

DC-Micromotors

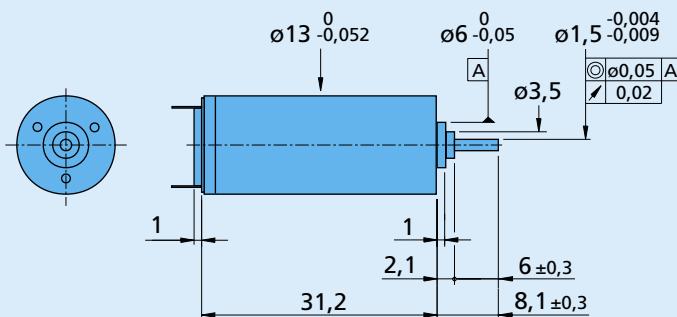
3,2 mNm

Precious Metal Commutation

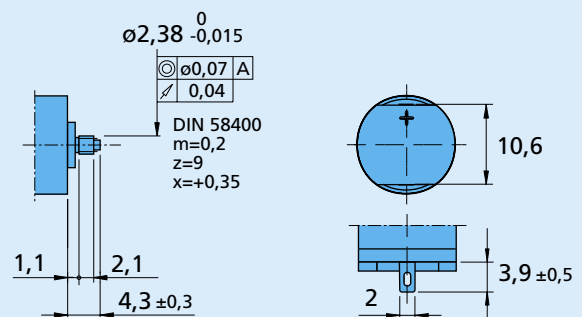
For combination with
Gearheads:
13A, 14/1, 15/3, 15/5
Encoders:
IE2 – 50 ... 400

Series 1331 ... SR

	1331 T	006 SR	012 SR	024 SR	
1 Nominal voltage	U_N	6	12	24	Volt
2 Terminal resistance	R	2,83	13,7	52,9	Ω
3 Output power	$P_{2 \max.}$	3,11	2,57	2,66	W
4 Efficiency	$\eta_{\max.}$	81	80	80	%
5 No-load speed	n_o	10 600	9 900	10 400	rpm
6 No-load current (with shaft \varnothing 1,5 mm)	I_o	0,0220	0,0105	0,0055	A
7 Stall torque	M_H	11,20	9,90	9,76	mNm
8 Friction torque	M_R	0,12	0,12	0,12	mNm
9 Speed constant	k_n	1 790	835	439	rpm/V
10 Back-EMF constant	k_E	0,56	1,20	2,28	mV/rpm
11 Torque constant	k_M	5,35	11,4	21,8	mNm/A
12 Current constant	k_i	0,187	0,087	0,046	A/mNm
13 Slope of n-M curve	$\Delta n / \Delta M$	946	1 000	1 070	rpm/mNm
14 Rotor inductance	L	70	310	1 100	μH
15 Mechanical time constant	τ_m	7	7	7	ms
16 Rotor inertia	J	0,71	0,67	0,63	gcm^2
17 Angular acceleration	$\alpha_{\max.}$	160	150	160	$\cdot 10^3 rad/s^2$
18 Thermal resistance	$R_{th 1} / R_{th 2}$	6 / 25			K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	5 / 190			s
20 Operating temperature range:		- 30 ... + 85 (optional - 55 ... + 125)			$^{\circ}C$
- motor					$^{\circ}C$
- rotor, max. permissible		+125			$^{\circ}C$
21 Shaft bearings		sintered bronze sleeves			
22 Shaft load max.:					
- with shaft diameter		1,5			mm
- radial at 3 000 rpm (3 mm from bearing)		1,2			N
- axial at 3 000 rpm		0,2			N
- axial at standstill		20			N
23 Shaft play:					
- radial	\leq	0,03			mm
- axial	\leq	0,2			mm
24 Housing material		steel, black coated			
25 Weight		19			g
26 Direction of rotation		clockwise, viewed from the front face			
Recommended values					
27 Speed up to	$n_{e \max.}$	12 000	12 000	12 000	rpm
28 Torque up to	$M_{e \max.}$	3,2	3,2	3,2	mNm
29 Current up to (thermal limits)	$I_{e \max.}$	0,81	0,37	0,19	A



1331 T ... SR



1331 E ... SR
for Gearheads 15/...