Tachogenerators

Solid shaft ø6 mm with flange

With own bearings

TDP 0,09, TDPZ 0,09

TDP 0,09

Features

- **Low response time**
- **Open circuit voltage 10...60 mV per rpm**
- **Redundant output (TDPZ)**
- **Solid shaft ø6 mm with flange**
- **Very high resistance to shock**
- **High signal quality due to patented LongLife technology**
- **Robust design**

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)
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
TDP 0,09	
Performance	1.2 W (speed ≥3000 rpm)
Armature-circuit time-constant	<25 µs
Open-circuit voltage	10...60 mV per rpm
TDPZ 0,09	
Performance	2x 0,3 W (speed ≥3000 rpm)
Armature-circuit time-constant	<8 µs
Open-circuit voltage	10...40 mV per rpm

Technical data - mechanical design

Size (flange)	ø85 mm
Shaft type	ø6 mm solid shaft
Protection DIN EN 60529	IP 56
Torque	1.5 Ncm
Shaft loading	≤40 N axial ≤60 N radial
Materials	Housing: stainless steel / plastic Shaft: stainless steel
Operating temperature	-30...+130 °C
Resistance	DIN EN 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 300 g, 1 ms
TDP 0,09	
Operating speed	≤10000 rpm
Rotor moment of inertia	0.25 kgcm²
Weight approx.	1.1 kg
Connection	Terminal box
TDPZ 0,09	
Operating speed	≤9000 rpm
Rotor moment of inertia	0.29 kgcm²
Weight approx.	1.5 kg
Connection	2x terminal box

TDP 0,09, TDPZ 0,09

Part number

Tachogenerator

TDP0,09LT- ☐

Open-circuit voltage
1 10 mV per rpm
2 20 mV per rpm
7 30 mV per rpm
3 40 mV per rpm
8 50 mV per rpm
9 60 mV per rpm

Twin tachogenerator

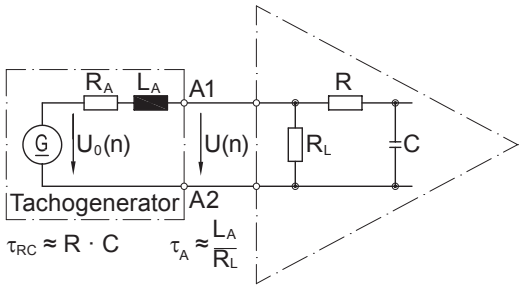
TDPZ0,09LT- ☐

Open-circuit voltage
1 10 mV per rpm
2 20 mV per rpm
3 40 mV per rpm

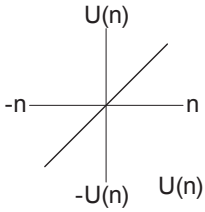
Data according to type

Type	Off-load voltage	Minimum load required depending on speed range [rpm]			Maximum operating speed	Armature resistance	Armature inductance
		0-3000	0-6000	0-n_{max}			
	U_0 [mV/rpm]	R_L [kΩ]	R_L [kΩ]	R_L [kΩ]	n_{max} [rpm]	R_A (20°C) [Ω]	L_A [mH]
TDP0,09LT-**1**	10	≥0.75	≥0.3	≥8.5	10000	20	18
TDP0,09LT-**2**	20	≥3	≥12	≥34	10000	82	75
TDP0,09LT-**7**	30	≥6.8	≥27	≥75	10000	190	167
TDP0,09LT-**3**	40	≥12	≥48	≥134	10000	320	300
TDP0,09LT-**8**	50	≥19	≥75	≥134	8000	492	465
TDP0,09LT-**9**	60	≥27	≥108	≥134	6700	750	675
Twin tachogenerator with redundant output (The data refer to each of the two tachogenerator outputs)							
TDPZ0,09LT-**1**	10	≥3	≥12	≥28	9000	35	23
TDPZ0,09LT-**2**	20	≥12	≥48	≥109	9000	140	88
TDPZ0,09LT-**3**	40	≥48	≥192	≥433	9000	698	350
Superimposed ripple (for τ_{RC} = 0.7 ms):		≤0.55% (peak-peak)			≤0.25% (rms)		

Replacement switching diagram



Polarity for positive rotating direction: A1 (TDPZ: 1A1, 2A1): **+** (VDE)
A2 (TDPZ: 1A2, 2A2): **–** (VDE)



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

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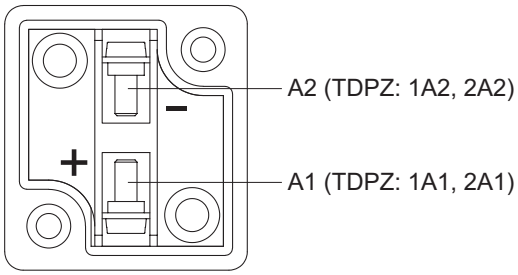
Terminal assignment

View A - Connecting terminal

Polarity for positive direction of rotation



Accessories

Carbon brushes

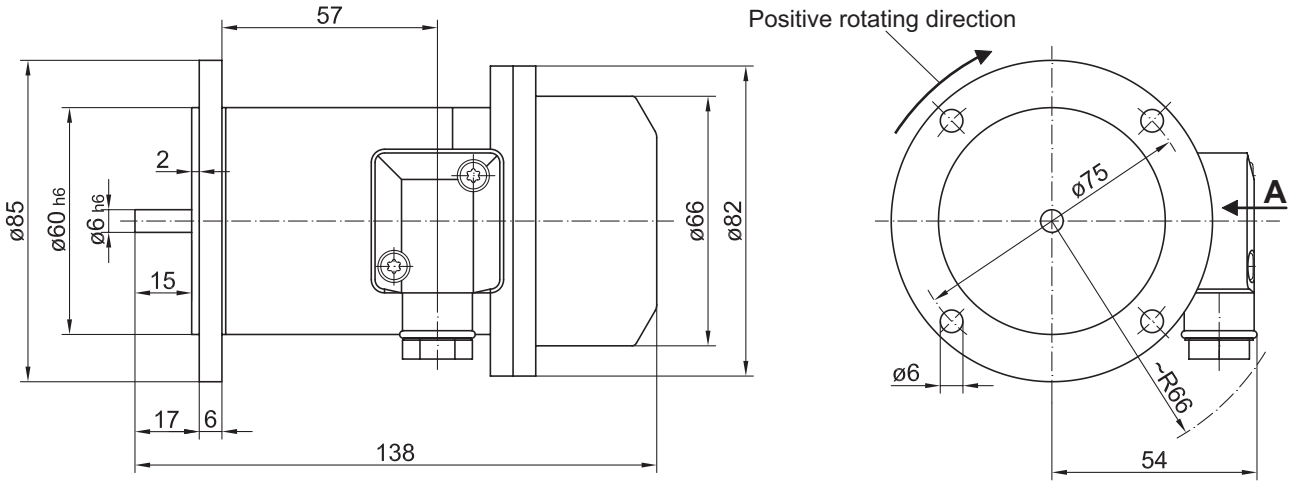
Mounting accessories

K 35	Spring disk coupling for solid shaft ø6...12 mm

TDP 0,09, TDPZ 0,09

Dimensions

TDP 0,09 - standard version



TDPZ 0,09 - version with redundant output