

Combination

Twin encoder with two electrically separated systems

Blind hollow shaft or cone shaft

300...5000 pulses per revolution

HOG 11 G



HOG 11 G

Features

- Twin encoder featuring two separate systems
- Offshore and salt water firm, high protection IP 67
- TTL output driver for cable length up to 550 m
- Very high resistance to shock and vibrations
- Hybrid bearing for extended service life
- Large terminal boxes, turn by 180°

Optional

- Function control with EMS (Enhanced Monitoring System)
- Redundant sensing with two terminal boxes for each system

Technical data - electrical ratings

Voltage supply	9...30 VDC 5 VDC $\pm 5\%$
Consumption w/o load	≤ 100 mA
Pulses per revolution	300...5000
Phase shift	$90^\circ \pm 20^\circ$
Duty cycle	40...60 %
Reference signal	Zero pulse, width 90°
Output frequency	≤ 120 kHz ≤ 300 kHz (on request)
Output signals	K1, K2, K0 + inverted Error output (option EMS)
Output stages	HTL-P (power linedriver) TTL/RS422
Sensing method	Optical
Shaft insulation	Suitable up to 2.8 kV
Transmission length	≤ 350 m at 100 kHz (HTL-P) ≤ 550 m at 100 kHz (TTL)
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approvals	CE, UL approval / E256710

Technical data - mechanical design

Size (flange)	$\varnothing 105$ mm
Shaft type	$\varnothing 16...20$ mm (blind hollow shaft) $\varnothing 17$ mm (cone shaft 1:10)
Admitted shaft load	≤ 450 N axial ≤ 600 N radial
Protection DIN EN 60529	IP 67
Operating speed	≤ 6000 rpm (mechanical)
Operating torque typ.	6 Ncm
Rotor moment of inertia	340 gcm ²
Materials	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	$-40...+100$ °C $-25...+100$ °C (>3072 pulses per revolution)
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 C5-M (CX) 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	2x terminal box 4x terminal box (with option M)
Weight approx.	2.9 kg, 3.3 kg (with option M)

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Part number

HOG11		G			DN				/	DN					SR	
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							<u>Shaft diameter</u>
						16H7	Blind hollow shaft ø16 mm
						20H7	Blind hollow shaft ø20 mm
						17K	Cone shaft ø17 mm (1:10)
							<u>Voltage supply / signals</u>
				I			9...30 VDC / output stage HTL with inverted signals
				TTL			5 VDC / output stage TTL with inverted signals
				R			9...30 VDC / output stage TTL with inverted signals
							<u>Pulse number - see table</u>
							<u>Output signals</u>
						DN K1, K2, K0	
							<u>Voltage supply / signals</u>
				I			9...30 VDC / output stage HTL with inverted signals
				TTL			5 VDC / output stage TTL with inverted signals
				R			9...30 VDC / output stage TTL with inverted signals
							<u>Pulse number - see table</u>
							<u>Output signals</u>
						DN K1, K2, K0	
							<u>Redundant sensing</u>
							Without redundant sensing
M							With redundant sensing
							<u>EMS - Enhanced Monitoring System</u>
							Without EMS
.2							With EMS

Pulse number

300	1000	2048	4096
500	1024	2500	5000
512	1200	3072	

Other pulse numbers on request.

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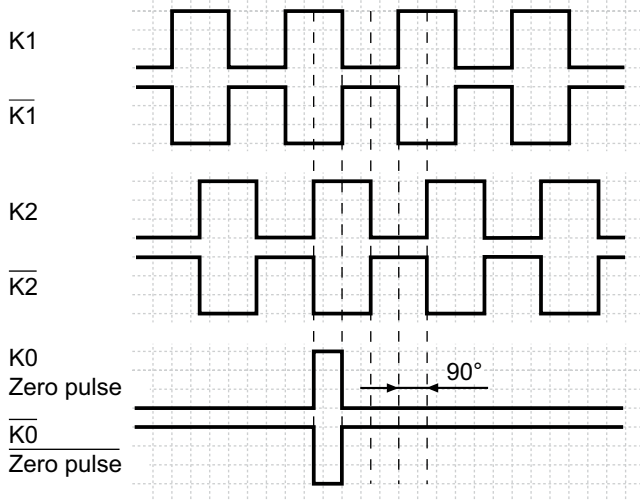
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Output signals

