

Combination

Twin encoder with two electrically separated systems

Blind hollow shaft or cone shaft

300...5000 pulses per revolution

HOG 10 G



HOG 10 G

Technical data - electrical ratings

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

Features

- Twin encoder featuring two separate systems
- TTL output driver for cable length up to 550 m
- Very high resistance to shock and vibrations
- Hybrid bearing for extended lifetime
- Shaft insulation up to 2.8 kV
- Big terminal boxes, turn by 180°

Optional

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

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) |
| Shaft loading | \leq 450 N axial \leq 600 N radial |
| Protection DIN EN 60529 | IP 66 |
| Operating speed | \leq 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 |
| 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

Incremental twin encoder

HOG10

| | | | | | | | | | | |
|--|---|--|----|--|--|---|----|--|--|--|
| | G | | DN | | | / | DN | | | |
|--|---|--|----|--|--|---|----|--|--|--|

Shaft diameter
 16H7 Blind hollow shaft ø16 mm
 20H7 Blind hollow shaft ø20 mm
 17K Cone shaft ø17 mm (1:10)

Sealing system
 LR Dust protection
 SR Damp protection

Voltage supply / signals
 I 9...30 VDC / output circuit HTL with inverted signals
 TTL 5 VDC / output circuit TTL with inverted signals
 R 9...30 VDC / output circuit TTL with inverted signals

Pulse number - see table

Output signals
 DN K1, K2, K0

Voltage supply / signals
 I 9...30 VDC / output circuit HTL with inverted signals
 TTL 5 VDC / output circuit TTL with inverted signals
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Pulse number - see table

Output signals
 DN K1, K2, K0

Redundant sensing
 Without redundant sensing
 M With redundant sensing

EMS - Enhanced Monitoring System
 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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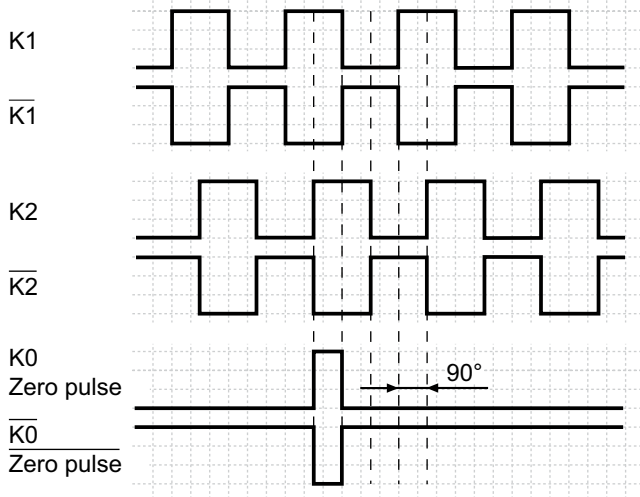
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Output signals

At positive rotating direction



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 | Encoder o.k., rotating (Error output = HIGH) |
| Green | Encoder o.k., stopped (Error output = HIGH) |
| No light | No output voltage connection or wrong connection (Error output = LOW) |

* Only at rotating encoder

Accessories

Connectors and cables

HEK 8 Sensor cable for encoders

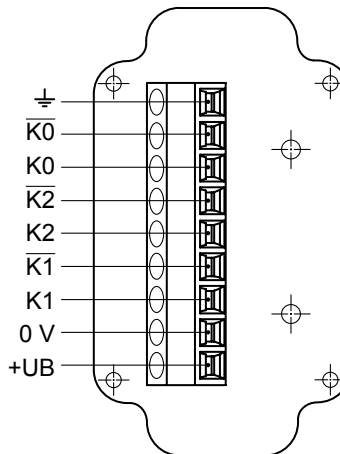
Mounting accessories

| | |
|----------|--|
| DMS 6 | Torque arm size M6 |
| 11077197 | Mounting kit for torque arm size M6 and earthing strap |
| 11077087 | Mounting and dismantling set |

