

HOG 163

Through hollow shaft $\varnothing 38 \dots 75$ mm
250...5000 pulses per revolution

Overview

- Insulated constitution
- Optical sensing method
- Robust light-metal housing
- Output stage HTL or TTL
- Output stage TTL with regulator UB 9...26 VDC
- Special protection against corrosion
- Large terminal box, turn by 180°



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Technical data

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 ... 5000 |
| 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 |
| Interference immunity | EN 61000-6-2 |
| Emitted interference | EN 61000-6-3 |
| Approval | CE UL approval / E217823 |

Technical data - mechanical design

| | |
|---------------------|---|
| Size (flange) | $\varnothing 158$ mm |
| Shaft type | $\varnothing 38 \dots 75$ mm (through hollow shaft) |
| Admitted shaft load | ≤ 350 N axial, ≤ 500 N radial |

Technical data - mechanical design

| | |
|-------------------------|--|
| Protection EN 60529 | IP 56 |
| Operating speed | ≤ 6000 rpm (mechanical) |
| Operating torque typ. | 17 Ncm |
| Rotor moment of inertia | 28.5 kgcm ² ($\varnothing 50$) |
| Material | Housing: aluminium alloy Shaft: stainless steel |
| Operating temperature | $-40 \dots +85$ °C |
| Resistance | IEC 60068-2-6 Vibration 10 g, 10-2000 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 3 G Ex ec IIC T4 Gc (gas) II 3 D Ex tc IIIB T135°C Dc (dust) (only with option ATEX) |
| Connection | Terminal box 2x terminal box (with option M) |
| Weight approx. | 5.4 kg ($\varnothing 48$) 3.5 kg ($\varnothing 75$) 3.9 kg ($\varnothing 75$ with option M) |

Optional

- Redundant sensing with two terminal boxes
- Heating for applications up to -50 °C (no explosion protection)

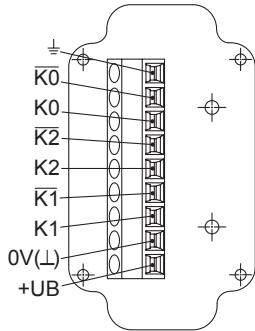
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Terminal assignment

View A (see dimension)

Connecting terminal terminal box, radial



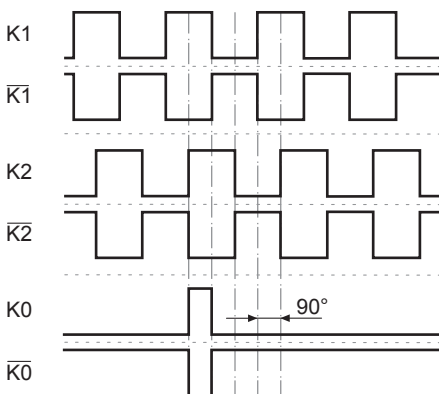
Terminal significance

| | |
|-----------------|--|
| +UB | Voltage supply |
| 0V (L) | Ground |
| ⊥ | Earth ground (housing) |
| K1 | Output signal channel 1 |
| $\overline{K1}$ | Output signal channel 1 inverted |
| K2 | Output signal channel 2 (offset by 90° to channel 1) |
| $\overline{K2}$ | Output signal channel 2 inverted |
| K0 | Zero pulse (reference signal) |
| $\overline{K0}$ | Zero pulse inverted |

Output signals

HTL/TTL

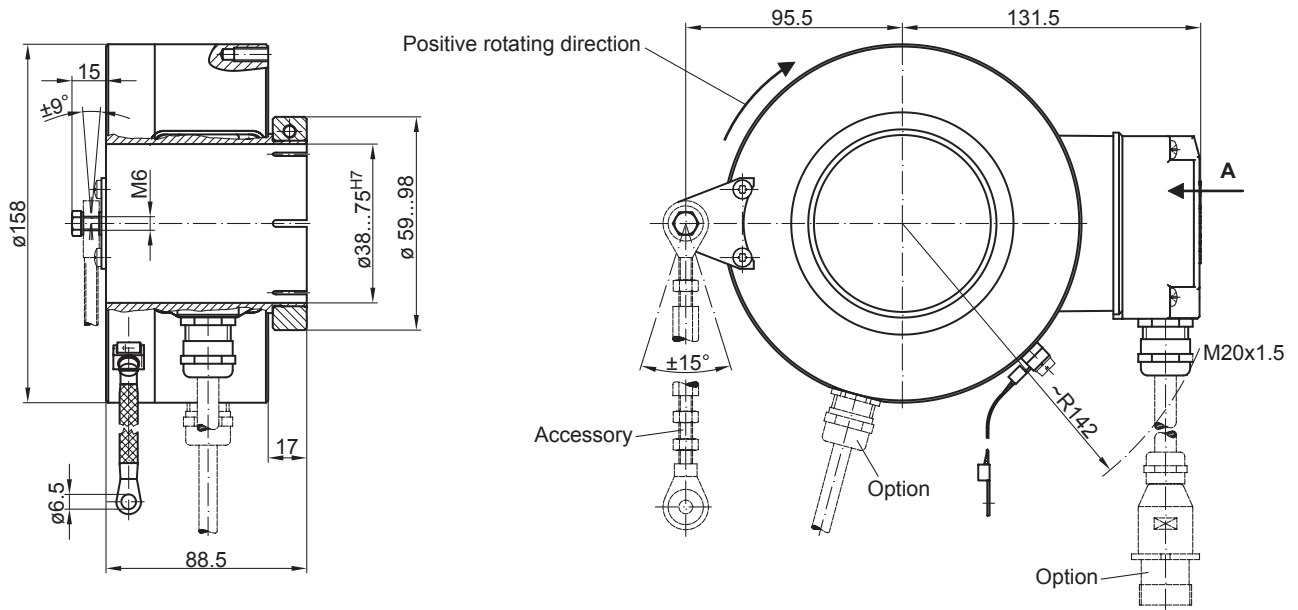
At positive rotating direction (see dimension)



