

DC-Micromotors

Graphite Commutation

16 mNm

For combination with

Gearheads:

22/7, 22F, 23/1, 26/1, 26/1 S, 26A, 30/1, 30/1 S, 38/3

Encoders:

HEDL 5540, HEDM 5500, HEDS 5500, HEDS 5540, IE2-1024, IE2-16, IE3-1024, IE3-1024 L

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	V
2 Terminal resistance	R	0,4	1,9	4,1	7,1	15,9	31,2	Ω
3 Output power	$P_{2 \max}$	20,5	17	18,1	19	19,4	17,7	W
4 Efficiency, max.	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 mm)	I_0	0,17	0,075	0,048	0,038	0,024	0,017	A
7 Stall torque	M_H	87,2	80	86,5	85,4	91,4	84,4	mNm
8 Friction torque	M_R	0,98	1	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	1,4	2,16	2,73	4,34	5,87	mV/rpm
11 Torque constant	k_M	5,77	13,4	20,7	26,1	41,4	56,1	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	μ H
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	gcm ²
17 Angular acceleration	α_{\max}	160	140	140	150	140	140	$\cdot 10^3$ rad/s ²
18 Thermal resistance	$R_{th 1} / R_{th 2}$	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						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	\parallel	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)	$I_{e \max}$	2,7	1,4	0,95	0,72	0,48	0,35	A