Terminal assignment

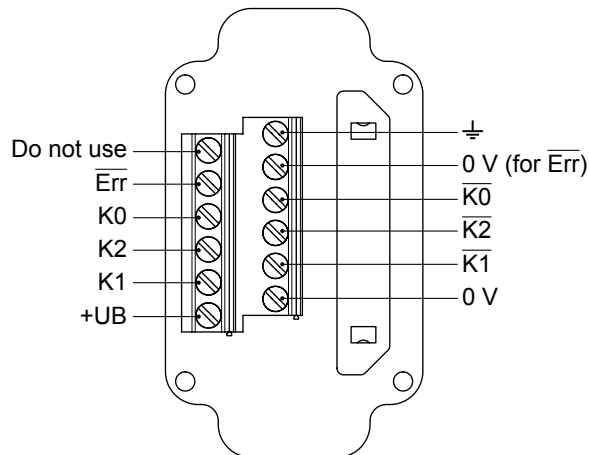
View A

Connecting terminal in terminal box



Option EMS: View A

Connecting terminal in terminal box



Option EMS: LED status / Error output

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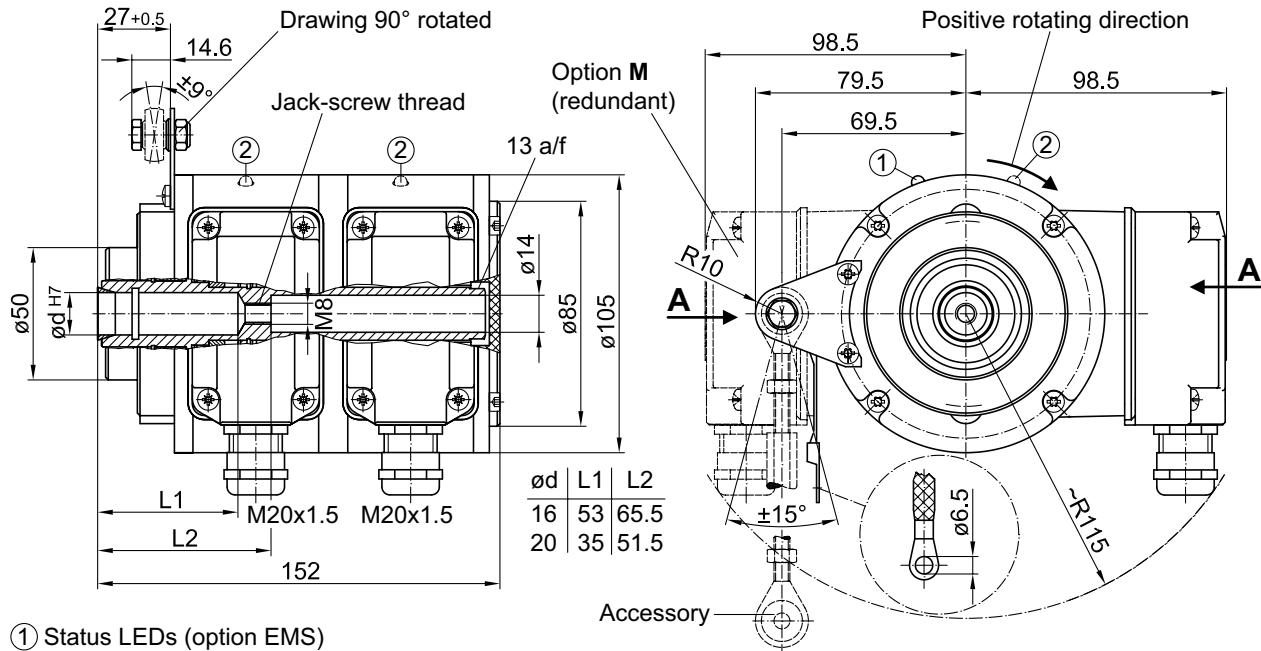
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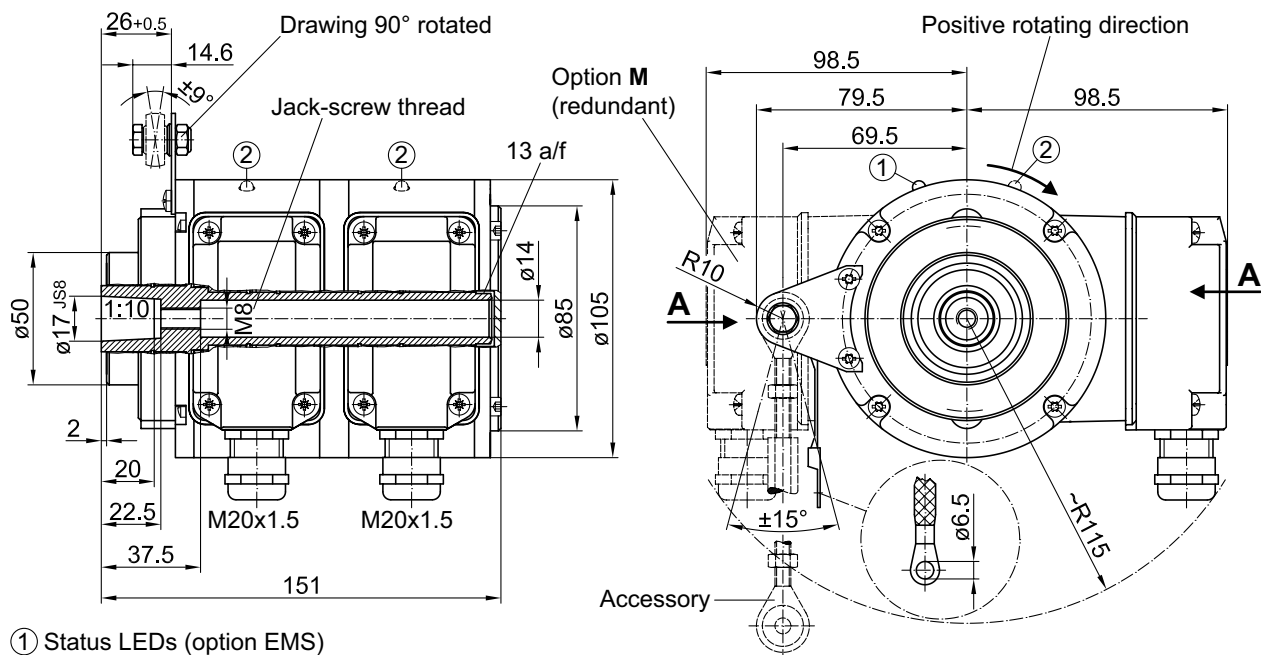
Dimensions

HOG 10 G (HOG 10.2 G, HOG 10 G M, HOG 10.2 G M) - Version with blind hollow shaft



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

HOG 10 G (HOG 10.2 G, HOG 10 G M, HOG 10.2 G M) - Version with cone shaft



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