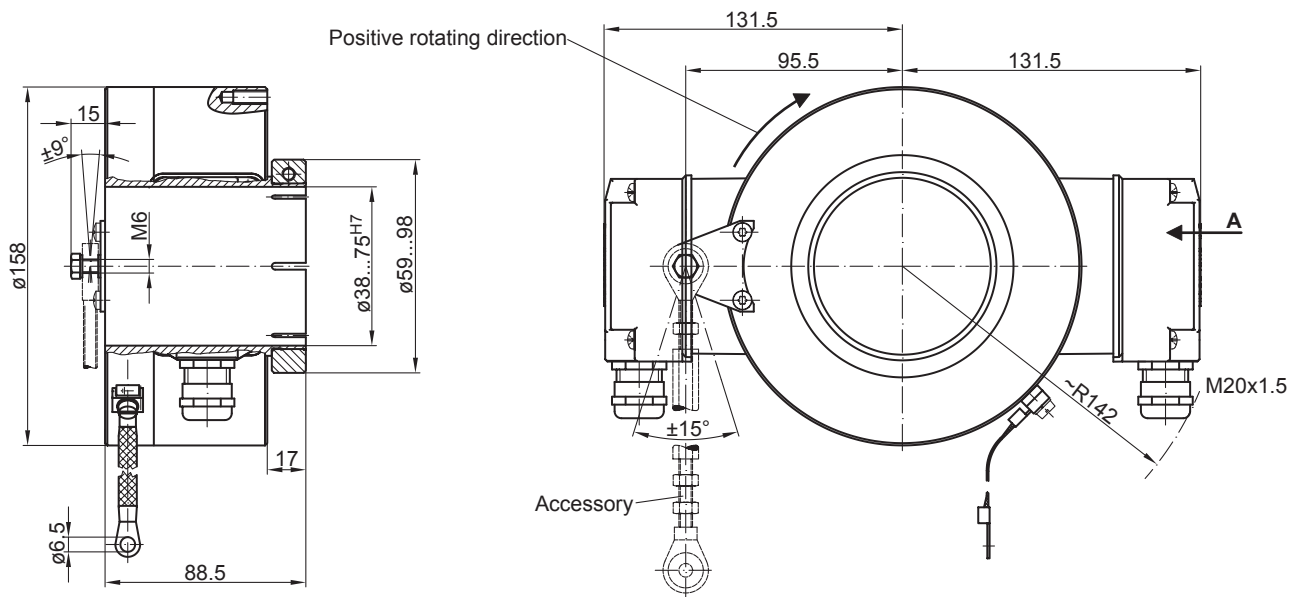
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Dimensions



Single sensing



Redundant sensing

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Ordering reference

| | HOG163 | # | DN | #### | ### | ##### |
|--------------------------------------|---|--------|----|------|------|-------|
| Product | Incremental encoder | HOG163 | | | | |
| Redundant sensing | Without redundant sensing | | | | | |
| | With redundant sensing | | M | | | |
| Output signals | K1, K2, K0 | | DN | | | |
| Pulse number⁽¹⁾ | | | | | | |
| | 250 | | | | 250 | |
| | 500 | | | | 500 | |
| | 512 | | | | 512 | |
| | 1000 | | | | 1000 | |
| | 1024 | | | | 1024 | |
| | 1080 | | | | 1080 | |
| | 1200 | | | | 1200 | |
| | 2048 | | | | 2048 | |
| | 2500 | | | | 2500 | |
| | 4096 | | | | 4096 | |
| | 5000 | | | | 5000 | |
| Voltage supply / output stage | 9...30 VDC / output stage HTL with inverted signals | | | | | I |
| | 5 VDC / output stage TTL with inverted signals | | | | | TTL |
| | 9...30 VDC / output stage TTL with inverted signals | | | | | R |
| Shaft diameter | Blind hollow shaft $\varnothing 38$ mm | | | | | 38H7 |
| | Through hollow shaft $\varnothing 50$ mm | | | | | 50H7 |
| | Through hollow shaft $\varnothing 55$ mm | | | | | 55H7 |
| | Through hollow shaft $\varnothing 56$ mm | | | | | 56H7 |
| | Through hollow shaft $\varnothing 60$ mm | | | | | 60H7 |
| | Through hollow shaft $\varnothing 65$ mm | | | | | 65H7 |
| | Through hollow shaft $\varnothing 70$ mm | | | | | 70H7 |
| | Through hollow shaft $\varnothing 75$ mm | | | | | 75H7 |

(1) Other pulse numbers on request.

Accessories

Mounting accessories

| | |
|----------|---|
| 11043628 | Torque arm M6, length 67...70 mm |
| 11004078 | Torque arm M6, length 120...130 mm (≥ 71 mm) |
| 11002915 | Torque arm M6, length 425...460 mm (≥ 131 mm) |
| 11054917 | Torque arm M6 insulated, length 67...70 mm |
| 11072795 | Torque arm M6 insulated, length 120...130 mm (≥ 71 mm) |
| 11082677 | Torque arm M6 insulated, length 425...460 mm (≥ 131 mm) |
| 11077197 | Mounting kit for torque arm size M6 and earthing strap |