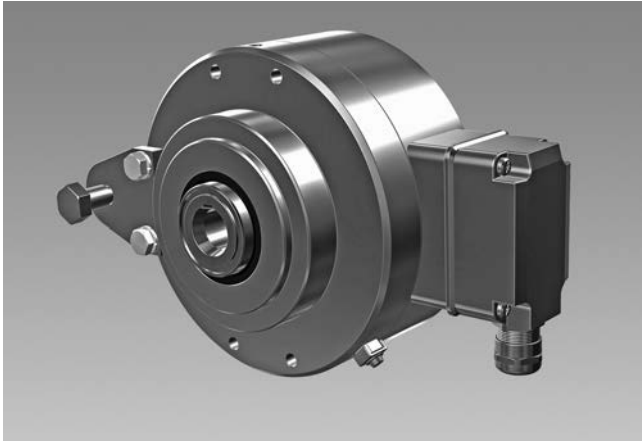


Incremental encoders

Blind hollow shaft $\varnothing 20...38$ mm

1024...8192 pulses per revolution

HOG 165



HOG 165

Technical data - electrical ratings

Voltage supply	9...30 VDC 5 VDC $\pm 5\%$ 9...26 VDC
Consumption w/o load	≤ 100 mA
Pulses per revolution	1024...8192
Phase shift	$90^\circ \pm 20^\circ$
Duty cycle	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
Shaft insulation	2.8 kV
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approvals	CE, UL approval / E256710

Features

- Extremely high resistance to shock and vibrations
- Output stage HTL or TTL
- High protection IP 67, shaft insulation up to 2.8 kV
- Surface protection scratch and impact resistant
- Corrosion protection acc. to 12944-5:1998 (C5M)
- Large terminal box, turn by 180°

Optional

- Large torque support plate

Technical data - mechanical design

Size (flange)	$\varnothing 165$ mm
Shaft type	$\varnothing 20...38$ mm (blind hollow shaft)
Admitted shaft load	≤ 500 N axial ≤ 650 N radial
Protection DIN EN 60529	IP 67
Operating speed	≤ 6000 rpm (mechanical)
Operating torque typ.	15 Ncm
Rotor moment of inertia	4.9 kgcm ²
Materials	Housing: aluminium alloy Shaft: stainless steel
Operating temperature	$-40...+100$ °C
Resistance	IEC 60068-2-6 Vibration 20 g, 10-2000 Hz IEC 60068-2-27 Shock 300 g, 6 ms
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions CX (C5-M) according to ISO 12944-2
Explosion protection	II 3 G Ex nA IIC T4 Gc (gas) II 3 D Ex tc IIIC T135°C Dc (dust)
Connection	Terminal box
Weight approx.	6.1 kg

Incremental encoders

Blind hollow shaft $\varnothing 20...38$ mm
1024...8192 pulses per revolution

HOG 165

Part number

Incremental encoder

HOG165 **DN** **KLK**

Connection
KLK Terminal box, radial

Shaft diameter
20H7 Blind hollow shaft $\varnothing 20$ mm
20H7 PF Blind hollow shaft $\varnothing 20$ mm with keyway
25H7 Blind hollow shaft $\varnothing 25$ mm
25H7 PF Blind hollow shaft $\varnothing 25$ mm with keyway
28H7 Blind hollow shaft $\varnothing 28$ mm
28H7 PF Blind hollow shaft $\varnothing 28$ mm with keyway
32H7 Blind hollow shaft $\varnothing 32$ mm
36H7 Blind hollow shaft $\varnothing 36$ mm
38H7 Blind hollow shaft $\varnothing 38$ 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

1024	2500	5000
2048	4096	8192

Incremental encoders

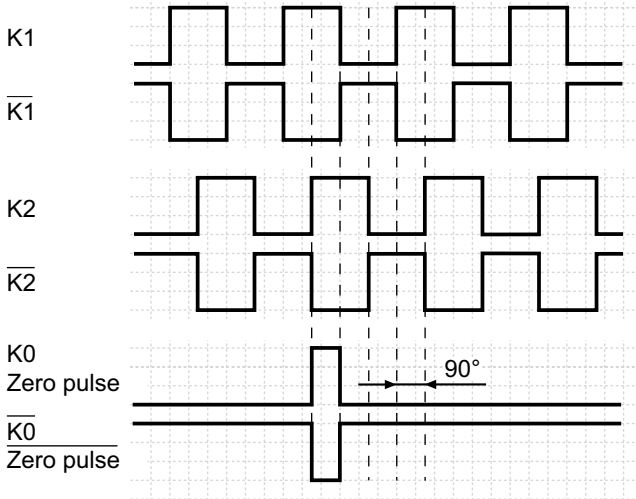
Blind hollow shaft $\varnothing 20...38$ mm

1024...8192 pulses per revolution

HOG 165

Output signals

At positive rotating direction

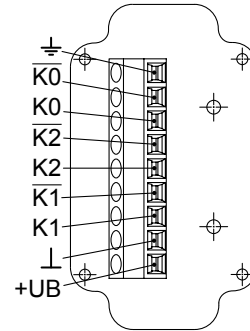


Terminal significance

+UB	Voltage supply (for the device)
\perp ; \downarrow ; GND; 0 V	Ground (for the signals)
\perp ; \nearrow	Earth ground (housing)
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
dnu	Do not use

Terminal assignment

View A - Connecting terminal terminal box



Accessories

Connectors and cables

HEK 8 Sensor cable for encoders

Mounting accessories

11054922	Torque arm M12, length 155 (-10/+15) mm
11054921	Torque arm M12, length 190 (-10/+15) mm
11072741	Torque arm M12, length 480-540 mm (shortenable ≥ 200 mm)
11054924	Torque arm M12 insulated, length 155 (-10/+15) mm
11072723	Torque arm M12 insulated, length 480-540 mm (shortenable ≥ 200 mm)
11069336	Mounting kit for torque arm size M12 and an earthing strap

Diagnostic accessories

11075858 Analyzer for encoders HENQ 1100

Incremental encoders

Blind hollow shaft $\varnothing 20...38$ mm
1024...8192 pulses per revolution

HOG 165

Dimensions

