

NEW

DC-Micromotors
Graphite Commutation

11 mNm

For combination with
Gearheads:
22F, 22/7, 23/1, 26A
Encoders:
IE3 – 256, IE3 – 256 L

Series 2237 ... CXR

	2237 S	006 CXR	012 CXR	018 CXR	024 CXR	036 CXR	048 CXR	
1 Nominal voltage	U_N	6	12	18	24	36	48	Volt
2 Terminal resistance	R	0,85	3,92	8,50	15,7	33,0	62,8	Ω
3 Output power	$P_{2 \text{ max.}}$	8,6	8,1	8,7	8,5	9,2	8,6	W
4 Efficiency	$\eta_{\text{ max.}}$	68,1	70,8	72,2	72,6	73,6	73,5	%
5 No-load speed	n_o	6 900	6 800	7 000	6 900	7 200	7 000	rpm
6 No-load current (with shaft \varnothing 3,0 mm)	I_o	0,124	0,058	0,039	0,029	0,020	0,015	A
7 Stall torque	M_H	47,2	45,7	47,1	46,6	48,7	47,1	mNm
8 Friction torque	M_R	0,92	0,92	0,92	0,92	0,92	0,92	mNm
9 Speed constant	k_n	1 283	601	409	301	207	150	rpm/V
10 Back-EMF constant	k_E	0,78	1,66	2,44	3,33	4,83	6,65	mV/rpm
11 Torque constant	k_M	7,44	15,9	23,3	31,8	46,2	63,5	mNm/A
12 Current constant	k_i	0,134	0,063	0,043	0,032	0,022	0,016	A/mNm
13 Slope of n-M curve	$\Delta n / \Delta M$	146	148	149	149	148	149	rpm/mNm
14 Rotor inductance	L	35	150	320	590	1 240	2 340	μH
15 Mechanical time constant	τ_m	5	5	5	5	5	5	ms
16 Rotor inertia	J	3,1	3,1	3,1	3,1	3,1	3,1	gcm ²
17 Angular acceleration	$\alpha_{\text{ max.}}$	152	147	152	150	157	152	$\cdot 10^3 \text{ rad/s}^2$
18 Thermal resistance	$R_{\text{th} 1} / R_{\text{th} 2}$	8 / 17						K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	13 / 500						s
20 Operating temperature range:								
– motor		– 30 ... +100						°C
– rotor, max. permissible		+125						°C
21 Shaft bearings		sintered bronze sleeves		ball bearings, preloaded				
22 Shaft load max.:		(standard)		(optional)				
– with shaft diameter		3,0		3,0				mm
– radial at 3 000 rpm (3 mm from bearing)		2,5		15				N
– axial at 3 000 rpm		0,3		2,0				N
– axial at standstill		20		20				N
23 Shaft play:								
– radial	\leq	0,03		0,015				mm
– axial	\leq	0,2		0				mm
24 Housing material		steel, zinc galvanized and passivated						
25 Weight		68						g
26 Direction of rotation		clockwise, viewed from the front face						
Recommended values - mathematically independent of each other								
27 Speed up to	$n_{e \text{ max.}}$	7 000	7 000	7 000	7 000	7 000	7 000	rpm
28 Torque up to	$M_{e \text{ max.}}$	10	10,5	10,5	10,5	11	11	mNm
29 Current up to (thermal limits)	$I_{e \text{ max.}}$	1,65	0,80	0,55	0,41	0,28	0,20	A

