Incremental encoders

Through hollow shaft ø80 to ø115 mm

720...4.000 pulses per revolution

HOG 22

HOG 22

Features

- **Through hollow shaft ø80...115 mm**
- **Optical sensing method**
- **Robust light-metal housing**
- **Output stage HTL or TTL**
- **Output stage TTL with regulator UB 9...26 VDC**
- **Large terminal box, turn by 180°**

Optional

- **Redundant sensing (version M)**
- **Plug-in electronics with angle flange-connector**
- **Increased protection IP 56**
- **Protection against induced shaft currents**

Technical data - electrical ratings

Voltage supply	9...30 VDC 5 VDC ±5 %
Consumption w/o load	≤100 mA
Pulses per revolution	720...4000
Phase shift	90° ±20°
Scan ratio	40...60 %
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤120 kHz
Output signals	K1, K2, K0 + inverted
Output stages	HTL TTL/RS422
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approvals	CE, UL approval / E256710

Technical data - mechanical design

Size (flange)	ø227 mm
Shaft type	ø80...115 mm (through hollow shaft)
Admitted shaft load	≤450 N axial ≤700 N radial
Protection DIN EN 60529	IP 54, IP 56 (option)
Operating speed	≤3800 rpm (mechanical)
Operating torque typ.	50 Ncm
Rotor moment of inertia	102 kgcm² (ø100)
Materials	Housing: aluminium Shaft: stainless steel
Operating temperature	-30...+85 °C
Resistance	IEC 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 200 g, 6 ms
Explosion protection	II 3 G Ex nA IIC T4 Gc (gas) II 3 D Ex tc IIIB T135°C Dc (dust)
Connection	Terminal box 2x terminal box (with option M) Plug-in electronics with angle flange connector (option)
Weight approx.	8.6 kg (ø100)

HOG 22

Part number

Incremental encoder

HOG22 [ ][ ][**DN**][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]

Insulation
Without
isol. Protection against induced shaft currents

Protection
IP54 IP 54
IP56 IP 56

Connection
KLK Terminal box, radial
W-ST Plug-in electronics with angle flange-connector

Shaft diameter
80H7 Through hollow shaft ø80 mm
85H7 Through hollow shaft ø85 mm
90H7 Through hollow shaft ø90 mm
93H7 Through hollow shaft ø93 mm
95H7 Through hollow shaft ø95 mm
100H7 Through hollow shaft ø100 mm
105H7 Through hollow shaft ø105 mm
110H7 Through hollow shaft ø110 mm
115H7 Through hollow shaft ø115 mm

Voltage supply / signals
I 9...30 VDC / output stage HTL with inverted signals
TTL 5 VDC / output stage TTL with inverted signals
R 9...26 VDC / output stage TTL with inverted signals

Pulse number - see table

Output signals
DN K1, K2, K0

Redundant sensing
Without redundant sensing
M With redundant sensing

Pulse number

720	1800	4000

Other pulse numbers on request.

Accessories

Connectors and cables	
HEK 8	Sensor cable for encoders
Mounting accessories	
DMS 12	Torque arm size M12
Diagnostic accessories	
HENQ 1100	Analyzer for encoders

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720...4.000 pulses per revolution

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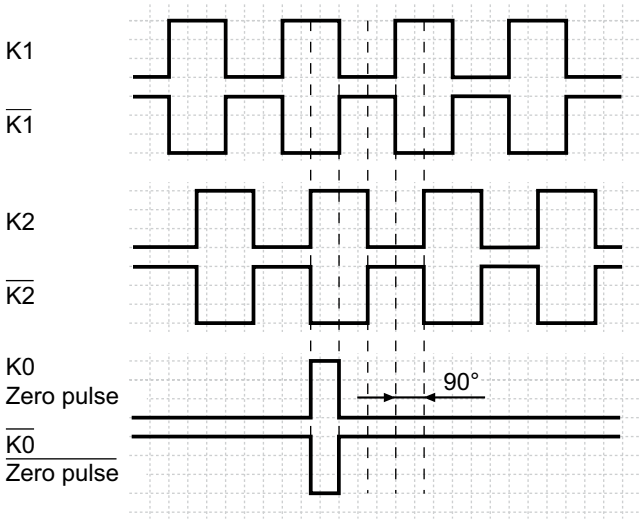
Output signals