At positive rotating direction



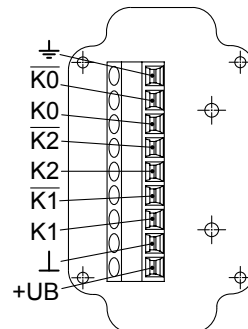
Terminal significance

+UB	Voltage supply (for the device)
⊥; ⚡; GND; 0 V	Ground (for the signals)
⊥; ⚡	Earth ground (housing)
K1; A; A+	Output signal channel 1
K1-bar; A-bar; A-	Output signal channel 1 inverted
K2; B; B+	Output signal channel 2 (offset by 90° to channel 1)
K2-bar; B-bar; B-	Output signal channel 2 (offset by 90° to channel 1) inverted
K0; C; R; R+	Zero pulse (reference signal)
K0-bar; C-bar; R-bar; R-	Zero pulse (reference signal) inverted
Err; Err-	Error output (option EMS)
dnu	Do not use

Terminal assignment

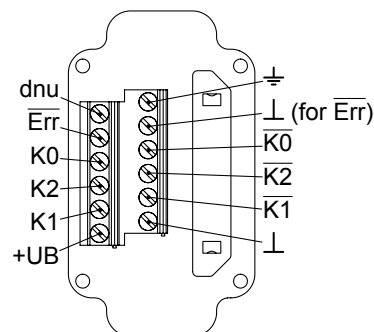
View A

Connecting terminal terminal box



Option EMS: View A

Connecting terminal terminal box



Option EMS: LED status / Error output

Flash light red*	Error of signal sequence, zero pulse or pulses (Error output = HIGH-LOW alternation)
Red	Overload output driver (Error output = LOW)
Flash light green	Device o.k., rotating (Error output = HIGH)
Green	Device o.k., stopped (Error output = HIGH)
No light	No voltage supply connection or wrong connection (Error output = LOW)

* Only at rotating device

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Accessories

Connectors and cables

HEK 8	Sensor cable for encoders
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Mounting accessories

11077197	Mounting kit for torque arm size M6 and earthing strap
11077087	Mounting and dismantling set
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
11075880	Analyzer for encoders HENQ 1100 with a power pack

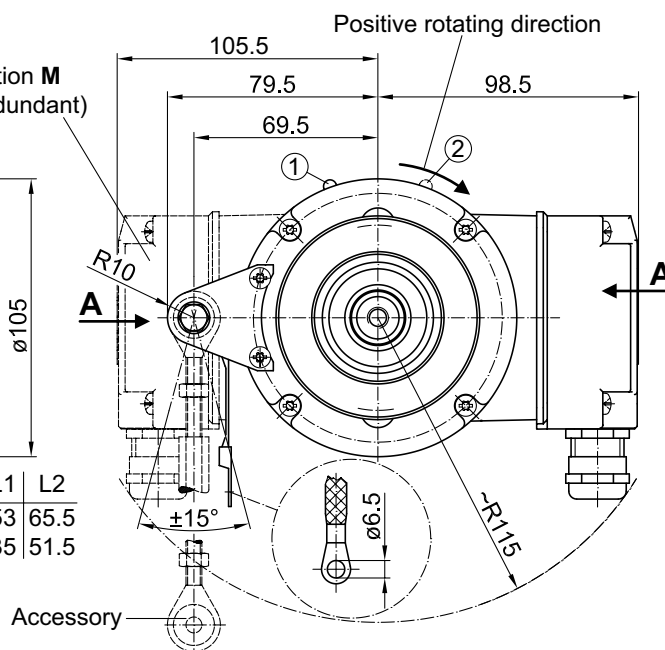
300...5000 pulses per revolution

Dimensions

Technical drawing of the front view of a 2x2 plate. The drawing is labeled "Drawing 90° rotated" and "Option M (redundant)". The central plate has a width of 152 and a central hole diameter of Ø105. The mounting holes have a diameter of Ø14. The drawing shows a central hole with a diameter of Ød H7 and a central hole with a diameter of Ød. The drawing is labeled "Drawing 90° rotated" and "Option M (redundant)". A table at the bottom right provides dimensions for different plate sizes.

Ød	L1	L2
16	53	65.5
20	35	51.5

- ① Status LEDs (option EMS)
- ② Status LEDs (option **M** (redundant) and EMS)



Technical drawing of the front view of a 151mm wide bracket. The drawing shows two mounting slots with four screws each. Dimensions include a total width of 151mm, a mounting hole diameter of Ø17 JS8, and a central slot width of 26±0.5mm. A 90° rotated view of the screw is shown. Labels include "Drawing 90° rotated", "Jack-screw thread", "Option M (redundant)", and "13".

- ① Status LEDs (option EMS)
- ② Status LEDs (option **M** (redundant) and EMS)

