

Tachogenerators

Shaft $\varnothing 12$ to $\varnothing 14$ mm with flange

With own bearings

GMP 1,0



GMP 1,0

Features

- High response speed
- Open circuit voltage 40...175 mV per rpm
- Shaft $\varnothing 12$ -14 mm
- Top signal quality over the total rotational speed range by patented Longlife technique
- With own bearings
- Recognition of sense of rotation

Optional

- Two separate tacho voltages (GMPZ 1,0)
- Second shaft end

Technical data - electrical ratings

Reversal tolerance	≤ 0.1 %
Linearity tolerance	≤ 0.5 %
Temperature coefficient	± 0.05 %/K (idle)
Isolation class	B
Calibration tolerance	± 3 %
Climatic test	Humid heat, constant (IEC 60068-2-3, Ca)
Performance	30 W (speed > 3000 rpm)
Armature-circuit time-constant	< 0.55 μ s
Open-circuit voltage	40...175 mV per rpm

Technical data - mechanical design

Housing	$\varnothing 110$ mm
Shaft	$\varnothing 12$...14 mm
Protection DIN EN 60529	IP 55
Admitted shaft load	≤ 80 N axial ≤ 100 N radial
Materials	Housing: aluminium die-cast alloy Shaft: stainless steel
Operating temperature	-30 ... $+130$ °C
Resistance	DIN EN 60068-2-6 Vibration 10 g, 10-2000 Hz DIN EN 60068-2-27 Shock 100 g, 6 ms
Weight approx.	4.5 kg
Connection	Terminal box
Torque	2 Ncm
Rotor moment of inertia	4.5 kgcm ²

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Part number

GMP 1,0 LT -

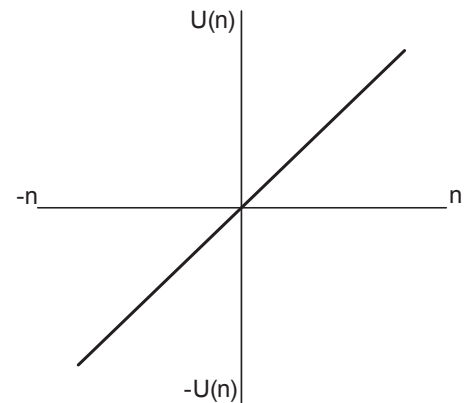
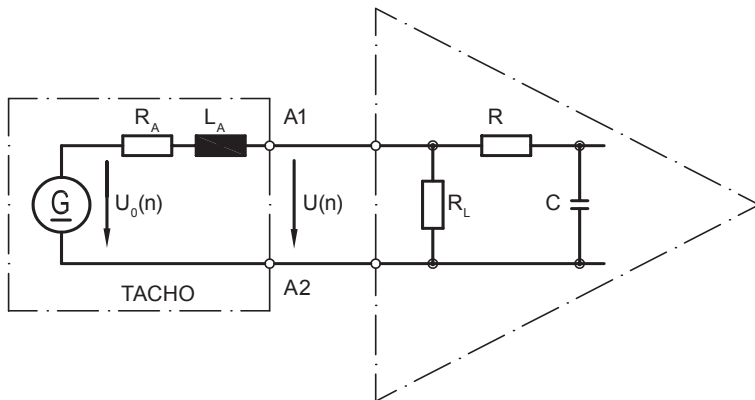
- Open-circuit voltage
- 10 40 mV per rpm
 - 7 65 mV per rpm
 - 4 100 mV per rpm
 - 1 175 mV per rpm

Data according to type

Type	Off-load voltage	Minimum load required depending on speed range [rpm]			Maximum operating speed	Armature resistance	Armature inductance
		0 - 1,000	0 - 3,000	0 - n_{max}			
	U_0 [mV/rpm]	R_L [k Ω]	R_L [k Ω]	R_L [k Ω]	n_{max} [rpm]	$R_A(20^\circ C)$ [Ω]	L_A [mH]
GMP 1,0 LT - 10	40	≥ 0.15	≥ 0.5	≥ 2	6,000	12	90
GMP 1,0 LT - 7	65	≥ 0.4	≥ 1.3	≥ 5	6,000	33	225
GMP 1,0 LT - 4	100	≥ 1	≥ 3	≥ 12	6,000	81	550
GMP 1,0 LT - 1	175	≥ 3	≥ 10	≥ 12	3,400	275	1,650

