Incremental encoders

Ex approval ATEX II 2 G Ex db eb IIC T6 Gb and IECEx Ex db eb IIC T6 Gb

250...2500 pulses per revolution

EExHOG 161 - incremental

EExHOG 161

Features

- **Encoder incremental / ATEX**
- **Optical sensing method**
- **ATEX II 2 G Ex db eb IIC T6 Gb**
- **IECEx Ex db eb IIC T6 Gb**
- **Through hollow shaft ø30...70 mm**
- **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

- **Cable gland M20x1.5**

Technical data - electrical ratings

Voltage supply	9...30 VDC 5 VDC ±5 % 9...26 VDC
Consumption w/o load	≤100 mA
Pulses per revolution	250...2500
Phase shift	90° ±20°
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
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approvals	CE, ATEX, IECEx

Technical data - mechanical design

Size (flange)	ø160 mm
Shaft type	ø30...70 mm (through hollow shaft)
Admitted shaft load	≤450 N axial ≤650 N radial
Protection DIN EN 60529	IP 54, IP 56
Operating speed	≤5600 rpm (mechanical)
Operating torque typ.	60 Ncm
Rotor moment of inertia	31.9 kgcm² (ø40) 11.3 kgcm² (ø70)
Materials	Housing: aluminium alloy Shaft: stainless steel
Ambient temperature	-20...+58 °C (IP 56) -20...+66 °C (IP 54)
Resistance	IEC 60068-2-6 Vibration 10 g, 50-2000 Hz IEC 60068-2-27 Shock 100 g, 6 ms
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions C4 according to ISO 12944-2
Explosion protection	II 2 G Ex db eb IIC T6 Gb Ex db eb IIC T6 Gb
Connection	Terminal box
Weight approx.	8.8 kg (ø40), 6.2 kg (ø70)

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Part number

Incremental encoder

EEXHOG161 | **DN** | | | | | | | | |

Protection
- IP54 IP 54 (ambient temperature -20...+66 °C)
- IP56 IP 56 (ambient temperature -20...+58 °C)

Shaft diameter
- 30H7 Through hollow shaft ø30 mm
- 40H7 Through hollow shaft ø40 mm
- 42H7 Through hollow shaft ø42 mm
- 48H7 Through hollow shaft ø48 mm
- 50H7 Through hollow shaft ø50 mm
- 55H7 Through hollow shaft ø55 mm
- 60H7 Through hollow shaft ø60 mm
- 65H7 Through hollow shaft ø65 mm
- 70H7 Through hollow shaft ø70 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

Pulse number

250	512	1024	1200	2500
500	1000	1080	2048	

Accessories

Connectors and cables	
HEK 8	Sensor cable for encoders
11106863	Extension cable gland M16 to M20
Mounting accessories	
11043628	Torque arm M6, length 67-70 mm
11004078	Torque arm M6, length 120-130 mm (shortenable ≥71 mm)
11002915	Torque arm M6, length 425-460 mm (shortenable ≥131 mm)
11054917	Torque arm M6 insulated, length 67-70 mm
11072795	Torque arm M6 insulated, length 120-130 mm (shortenable ≥71 mm)
11082677	Torque arm M6 insulated, length 425-460 mm (shortenable ≥131 mm)
Diagnostic accessories	
11075858	Analyzer for encoders HENQ 1100

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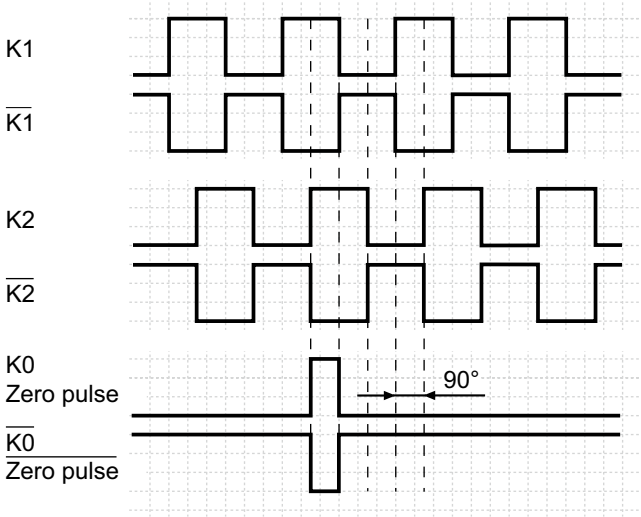
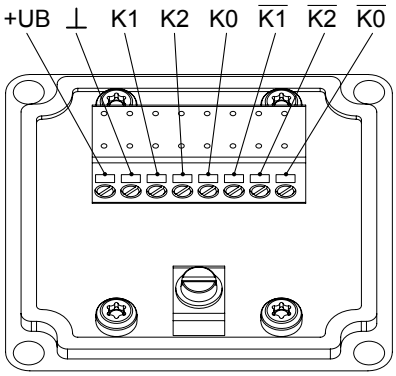
Output signals

