Incremental encoder

EHOG860-E12P40012/50

Article number: 11738883

Overview

- High-performant incremental HeavyDuty encoders for demanding machinery and asynchronous drives
- Protection IP66
- Shaft insulation 3.5 kV
- Corrosion protection CX
- Operating temperature -40...+100 °C
- Cable length 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
- Connection: cable 5 m
- Blind hollow shaft ø12 mm
- Pulses per revolution 4096



Picture similar

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	4096
Further pulses per revolution	Freely parameterizable 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 typ.	≤200 kHz
Output signals	K1, K2, K0 + inverted
Output stages	HTL-P (power linedriver) TTL
Shaft insulation	Suitable up to 3.5 kV (DC)
Transmission length	≤350 m at 100 kHz (HTL-P) ≤550 m at 100 kHz (TTL)
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-4
Approval	CE UL approval / E217823 CSA

Technical data - mechanical design

Size (flange)	ø90 mm, length 72 mm
Shaft type	ø12G7 mm (blind hollow shaft)
Admitted shaft load	≤350 N axial ≤450 N radial
Mounting type	Hollow shaft: central screw
Protection EN 60529	IP 66
Operating speed	≤6000 rpm (mechanical)
Starting torque	≤82 Ncm
Rotor moment of inertia	220 gcm²
Material	Housing: aluminium, powder-coated Shaft: stainless steel
Operating temperature	-40...+100 °C
Resistance	IEC 60068-2-6 Vibration 20 g, 10-2000 Hz IEC 60068-2-27 Shock 300 g, 1 ms 1 Mio. brake shocks
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions CX according to ISO 12944-2
Connection	Cable, open cable end, length 5 m

Optional

- Parameterized pulse numbers can be ordered ex works

Possible combinations

- Redundant sensing with second output (HOG870)
- Speed monitoring (HOG890)

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Baumer Sensor Suite

Monitoring

The following information is displayed with the Baumer Sensor Suite:

- Encoder settings
- Speed and position over time
- Current speed, position and temperature
- Encoder status
- Minimum and maximum temperature over entire service life
- Total operating time
- Total revolutions

Parameterization

The following parameters can be set via USB-C access with the Baumer Sensor Suite:

- Number of lines per mechanical revolution
- Output stages
- Reference length and phase

Parameterization - encoder

Pulses per revolution	Selection: 50, 500, 512, 1000, 1024, 2048, 2500, 4096, 5000 + free input
Output stages	HTL-P (power linedriver) TTL
Rotating direction	CW, CCW
Width of zero pulse	90°, 180° (reference signal)

Terminal assignment

Cable

Wire color	Assignment
Red	Ub
Blue	0 V
Grey	K0
Pink	$\overline{K0}$
White	K1
Brown	$\overline{K1}$
Green	K2
Yellow	$\overline{K2}$

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

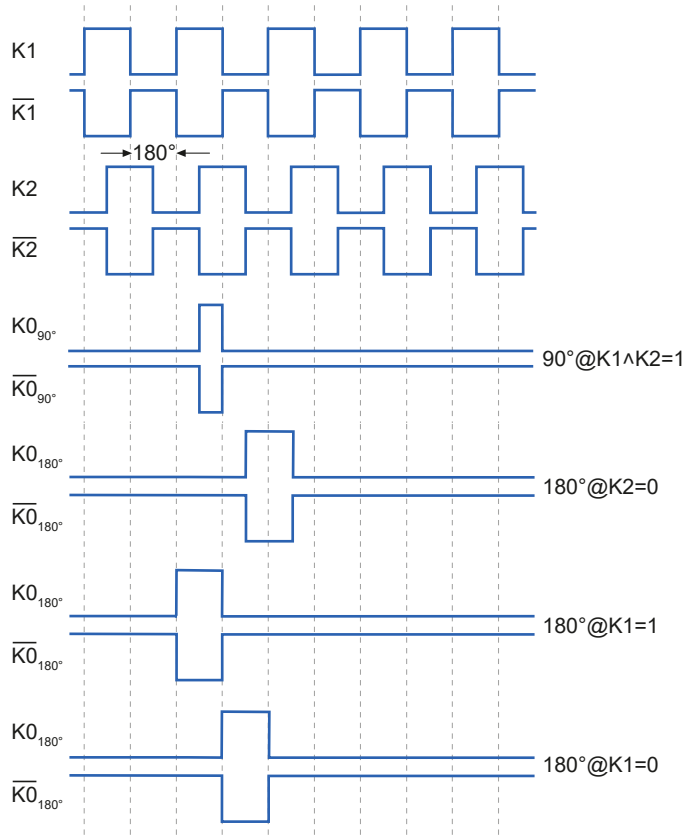
USB ENC1	USB-C for parameterization (SMART)

