

TDP 13, TDPZ 13

Solid shaft $\varnothing 14 \dots 18$ mm with flange
With own bearings

Overview

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



Technical data

Technical data - electrical ratings

Reversal tolerance	$\leq 0,1 \%$
Linearity tolerance	$\leq 0,15 \%$
Temperature coefficient	$\pm 0,05 \%/K$ (open-circuit)
Isolation class	B
Calibration tolerance	$\pm 3 \%$
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	$< 0,4 \mu s$ (TDP) $< 0,2 \mu s$ (TDPZ)
Open-circuit voltage	20...200 mV per rpm
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	CE

Technical data - mechanical design

Size (flange)	$\varnothing 120$ mm $\varnothing 165$ mm $\varnothing 175$ mm
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Technical data - mechanical design

Shaft type	$\varnothing 14 \dots 18$ mm solid shaft
Flange	B5, B5k, B5s, B10 and B10w flange
Protection EN 60529	IP 55
Operating speed	≤ 6000 rpm
Torque	2,5 Ncm (TDP) 4,1 Ncm (TDPZ)
Rotor moment of inertia	17 kgcm ² (TDP) 20 kgcm ² (TDPZ)
Admitted shaft load	≤ 80 N axial ≤ 100 N radial
Material	Housing: steel Shaft: stainless steel
Operating temperature	$-30 \dots +130$ °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

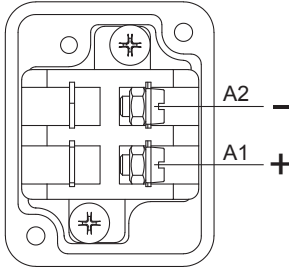
Optional

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

Terminal assignment

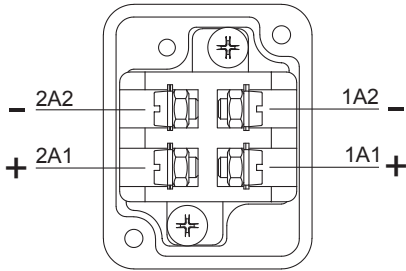
View A (see dimension)

Connecting terminal tachogenerator TDP
Polarity for positive rotating direction



View A (see dimension)

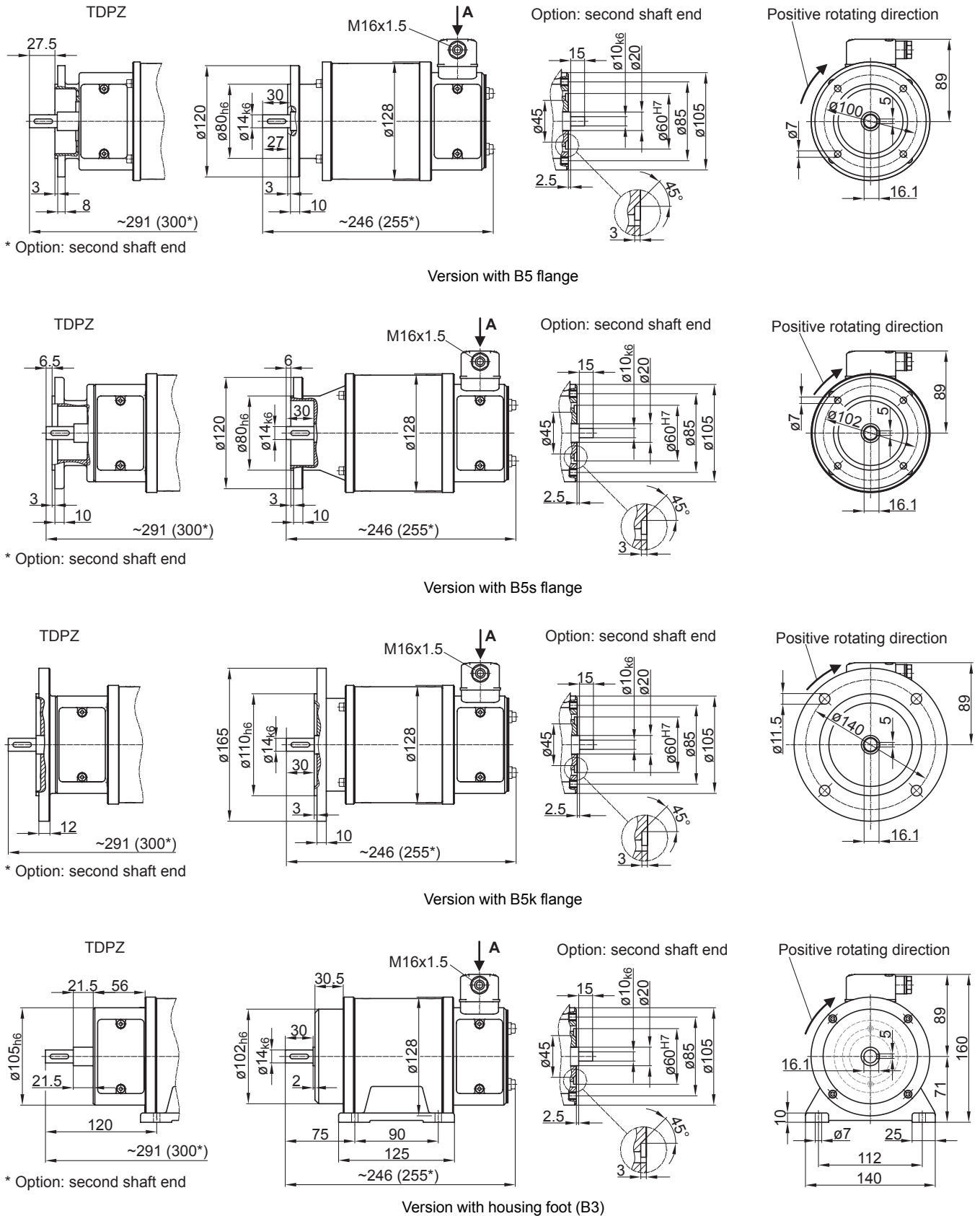
Connecting terminal twin tachogenerator TDPZ
Polarity for positive rotating direction



