

Combination

Tachogenerator and encoder in combination

Solid shaft with EURO flange B10

25...5000 pulses per revolution

TDP 0,2 + OG 9



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Features

- Logic level HTL or TTL
- Low response time
- Open circuit voltage 10...150 mV per rpm
- EURO-flange B10 / solid shaft \varnothing 11 mm
- High signal quality due to patented LongLife technology
- Recognition of sense of rotation possible via control

Optional

- Housing foot (B3)

Technical data - electrical ratings

Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE

Technical data - electrical ratings (tachogenerator)

Reversal tolerance	≤ 0.1 %
Linearity tolerance	≤ 0.15 %
Temperature coefficient	± 0.05 %/K (open-circuit)
Isolation class	B
Calibration tolerance	± 1 %
Climatic test	Humid heat, constant (IEC 60068-2-3, Ca)
Performance	12 W (speed ≥ 3000 rpm)
Armature-circuit time-constant	< 75 μ s
Open-circuit voltage	10...150 mV per rpm

Technical data - electrical ratings (encoder)

Voltage supply	9...30 VDC 5 VDC ± 5 % 9...26 VDC
Consumption w/o load	≤ 100 mA
Pulses per revolution	25...5000
Phase shift	$90^\circ \pm 20^\circ$
Scan ratio	40...60 %
Reference signal	Zero pulse, width 90°
Output frequency	≤ 120 kHz ≤ 300 kHz (on request)
Output signals	K1, K2, K0 + inverted
Output stages	HTL-P (power linedriver) TTL/RS422
Sensing method	Optical

Technical data - mechanical design

Size (flange)	$\varnothing 115$ mm
Shaft type	$\varnothing 11$ mm solid shaft
Admitted shaft load	≤ 60 N axial ≤ 80 N radial
Flange	EURO flange B10
Protection DIN EN 60529	IP 55
Operating speed	≤ 10000 rpm
Torque	1.5 Ncm
Rotor moment of inertia	1.4 kgcm ²
Materials	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	-30...+100 °C -25...+100 °C (> 3072 pulses per revolution)
Resistance	IEC 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 100 g, 6 ms
Connection	2x terminal box
Weight approx.	3.3 kg

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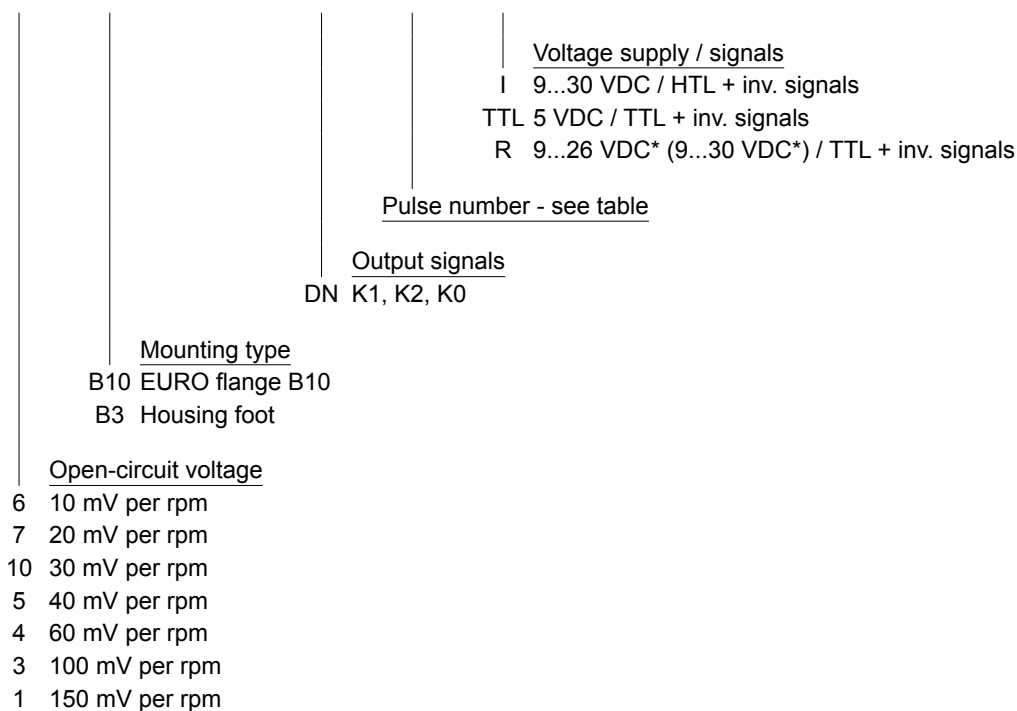
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Part number

Tachogenerator with incremental encoder

TDP0,2 LT- **55 + OG9** **DN**



Pulse number

25	256	720	2048	5000
120	360	1000	2500	
128	500	1024	3072	
180	512	1250	4096	

Other pulse numbers on request.

