

DC-Motor-Tacho Combinations

2 mNm

Precious Metal Commutation

For combination with:
Gearheads: 16A, 16/7
Encoders: 20/21B

Series 1724 ... S

Characteristics of the DC-Motor-Tacho Combination

Series	mechanical time constant	moment of inertia	angular acceleration	frequency	weight response
1724 T 003 S 001 G	τ_m 11 ms	1,22 gcm ²	α_{max} $78 \cdot 10^3 \text{ rad s}^{-2}$	1930 Hz	40 g
1724 T 006 S 001 G	11 ms	1,32 gcm ²	$80 \cdot 10^3 \text{ rad s}^{-2}$	1930 Hz	40 g
1724 T 012 S 001 G	11 ms	1,31 gcm ²	$80 \cdot 10^3 \text{ rad s}^{-2}$	1930 Hz	40 g
1724 T 018 S 001 G	11 ms	1,26 gcm ²	$79 \cdot 10^3 \text{ rad s}^{-2}$	1930 Hz	40 g
1724 T 024 S 001 G	11 ms	1,30 gcm ²	$80 \cdot 10^3 \text{ rad s}^{-2}$	1930 Hz	40 g

The characteristics of the DC-Micromotor Series 1724 ... S, used for these combinations are listed on separate Data sheet.

Tachogenerator		001 G	
EMF constant	K_E	1,0	mV/rpm
Tolerance of EMF constant		9,55	mV/rad s ⁻¹
Load resistance	R_L	± 2	%
Operating speed, max. continuous	$n_{e \text{ max.}}$	≥ 20	k Ω
Terminal resistance	R	≤ 5000	rpm
		210	Ω
Ripple, peak-peak, typical		7	%
Ripple frequency, cycles		14	per turn
Linearity, without load, between 500 and 5000 rpm		$\pm 0,2$	%
Reversion error		$\pm 0,2$	%
Temperature coefficient of EMF		0,02	% / °C
Temperature coefficient of armature resistance		0,4	% / °C
Rotor inductance	L	3000	μH
Direction of rotation		reversible	
Polarity		dependent on direction of rotation	

Features

Mono-axis design

Motor and tachogenerator feature the patented skew wound ironless rotors (System FAULHABER®). The mono-axis design with the two commutator systems, facing each other in a patented arrangement, mounted on a single solid shaft, has excellent torsion characteristics and the highest frequency response possible.

Commutation system

The commutators and brushes are made of high quality precious metal alloy and provide a minimized but constant contact resistance as well as insensibility to changes in environment.

Operating temperature ranges:

Motor-Tacho, standard -30 ... + 85 °C
 Motor-Tacho, optional -30 ... + 125 °C
 Rotor, max. permissible + 125 °C

Orientation with respect to Motor-Tacho terminals not defined

