

# DC-Micromotors

## Precious Metal Commutation

## 2 mNm

For combination with

Gearheads:  
15A, 16/7, 16A

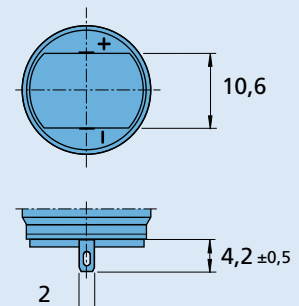
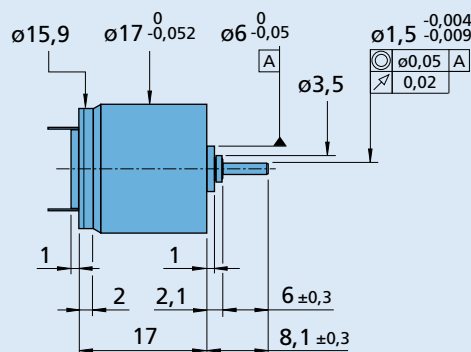
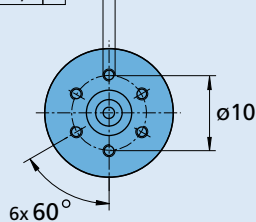
Encoders:  
IE2-1024, IE2-16

### Series 1717 ... SR

	1717 T	003 SR	006 SR	012 SR	018 SR	024 SR	
1 Nominal voltage	$U_N$	3	6	12	18	24	V
2 Terminal resistance	R	1,07	4,3	17,1	50,1	68,8	$\Omega$
3 Output power	$P_{2 \max}$	1,97	1,96	1,97	1,5	1,96	W
4 Efficiency, max.	$\eta_{\max}$	69	69	70	68	70	%
5 No-load speed	$n_0$	14 000	14 000	14 000	12 300	14 000	rpm
6 No-load current (with shaft $\varnothing$ 1,5 mm)	$I_0$	0,091	0,046	0,023	0,013	0,011	A
7 Stall torque	$M_H$	5,37	5,34	5,38	4,66	5,36	mNm
8 Friction torque	$M_R$	0,18	0,18	0,18	0,18	0,17	mNm
9 Speed constant	$k_n$	4 820	2 410	1 210	709	602	rpm/V
10 Back-EMF constant	$k_E$	0,207	0,414	0,829	1,41	1,66	mV/rpm
11 Torque constant	$k_M$	1,98	3,96	7,92	13,5	15,9	mNm/A
12 Current constant	$k_i$	0,505	0,253	0,126	0,074	0,063	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	2 610	2 620	2 600	2 640	2 610	rpm/mNm
14 Rotor inductance	L	17	65	260	760	1 040	$\mu$ H
15 Mechanical time constant	$\tau_m$	16	16	16	16	16	ms
16 Rotor inertia	J	0,59	0,58	0,59	0,58	0,59	gcm <sup>2</sup>
17 Angular acceleration	$\alpha_{\max}$	92	92	92	80	92	$\cdot 10^3 \text{rad/s}^2$
18 Thermal resistance	$R_{th1} / R_{th2}$	4,5 / 27					K/W
19 Thermal time constant	$\tau_{w1} / \tau_{w2}$	2 / 210					s
20 Operating temperature range:		-30 ... +85 (optional version -55 ... +125)					°C
- motor							
- rotor, max. permissible		+125					°C
21 Shaft bearings		sintered bearings	ball bearings	ball bearings, preloaded			
22 Shaft load max.:		(standard)	(optional version)	(optional version)			
- with shaft diameter		1,5	1,5	1,5			mm
- radial at 3 000 rpm (3 mm from bearing)		1,2	5	5			N
- axial at 3 000 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, black coated					
25 Weight		18					g
26 Direction of rotation		clockwise, viewed from the front face					
<b>Recommended values - mathematically independent of each other</b>							
27 Speed up to	$n_{e \max}$	10 000	10 000	10 000	10 000	10 000	rpm
28 Torque up to	$M_{e \max}$	2	2	2	2	2	mNm
29 Current up to (thermal limits)	$I_{e \max}$	1,2	0,6	0,3	0,18	0,15	A

Orientation with respect to motor terminals not defined

6x  $\varnothing 0,3$  A M1,6 1,6 deep



1717 T ... SR