

Incremental encoders

Isolated blind hollow shaft $\varnothing 12...16$ mm, cone shaft $\varnothing 17$ mm

Resolution 500...2500 pulses

HOG 86



HOG 86 T

Technical data - electrical ratings

Voltage supply	5 VDC ± 5 % 9...30 VDC
Consumption w/o load	≤ 100 mA
Resolution (steps/turn)	500...2500
Phase shift	$90^\circ \pm 20^\circ$
Scan ratio	40...60 %
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 120 kHz
Output signals	K1, K2, K0 + inverted Error output (only EMS)
Output circuit	HTL (power linedriver) TTL/RS422
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Approvals	UL approval / E256710, CSA approval / E256710

Features

- Protected electronics during shaft mounting
- Terminal box, connector M23 or cable output
- Compact, robust housing
- Steel shaft with high shaft loads up to 300 N
- Operating temperature $-40...+100$ °C
(version with cable $-40...+80$ °C)
- Isolated blind hollow shaft

Optional

- Hybrid bearings
- Function control with EMS

Technical data - mechanical design

Dimensions (flange)	$\varnothing 99$ mm
Shaft type	$\varnothing 12...16$ mm (blind hollow shaft) $\varnothing 17$ mm (cone shaft 1:10)
Shaft loading	≤ 200 N axial ≤ 300 N radial
Motor shaft tolerance	0.2 mm radial
Protection DIN EN 60529	IP 66
Operating speed	≤ 10000 rpm (mechanical)
Operating torque	≤ 6 Ncm
Rotor moment of inertia	160 gcm ²
Materials	Housing: aluminium Shaft: stainless steel
Operating temperature	$-40...+100$ °C $-40...+80$ °C (cable version)
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 Complies to ISO 12944-5:1998 Protective paint systems (C4)
Explosion protection	II3G Ex nA IIC T4 Gc (gas) II3D Ex tc IIIC T135°C Dc (dust)
Connection	Terminal box Connector M23, 12-pin Cable 1 m
Weight approx.	1.1 kg

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Part number

Incremental encoder

HOG 86 **DN**

Voltage supply / signals

- I 9...30 VDC / output circuit HTL with inverted signals
- T 5 VDC / output circuit TTL with inverted signals
- R 9...30 VDC / output circuit TTL with inverted signals

See part number (pulses)

Output signals

DN K1, K2, K0 + inverted

Shaft diameter

- 2 Blind hollow shaft $\varnothing 12$ mm
- 6 Blind hollow shaft $\varnothing 16$ mm
- 7 Cone shaft $\varnothing 17$ mm (1:10)

Insulation

- H Hybrid bearing
- P PA isolated

Connection

- T Terminal box, radial
- F Connector M23, radial
- K Cable 1 m, radial

Design

- Without function control EMS
- .2 With function control EMS

Part number (pulses)

500	1000	1200	2048
512	1024	1250	2500

Accessories

Connectors and cables

HEK 8	Sensor cable for encoders
11068577	Mating connector M23 counter-clockwise

Mounting accessories

11077087	Mounting and dismounting set
11071906	Mounting set earthing strap
DMS 6	Torque arm size M6
11071850	Support plate mounting-set R63 for torque arm size M6
11082676	Support plate mounting-set R69 for torque arm size M6
11072076	Screw mounting-set for torque arm size M6
11071904	Mounting set for torque arm size M6

Diagnostic accessories

HENQ 1100	Analyzer for encoders
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Incremental encoders

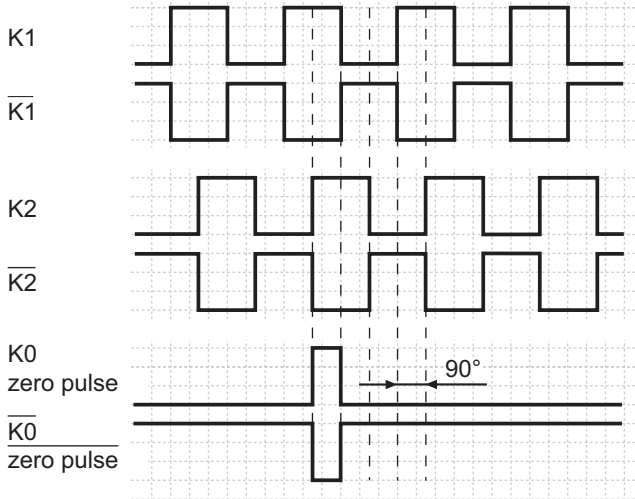
Isolated blind hollow shaft $\varnothing 12...16$ mm, cone shaft $\varnothing 17$ mm

Resolution 500...2500 pulses

HOG 86

Output signals

at positive rotating direction



Option EMS: LED status / error output

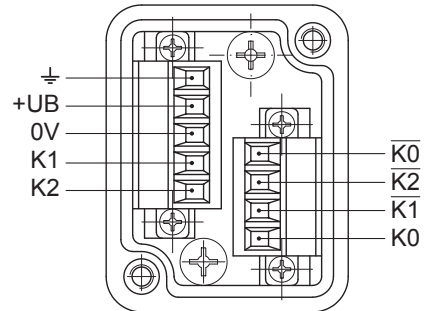
flash light red*	Error of signal sequence, marker pulse or cycles (Error output = high-low alternation)
red	Overload output driver (Error output = low)
flash light green	Encoder o.k., rotating (Error output = high)
green	Encoder o.k., stopped (Error output = high)
no light	No output voltage connection or wrong connection (Error output = low)

