

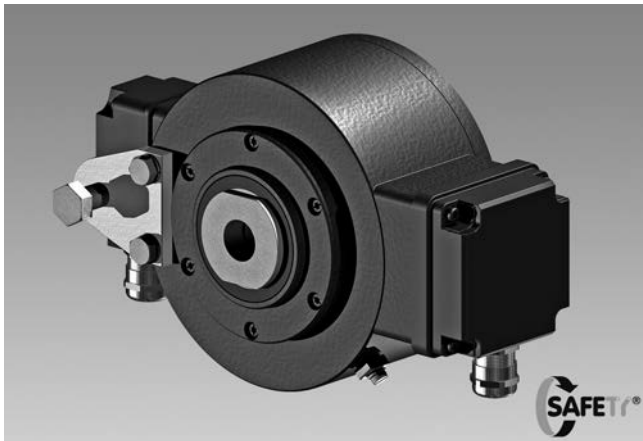
Combination

Encoder with integrated programmable, digital speed switch

Through hollow shaft $\varnothing 20 \dots 50$ mm

512...2500 pulses per revolution

HOG 16 + DSL



HOG 16 + DSL

Features

- Freely programmable on and off switching speed
- Programming via included software (RS485 interface)
- Logic level HTL or TTL
- DSL.R: 3 outputs speed controlled; DSL.E: 2 outputs speed controlled and 1 control output

Optional

- Relay module DS 93 R (DSL.R version only)
- Redundant sensing (option M)
- Hybrid bearing
- Earthing brushes

Technical data - electrical ratings

Voltage supply	With DSL.R: 15...30 VDC With DSL.E: 9...30 VDC
Consumption w/o load	≤ 200 mA
Sensing method	Optical

Technical data - electrical ratings (encoder)

Pulses per revolution	512...2500
Phase shift	$90^\circ \pm 20^\circ$
Duty cycle	40...60 %
Reference signal	Zero pulse, width 90°
Output frequency	≤ 120 kHz
Output signals	K1, K2, K0 + inverted
Output stages	HTL TTL/RS422

Technical data - electrical ratings (speed switches)

Interface	RS485
Switching accuracy	± 2 % (or Digit)
Switching outputs	With DSL.R: 3 outputs, speed control With DSL.E: 2 outputs, speed control and 1 control output
Output switching capacity	With DSL.R: 12 VDC; ≤ 40 mA With DSL.E: 5...230 VAC/VDC; 5...250 mA
Switching delay time	≤ 40 ms

Technical data - mechanical design

Size (flange)	$\varnothing 158$ mm
Shaft type	$\varnothing 20 \dots 50$ mm (through hollow shaft)
Admitted shaft load	≤ 450 N axial ≤ 600 N radial
Protection DIN EN 60529	IP 66
Speed (n)	≤ 6000 rpm
Range of switching speed (ns)	Pulses = 512: $\pm 16 \dots 6000$ rpm Pulses = 1024: $\pm 8 \dots 6000$ rpm Pulses = 2048: $\pm 4 \dots 3500$ rpm Pulses = 2500: $\pm 3 \dots 2900$ rpm
Operating torque	≤ 15 Ncm
Rotor moment of inertia	4.9 kgcm ²
Materials	Housing: aluminium Shaft: stainless steel
Operating temperature	$-20 \dots +85$ °C
Resistance	IEC 60068-2-6 Vibration 15 g, 10-2000 Hz IEC 60068-2-27 Shock 300 g, 6 ms
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions C4 according to ISO 12944-2
Connection	2x terminal box 3x terminal box (with option M)
Weight approx.	4 kg, 5 kg (with option M)
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE

