

DC-Micromotors

Precious Metal Commutation

0,48 mNm

For combination with

Gearheads:

10/1, 12/3

Encoders:

30B, HEM3-256-W, PA2-100

Series 1016 ... G

	1016 N	003 G	006 G	012 G	
1 Nominal voltage	U_N	3	6	12	V
2 Terminal resistance	R	8,7	20,1	95	Ω
3 Output power	$P_{2 \max}$	0,24	0,42	0,36	W
4 Efficiency, max.	η_{\max}	63	67	68	%
5 No-load speed	n_0	14 200	18 400	16 500	rpm
6 No-load current (with shaft \varnothing 0,8 mm)	I_0	0,015	0,01	0,004	A
7 Stall torque	M_H	0,64	0,87	0,82	mNm
8 Friction torque	M_R	0,03	0,03	0,03	mNm
9 Speed constant	k_n	4 948	3 173	1 419	rpm/V
10 Back-EMF constant	k_E	0,202	0,315	0,705	mV/rpm
11 Torque constant	k_M	1,93	3,01	6,73	mNm/A
12 Current constant	k_i	0,518	0,332	0,149	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	22 304	21 185	20 029	rpm/mNm
14 Rotor inductance	L	28	60	310	μ H
15 Mechanical time constant	τ_m	9	13	10	ms
16 Rotor inertia	J	0,04	0,06	0,05	gcm ²
17 Angular acceleration	α_{\max}	159	145	165	$\cdot 10^3$ rad/s ²
18 Thermal resistance	$R_{th 1} / R_{th 2}$	26 / 56			K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	3,1 / 260			s
20 Operating temperature range:					
– motor		-30 ... +85 (optional version	-30 ... +125)		°C
– rotor, max. permissible		+85 (optional version	+125)		°C
21 Shaft bearings		sintered bearings	ball bearings		
22 Shaft load max.:		(standard)	(optional version)		
– with shaft diameter		0,8	1		mm
– radial at 3 000 rpm (1,5 mm from bearing)		0,5	5		N
– axial at 3 000 rpm		0,1	0,5		N
– axial at standstill		20	5		N
23 Shaft play					
– radial	\leq	0,03	0,02		mm
– axial	\leq	0,2	0,2		mm
24 Housing material		steel, nickel plated			
25 Weight		6,5			g
26 Direction of rotation		clockwise, viewed from the front face			
Recommended values - mathematically independent of each other					
27 Speed up to	$n_{e \max}$	13 000	13 000	13 000	rpm
28 Torque up to	$M_{e \max}$	0,48	0,48	0,48	mNm
29 Current up to (thermal limits)	$I_{e \max}$	0,26	0,17	0,08	A

