Baumer
Passion for Sensors

Encoders without bearings - incremental

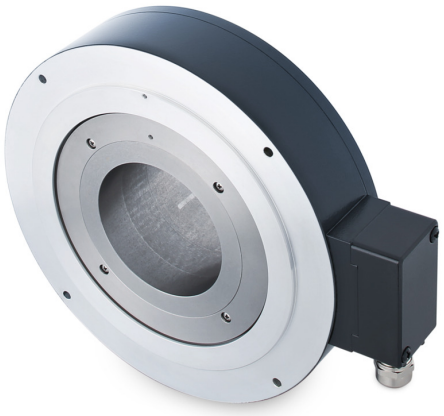
HG 22

Incremental encoder with optical sensing

Through hollow shaft ø90...120 mm / 720…4000 pulses per revolution

Overview

- Large axial and radial displacement of the shaft permitted
- Fit for high operating speed
- Robust and wearless
- Max. 4000 pulses per revolution
- Output stage TTL with regulator UB 9...26 VDC



HTL TTL®

HÜBNER BERLIN
A Baumer Brand

Technical data

Technical data - electrical ratings

Voltage supply	9...26 VDC 5 VDC ±5 %
Consumption w/o load	≤100 mA
Pulses per revolution	720 … 4000
Output signals	K1, K2, K0 + inverted
Reference signal	Zero pulse, width 90°
Output frequency	≤120 kHz
Phase shift	90 ° ±20°
Duty cycle	40…60 %
Sensing method	Optical
Output stages	HTL TTL/RS422
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE UL approval / E217823

Technical data - mechanical design

Size (flange)	ø227 mm

Technical data - mechanical design

Shaft type	ø90...120 mm (through hollow shaft)
Axial tolerance	-0.5 … 1.5 mm (with zero pulse) -0.5 … 2.5 mm (without zero pulse)
Radial tolerance	±0.05 mm (with zero pulse) ±0.2 mm (without zero pulse)
Protection EN 60529	IP 44
Operating speed	≤12000 rpm
Material	Housing: aluminium Shaft: stainless steel
Rotor moment of inertia	67.3 kgcm²
Operating temperature	-30...+70 °C
Resistance	IEC 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 100 g, 6 ms
Weight approx.	5.8 kg
Connection	Terminal box (2x with option M) Flange connector M23, 12-pin (2x with option M)

Optional

- Electrical connection with flange connector and mating connector
- Redundant sensing (option M)

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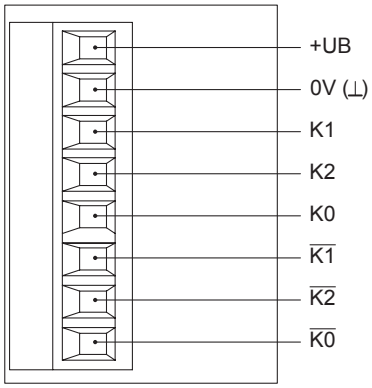
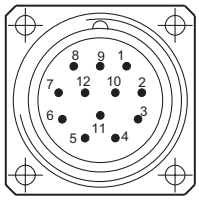
Terminal assignment

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



View B *(see dimension)*
Assignment flange connector



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

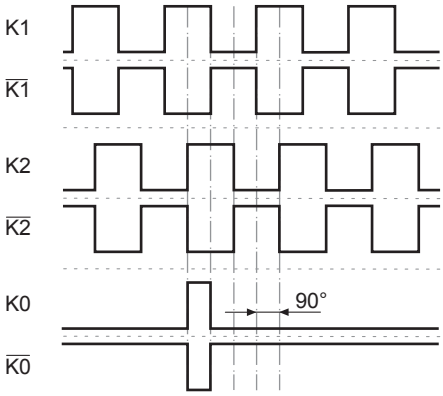
Pin	Assignment
1	$\overline{K2}$
2	dnu
3	K0
4	$\overline{K0}$
5	K1
6	$\overline{K1}$
7	dnu
8	K2
9	dnu
10	0V (⊥)
11	dnu
12	+UB

