

DC-Micromotors

Graphite Commutation

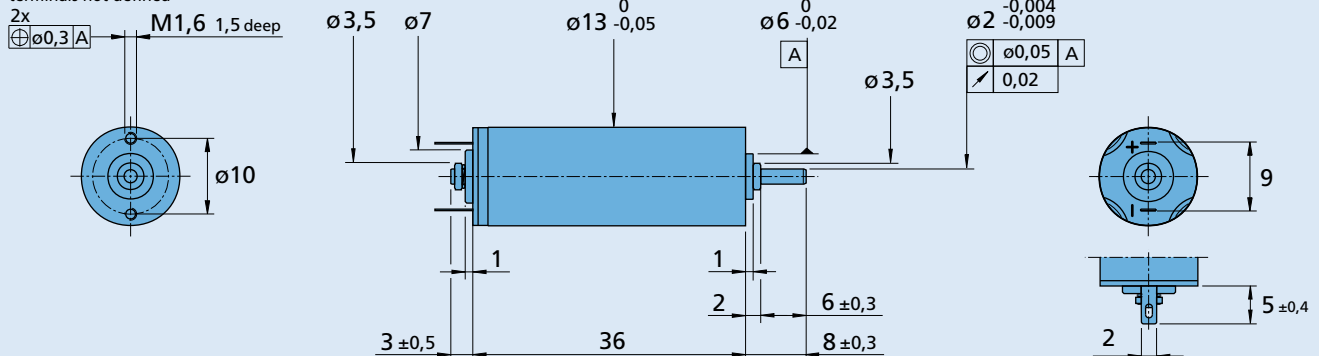
4 mNm

For combination with
 Gearheads:
 13A, 14/1
 Encoders:
 20B, 21B, 30B, IE2-1024, IE2-16

Series 1336 ... C

	1336 U	006 C	012 C	024 C	
1 Nominal voltage	U_N	6	12	24	V
2 Terminal resistance	R	4	15,6	63,6	Ω
3 Output power	$P_{2 \text{ max.}}$	1,75	1,98	2,02	W
4 Efficiency, max.	$\eta_{\text{ max.}}$	68	69	68	%
5 No-load speed	n_0	8 600	9 000	9 200	rpm
6 No-load current (with shaft \varnothing 2 mm)	I_0	0,051	0,025	0,013	A
7 Stall torque	M_H	7,79	8,4	8,39	mNm
8 Friction torque	M_R	0,3	0,29	0,31	mNm
9 Speed constant	k_n	1 620	810	406	rpm/V
10 Back-EMF constant	k_E	0,616	1,23	2,46	mV/rpm
11 Torque constant	k_M	5,88	11,8	23,5	mNm/A
12 Current constant	k_i	0,17	0,085	0,042	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	1 100	1 070	1 100	rpm/mNm
14 Rotor inductance	L	80	300	1 200	μH
15 Mechanical time constant	τ_m	5,5	5,5	5,5	ms
16 Rotor inertia	J	0,48	0,49	0,48	gcm^2
17 Angular acceleration	$\alpha_{\text{ max.}}$	160	170	180	$\cdot 10^3 \text{ rad/s}^2$
18 Thermal resistance	$R_{\text{th} 1} / R_{\text{th} 2}$	7 / 21			K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	5,5 / 168			s
20 Operating temperature range:					
– motor		-30 ... +100			$^{\circ}\text{C}$
– rotor, max. permissible		+125			$^{\circ}\text{C}$
21 Shaft bearings		ball bearings, preloaded			
22 Shaft load max.:					
– with shaft diameter		2			mm
– radial at 3 000 rpm (3 mm from bearing)		8			N
– axial at 3 000 rpm		0,8			N
– axial at standstill		10			N
23 Shaft play					
– radial	\leq	0,015			mm
– axial	\parallel	0			mm
24 Housing material		steel, black coated			
25 Weight		23			g
26 Direction of rotation		clockwise, viewed from the front face			
Recommended values - mathematically independent of each other					
27 Speed up to	$n_{e \text{ max.}}$	9 000	9 000	9 000	rpm
28 Torque up to	$M_{e \text{ max.}}$	4	4	4	mNm
29 Current up to (thermal limits)	$I_{e \text{ max.}}$	0,8	0,4	0,2	A

Orientation with respect to motor terminals not defined



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