

DC-Motor-Tacho Combinations

20 mNm

Graphite Commutation

For combination with:

Gearheads: 23/1, 30/1, 38/1, 38/2, 38/3

Series 2842 ... C

Characteristics of the DC-Motor-Tacho Combination

Series	mechanical time constant	moment of inertia	angular acceleration	frequency	weight response
2842 S 006 C 001 G	τ_m 15 ms	J 14,5 gcm ²	α_{max} $32 \cdot 10^3 \text{ rad s}^{-2}$	1750 Hz	160 g
2842 S 012 C 001 G	17 ms	18,0 gcm ²	$29 \cdot 10^3 \text{ rad s}^{-2}$	1750 Hz	160 g
2842 S 024 C 001 G	17 ms	18,0 gcm ²	$29 \cdot 10^3 \text{ rad s}^{-2}$	1750 Hz	160 g
2842 S 028 C 001 G	17 ms	18,0 gcm ²	$29 \cdot 10^3 \text{ rad s}^{-2}$	1750 Hz	160 g
2842 S 036 C 001 G	17 ms	18,0 gcm ²	$29 \cdot 10^3 \text{ rad s}^{-2}$	1750 Hz	160 g

The characteristics of the DC-Micromotor Series 2842 ... C, 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.

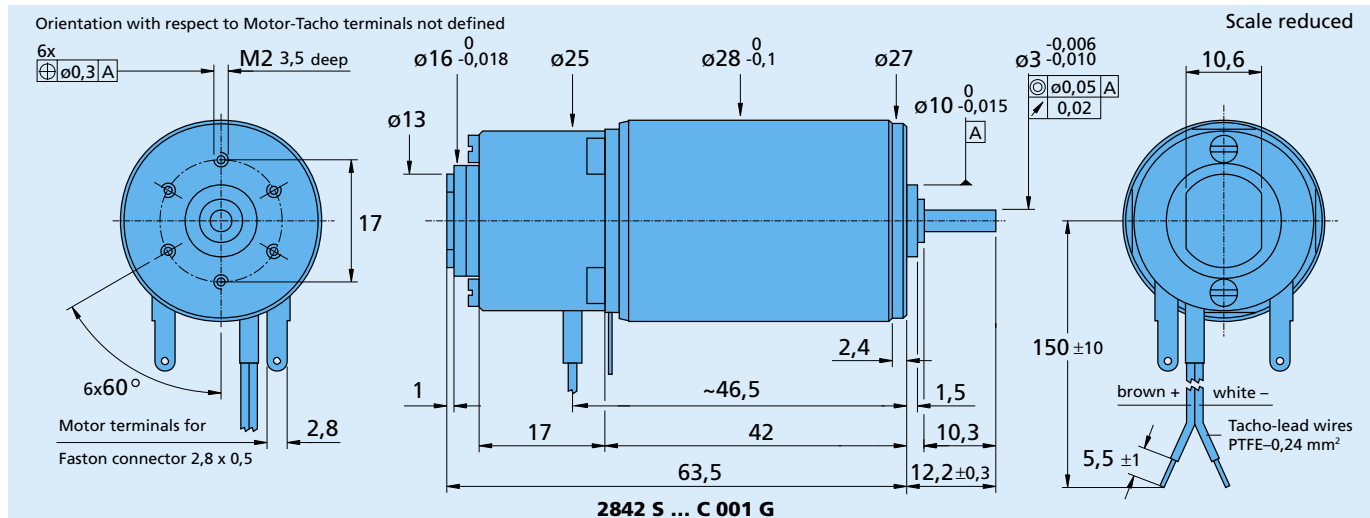
Commutation system

The motors are built with copper commutators and copper impregnated graphite brushes. The tachogenerator have commutators and brushes made of gold alloy to assure a high quality output signal.

Operating temperature ranges:

Motor-Tacho, standard
Rotor, max. permissible

-30 ... + 125 °C
+ 125 °C



For notes on technical data refer to "Technical Information" on the main catalogue

Specifications subject to change without notice.

