Baumer
Passion for Sensors

Incremental encoders

# HOG1060.X

Extremely performant, incremental HeavyDuty encoders for offshore and deck machinery

## Overview

- Protection IP66, IP67, IP69K
- Shaft insulation 3.5 kV
- Extended corrosion protection larger CX with special coating and selected materials
- Extended operating temperature optional -50...+100 °C
- Signal outputs with automatic temperature compensation for stable signals up to 350 m (HTL-P) or 550 m (TTL)
- Sealed and user-friendly field termination
- Extended protection circuit
- Parameterization
- Status monitoring and display with Baumer Sensor Suite
- 4-fold sealing concept for protection against abrasive dust, humid and salty moisture and temperature changes
- Cable gland M20 or M25


*Picture similar*

HUBNER BERLIN
A Baumer Brand

LongLife

HeavyDuty
70 years of experience

## Technical data

### Technical data - electrical ratings

| | |
|---|---|
| Voltage supply | 4.75...30 VDC (Vin = Vout, HTL/TTL) |
| Consumption w/o load | ≤100 mA |
| Pulses per revolution | 1 … 32768 |
| Further pulses per revolution | Pulse numbers parameterized ex works or freely parameterizable (SMART) with Baumer Sensor Suite |
| Phase shift | Typ. 90 ° |
| Duty cycle | Typ. 50 % |
| Reference signal | Zero pulse, width 90° or 180° |
| Sensing method | Optical |
| Output frequency | ≤200 kHz |
| Output signals | K1, K2, K0 + inverted |
| Output stages | HTL-P (power linedriver)<br>TTL |
| Shaft insulation | Suitable up to 3.5 kV |
| Transmission length | ≤350 m at 100 kHz (HTL-P)<br>≤550 m at 100 kHz (TTL) |
| Interference immunity | EN 61000-6-2 |
| Emitted interference | EN 61000-6-4 |
| Approval | CE<br>UL approval / E217823<br>CSA |

### Technical data - mechanical design

| | |
|---|---|
| Size (flange) | ø105 mm, length 94 mm |

### Technical data - mechanical design

| | |
|---|---|
| Shaft type | ø16G7 mm (blind hollow shaft)<br>ø11 x 30 mm (solid shaft with key) |
| Admitted shaft load | ≤350 N axial<br>≤450 N radial |
| Mounting type | Hollow shaft: central screw<br>Solid shaft: EURO flange B10 |
| Protection EN 60529 | IP 66 / IP 67 / IP 69K |
| Operating speed | ≤6000 rpm (mechanical) |
| Operating torque | ≤6 Ncm |
| Rotor moment of inertia | 160 gcm² |
| Material | Housing: aluminium, anodised, powder-coated<br>Shaft, screws, torque plate, cable glands: stainless steel |
| Operating temperature | -50...+100 °C |
| Resistance | IEC 60068-2-6<br>Vibration 20 g, 10-2000 Hz<br>IEC 60068-2-27<br>Shock 300 g, 6 ms<br>1 Mio. brake shocks |
| Corrosion protection | IEC 60068-2-52 Salt mist<br>for ambient conditions CX according to ISO 12944-2 |
| Connection | Terminal box with pluggable push in terminal blocks and cable gland M20 or M25 (for connecting wires up to 1.5 mm²) |

## Optional

- Parameterized pulse numbers can be ordered ex works
- ATEX
- DNV

## Possible combinations

- Redundant sensing with second output (HOG1070)
- Speed monitoring (HOG1090)
- Centrifugal switch FSL (HOG1095)

