

Combination

Encoder with integrated programmable, digital speed switch

Blind hollow shaft $\varnothing 16$ mm

512...2500 pulses per revolution

HOG 10 + DSL



HOG 10 + DSL

Technical data - electrical ratings

Voltage supply	With DSL.R: 15...30 VDC With DSL.E: 9...30 VDC
Consumption w/o load	≤ 200 mA
Shaft insulation	Suitable up to 2.8 kV

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
Sensing method	Optical

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

Features

- Freely programmable on and off switching speed
- Programming via included software (RS485 interface)
- Logic level HTL or TTL
- 512...2500 pulses per revolution
- Blind hollow shaft $\varnothing 16$ mm
- DSL.R: 3 outputs speed controlled (independent transistor outputs)
- DSL.E: 2 outputs speed controlled and 1 control output

Optional

- Relay module DS 93 R (DSL.R version only)

Technical data - mechanical design

Size (flange)	$\varnothing 105$ mm
Shaft type	$\varnothing 16$ mm (blind 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: ± 16 ...6000 rpm Pulses = 1024: ± 8 ...6000 rpm Pulses = 2048: ± 4 ...3500 rpm Pulses = 2500: ± 3 ...2900 rpm
Operating torque	≤ 2 Ncm
Rotor moment of inertia	340 gcm ²
Materials	Housing: aluminium Shaft: stainless steel
Operating temperature	-30...+85 °C
Resistance	IEC 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 200 g, 6 ms
Corrosion protection	IEC 60068-2-52 Salt mist for ambient conditions C4 according to ISO 12944-2
Explosion protection	II 3 G Ex nA IIC T4 Gc (gas) II 3 D Ex tc IIIC T135°C Dc (dust)
Connection	Terminal box
Weight approx.	3.1 kg
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE

Combination

Encoder with integrated programmable, digital speed switch

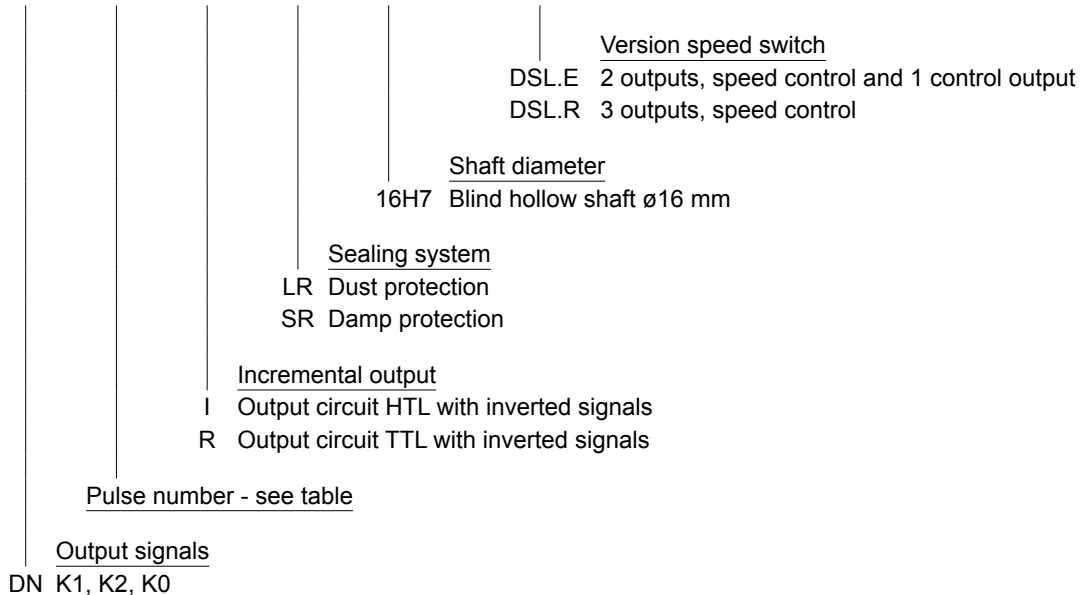
Blind hollow shaft \varnothing 16 mm

512...2500 pulses per revolution

HOG 10 + DSL

Part number

HOG10 **DN** | | | | | | | | **16H7** | **+** | |



Pulse number

512 | 1024 | 2048 | 2500

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

11077197	Mounting kit for torque arm size M6 and earthing strap
11077087	Mounting and dismounting set
11043628	Torque arm M6, length 67-70 mm
11004078	Torque arm M6, length 120-130 mm (shortenable \geq 71 mm)
11002915	Torque arm M6, length 425-460 mm (shortenable \geq 131 mm)
11054917	Torque arm M6 insulated, length 67-70 mm
11072795	Torque arm M6 insulated, length 120-130 mm (shortenable \geq 71 mm)
11082677	Torque arm M6 insulated, length 425-460 mm (shortenable \geq 131 mm)