DC-Motor-Tacho Combinations

20 mNm

Graphite Commutation

For combination with:

Gearheads: 23/1, 30/1, 38/1, 38/2, 38/3

Encoders: 20/21B, 03A, 03B, 10/09B, 10/09BP,
5500, 5540

Series 2842 ... C

Characteristics of the DC-Motor-Tacho Combinations

Series	tacho output	Frequency response	weight
2842 S 006 C 4,3 G-60	4,3 V/1000 rpm	870 Hz	200 g
2842 S 012 C 4,3 G-60	4,3 V/1000 rpm	870 Hz	200 g
2842 S 024 C 4,3 G-60	4,3 V/1000 rpm	870 Hz	200 g
2842 S 028 C 4,3 G-60	4,3 V/1000 rpm	870 Hz	200 g
2842 S 036 C 4,3 G-60	4,3 V/1000 rpm	870 Hz	200 g

The characteristics of the DC-Micromotor Series 2842 ... C, used for these combinations are listed on separate Data sheet.

Tachogenerator		4,3 G-60	
EMF constant	K_E	4,3	mV/rpm
Tolerance of EMF constant		41,1	mV/rad s ⁻¹
Load resistance	R_L	± 1	%
Operating speed, max. continuous	$n_{e \text{ max.}}$	≥ 25	kΩ
Terminal resistance	R	≤ 5000	rpm
		260	Ω
Ripple, peak-peak, typical		7	%
Ripple frequency, cycles		10	per turn
Linearity, without load, between 500 and 5000 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	7000	μH
Direction of rotation		reversible	
Polarity		dependent on direction of rotation	

Features

Design

Motor and tachogenerator feature the patented skew wound ironless rotors (System FAULHABER®).

The Tachogenerator is assembled on to the rear-end motor shaft with on extension sleeve and gives excellent torsion characteristics and frequency response.

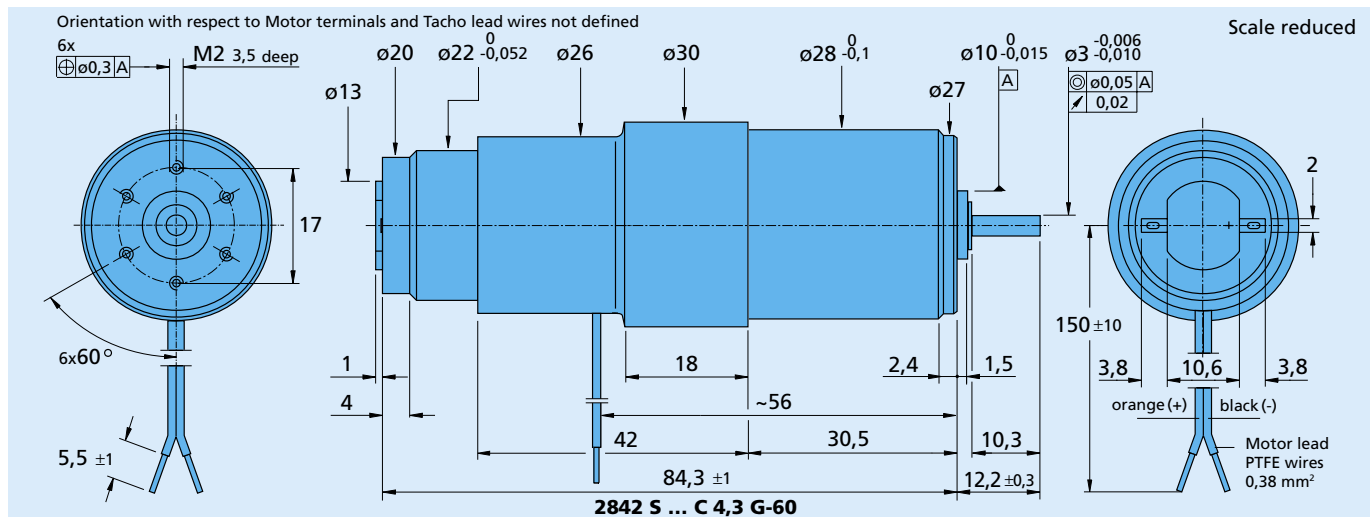
Commutation system

The motors are built with copper commutators and copper impregnated graphite brushes. The tachogenerator have commutators and brushes made of gold alloy to assure a high quality output signal and provide a minimized but constant contact resistance as well as insensibility to changes in environment.

Operating temperature range

Motor-Tacho, standard
Rotor, max. permissible

-30°... +125 °C
+125 °C



For notes on technical data refer to "Technical Information" on the main catalogue

Specifications subject to change without notice.