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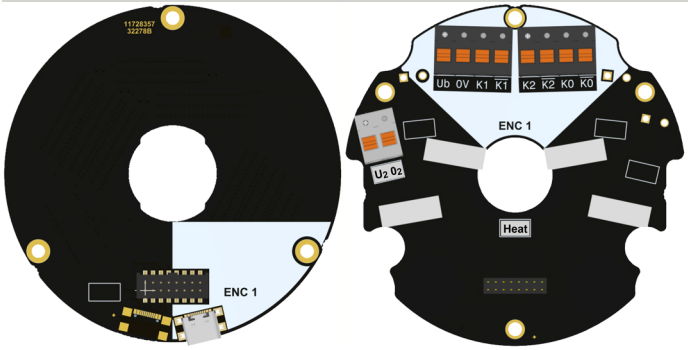
## Terminal assignment

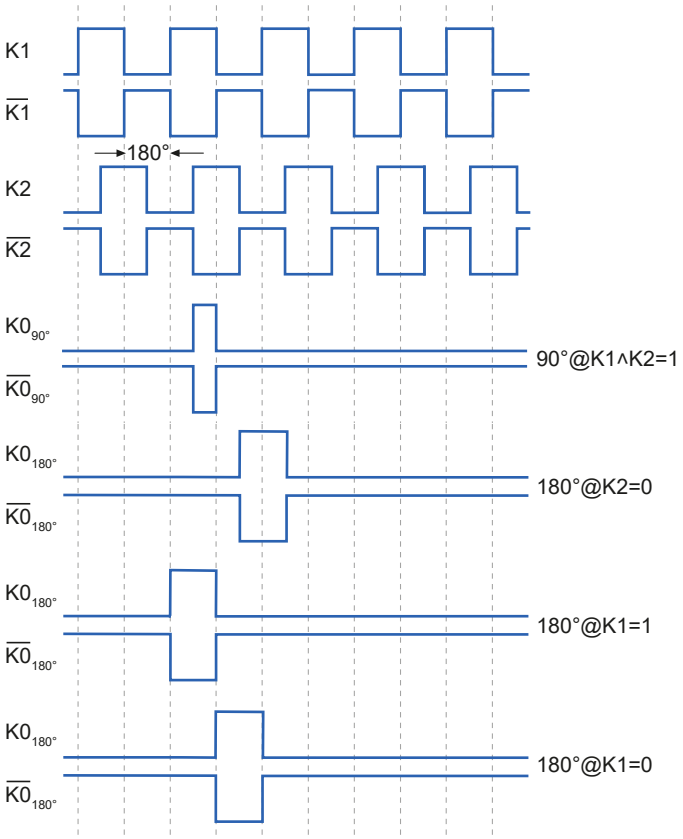



## Terminal significance

| | |
|---|---|
| $U_b$ | Voltage supply |
| 0V | Ground |
| K0 | Zero pulse (reference signal) |
| $\overline{K0}$ | Zero pulse inverted |
| K1 | Output signal channel 1 |
| $\overline{K1}$ | Output signal channel 1 inverted |
| K2 | Output signal channel 2 |
| $\overline{K2}$ | Output signal channel 2 inverted |