Diagnostic accessories

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

Combination

Encoder with integrated programmable, digital speed switch

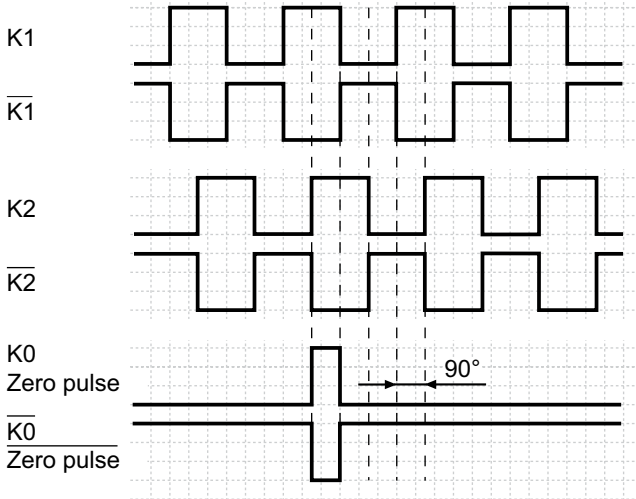
Blind hollow shaft $\varnothing 16$ mm

512...2500 pulses per revolution

HOG 10 + DSL

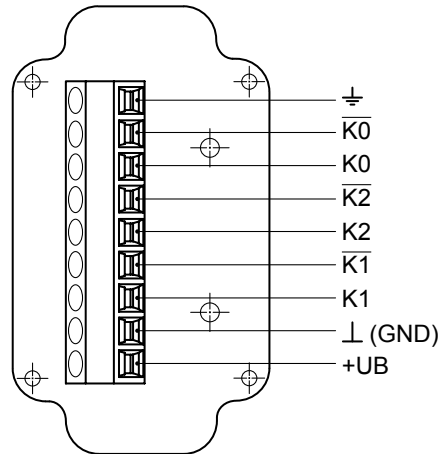
Output signals

At positive rotating direction



Terminal assignment

View A - Connecting terminal in terminal box



Terminal significance

Speed switch version DSL.R

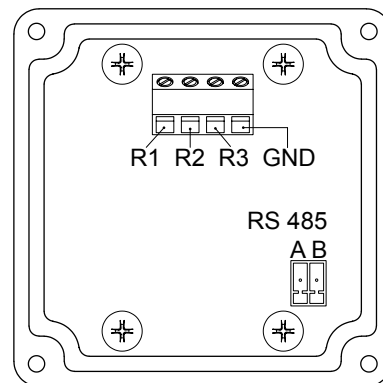
R1*	Transistor switching output 1, individually adjustable switching speed, High (12 V), Low (0 V), max. 20 mA
R2*	Transistor switching output 2, individually adjustable switching speed, High (12 V), Low (0 V), max. 20 mA
R3*	Transistor switching output 3, individually adjustable switching speed, High (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)