Terminal significance

+UB	Voltage supply
0V (⊥)	Ground
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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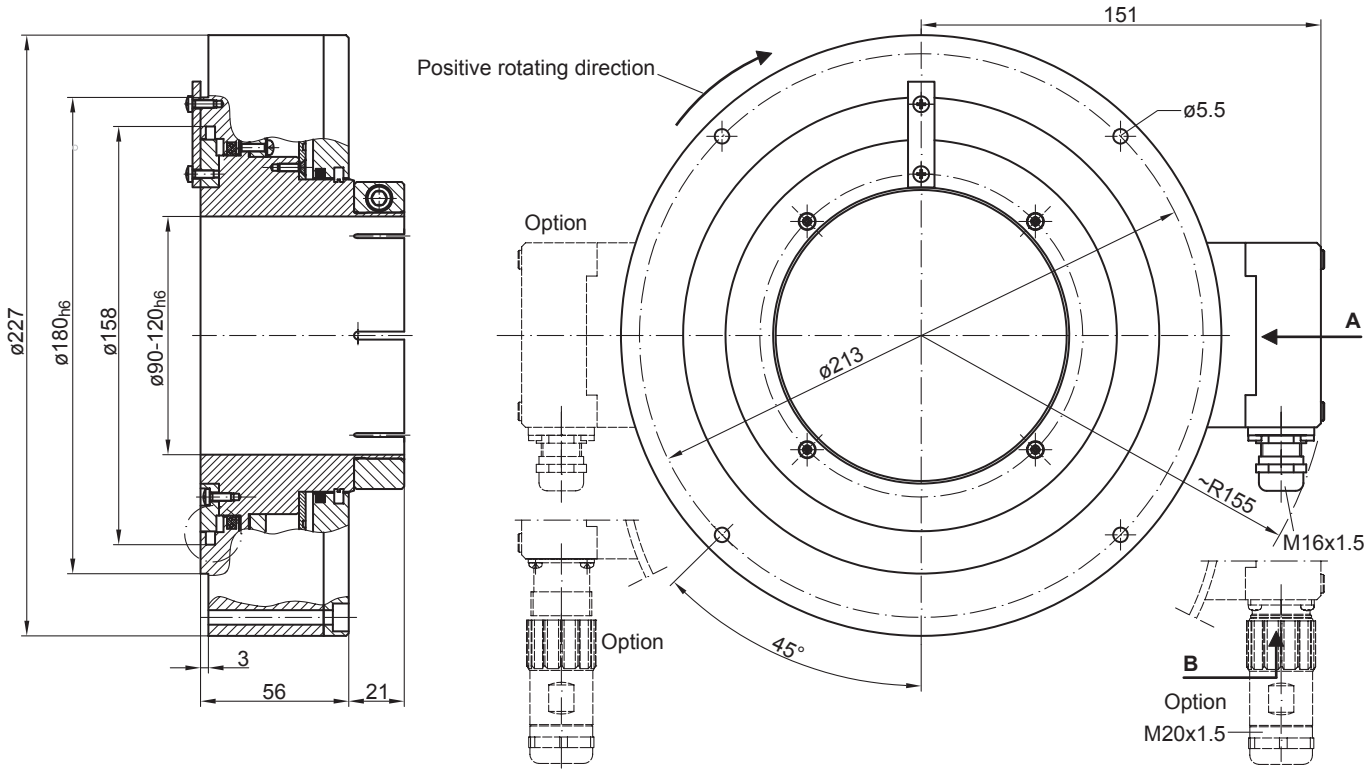
Dimensions



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Ordering reference

	HG22	#	DN	####	###
Product					
Encoder without bearings - incremental	HG22				
Redundant sensing					
Without redundant sensing					
With redundant sensing		M			
Output signals					
K1, K2, K0			DN		
Pulse number(1)					
720				720	
1800				1800	
2400				2400	
4000				4000	
Voltage supply / output stage					
9...26 VDC / output stage HTL (C) with inverted signals					CI
5 VDC / output stage TTL with inverted signals					TTL
9...30 VDC / output stage TTL with inverted signals					R

(1) Other pulse numbers on request.