| | |
|---|---|
| USB ENC1 | USB-C for parameterization (SMART) |

## Output signals




With positive direction of rotation / clockwise, with view on the encoder shaft

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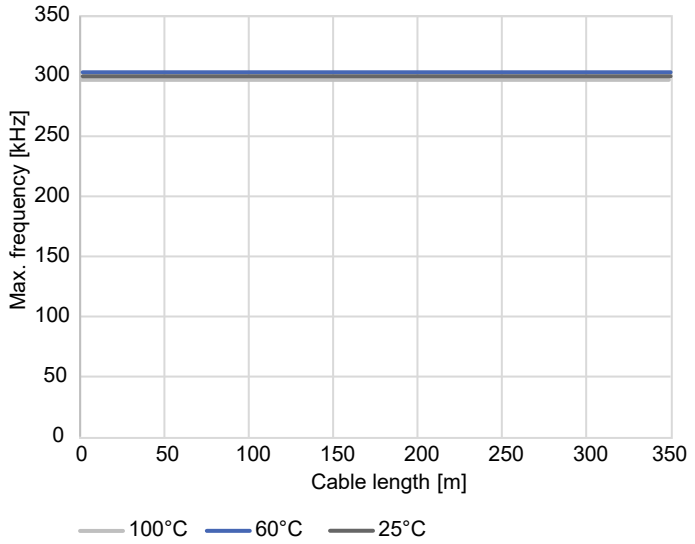
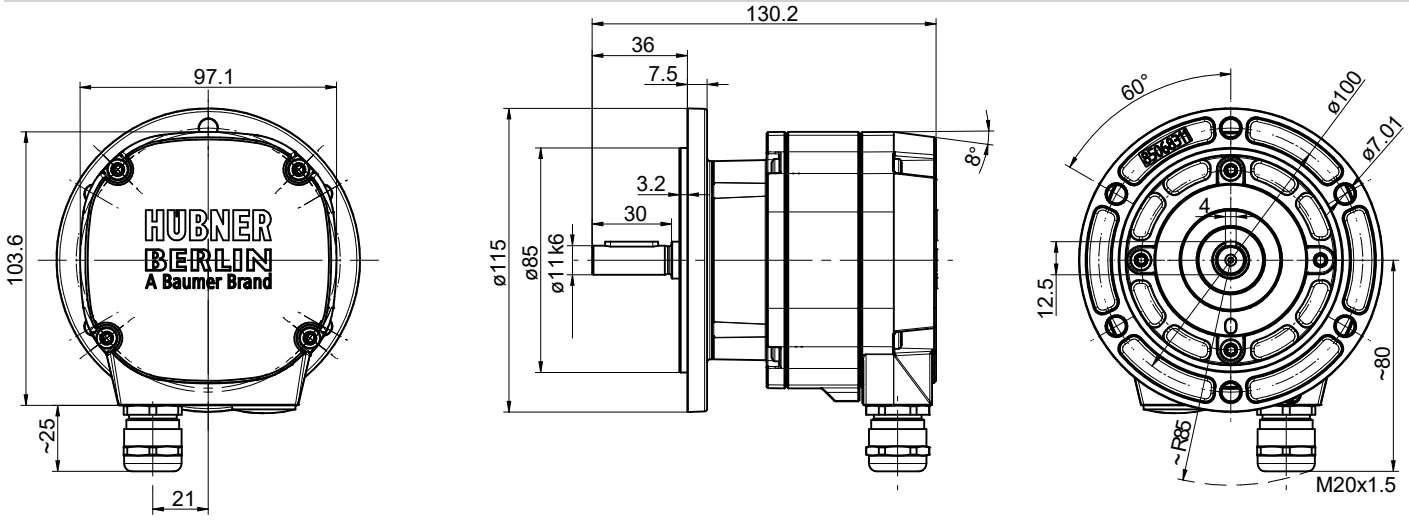
## Derating




