

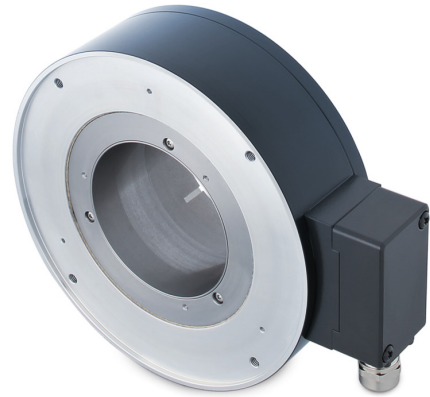
HG 18

Incremental encoder with optical sensing

Through hollow shaft $\varnothing 65 \dots 85$ mm / 250 ... 2500 pulses per revolution

Overview

- Large axial and radial displacement of the shaft permitted
- Fit for high operating speed
- Robust and wearless
- Max. 2500 pulses per revolution
- Output stage TTL with regulator UB 9...26 VDC



Technical data

Technical data - electrical ratings

Voltage supply	9...26 VDC 5 VDC ± 5 %
Consumption w/o load	≤ 100 mA
Pulses per revolution	250 ... 2500
Output signals	K1, K2, K0 + inverted
Reference signal	Zero pulse, width 90°
Output frequency	≤ 120 kHz
Phase shift	$90^\circ \pm 20^\circ$
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)	$\varnothing 186$ mm
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Technical data - mechanical design

Shaft type	$\varnothing 65 \dots 85$ 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 54
Operating speed	≤ 12000 rpm
Material	Housing: aluminium Shaft: stainless steel
Rotor moment of inertia	21.2 kgcm ²
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.	4.2 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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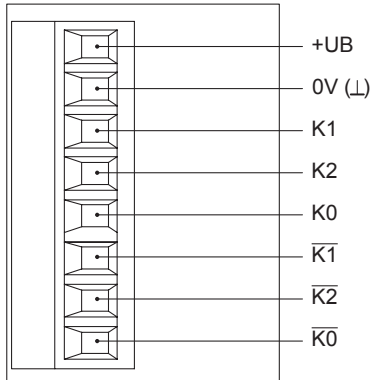
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Terminal assignment

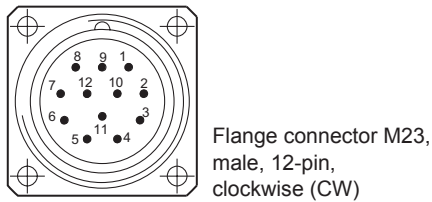
View A (see dimension)

Connecting terminal terminal box



View B (see dimension)

Assignment flange connector



Pin	Assignment
1	K2̄
2	dnu
3	K0
4	K0̄
5	K1
6	K1̄
7	dnu
8	K2
9	dnu
10	0V (L)
11	dnu
12	+UB

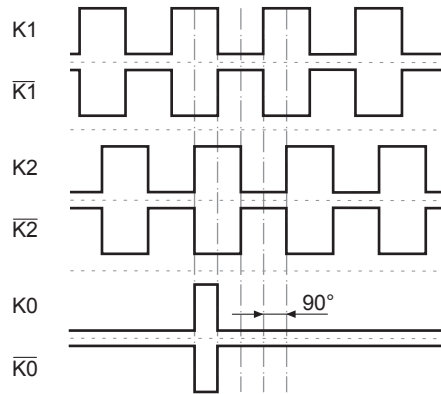
Terminal significance

+UB	Voltage supply
0V (L)	Ground
K1	Output signal channel 1
K1̄	Output signal channel 1 inverted
K2	Output signal channel 2 (offset by 90° to channel 1)
K2̄	Output signal channel 2 inverted
K0	Zero pulse (reference signal)
K0̄	Zero pulse inverted
dnu	Do not use

Output signals

HTL/TTL

At positive rotating direction (see dimension)

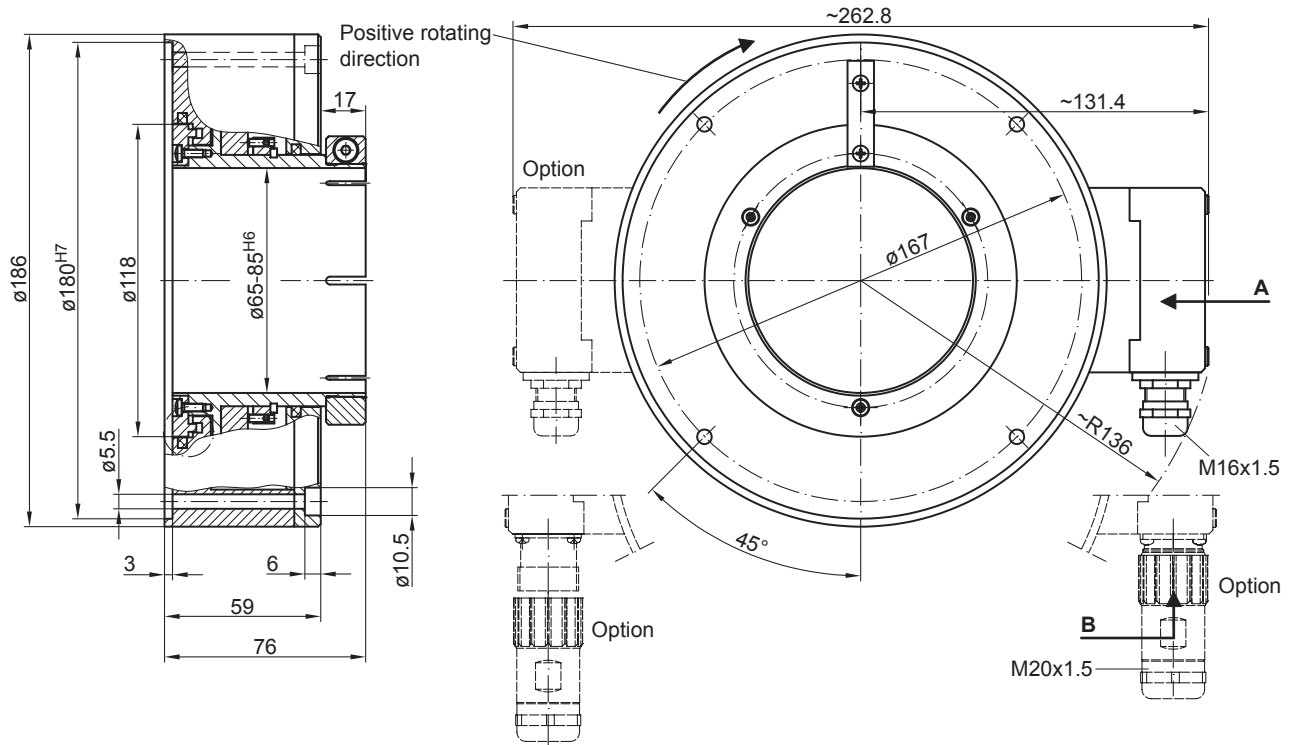


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Dimensions



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Ordering reference

	HG18	#	DN	####	###
Product					
Encoder without bearings - incremental	HG18				
Redundant sensing					
Without redundant sensing					
With redundant sensing			M		
Output signals					
K1, K2, K0			DN		
Pulse number⁽¹⁾					
250					250
500					500
512					512
600					600
1000					1000
1024					1024
1080					1080
1200					1200
2048					2048
2500					2500
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.