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Dimensions



TDP 13, TDPZ 13

Solid shaft $\varnothing 14 \dots 18$ mm with flange
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Ordering reference

Product	Tachogenerator	TDP #	#####
Design	Tachogenerator	TDP	
	Twin tachogenerator	Z	
Open-circuit voltage	20 mV per rpm		13.06LT-15
	65 mV per rpm		13.06LT-17
	100 mV per rpm		13.06LT-6
	175 mV per rpm		13.06LT-3
	200 mV per rpm		13.06LT-2

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 R_L [k Ω]	0-3000 R_L [k Ω]	0- n_{max} 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

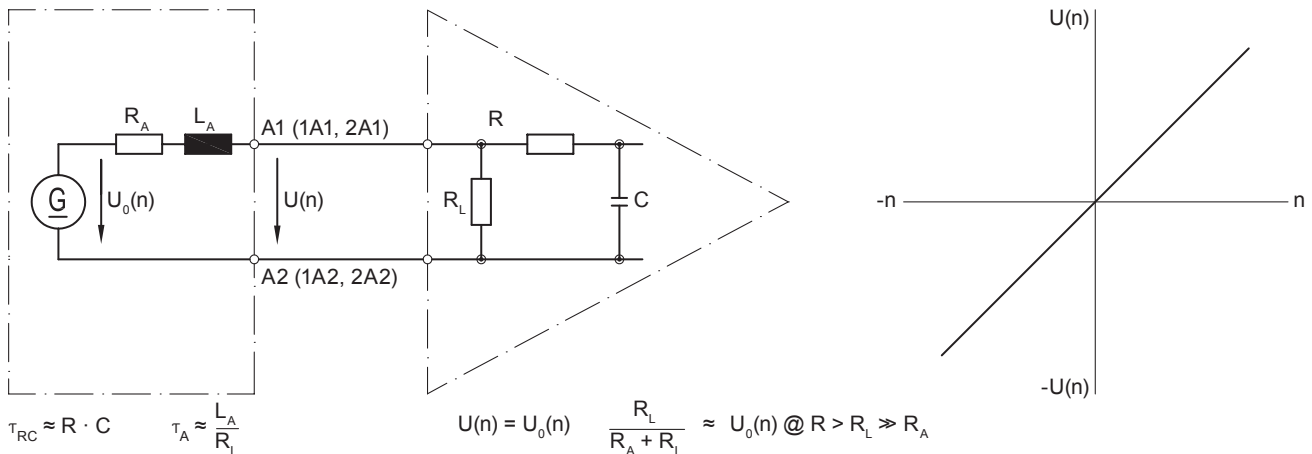
Twin tachogenerator with redundant output
(The data refer to each of the two tachogenerator outputs)

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

Tachogenerator



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