

Thin Profile DC-Micromotors

with flat ironless rotor

0,05 mNm

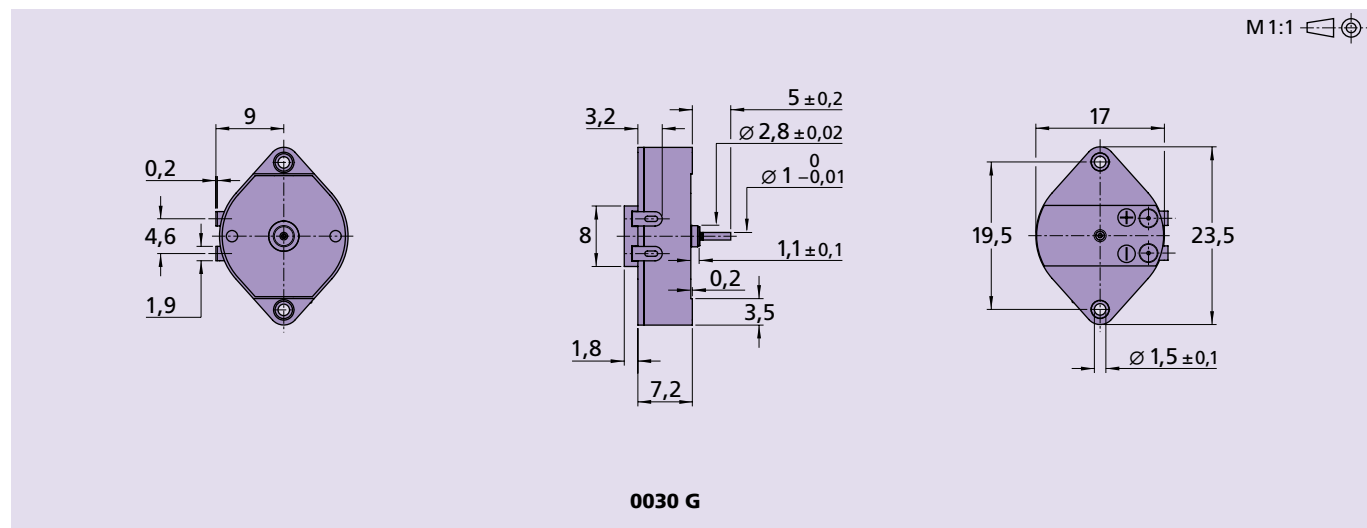
For combination with
Gearheads:
M11

Series 0030 ... S

	0030 G	002 S	003 S	004 S	006 S	
Nominal voltage	U_N	2	3	4	6	Volt
Terminal resistance	R	16	26	54	133	Ω
Output power	$P_{2 \text{ max.}}$	0,038	0,053	0,050	0,041	W
Efficiency	$\eta_{\text{ max.}}$	28	29	34	28	%
No-load speed	n_o	11 500	13 200	13 000	13 000	rpm
No-load current (with shaft \varnothing 0,8 mm)	I_o	0,028	0,025	0,013	0,010	A
Stall torque	M_H	0,13	0,15	0,15	0,12	mNm
Friction torque	M_R	0,04	0,04	0,03	0,03	mNm
Speed constant	k_n	7 409	5 617	3 942	2 784	rpm/V
Back-EMF constant	k_E	0,14	0,18	0,25	0,36	mV/rpm
Torque constant	k_M	1,29	1,70	2,42	3,43	mNm/A
Current constant	k_i	0,78	0,59	0,41	0,29	A/mNm
Slope of n-M curve	$\Delta n / \Delta M$	91 994	85 904	87 863	107 928	rpm/mNm
Rotor inductance	L	440	1 100	1 400	3 200	μH
Mechanical time constant	τ_m	145	135	138	170	ms
Rotor inertia	J	0,15	0,15	0,15	0,15	gcm^2
Angular acceleration	$\alpha_{\text{ max.}}$	8	10	10	8	$\cdot 10^3 \text{ rad/s}^2$
Thermal resistance	$R_{\text{th} 1} / R_{\text{th} 2}$	8,3 / 26				K/W
Thermal time constant	τ_{w1} / τ_{w2}	1,6 / 75				s
Operating temperature range:						
– motor		- 20 ... + 65				$^{\circ}\text{C}$
– rotor, max. permissible		+ 80				$^{\circ}\text{C}$
Shaft bearings		plastic / brass bearing				
Shaft load max.:						
– with shaft diameter		0,6				mm
– radial at 3 000 rpm (3 mm from bearing)		0,5				N
– axial at 3 000 rpm		0,1				N
– axial at standstill		5				N
Shaft play:						
– radial	\leq	0,03				mm
– axial	\leq	0,1				mm
Housing material		plastic				
Weight		7,5				g
Direction of rotation		clockwise, viewed from the front face				

Recommended values - mathematically independent of each other						
Speed up to	$n_{e \text{ max.}}$	10 000	10 000	10 000	10 000	rpm
Torque up to	$M_{e \text{ max.}}$	0,05	0,05	0,05	0,05	mNm
Current up to (thermal limits)	$I_{e \text{ max.}}$	0,08	0,07	0,05	0,03	A

Note: Brush plate is loose and is only held in place by magnetic force.



0030 G