

Tachogenerators

Solid shaft $\varnothing 14...18$ mm with flange

With own bearings

TDP 13, TDPZ 13



TDP 13

Technical data - electrical ratings

Reversal tolerance	≤ 0.1 %
Linearity tolerance	≤ 0.15 %
Temperature coefficient	± 0.05 %/K (open-circuit)
Isolation class	B
Calibration tolerance	± 3 %
Climatic test	Humid heat, constant (IEC 60068-2-3, Ca)
Performance	TDP: 40 W (speed ≥ 2000 rpm) TDPZ: 2x 20 W (speed ≥ 2000 rpm)
Armature-circuit time-constant	< 0.4 μ s (TDP) < 0.2 μ s (TDPZ)
Open-circuit voltage	20...200 mV per rpm
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE

Features

- Low response time
- Open circuit voltage 20...200 mV per rpm
- Solid shaft $\varnothing 14...18$ mm with flange
- High signal quality due to patented LongLife technology
- With own bearings
- No auxiliary energy source required

Optional

- Redundant output (option Z)
- Second shaft end (B14)

Technical data - mechanical design

Size (flange)	$\varnothing 120$ mm $\varnothing 165$ mm $\varnothing 175$ mm
Shaft type	$\varnothing 14...18$ mm solid shaft
Flange	B5, B5k, B5s, B10 and B10w flange
Protection DIN EN 60529	IP 55
Operating speed	≤ 6000 rpm
Torque	2.5 Ncm (TDP) 4.1 Ncm (TDPZ)
Rotor moment of inertia	0.4 kgcm ² (TDP) 0.6 kgcm ² (TDPZ)
Admitted shaft load	≤ 80 N axial ≤ 100 N radial
Materials	Housing: steel 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
Weight approx.	8.5 kg (TDP), 10 kg (TDPZ)
Connection	Terminal box

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Part number

Tachogenerator

TDP 13.06LT-

Open-circuit voltage

- 15 20 mV per rpm
- 17 65 mV per rpm
- 6 100 mV per rpm
- 3 175 mV per rpm
- 2 200 mV per rpm

Design

- Tachogenerator
- Z Twin tachogenerator

Data according to type

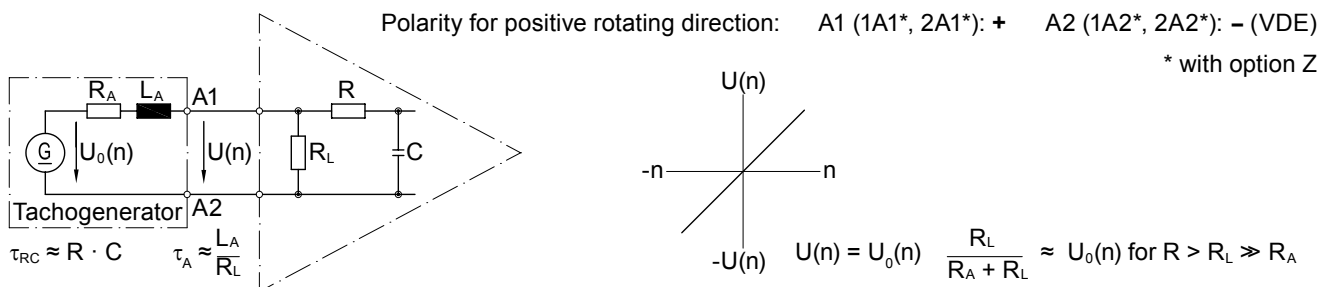
Type	Off-load voltage U_0 [mV/rpm]	Minimum load required depending on speed range [rpm]			Maximum operating speed n_{max} [rpm]	Armature resistance R_A (20°C) [Ω]	Armature inductance L_A [mH]
		0-1000	0-3000	0- n_{max}			
		R_L [k Ω]	R_L [k Ω]	R_L [k Ω]			
TDP13.06LT-15	20	≥ 0.02	≥ 0.09	≥ 0.4	6000	2.1	9
TDP13.06LT-17	65	≥ 0.2	≥ 0.9	≥ 4	6000	21	85
TDP13.06LT-6	100	≥ 0.5	≥ 2.5	≥ 9	6000	46	200
TDP13.06LT-3	175	≥ 1.5	≥ 7	≥ 10	3500	150	610
TDP13.06LT-2	200	≥ 2	≥ 9	–	3000	208	800

