

DC-Micromotors

4 mNm

Precious Metal Commutation

For combination with
 Gearheads:
 23/1, 30/1, 38/3
 Encoders:
 5500, 5540

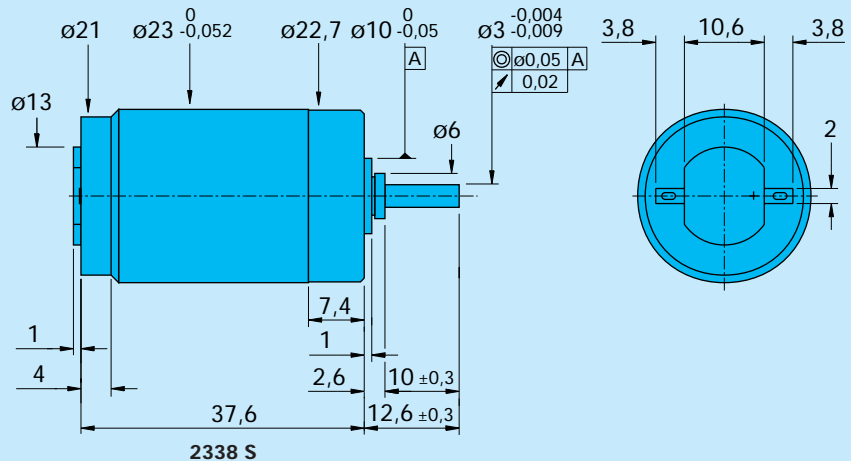
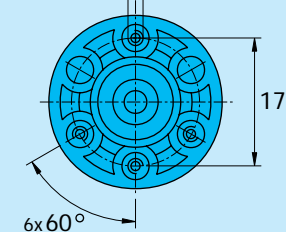
Series 2338 ... S

	2338 S	4,5 S	006 S	009 S	012 S	018 S	024 S	
1 Nominal voltage	U_N	4,5	6	9	12	18	24	Volt
2 Terminal resistance	R	1,4	2,6	5,7	10,0	23,5	38,0	Ω
3 Output power	$P_{2\max.}$	3,39	3,23	3,29	3,31	3,18	3,50	W
4 Efficiency	$\eta_{\max.}$	70	69	67	66	67	67	%
5 No-load speed	n_o	7 200	7 200	7 400	7 800	7 400	7 600	rpm
6 No-load current (with shaft \varnothing 3,0 mm)	I_o	0,100	0,080	0,060	0,050	0,030	0,025	A
7 Stall torque	M_{H_1}	18,00	17,10	17,00	16,20	16,40	17,60	mNm
8 Friction torque	M_R	0,58	0,61	0,67	0,70	0,67	0,72	mNm
9 Speed constant	k_n	1 650	1 240	855	678	428	330	rpm/V
10 Back-EMF constant	k_E	0,606	0,804	1,170	1,470	2,340	3,030	mV/rpm
11 Torque constant	k_M	5,78	7,68	11,20	14,10	22,30	29,00	mNm/A
12 Current constant	k_I	0,173	0,130	0,090	0,071	0,045	0,035	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	400	421	435	481	451	432	rpm/mNm
14 Rotor inductance	L	100	180	380	630	1 400	2 600	μH
15 Mechanical time constant	τ_m	20	17	17	17	17	17	ms
16 Rotor inertia	J	4,80	3,90	3,70	3,40	3,60	3,80	gcm^2
17 Angular acceleration	$\alpha_{\max.}$	38	44	46	48	46	47	$\cdot 10^3 rad/s^2$
18 Thermal resistance	$R_{th 1} / R_{th 2}$	3 / 24						K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	5,7 / 645						s
20 Operating temperature range:		- 30 ... + 85 (optional - 55 ... + 125)						°C
- motor								
- rotor, max. permissible		+ 125						°C
21 Shaft bearings		sintered bronze sleeves		ball bearings		ball bearings, preloaded		
22 Shaft load max.:		(standard)		(optional)		(optional)		
- with shaft diameter		3,0		3,0		3,0		mm
- radial at 3000 rpm (3 mm from bearing)		2,5		20		20		N
- axial at 3000 rpm		0,3		2		2		N
- axial at standstill		20		20		20		N
23 Shaft play:								
- radial	\leq	0,03		0,015		0,015		mm
- axial	\leq	0,2		0,2		0		mm
24 Housing material		steel, zinc galvanized and passivated						
25 Weight		70						g
26 Direction of rotation		clockwise, viewed from the front face						
Recommended values								
27 Speed up to	$n_{e\max.}$	6 000	6 000	6 000	6 000	6 000	6 000	rpm
28 Torque up to	$M_{e\max.}$	4	4	4	4	4	4	mNm
29 Current up to (thermal limits)	$I_{e\max.}$	1,380	1,000	0,680	0,510	0,330	0,260	A

Orientation with respect to motor terminals not defined

4x $\oplus \varnothing 0,3 A$

M2 4 deep



2338 S