At positive rotating direction



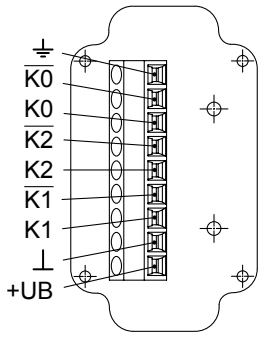
Terminal significance

+UB	Voltage supply (for the encoder)
⊥; ⏚; GND; 0 V	Ground (for the signals)
⏚; ⏚	Earth ground (chassis)
K1; A; A+	Output signal channel 1
$\overline{K1}$; $\overline{A}$; A-	Output signal channel 1 inverted
K2; B; B+	Output signal channel 2 (offset by 90° to channel 1)
$\overline{K2}$; $\overline{B}$; B-	Output signal channel 2 (offset by 90° to channel 1) inverted
K0; C; R; R+	Zero pulse (reference signal)
$\overline{K0}$; $\overline{C}$; $\overline{R}$; R-	Zero pulse (reference signal) inverted

Terminal assignment

View A

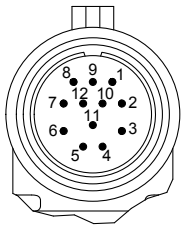
Connecting terminal terminal box



View B

Angle flange connector M23, 12-pin, male, CW

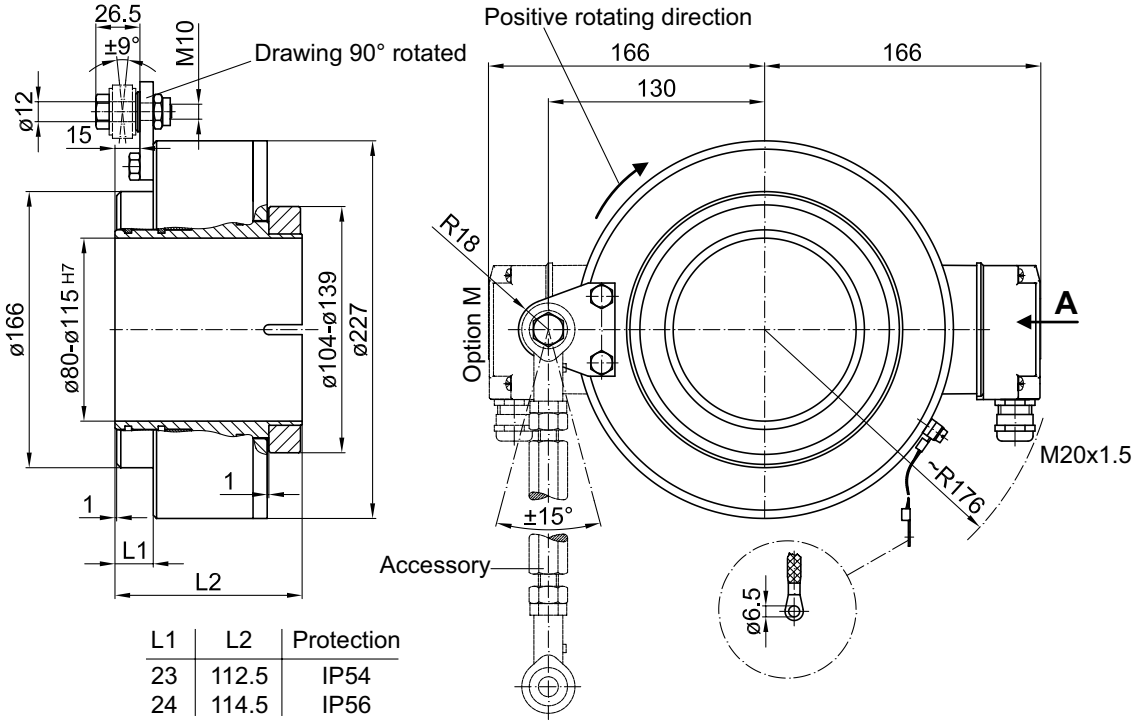
Pin	Assignment
1	$\overline{K2}$
2	Do not use
3	K0
4	$\overline{K0}$
5	K1
6	$\overline{K1}$
7	Do not use
8	K2
9	Do not use
10	⊥
11	Do not use
12	+UB