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

TDPZ13.06LT-15	20	≥ 0.04	≥ 0.2	≥ 0.8	6000	3.4	9
TDPZ13.06LT-17	65	≥ 0.4	≥ 2	≥ 8	6000	34	85
TDPZ13.06LT-6	100	≥ 1	≥ 5	≥ 18	6000	76	200
TDPZ13.06LT-3	175	≥ 3	≥ 14	≥ 20	3500	250	610
TDPZ13.06LT-2	200	≥ 4	≥ 18	–	3000	328	800

Superimposed ripple (for $\tau_{RC} = 0.7$ ms): $\leq 0.5\%$ (peak-peak) $\leq 0.25\%$ (rms)

Replacement switching diagram



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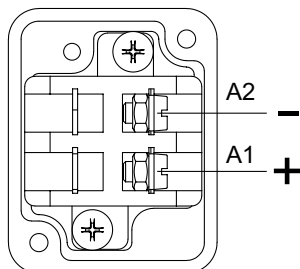
With own bearings

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Terminal assignment

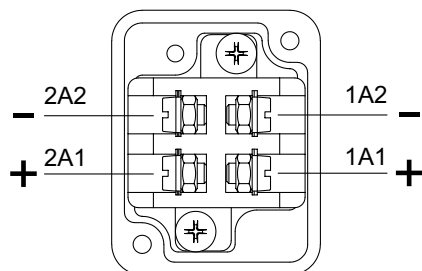
View A - Connecting terminal TDP 13

Polarity for positive direction of rotation



View A - Connecting terminal TDPZ 13

Polarity for positive direction of rotation



Accessories

Carbon brushes

Mounting accessories

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

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

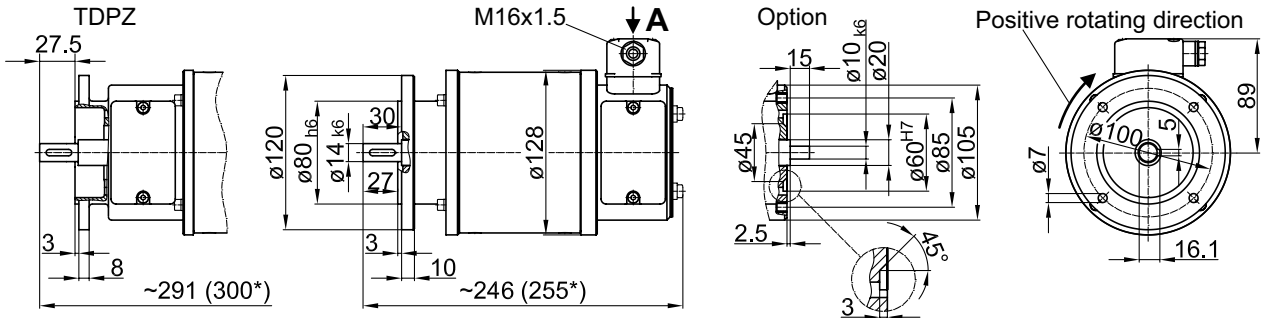
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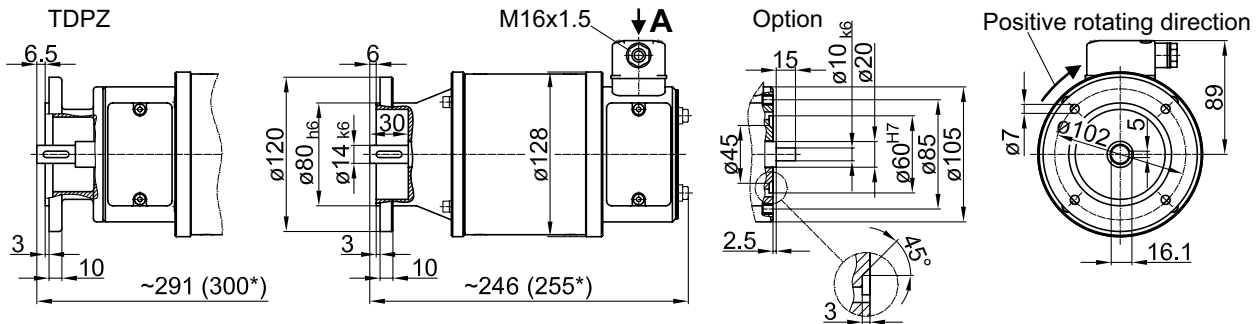
TDP 13, TDPZ 13

