

# DC-Micromotors

## 0,2 Watt

Precious Metal Commutation

For combination with:  
Gearheads: 08/1

### Series 0816 ... S

	0816 N	003 S	006 S	008 S	
1 Nominal voltage	$U_N$	3	6	8	Volt
2 Terminal resistance	R	11,2	47,0	75,7	$\Omega$
3 Output power	$P_{2 \max.}$	0,17	0,16	0,17	W
4 Efficiency	$\eta_{\max.}$	50	48	48	%
5 No-load speed	$n_o$	16 900	17 000	18 300	rpm
6 No-load current (with shaft $\varnothing$ 1,0 mm)	$I_o$	0,023	0,012	0,010	A
7 Stall torque	$M_H$	0,38	0,35	0,36	mNm
8 Friction torque	$M_R$	0,04	0,04	0,04	mNm
9 Speed constant	$k_n$	6 161	3 131	2 526	rpm/V
10 Back-EMF constant	$k_E$	0,162	0,319	0,396	mV/rpm
11 Torque constant	$k_M$	1,55	3,05	3,78	mNm/A
12 Current constant	$k_I$	0,645	0,328	0,265	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	44 517	48 247	50 592	rpm/mNm
14 Rotor inductance	L	47	195	310	$\mu H$
15 Mechanical time constant	$\tau_m$	14	15	16	ms
16 Rotor inertia	J	0,03	0,03	0,03	$gcm^2$
17 Angular acceleration	$\alpha_{\max.}$	127	117	121	$\cdot 10^3 rad/s^2$
18 Thermal resistance	$R_{th 1} / R_{th 2}$	30 / 61			K/W
19 Thermal time constant	$\tau_{w1} / \tau_{w2}$	2,9 / 207			s
20 Operating temperature range:					
– motor		– 30 ... + 85			$^{\circ}C$
– rotor, max. permissible		+ 85			$^{\circ}C$
21 Shaft bearings		sintered bronze sleeves			
22 Shaft load max.:					
– with shaft diameter		1,0			mm
– radial at 3000 rpm (1,5 mm from bearing)		0,5			N
– axial at 3000 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			
<b>Recommended values</b>					
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)	$I_{e \max.}$	0,210	0,100	0,080	A

