

DC-Micromotors

16 mNm

Graphite Commutation

For combination with (overview on page 14-15)

Gearheads:
23/1, 26A, 26/1, 22/7, 30/1, 38/3

Encoders:
IE2 - 16 ... 512, 5500, 5540

Series 2342 ... CR

	2342 S	006 CR	012 CR	018 CR	024 CR	036 CR	048 CR	
1 Nominal voltage	U_N	6	12	18	24	36	48	Volt
2 Terminal resistance	R	0,40	1,90	4,10	7,10	15,9	31,20	Ω
3 Output power	$P_{2\max}$	20,50	17,00	18,10	19,00	19,40	17,70	W
4 Efficiency	η_{\max}	81	80	81	81	81	81	%
5 No-load speed	n_0	9 000	8 100	8 000	8 500	8 100	8 000	rpm
6 No-load current (with shaft \varnothing 3,0 mm)	I_0	0,170	0,075	0,048	0,038	0,024	0,017	A
7 Stall torque	M_H	87,2	80,0	86,5	85,4	91,4	84,4	mNm
8 Friction torque	M_R	0,98	1,00	0,99	0,99	0,99	0,95	mNm
9 Speed constant	k_n	1 650	713	462	366	231	170	rpm/V
10 Back-EMF constant	k_E	0,604	1,400	2,160	2,730	4,340	5,870	mV/rpm
11 Torque constant	k_M	5,77	13,40	20,70	26,10	41,40	56,10	mNm/A
12 Current constant	k_i	0,173	0,075	0,048	0,038	0,024	0,018	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	103	101	92,5	99,5	88,6	94,8	rpm/mNm
14 Rotor inductance	L	13,5	65	150	265	590	1 050	μH
15 Mechanical time constant	τ_m	6	6	6	6	6	6	ms
16 Rotor inertia	J	5,6	5,7	6,2	5,8	6,5	6,0	gcm ²
17 Angular acceleration	α_{\max}	160	140	140	150	140	140	$\cdot 10^3$ rad/s ²
18 Thermal resistance	R_{th1} / R_{th2}	3 / 15						K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	6,5 / 490						s
20 Operating temperature range:								
- motor		- 30 ... +100						$^{\circ}C$
- rotor, max. permissible		+125						$^{\circ}C$
21 Shaft bearings		ball bearings, preloaded						
22 Shaft load max.:								
- with shaft diameter		3,0						mm
- radial at 3 000 rpm (3 mm from bearing)		20						N
- axial at 3 000 rpm		2						N
- axial at standstill		20						N
23 Shaft play:								
- radial	\leq	0,015						mm
- axial	$=$	0						mm
24 Housing material		steel, black coated						
25 Weight		88						g
26 Direction of rotation		clockwise, viewed from the front face						

Recommended values - mathematically independent of each other

27 Speed up to	$n_{e\max}$	7 000	7 000	7 000	7 000	7 000	7 000	rpm
28 Torque up to	$M_{e\max}$	16	16	16	16	16	16	mNm
29 Current up to (thermal limits)	$I_{e\max}$	2,700	1,400	0,950	0,720	0,480	0,350	A