Combination

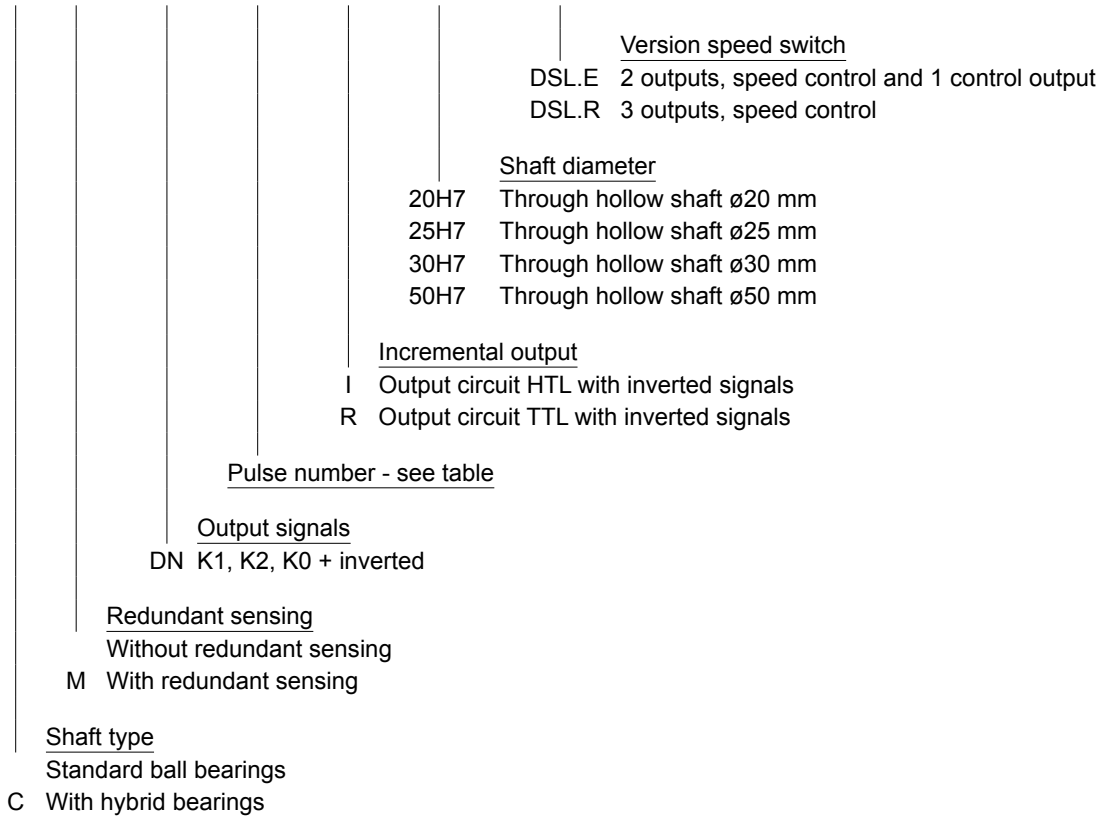
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Part number

HOG16

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Pulse number

512	1024	2048	2500
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Accessories

Connectors and cables

HEK 8	Sensor cable for encoders
11064248	USB → RS485 converter
11117345	USB → RS485 converter with connecting cable for DSL

Mounting accessories

11054922	Torque arm M12, length 155 (-10/+15) mm
11054921	Torque arm M12, length 190 (-10/+15) mm
11072741	Torque arm M12, length 480-540 mm (shortenable ≥200 mm)
11054924	Torque arm M12 insulated, length 155 (-10/+15) mm
11072723	Torque arm M12 insulated, length 480-540 mm (shortenable ≥200 mm)
11069336	Mounting kit for torque arm size M12 and an earthing strap

Diagnostic accessories

11075858	Analyzer for encoders HENQ 1100
11075880	Analyzer for encoders HENQ 1100 with a power pack

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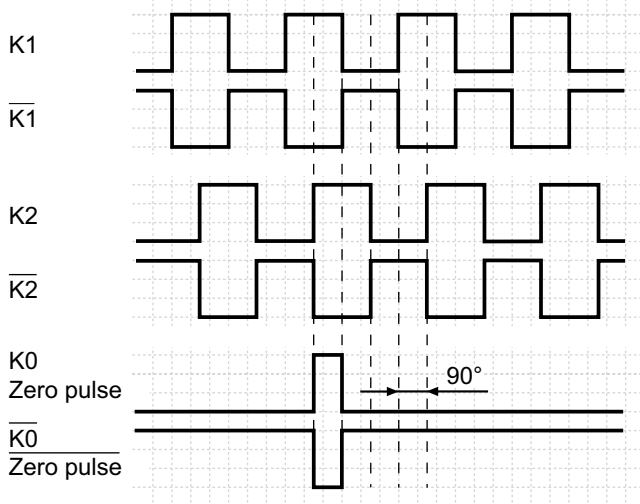
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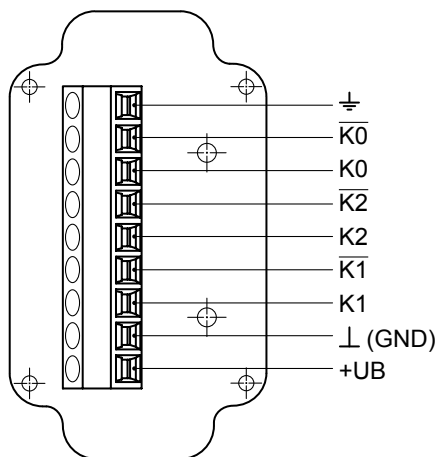
Output signals

