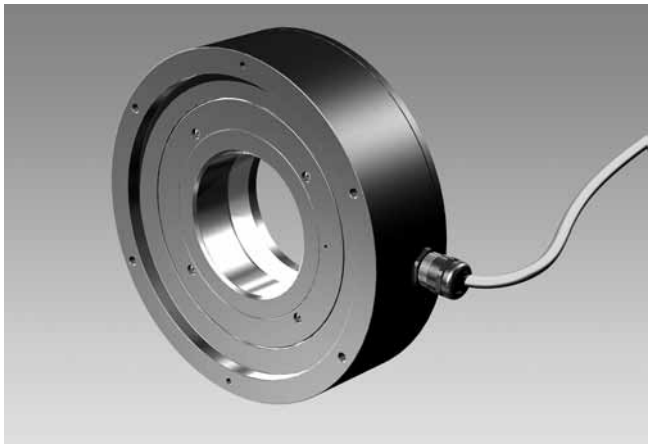
Encoders without bearings - incremental

Incremental encoder with optical sensing
Through hollow shaft ø85...95 mm
2500 pulses per revolution

HG 21, HG 211



HG 211

Features

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

Optional

- **Redundant sensing (version M)**

Technical data - electrical ratings

Voltage supply	9...26 VDC 5 VDC ±5 %
Consumption w/o load	< 100 mA
Sensing method	Optical
Pulses per revolution	2500
Output stages	HTL TTL/RS422
Output signals	K1, K2, K0 + inverted
Reference signal	Zero pulse, width 90°
Output frequency	≤120 kHz ≤160 kHz (Option)
Phase shift	90° ±20°
Scan ratio	40...60 %
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approvals	CE, RoHS, UL approval / E256710

Technical data - mechanical design

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)
Shaft type	ø85...95 mm (through hollow shaft)
Protection DIN EN 60529	IP 44
Operating temperature	-30...+70 °C
Operating speed	≤12000 rpm
Resistance	IEC 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 100 g, 6 ms
Materials	Housing: aluminium Shaft: stainless steel
Connection	Cable with mating connector, 12-pin (2x with option M)
Weight approx.	5.8 kg
HG 21	
Size (flange)	ø240 mm
Rotor moment of inertia	43 kgcm²
HG 211	
Size (flange)	ø210 mm
Rotor moment of inertia	52 kgcm² (ø95)

Subject to modification in technic and design. Errors and omissions excepted.

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HG 21, HG 211

Part number

HG 21 [ ][ ][ ] **2500** [ ]

Voltage supply / signals
- \- 9...26 VDC / output circuit HTL
- CI 9...26 VDC / output circuit HTL (C) with inverted signals
- TTL 5 VDC / output circuit TTL with inverted signals
- R 9...26 VDC / output circuit TTL with inverted signals (for output signals DN)

Output signals
- D K1, K2
- DN K1, K2, K0

Redundant sensing
- Without redundant sensing
- M With redundant sensing

HG 211 [ ][ ][ ] **2500** [ ]

Voltage supply / signals
- \- 9...26 VDC / output circuit HTL
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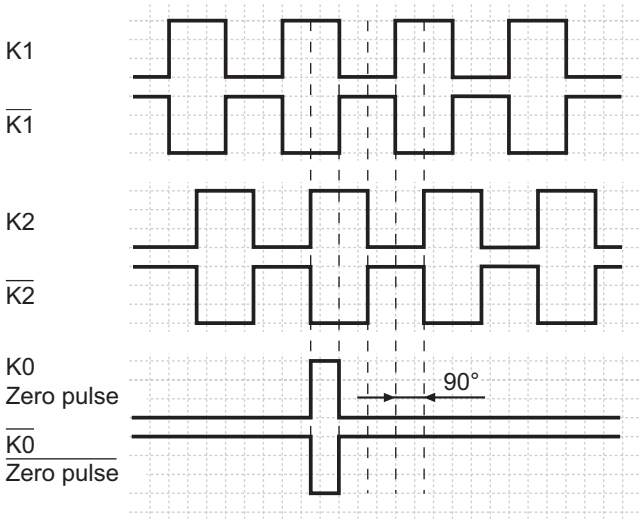
HG 21, HG 211

Output signals

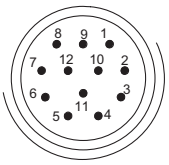
At positive rotating direction



Terminal assignment

View A - Mating connector, 12 pin,
male contacts, CW

Pin	Assignment
1	$\overline{K2}$ (K2 inv.)
2	Do not use
3	K0 (Zero pulse)
4	$\overline{K0}$ (Zero pulse inv.)
5	K1
6	$\overline{K1}$ (K1 inv.)
7	Do not use
8	K2
9	Do not use
10	0 V
11	Do not use
12	+UB