Max. frequency over cable length and temperature, Ub 24 V

## Dimensions




Solid shaft, cable gland M20

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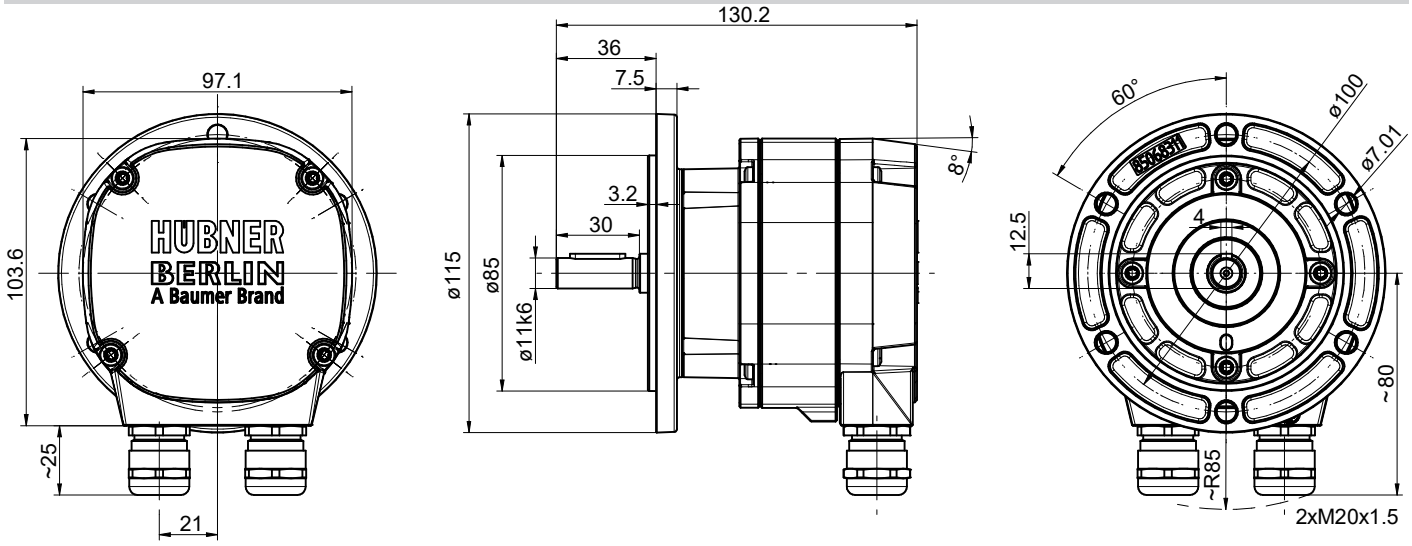
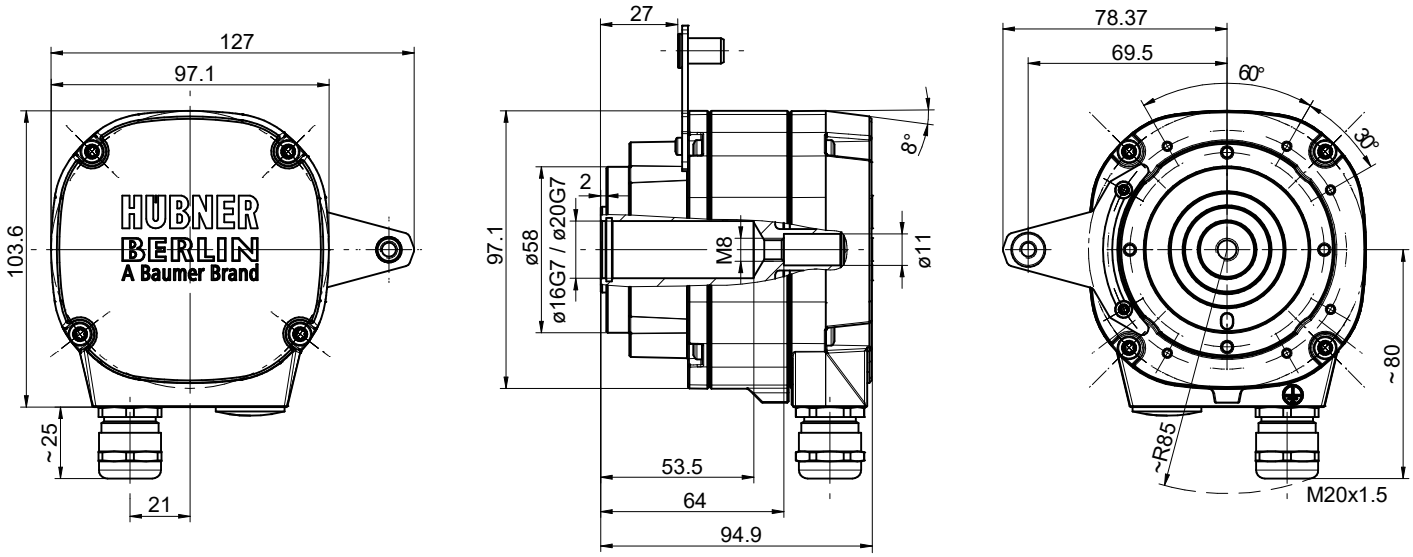
## Dimensions




