

Tachogenerators

Solid shaft $\varnothing 11$ to $\varnothing 14$ mm with flange

With own bearings

GMP 1,0, GMPZ 1,0



GMP 1,0

Technical data - electrical ratings

Reversal tolerance	≤ 0.1 %
Linearity tolerance	≤ 0.5 %
Temperature coefficient	± 0.05 %/K (open-circuit)
Isolation class	B
Calibration tolerance	± 3 %
Climatic test	Humid heat, constant (IEC 60068-2-3, Ca)
Open-circuit voltage	40...175 mV per rpm
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE

GMP 1,0

Performance	30 W (speed ≥ 3000 rpm)
Armature-circuit time-constant	< 0.55 μ s

GMPZ 1,0

Performance	2x 30 W (speed ≥ 3000 rpm)
Armature-circuit time-constant	< 0.27 μ s

Features

- Low response time
- Open circuit voltage 40...175 mV per rpm
- Redundant output (GMPZ)
- Solid shaft $\varnothing 11$ -14 mm
- High signal quality due to patented LongLife technology
- With own bearings

Optional

- Second shaft end (B14)

Technical data - mechanical design

Size (flange)	135 x 135 mm $\varnothing 120$ mm $\varnothing 165$ mm $\varnothing 115$ mm
Shaft type	$\varnothing 11$...14 mm solid shaft
Flange	EURO flange B10 B5, B5k, B5n und B5s flange
Protection DIN EN 60529	IP 55
Operating speed	≤ 6000 rpm
Admitted shaft load	≤ 80 N axial ≤ 100 N radial
Materials	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	-30 ... $+130$ °C
Resistance	IEC 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 100 g, 6 ms
Connection	Terminal box

GMP 1,0

Torque	2 Ncm
Rotor moment of inertia	4.5 kgcm ²
Weight approx.	4.5 kg

GMPZ 1,0

Torque	3.3 Ncm
Rotor moment of inertia	8.5 kgcm ²
Weight approx.	7 kg

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Part number

Tachogenerator

GMP1,0LT-

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

Twin tachogenerator

GMPZ1,0LT-

	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

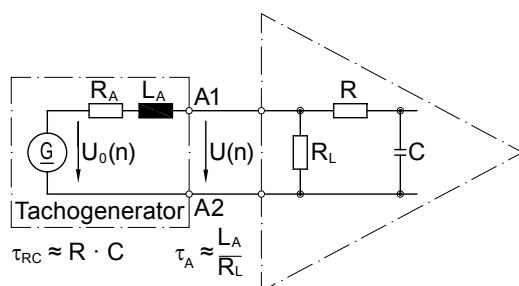
Type	Off-load voltage U_0 [mV/rpm]	Minimum load required depending on speed range [rpm]			Maximum operating speed n_{max} [rpm]	Armature resistance R_A (20°C) [Ω]	Armature inductance L_A [mH]
		0-1000	0-3000	0- n_{max}			
GMP1,0LT-10	40	≥ 0.15	≥ 0.5	≥ 2	6000	12	90
GMP1,0LT-7	65	≥ 0.4	≥ 1.3	≥ 5	6000	33	225
GMP1,0LT-4	100	≥ 1	≥ 3	≥ 12	6000	81	550
GMP1,0LT-1	175	≥ 3	≥ 10	≥ 12	3400	275	1650

Twin tachogenerator with redundant output
(The data refer to each of the two tachogenerator outputs)

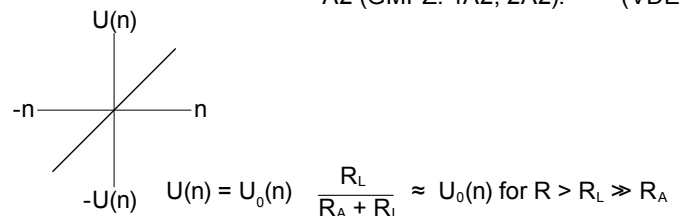
GMPZ1,0LT-10	40	≥ 0.15	≥ 0.5	≥ 2	6000	9	40
GMPZ1,0LT-7	65	≥ 0.4	≥ 1.3	≥ 5	6000	23	110
GMPZ1,0LT-4	100	≥ 1	≥ 3	≥ 12	6000	56	270
GMPZ1,0LT-1	175	≥ 3	≥ 10	≥ 12	3400	175	745

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

Replacement switching diagram



Polarity for positive rotating direction: A1 (GMPZ: 1A1, 2A1): + (VDE)
A2 (GMPZ: 1A2, 2A2): - (VDE)