Dimensions

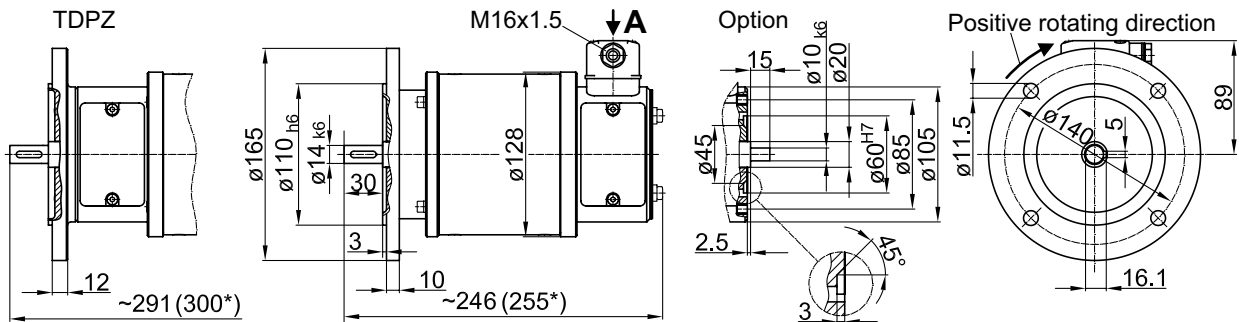
Version with B5 flange



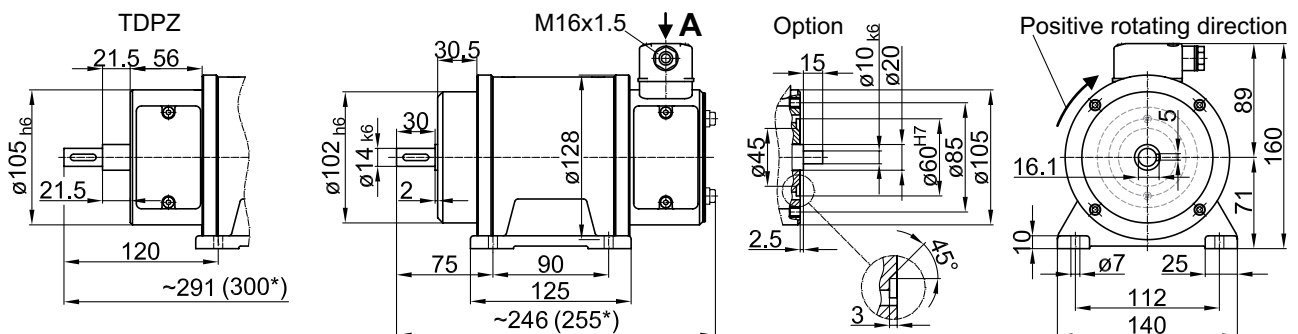
Version with B5s flange



Version with B5k flange



Version with housing foot (B3)



