

## DC-Micromotors

### Graphite Commutation

16 mNm

For combination with

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

Encoders:

IE2 – 16 ... 512, IE3 – 256, IE3 – 256 L, 5500, 5540

### Series 2342 ... CR

	2342 S	006 CR	012 CR	018 CR	024 CR	036 CR	048 CR	
1 Nominal voltage	U <sub>N</sub>	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 <sub>2 max.</sub>	20,50	17,00	18,10	19,00	19,40	17,70	W
4 Efficiency	η <sub>max.</sub>	81	80	81	81	81	81	%
5 No-load speed	n <sub>0</sub>	9 000	8 100	8 000	8 500	8 100	8 000	rpm
6 No-load current (with shaft ø 3,0 mm)	I <sub>0</sub>	0,170	0,075	0,048	0,038	0,024	0,017	A
7 Stall torque	M <sub>H</sub>	87,2	80,0	86,5	85,4	91,4	84,4	mNm
8 Friction torque	M <sub>R</sub>	0,98	1,00	0,99	0,99	0,99	0,95	mNm
9 Speed constant	k <sub>n</sub>	1 650	713	462	366	231	170	rpm/V
10 Back-EMF constant	k <sub>E</sub>	0,604	1,400	2,160	2,730	4,340	5,870	mV/rpm
11 Torque constant	k <sub>M</sub>	5,77	13,40	20,70	26,10	41,40	56,10	mNm/A
12 Current constant	k <sub>I</sub>	0,173	0,075	0,048	0,038	0,024	0,018	A/mNm
13 Slope of n-M curve	Δn/ΔM	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 <sub>m</sub>	6	6	6	6	6	6	ms
16 Rotor inertia	J	5,6	5,7	6,2	5,8	6,5	6,0	gcm <sup>2</sup>
17 Angular acceleration	α <sub>max.</sub>	160	140	140	150	140	140	·10 <sup>3</sup> rad/s <sup>2</sup>
18 Thermal resistance	R <sub>th 1</sub> / R <sub>th 2</sub>	3 / 15						K/W
19 Thermal time constant	τ <sub>w1</sub> / τ <sub>w2</sub>	6,5 / 490						s
20 Operating temperature range:								
– motor		– 30 ... +100						°C
– rotor, max. permissible		+125						°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	≤	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 <sub>e max.</sub>	7 000	7 000	7 000	7 000	7 000	7 000	rpm
28 Torque up to	M <sub>e max.</sub>	16	16	16	16	16	16	mNm
29 Current up to (thermal limits)	I <sub>e max.</sub>	2,700	1,400	0,950	0,720	0,480	0,350	A

