DC-Micromotors

Graphite Commutation

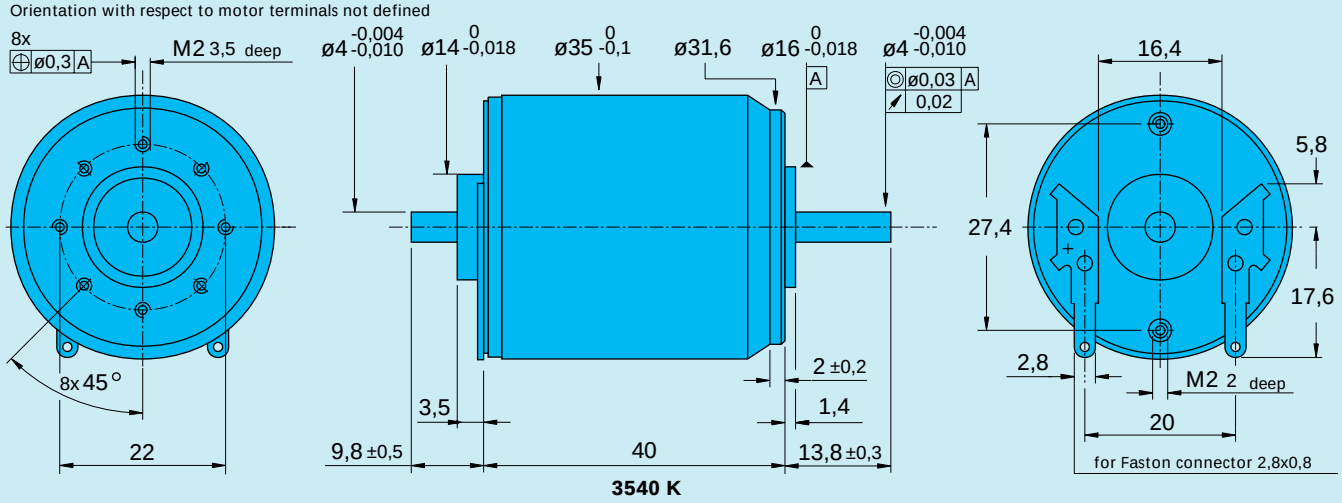
20 mNm

For combination with:
Gearheads: 30/1, 38/1, 38/2
Encoders: 20/21B, 03A, 03B, 10/09A, 10/09B, 10/09BP, 5500, 5540
DC-Motor-Tacho Combinations: 3540

Series 3540 ... C

		3540 K		006 C	012 C	015 C	020 C	024 C	
1	Nominal voltage	U_N		6	12	15	20	24	Volt
2	Terminal resistance	R		1,1	3,7	5,7	10,4	16,0	Ω
3	Output power	$P_{2\ max.}$		7,56	9,14	9,28	8,93	8,35	W
4	Efficiency	$\eta_{max.}$		67	70	70	68	68	%
5	No-load speed	n_o		5 500	6 100	6 000	6 000	5 900	rpm
6	No-load current (with shaft ø 4,0 mm)	I_o		0,210	0,100	0,080	0,070	0,055	A
7	Stall torque	M_H		52,5	57,2	59,0	56,9	54,0	mNm
8	Friction torque	M_R		2,10	1,80	1,90	2,10	2,10	mNm
9	Speed constant	k_n		953	525	413	311	255	rpm/V
10	Back-EMF constant	k_E		1,050	1,910	2,420	3,210	3,920	mV/rpm
11	Torque constant	k_M		10,00	18,20	23,10	30,70	37,40	mNm/A
12	Current constant	k_I		0,100	0,055	0,043	0,033	0,027	A/mNm
13	Slope of n-M curve	Δn/ΔM		105	107	102	105	109	rpm/mNm
14	Rotor inductance	L		100	460	500	1 000	1 470	µH
15	Mechanical time constant	τ_m		30	24	25	25	25	ms
16	Rotor inertia	J		27	21	23	23	22	gcm^2
17	Angular acceleration	$\alpha_{max.}$		19	27	25	25	25	$\cdot 10^3 rad/s^2$
18	Thermal resistance	$R_{th\,1}$ / $R_{th\,2}$	2 / 11						K/W
19	Thermal time constant	τ_{w1} / τ_{w2}	7,5 / 760						s
20	Operating temperature range:								
	– motor		– 30 ... +125						°C
	– rotor, max. permissible		+125						°C
21	Shaft bearings		ball bearings, preloaded						
22	Shaft load max.:								
	– with shaft diameter		4,0						mm
	– radial at 3000 rpm (3 mm from bearing)		30						N
	– axial at 3000 rpm		5						N
	– axial at standstill		50						N
23	Shaft play:								
	– radial	≤	0,015						mm
	– axial	≤	0						mm
24	Housing material		steel, zinc galvanized and passivated						
25	Weight		180						g
26	Direction of rotation		clockwise, viewed from the front face						
Recommended values									
27	Speed up to	$n_{e\ max.}$		5 000	5 000	5 000	5 000	5 000	rpm
28	Torque up to	$M_{e\ max.}$		20	20	20	20	20	mNm
29	Current up to (thermal limits)	$I_{e\ max.}$		2,250	1,200	0,950	0,700	0,550	A

Orientation with respect to motor terminals not defined



3540 K

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

Specifications subject to change without notice