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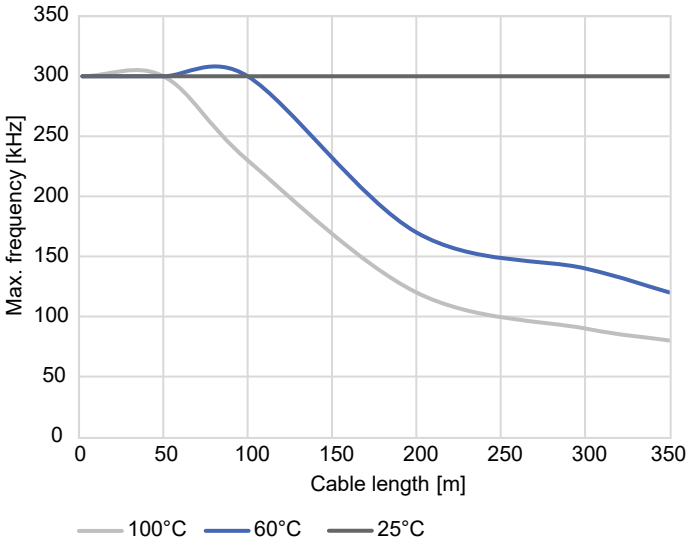
Output signals



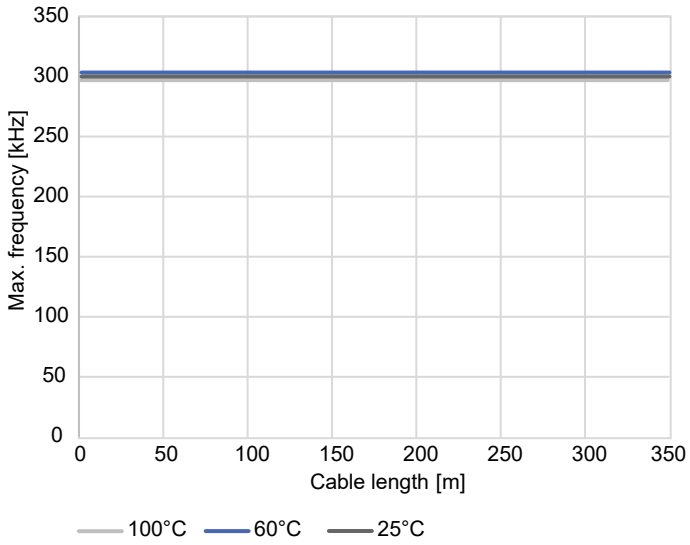
With positive direction of rotation / clockwise, with view on the encoder shaft