* only at rotating encoder

Terminal assignment

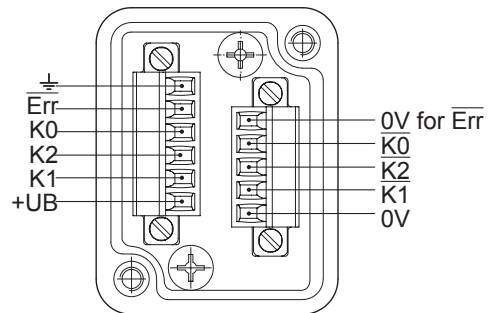
HOG 86 T - View A

Connecting terminal in terminal box



HOG 86.2 T - View A

Connecting terminal in terminal box

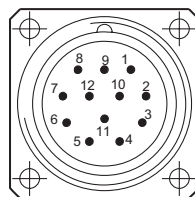


HOG 86(.2) F - View B

Connector M23, male contacts, clockwise

HOG 86(.2) K

Male	Assignment	Cable colour
Pin 1	$\overline{K2}$ (K2 inv.)	yellow
Pin 2	do not use	-
Pin 3	K0 (zero pulse)	grey
Pin 4	$\overline{K0}$ (zero pulse inv.)	pink
Pin 5	K1	white
Pin 6	$\overline{K1}$ (K1 inv.)	brown
Pin 7	do not use (only EMS: \overline{Err})	violet
Pin 8	K2	green
Pin 9	do not use (only EMS: 0V)	black
Pin 10	0V	blue
Pin 11	do not use	-
Pin 12	+UB	red



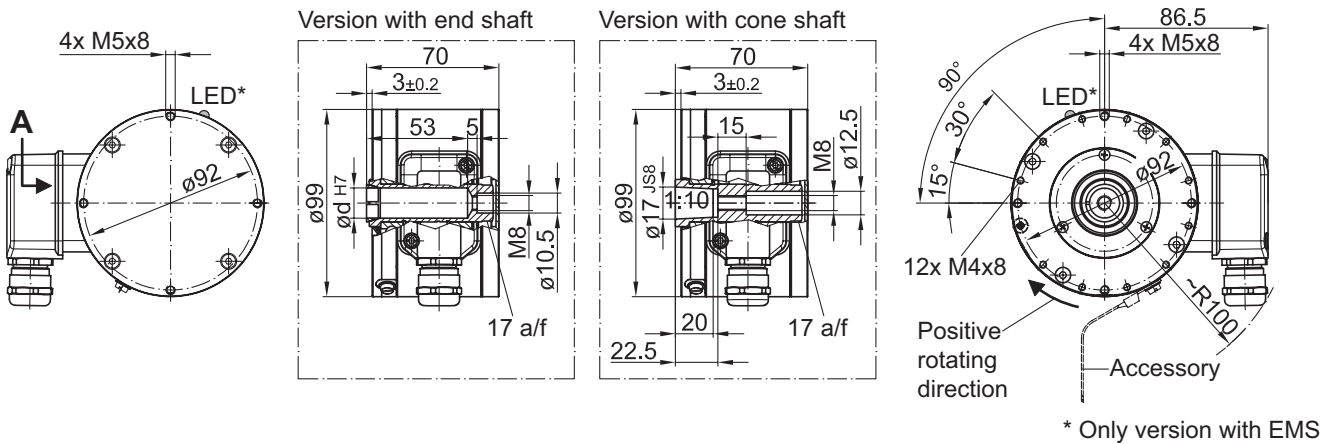
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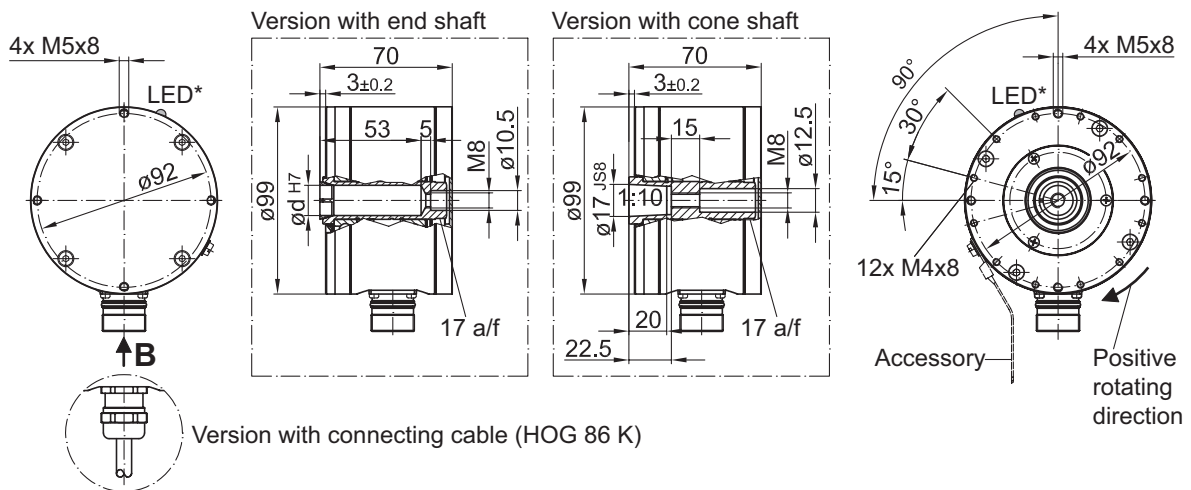
HOG 86

Dimensions

HOG 86 T - Version with radial terminal box



HOG 86 F - Version with radial connector M23, HOG 86 K - Version with radial connecting cable



HOG 86 - Mounting possibilities