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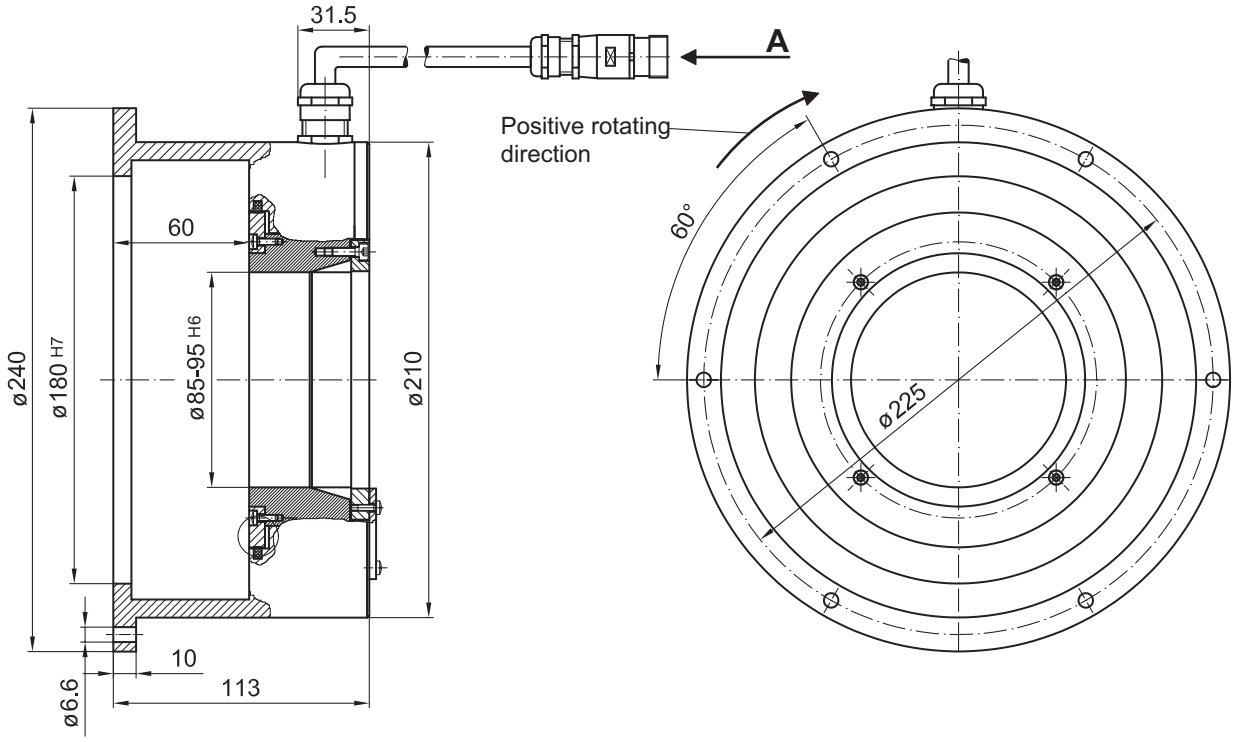
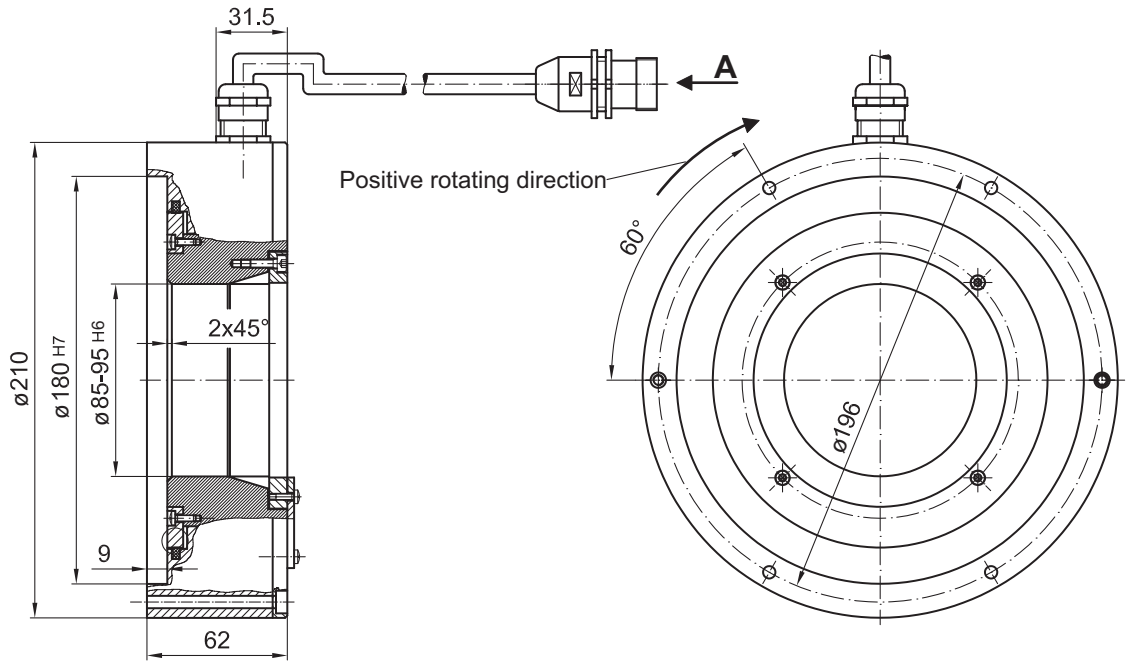
Dimensions

HG 21



HG 211



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