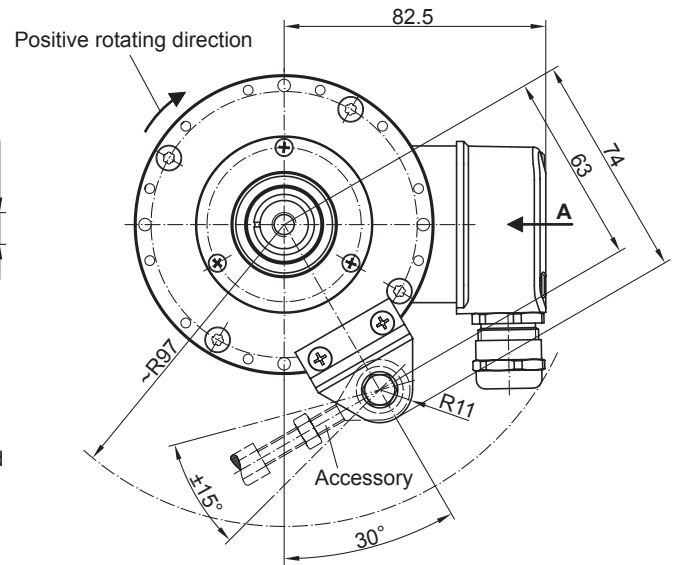
## Dimensions



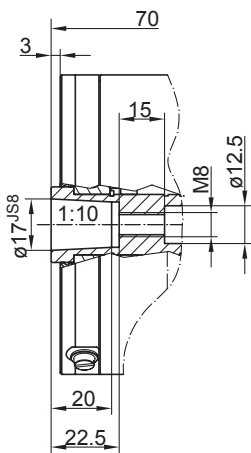
Cone shaft



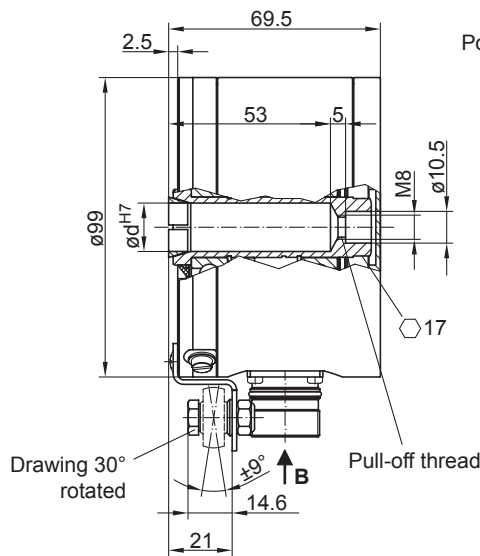
Blind hollow shaft



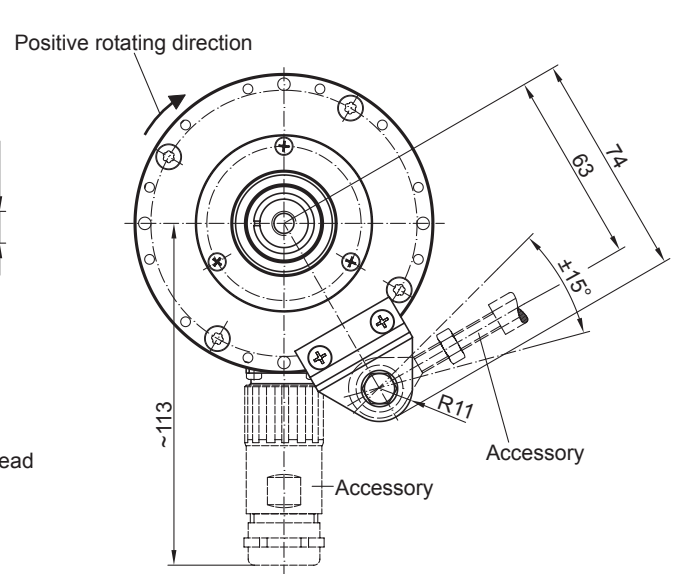
HOG 86E T - Version mit radialem Klemmenkasten



Cone shaft



Blind hollow shaft



HOG 86E F - Version with radial flange connector M23

# HOG 86E

 Insulated blind hollow shaft  $\varnothing 12 \dots 16$  mm, cone shaft  $\varnothing 17$  mm  
 500...2500 pulses per revolution

## Ordering reference

	HOG86E	#	P	#	DN	####	###	##
<b>Product</b>	Incremental encoder	HOG86E						
<b>Connection</b>	1x terminal box, radial		T					
	1x flange connector M23, radial		F					
<b>Insulation</b>	PA insulated		P					
<b>Shaft diameter</b>	Blind hollow shaft $\varnothing 12$ mm, fit H7				2			
	Blind hollow shaft $\varnothing 16$ mm, fit H7				6			
	Blind hollow shaft $\varnothing 12$ mm, fit F6				9			
	Blind hollow shaft $\varnothing 16$ mm, fit G7				8			
	Cone shaft $\varnothing 17$ mm (1:10)				7			
<b>Output signals</b>	K1, K2, K0 + inverted				DN			
<b>Pulse number<sup>(1)</sup></b>	500					500		
	512					512		
	1000					1000		
	1024					1024		
	1250					1250		
	2048					2048		
	2500					2500		
<b>Voltage supply / output stage</b>	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
<b>Corrosion protection</b>	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 ( $\geq 71$ mm)
11002915	Torque arm M6, length 425...460 mm ( $\geq 131$ mm)
11054917	Torque arm M6 insulated, length 67...70 mm
11072795	Torque arm M6 insulated, length 120...130 mm ( $\geq 71$ mm)
11082677	Torque arm M6 insulated, length 425...460 mm ( $\geq 131$ 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

## Diagnostic accessories

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