At positive rotating direction



Terminal assignment

View A - Connecting terminal



Terminal significance

+UB	Voltage supply (for the device)
⊥; ⏚; GND; 0 V	Ground (for the signals)
⏚; ⏚	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

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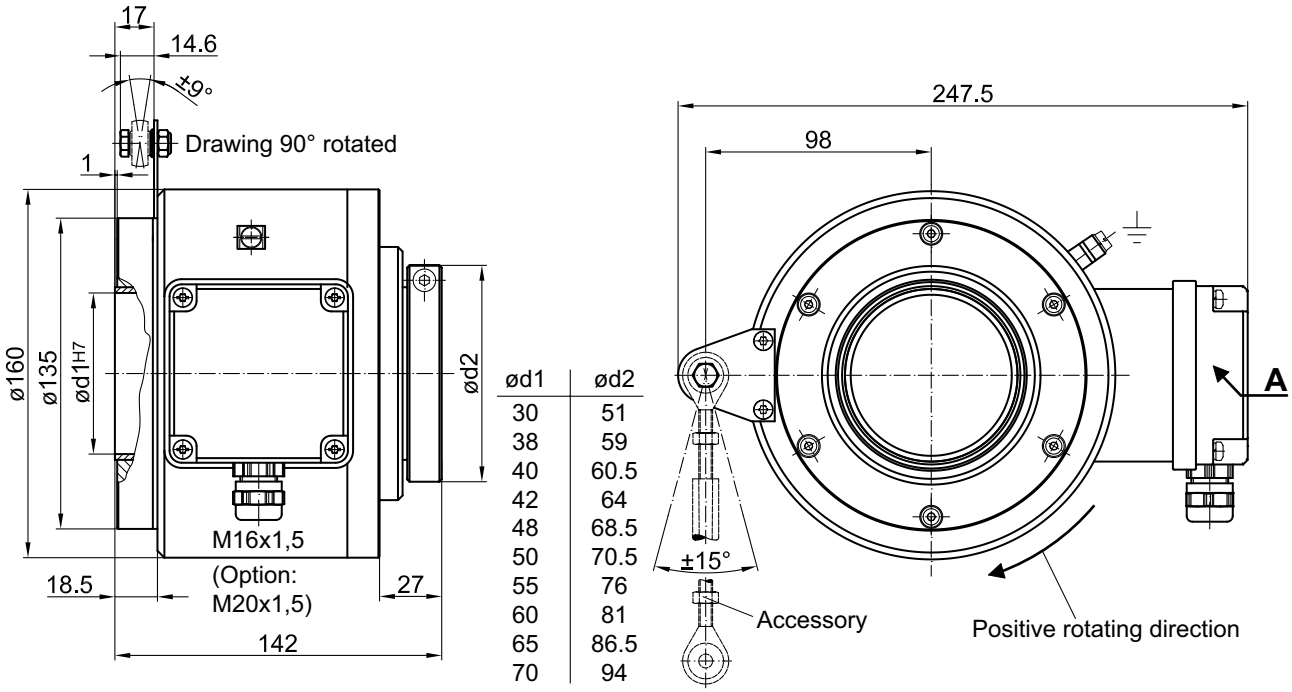
Dimensions



ød1	ød2
30	51
38	59
40	60.5
42	64
48	68.5
50	70.5
55	76
60	81
65	86.5
70	94