HOG 22

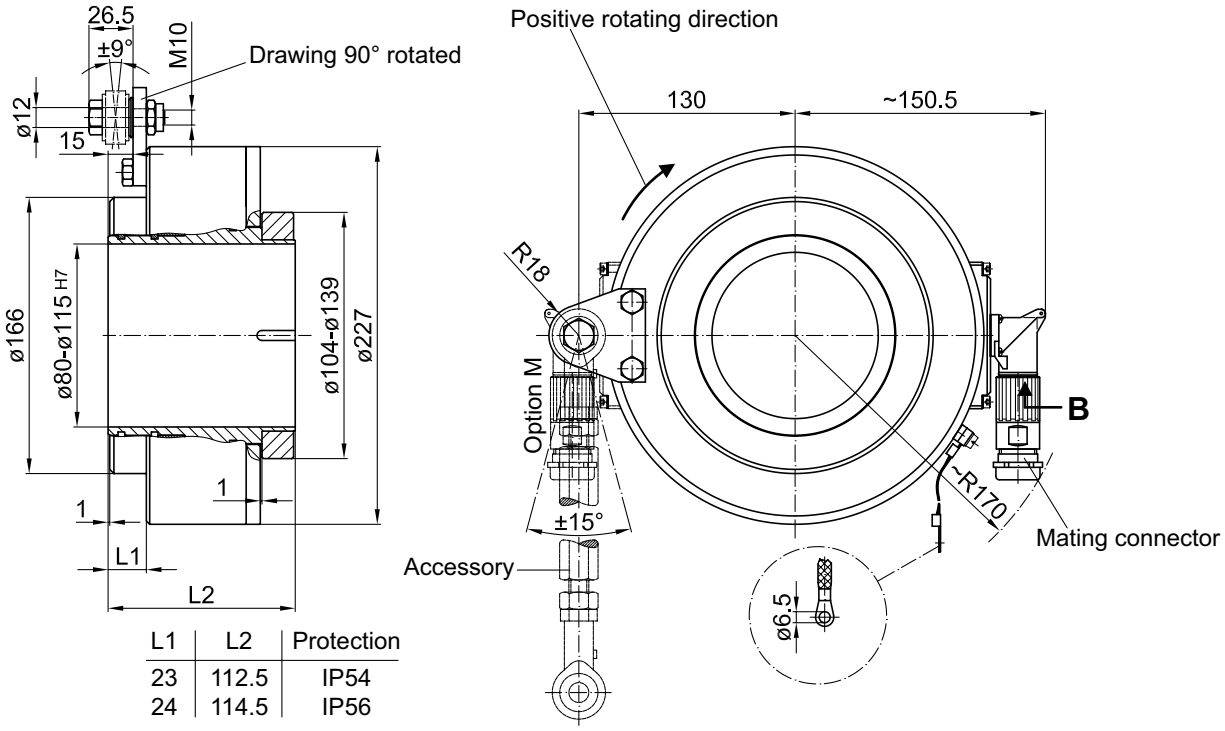
Dimensions

HOG 22 (HOG 22 M) - Version with radial terminal box



L1	L2	Protection
23	112.5	IP54
24	114.5	IP56

HOG 22 (HOG 22 M) - Version with plug-in electronics and angle flange connector (option)



L1	L2	Protection
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