* Option with second shaft end

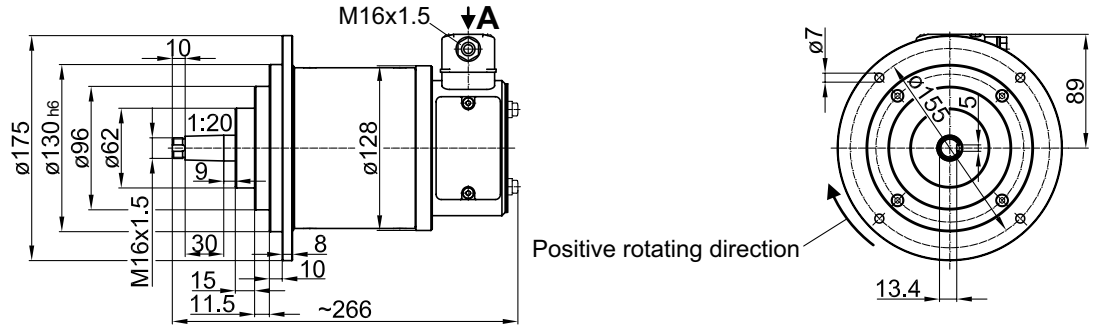
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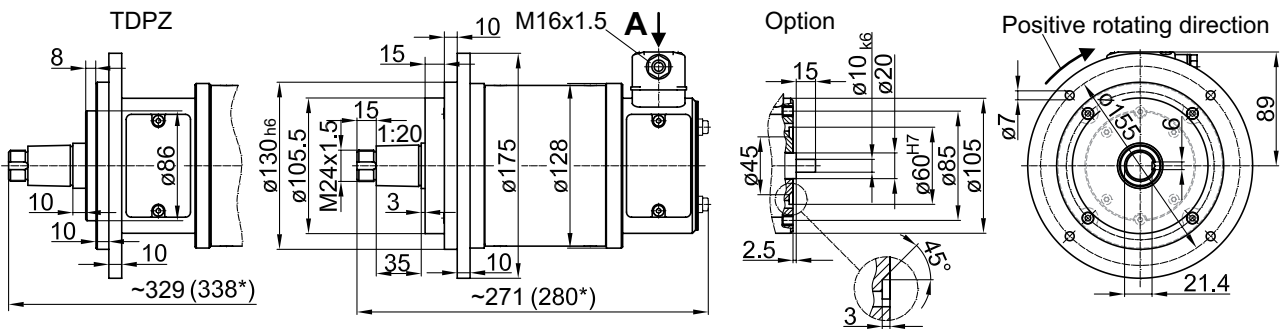
With own bearings

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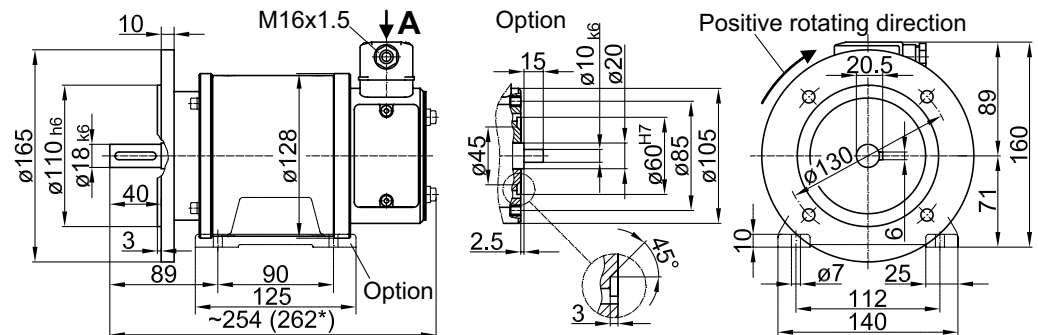
Version with B10 flange



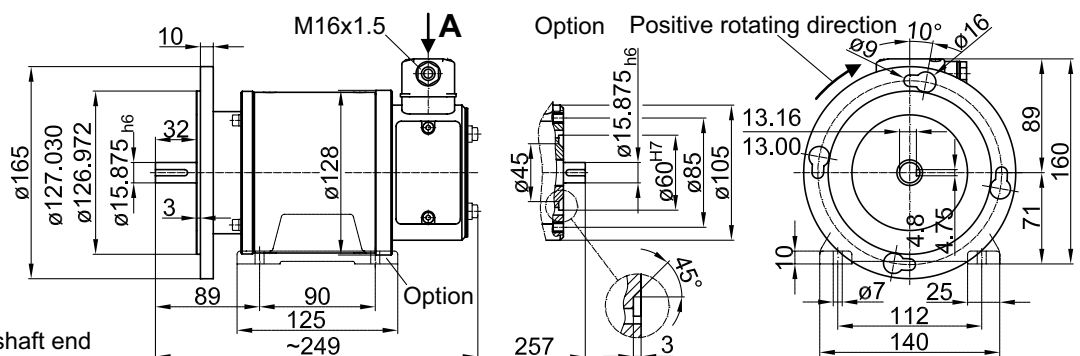
Version with B10w flange



Version with B5kd flange



Version with B5km flange



* Option with second shaft end