DC-Motor-Tacho Combinations

Precious Metal Commutation

1,5 mNm

For combination with (overview on page 14-15)
Gearheads:
15A, 16A, 16/3, 16/5, 16/7, 16/8
Encoders
20/21B

Series 1841 ... S

Characteristics of the DC-Motor-Tacho Combination

Series	mechanical time constant τ_m	moment of inertia J	angular acceleration α max.	frequency	weight response
1841 T 006 S 001 G	27 ms	0,85 gcm²	41 · 10^3 rad s^{-2}	2 150 Hz	44 g
1841 T 012 S 001 G	30 ms	0,90 gcm²	46 · 10^3 rad s^{-2}	2 150 Hz	44 g
1841 T 024 S 001 G	35 ms	0,91 gcm²	45 · 10^3 rad s^{-2}	2 150 Hz	44 g

The characteristics of the **DC-Micromotor Series 1624 ... S**, used for these combinations are listed on page 48.

DC-Tachogenerator		001 G	
EMF constant	K_E	1,0	mV/rpm
		9,55	mV/rad s^{-1}
Tolerance of EMF constant		± 2	%
Load resistance	R_L	≥ 20	kΩ
Operating speed, max. continuous	$n_{e\ max.}$	≤ 5 000	rpm
Terminal resistance	R	210	Ω
Ripple, peak-peak, typical		7	%
Ripple frequency, cycles		14	per turn
Linearity, without load, between 500 and 5 000 rpm		± 0,2	%
Reversion error		± 0,2	%
Temperature coefficient of EMF		0,02	% / °C
Temperature coefficient of armature resistance		0,4	% / °C
Rotor inductance	L	3 000	µH
Direction of rotation		reversible	
Polarity		dependent on direction of rotation	

Features

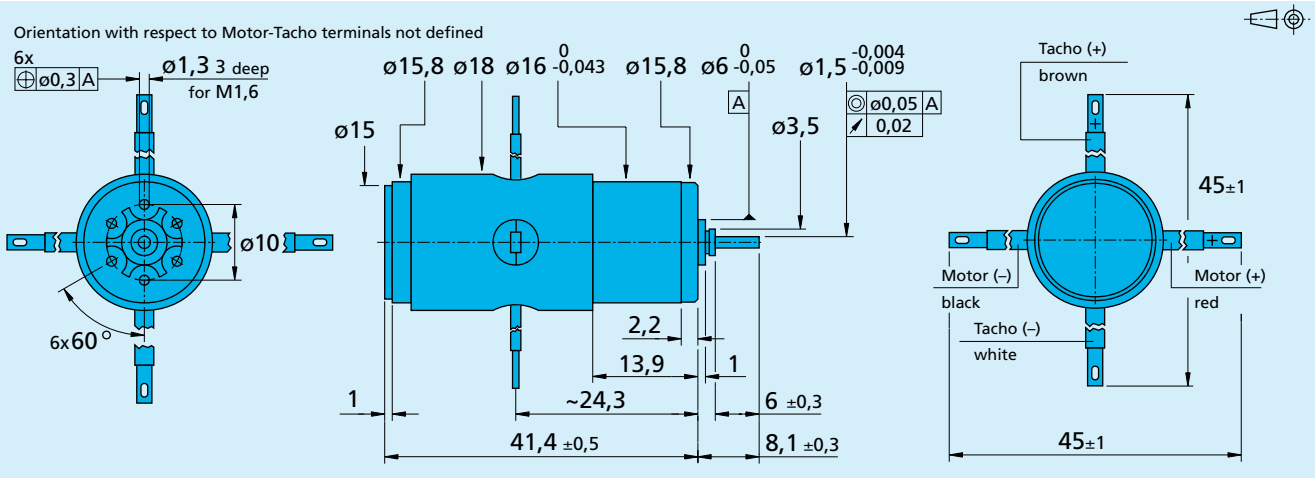
Mono-axis design
Motor and tachogenerator feature the patented skew wound ironless rotors (System FAULHABER®).
The mono-axis design with the two commutator systems, facing each other in a patented arrangement, mounted on a single solid shaft, has excellent torsion characteristics and the highest frequency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



1841 T ... S 001 G