

# Incremental encoders

Blind hollow shaft  $\varnothing 12$  mm and  $\varnothing 14$  mm

10...10000 pulses per revolution

## HOG 70



HOG 70

### Features

- Compact, robust die-cast housing
- Max. 10000 pulses per revolution
- Inside connecting terminals
- Output stage HTL or TTL
- Output stage TTL with regulator UB 9...26 VDC
- High output frequency
- High protection IP 66

### Technical data - electrical ratings

|                       |                               |
|-----------------------|-------------------------------|
| Voltage supply        | 9...26 VDC<br>5 VDC $\pm 5$ % |
| Consumption w/o load  | $\leq 100$ mA                 |
| Pulses per revolution | 10...10000                    |
| Phase shift           | $90^\circ \pm 20^\circ$       |
| Duty cycle            | 40...60 %                     |
| Reference signal      | Zero pulse, width $90^\circ$  |
| Sensing method        | Optical                       |
| Output frequency      | $\leq 250$ kHz                |
| Output signals        | A, B, C + inverted            |
| Output stages         | HTL<br>TTL/RS422              |
| Interference immunity | EN 61000-6-2                  |
| Emitted interference  | EN 61000-6-3                  |
| Approvals             | CE, UL approval / E256710     |

### Technical data - mechanical design

|                         |  |
|-------------------------|--|
| Size (flange)           | $\varnothing 60$ mm  |
| Shaft type              | $\varnothing 12...14$ mm (blind hollow shaft)                                      |
| Admitted shaft load     | $\leq 30$ N axial<br>$\leq 40$ N radial  |
| Protection DIN EN 60529 | IP 66  |
| Operating speed         | $\leq 12000$ rpm (mechanical)  |
| Operating torque typ.   | 1 Ncm  |
| Rotor moment of inertia | 55 gcm <sup>2</sup>  |
| Materials               | Housing: aluminium die-cast<br>Shaft: stainless steel                              |
| Operating temperature   | $-20...+85$ °C   |
| Resistance              | IEC 60068-2-6<br>Vibration 10 g, 10-2000 Hz<br>IEC 60068-2-27<br>Shock 100 g, 6 ms |
| Explosion protection    | II 3 G Ex nA IIC T4 Gc X (gas)<br>II 3 D Ex tc IIIC T85°C Dc X<br>(dust)           |
| Connection              | Connecting terminal  |
| Weight approx.          | 280 g  |

Subject to modification in technic and design. Errors and omissions excepted.

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## Blind hollow shaft ø12 mm and ø14 mm

### 10...10000 pulses per revolution

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#### Part number

#### Incremental encoder

HOG70 **DN**

Shaft diameter  
 12H7 Blind hollow shaft ø12 mm  
 14H7 Blind hollow shaft ø14 mm  
  
 Voltage supply / signals  
 CI 9...26 VDC / output stage HTL (C) 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 A, B, C + inverted

#### Pulse number

|     |     |      |      |       |
|-----|-----|------|------|-------|
| 10  | 300 | 625  | 1500 | 3600  |
| 20  | 360 | 720  | 1800 | 4096  |
| 60  | 400 | 900  | 2000 | 5000  |
| 100 | 500 | 1000 | 2048 | 6000  |
| 200 | 512 | 1024 | 2500 | 8192  |
| 256 | 600 | 1250 | 3000 | 10000 |

#### Accessories

##### Connectors and cables

HEK 8 Sensor cable for encoders

##### Diagnostic accessories

11075858 Analyzer for encoders HENQ 1100

# Incremental encoders

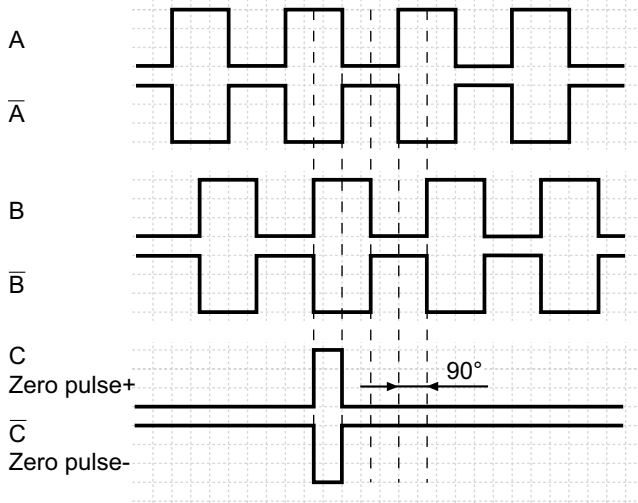
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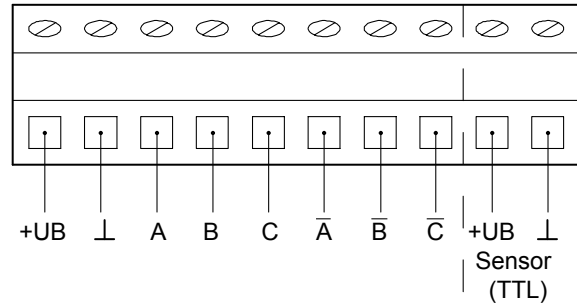
### Output signals

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                                       |
| K1; A-bar; A-        | Output signal channel 1 inverted                              |
| K2; B; B+            | Output signal channel 2 (offset by 90° to channel 1)          |
| K2; B-bar; B-        | Output signal channel 2 (offset by 90° to channel 1) inverted |
| K0; C; R; R+         | Zero pulse (reference signal)                                 |
| K0; C-bar; R-bar; R- | Zero pulse (reference signal) inverted                        |
| dnu                  | Do not use  |

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## Dimensions