Derating



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



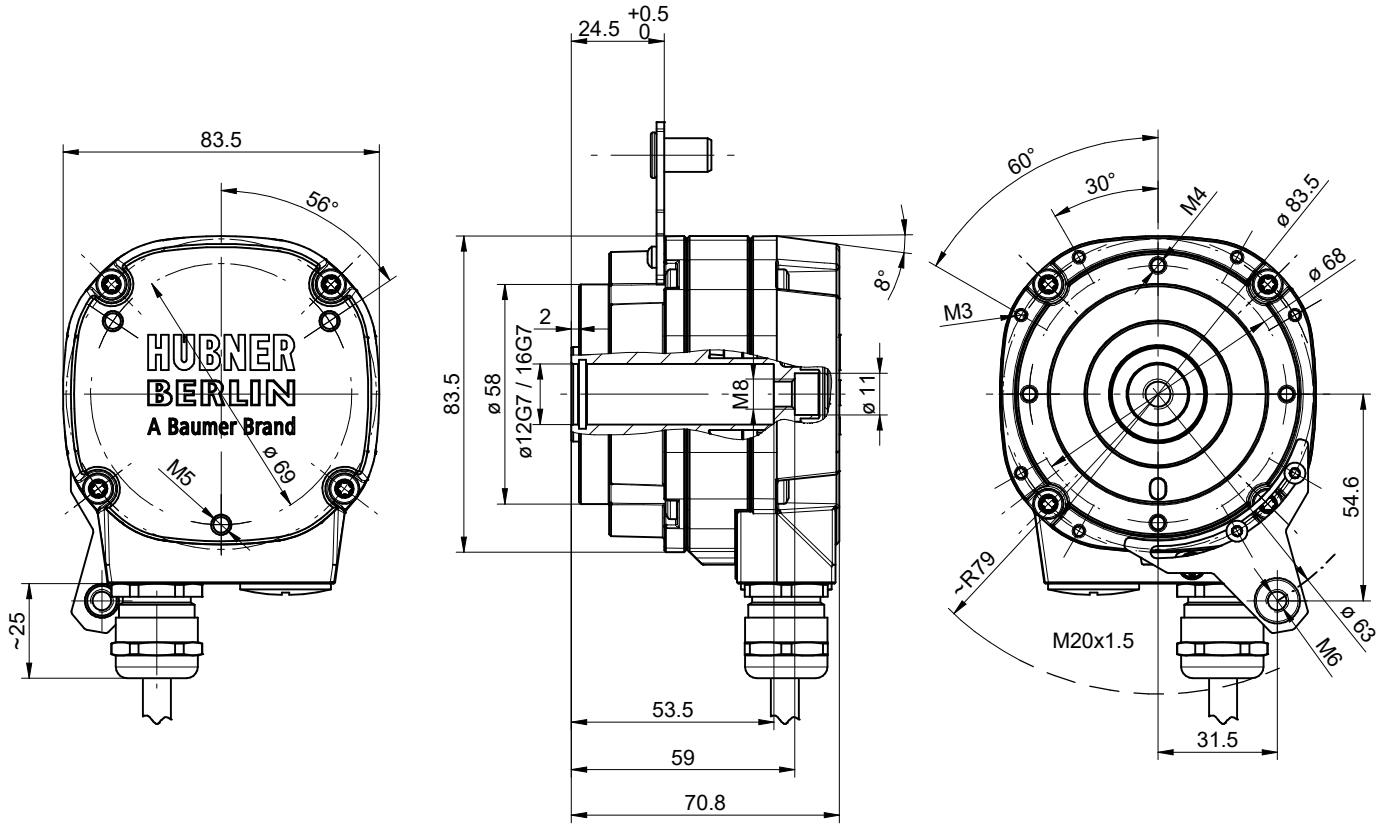
Max. frequency over cable length and temperature, Ub 12 V

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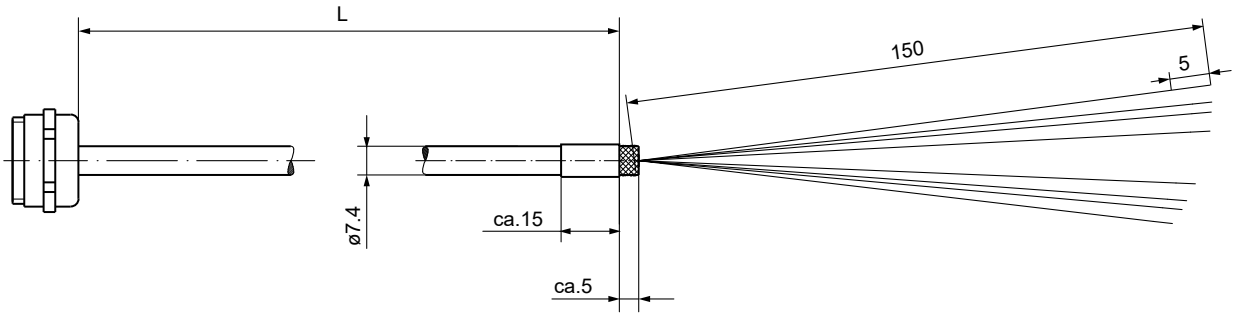
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Dimensions