At positive rotating direction

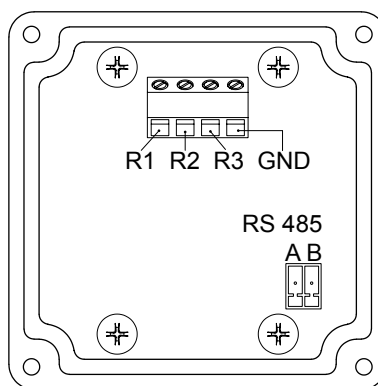


Terminal assignment

View A - Connecting terminal in terminal box



View B - Connecting terminal speed switch Version DSL.R



Terminal significance

Speed switch version DSL.R

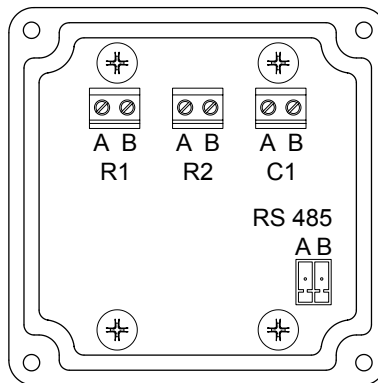
R1*	Transistor switching output 1, individually adjustable switching speed, High (12 V), Low (0 V), max. 20 mA
R2*	Transistor switching output 2, individually adjustable switching speed, High (12 V), Low (0 V), max. 20 mA
R3*	Transistor switching output 3, individually adjustable switching speed, High (12 V), Low (0 V), max. 20 mA
GND*	Ground connection
RS 485	Interface for PC or Laptop (adapter required). Programming of the DSL via the included software.

* Connection to relay module, for example DS 93 R (accessory)

Speed switch version DSL.E

R1 (A+B)	Electronic relay output 1, individually adjustable switching speed, 5 ... 230 V AC/DC
R2 (A+B)	Electronic relay output 2, individually adjustable switching speed, 5 ... 230 V AC/DC
C1 (A+B)	Electronic relay output as a control output, 5 ... 250 mA
RS 485	Interface for PC or Laptop (adapter required). Programming of the DSL via the included software.

View B - Connecting terminal speed switch Version DSL.E



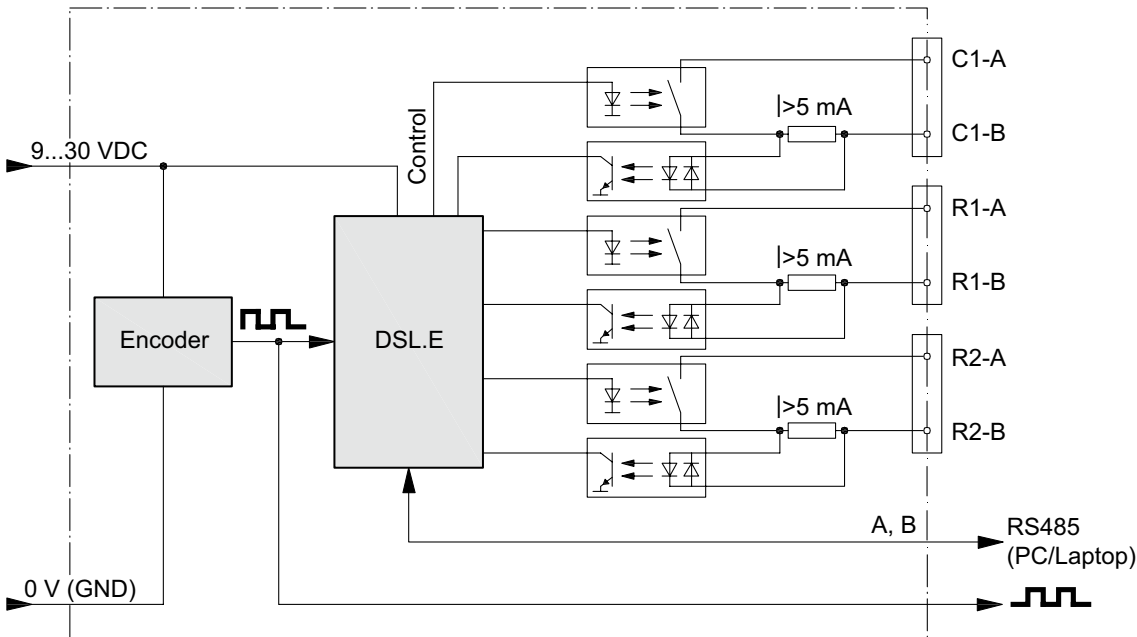
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Block circuit diagram

Version with DSL.E



Version with DSL.R