Solid shaft, cable gland 2xM20




Blind hollow shaft, cable gland M20 (torque plate can be mounted at different positions)

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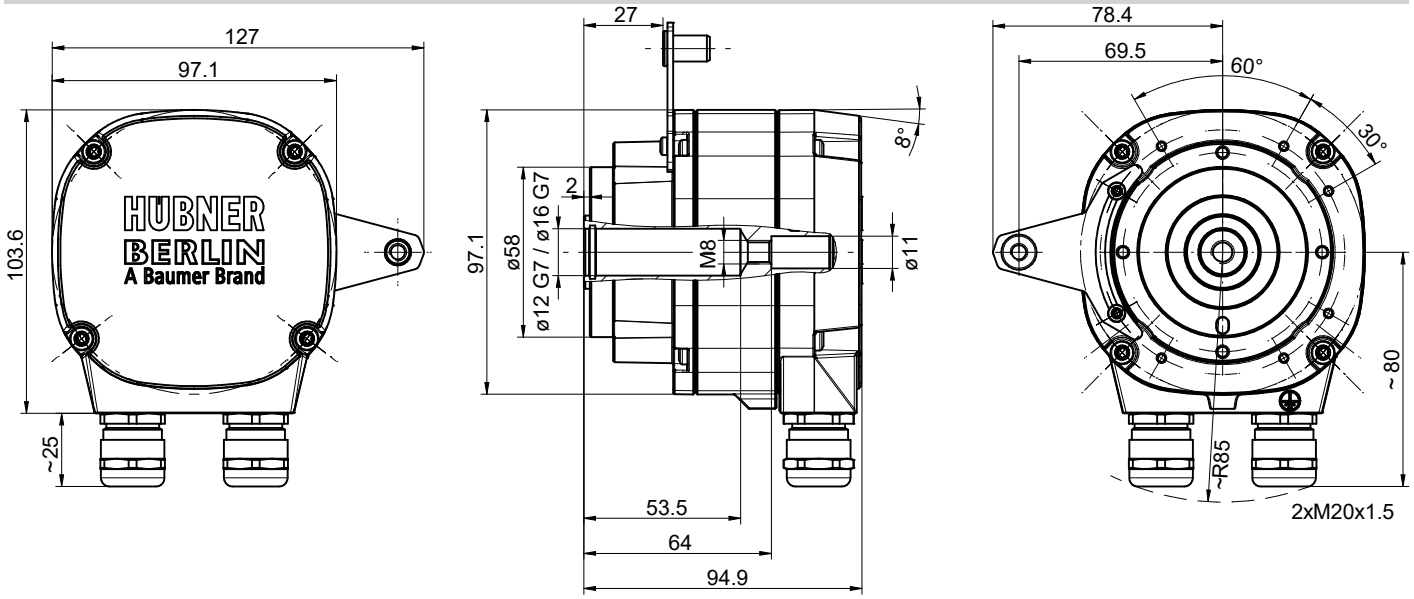
## Dimensions




Blind hollow shaft, cable gland 2xM20 (torque plate can be mounted at different positions)

| Ordering reference | | | | | |
|---|---|---|---|---|---|
| **Product** | **Shaft** | **Pulses per revolution, output** | **Connection** | **Comment** | **Material number** |
| HOG1060.X | Solid shaft ø11 mm | Parameterization & monitoring at customer | 1 x Cable gland M20 | SMART | EHOG1060.X-11731304 |
| | | Parameterization & monitoring at customer | 2 x Cable gland M20 | SMART, Heating | EHOG1060.X-11731305 |
| | Blind hollow shaft ø16G7 mm | Parameterization & monitoring at customer | 1 x Cable gland M20 | SMART | EHOG1060.X-11731306 |
| | | Parameterization & monitoring at customer | 2 x Cable gland M20 | SMART, Heating | EHOG1060.X-11731307 |