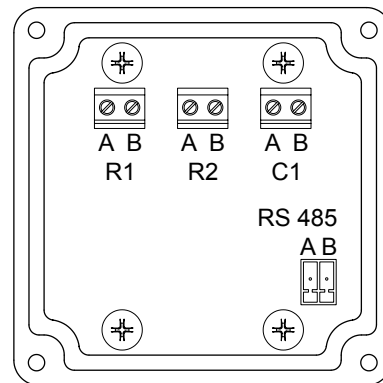
Speed switch version DSL.E

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.R



View B - Connecting terminal speed switch Version DSL.E



Combination

Encoder with integrated programmable, digital speed switch

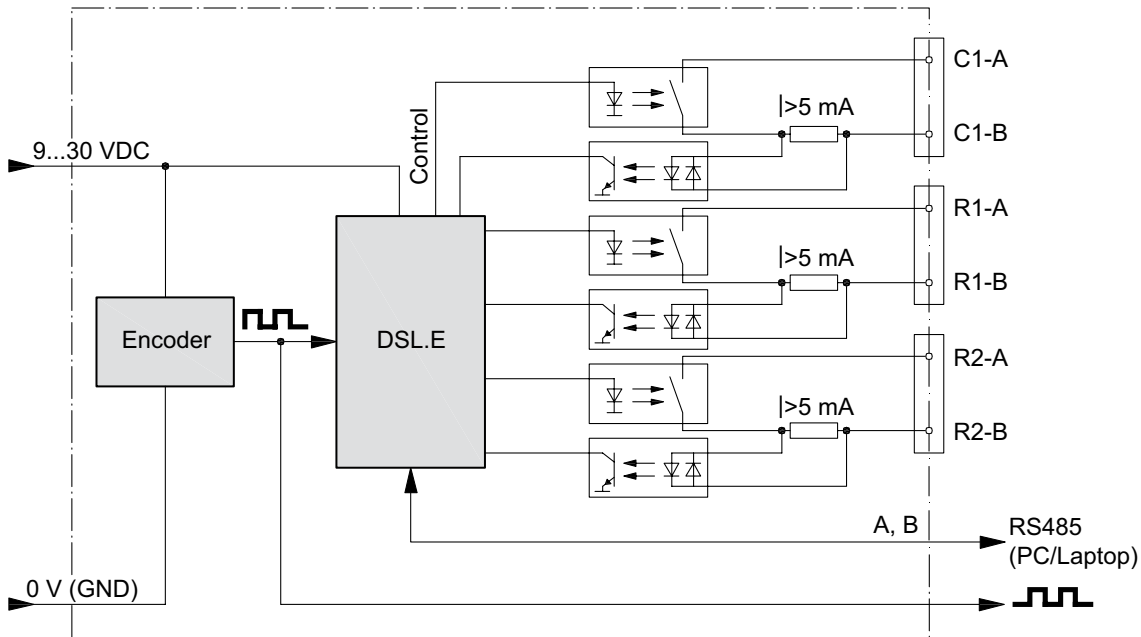
Blind hollow shaft $\varnothing 16$ mm

512...2500 pulses per revolution

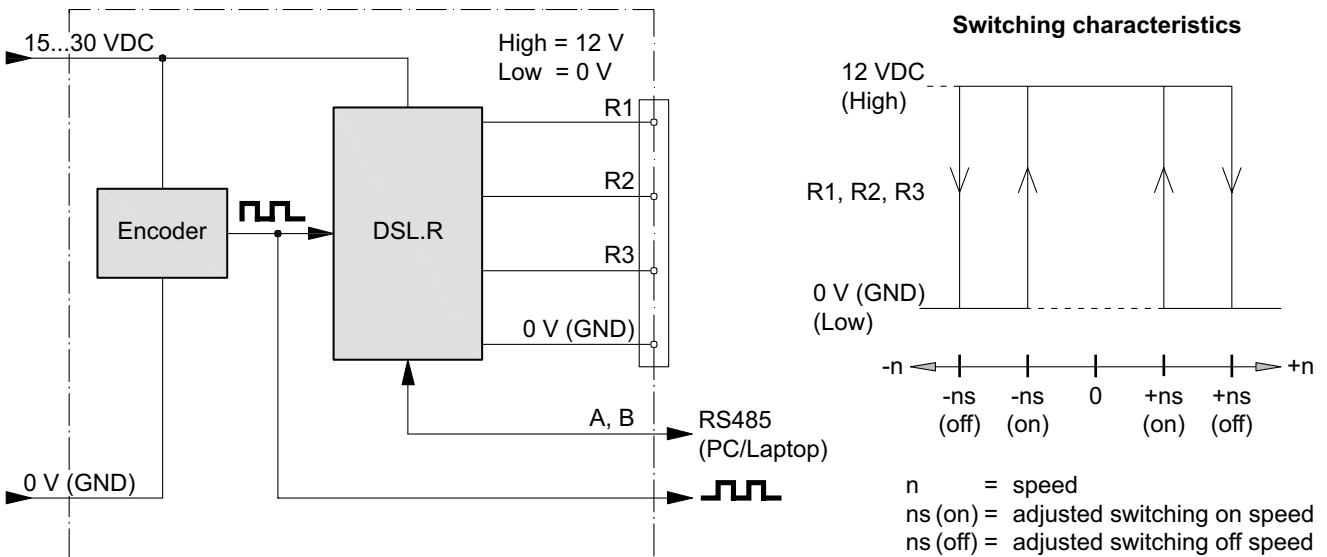
HOG 10 + DSL

Block circuit diagram

Version with DSL.E



Version with DSL.R



Combination

Encoder with integrated programmable, digital speed switch

Blind hollow shaft $\text{ø}16\text{ mm}$

512...2500 pulses per revolution

HOG 10 + DSL

Dimensions