Tachogenerators

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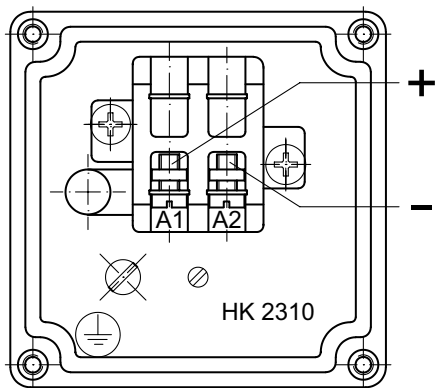
With own bearings

GMP 1,0, GMPZ 1,0

Terminal assignment

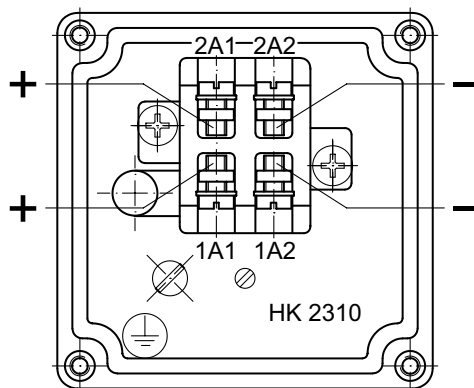
View A - Connecting terminal GMP 1,0

Polarity for positive rotating direction



View A - Connecting terminal GMPZ 1,0

Polarity for positive rotating direction



Accessories

Carbon brushes

Mounting accessories

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

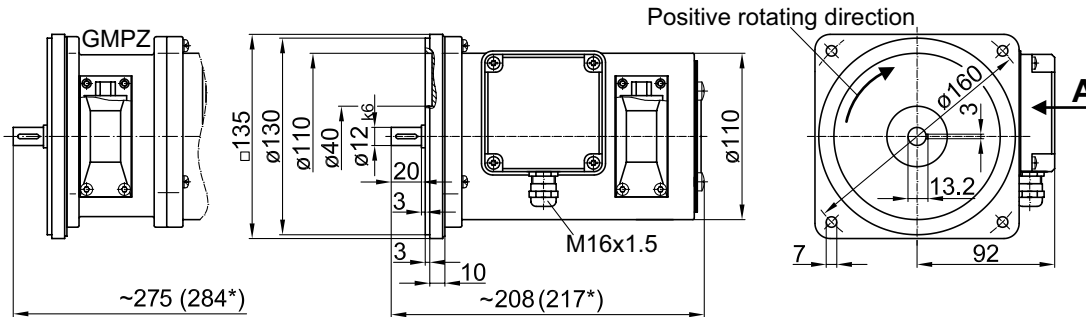
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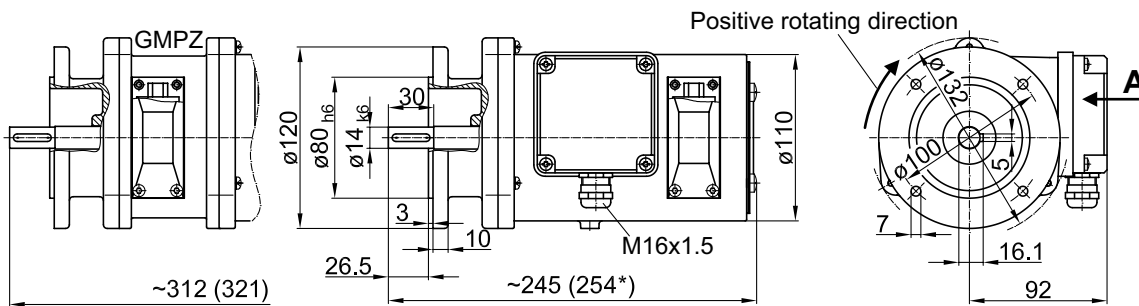
GMP 1,0, GMPZ 1,0

Dimensions

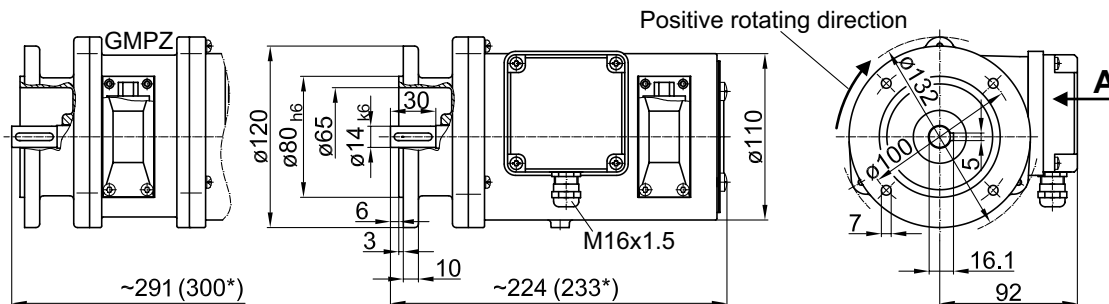
GMP 1,0 (GMPZ 1,0) - Version with B5 flange



