

DC-Micromotors

Precious Metal Commutation

0,15 mNm

For combination with
Gearheads:
08/1, 08/2, 08/3
Encoders:
HEM3-256-W, PA2-50

Series 0816 ... S

	0816 N	003 S	006 S	008 S	
1 Nominal voltage	U_N	3	6	8	V
2 Terminal resistance	R	11,5	47	75,7	Ω
3 Output power	$P_{2 \max}$	0,17	0,16	0,18	W
4 Efficiency, max.	η_{\max}	52	51	50	%
5 No-load speed	n_0	15 700	15 800	16 500	rpm
6 No-load current (with shaft \varnothing 1 mm)	I_0	0,016	0,008	0,006	A
7 Stall torque	M_H	0,41	0,4	0,4	mNm
8 Friction torque	M_R	0,04	0,04	0,04	mNm
9 Speed constant	k_n	5 617	2 851	2 329	rpm/V
10 Back-EMF constant	k_E	0,178	0,351	0,429	mV/rpm
11 Torque constant	k_M	1,7	3,35	4,1	mNm/A
12 Current constant	k_I	0,588	0,299	0,244	A/mNm
13 Slope of n-M curve	$\Delta n / \Delta M$	37 999	39 993	43 003	rpm/mNm
14 Rotor inductance	L	47	195	310	μ H
15 Mechanical time constant	τ_m	12	13	14	ms
16 Rotor inertia	J	0,03	0,03	0,03	gcm ²
17 Angular acceleration	α_{\max}	138	132	133	$\cdot 10^3$ rad/s ²
18 Thermal resistance	$R_{th 1} / R_{th 2}$	30 / 61			K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	2,9 / 207			s
20 Operating temperature range:					
– motor		-30 ... +85 (optional version	-30 ... +125)		$^{\circ}$ C
– rotor, max. permissible		+85 (optional version	+125)		$^{\circ}$ C
21 Shaft bearings		sintered bearings			
22 Shaft load max.:					
– with shaft diameter		1			mm
– radial at 3 000 rpm (1,5 mm from bearing)		0,5			N
– axial at 3 000 rpm		0,1			N
– axial at standstill		20			N
23 Shaft play					
– radial	\leq	0,03			mm
– axial	\leq	0,2			mm
24 Housing material		steel, nickel plated			
25 Weight		3,5			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	$M_{e \max}$	0,15	0,15	0,15	mNm
29 Current up to (thermal limits)	$I_{e \max}$	0,211	0,103	0,085	A