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



Cable data

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Ordering reference

Product	Shaft	Pulses per revolution, output	Connection	Comment	Material number
HOG860	Solid shaft ø11 mm	1024, HTL-P	1 x cable gland M20	FIX	EHOG860-11730669
			1 x flange connector M23	FIX	EHOG860-11730670
		2048, HTL-P	1 x cable gland M20	FIX	EHOG860-11730672
			1 x flange connector M23	FIX	EHOG860-11730673
		Parameterization at factory[1)]	1 x cable gland M20	FIX	EHOG860-11730674
			1 x flange connector M23	FIX	EHOG860-11730675
		Parameterization & monitoring at customer	1 x cable gland M20	SMART	EHOG860-11730676
			1 x flange connector M23	SMART	EHOG860-11730677
	Blind hollow shaft ø12G7 mm	1024, HTL-P	1 x cable gland M20	FIX	EHOG860-11730678
			1 x cable 5 m	FIX	EHOG860-11738881
			1 x flange connector M23	FIX	EHOG860-11730679
		2048, HTL-P	1 x cable gland M20	FIX	EHOG860-11730680
			1 x cable 5 m	FIX	EHOG860-11738882
			1 x flange connector M23	FIX	EHOG860-11730681
		4096, HTL-P	1 x cable 5 m	FIX	EHOG860-11738883
		Parameterization at factory[1)]	1 x cable gland M20	FIX	EHOG860-11730682
			1 x flange connector M23	FIX	EHOG860-11730683
		Parameterization & monitoring at customer	1 x cable gland M20	SMART	EHOG860-11730684
			1 x flange connector M23	SMART	EHOG860-11730685
	Blind hollow shaft ø16G7 mm	1024, HTL-P	1 x cable gland M20	FIX	EHOG860-11730686
			1 x cable 1 m	FIX	EHOG860-11736714
			1 x flange connector M23	FIX	EHOG860-11730687
		2048, HTL-P	1 x cable gland M20	FIX	EHOG860-11730688
			1 x flange connector M23	FIX	EHOG860-11730689
		Parameterization at factory[1)]	1 x cable gland M20	FIX	EHOG860-11730690
			1 x flange connector M23	FIX	EHOG860-11730691
		Parameterization & monitoring at customer	1 x cable gland M20	SMART	EHOG860-11730692
			1 x flange connector M23	SMART	EHOG860-11730693
	Cone shaft ø17 mm	1024, HTL-P	1 x cable gland M20	FIX	EHOG860-11730694
			1 x flange connector M23	FIX	EHOG860-11730695
		2048, HTL-P	1 x cable gland M20	FIX	EHOG860-11730696
			1 x flange connector M23	FIX	EHOG860-11730697
		Parameterization at factory[1)]	1 x cable gland M20	FIX	EHOG860-11730698
			1 x flange connector M23	FIX	EHOG860-11730699
		Parameterization & monitoring at customer	1 x cable gland M20	SMART	EHOG860-11730701
			1 x flange connector M23	SMART	EHOG860-11730702

1) Please choose resolution, output stage and zero pulse (length and position) with your order
Resolution: 1...32768 ppr
Output stage: HTL-P or TTL
Zero pulse:
- 90°, K1=K2=1
- 180°, K1=0
- 180°, K2=0
- 180°, K1=1

Example for EHOG860 - 11730674: 5000 ppr, TTL, 180°, K2=0

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