

DC-Micromotors

1,5 mNm

Precious Metal Commutation

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

Series 1717 ... S

	1717 T	003 S	006 S	012 S	
1 Nominal voltage	U_N	3	6	12	Volt
2 Terminal resistance	R	1,6	5,5	20,0	Ω
3 Output power	$P_{2 \text{ max.}}$	1,31	1,55	1,68	W
4 Efficiency	$\eta_{\text{ max.}}$	69	72	69	%
5 No-load speed	n_o	12 600	12 600	13 000	rpm
6 No-load current (with shaft \varnothing 1,5 mm)	I_o	0,065	0,030	0,020	A
7 Stall torque	M_H	3,98	4,69	4,94	mNm
8 Friction torque	M_R	0,14	0,13	0,17	mNm
9 Speed constant	k_n	4 350	2 160	1 120	rpm/V
10 Back-EMF constant	k_E	0,230	0,463	0,892	mV/rpm
11 Torque constant	k_M	2,19	4,42	8,52	mNm/A
12 Current constant	k_I	0,456	0,226	0,117	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	3 170	2 690	2 630	rpm/mNm
14 Rotor inductance	L	22	95	340	μH
15 Mechanical time constant	τ_m	23	23	23	ms
16 Rotor inertia	J	0,69	0,82	0,83	gcm^2
17 Angular acceleration	$\alpha_{\text{ max.}}$	57	57	59	$\cdot 10^3 \text{ rad/s}^2$
18 Thermal resistance	$R_{\text{th } 1} / R_{\text{th } 2}$	10 / 45			K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	5,3 / 305			s
20 Operating temperature range:					
- motor		- 30 ... + 85 (optional - 55 ... + 125)			$^{\circ}\text{C}$
- rotor, max. permissible		+ 125			$^{\circ}\text{C}$
21 Shaft bearings		sintered bronze sleeves	ball bearings	ball bearings, preloaded	
22 Shaft load max.:		(standard)	(optional)	(optional)	
- with shaft diameter		1,5	1,5	1,5	mm
- radial at 3000 rpm (3 mm from bearing)		1,2	5	5	N
- axial at 3000 rpm		0,2	0,5	0,5	N
- axial at standstill		20	10	10	N
23 Shaft play:					
- radial	\leq	0,03	0,015	0,015	mm
- axial	\leq	0,2	0,2	0	mm
24 Housing material		steel, zinc galvanized and passivated			
25 Weight		17			g
26 Direction of rotation		clockwise, viewed from the front face			
Recommended values					
27 Speed up to	$n_e \text{ max.}$	10 000	10 000	10 000	rpm
28 Torque up to	$M_e \text{ max.}$	1,5	1,5	1,5	mNm
29 Current up to (thermal limits)	$I_e \text{ max.}$	0,910	0,490	0,250	A

Orientation with respect to motor terminals not defined