Superimposed ripple (for $\tau_{RC} = 1$ ms): ≤ 1.0 % (peak-peak) ≤ 0.5 % (rms)

Replacement switching diagram



$$\tau_{RC} \approx R \cdot C \quad \tau_A \approx \frac{L_A}{R_L}$$

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

Polarity for positive direction of rotation: A1: + A2: - (VDE)

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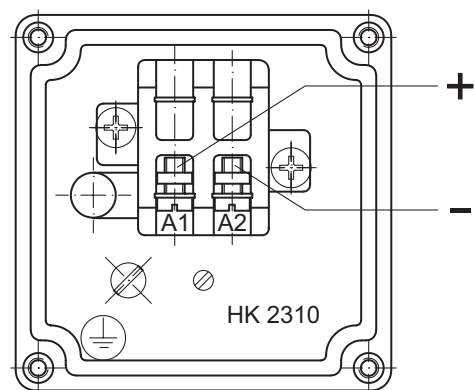
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Terminal assignment

View A - Connecting terminal

Polarity for positive direction of rotation



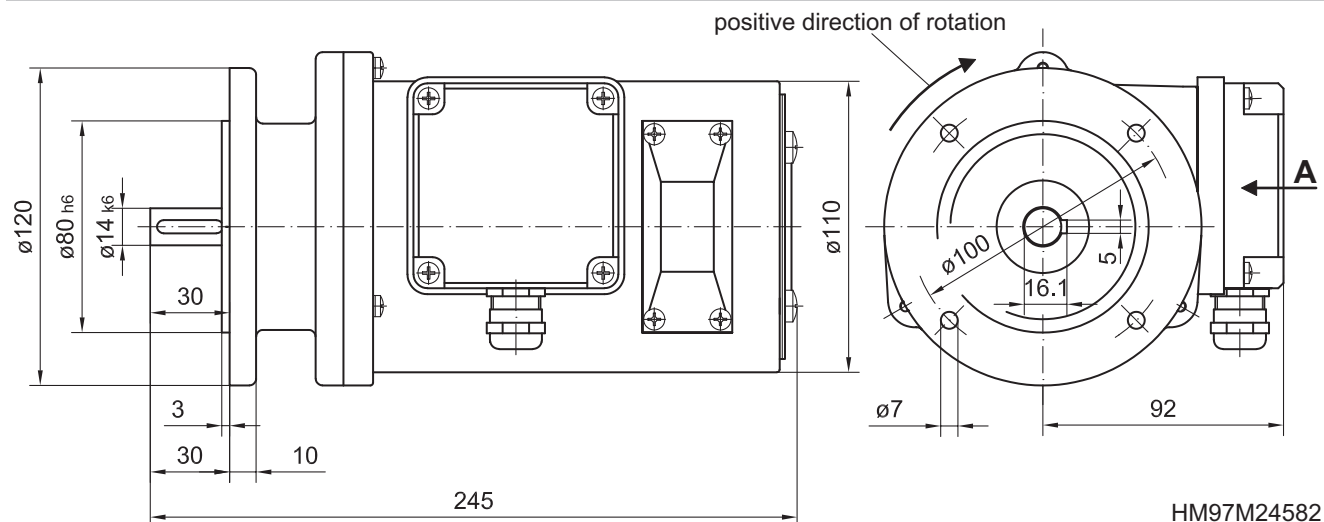
Accessories

Carbon brushes

Mounting accessories

K 50	Spring disk coupling for shaft $\varnothing 11 \dots 16$ mm
K 60	Spring disk coupling for shaft $\varnothing 11 \dots 22$ mm

Dimensions



HM97M24582

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