* <95 pulses: 9...26 VDC / ≥95 pulses: 9...30 VDC

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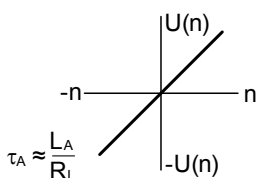
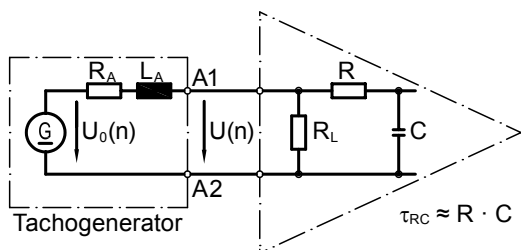
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Data according to type

Type	Open-circuit voltage U_0 [mV/rpm]	Minimum load required depending on speed range [rpm]			Maximum operating speed n_{max} [rpm]	Armature resistance R_A (20°C) [Ω]	Armature inductance L_A [mH]
		0-3000 R_L [kΩ]	0-6000 R_L [kΩ]	0- n_{max} R_L [kΩ]			
TDP0,2 LT-6	10	≥0.1	≥0.3	≥0.9	10000	3	6
TDP0,2 LT-7	20	≥0.3	≥1.2	≥3.3	10000	11	23
TDP0,2 LT-10	30	≥0.7	≥2.7	≥7.5	10000	26	50
TDP0,2 LT-5	40	≥1.2	≥5	≥13.5	10000	47	90
TDP0,2 LT-4	60	≥2.7	≥11	≥30	10000	99	200
TDP0,2 LT-3	100	≥7.5	≥30	≥30	6000	271	550
TDP0,2 LT-1	150	≥16	---	≥30	4000	630	1260
Superimposed ripple (for $\tau_{RC} = 0.7$ ms):		≤0.5% (peak-peak)			≤0.2% (rms)		

Replacement switching diagram



Polarity for positive rotating direction:

A1: + (VDE)

A2: - (VDE)

$$U(n) = U_0(n) \frac{R_L}{R_A + R_L} \approx U_0(n) \text{ for } R > R_L \gg R_A$$

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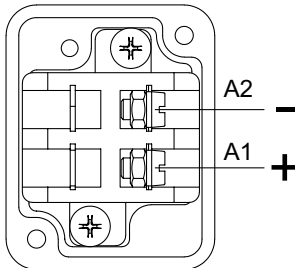
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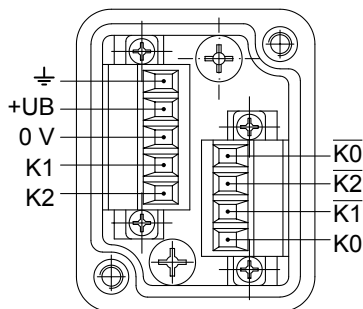
Terminal assignment

View A - Connecting terminal TDP 0,2

Polarity for positive direction of rotation

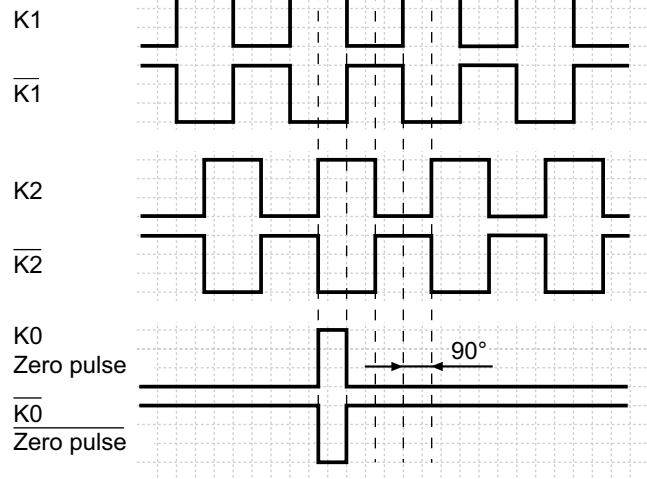


View B - Connecting terminal in terminal box OG 9



Output signals

At positive rotating direction



Accessories

Carbon brushes

Connectors and cables

HEK 8 Sensor cable for encoders

Mounting accessories

K 35 Spring washer coupling for solid shaft $\varnothing 6...12$ mm

K 50 Spring washer coupling for solid shaft $\varnothing 11...16$ mm

K 60 Spring washer coupling for solid shaft $\varnothing 11...22$ mm

Diagnostic accessories

HENQ 1100 Analyzer for encoders