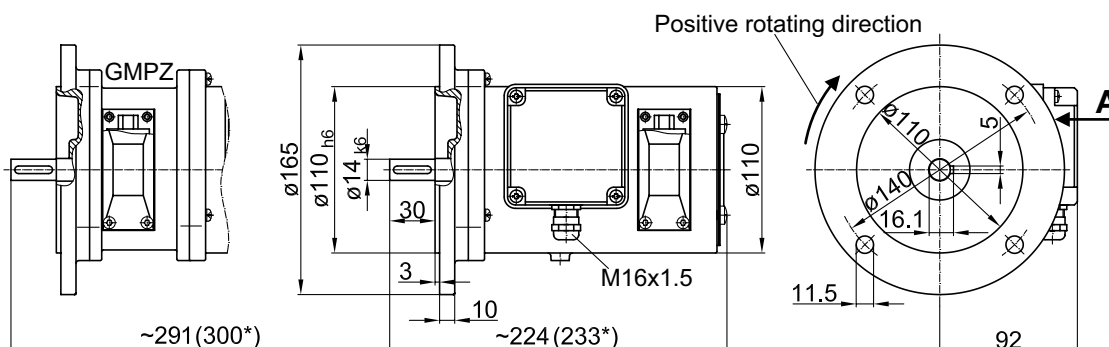
GMP 1,0 (GMPZ 1,0) - Version with B5n flange



GMP 1,0 (GMPZ 1,0) - Version with B5s flange



GMP 1,0 (GMPZ 1,0) - Version with B5k flange



* Option with second shaft end

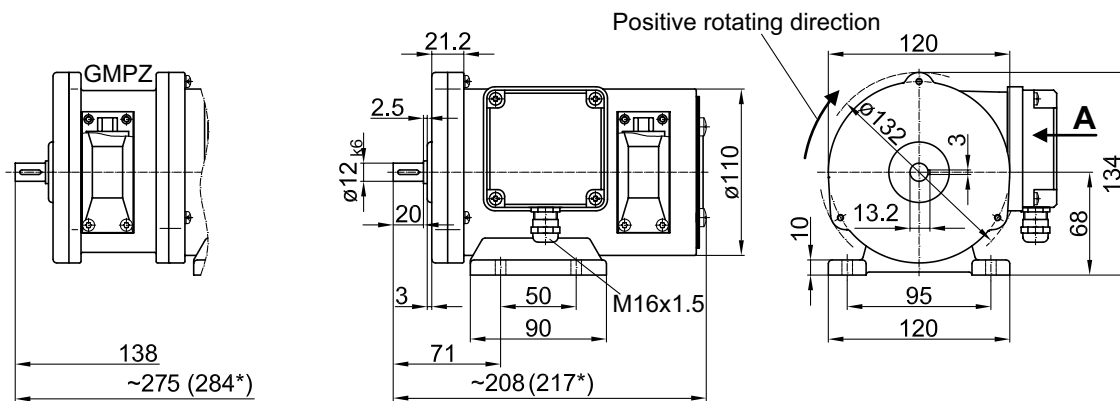
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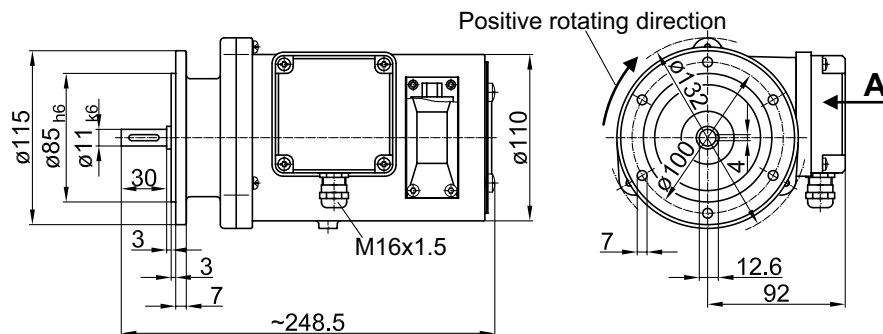
With own bearings

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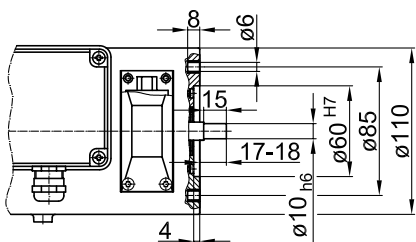
GMP 1,0 (GMPZ 1,0) - Version with housing foot (B3)



GMP 1,0 (GMPZ 1,0) - Version with B10 Euro flange



GMP 1,0 (GMPZ 1,0) - Option second shaft end



* Option with second shaft end