DC-Micromotors

Precious Metal Commutation

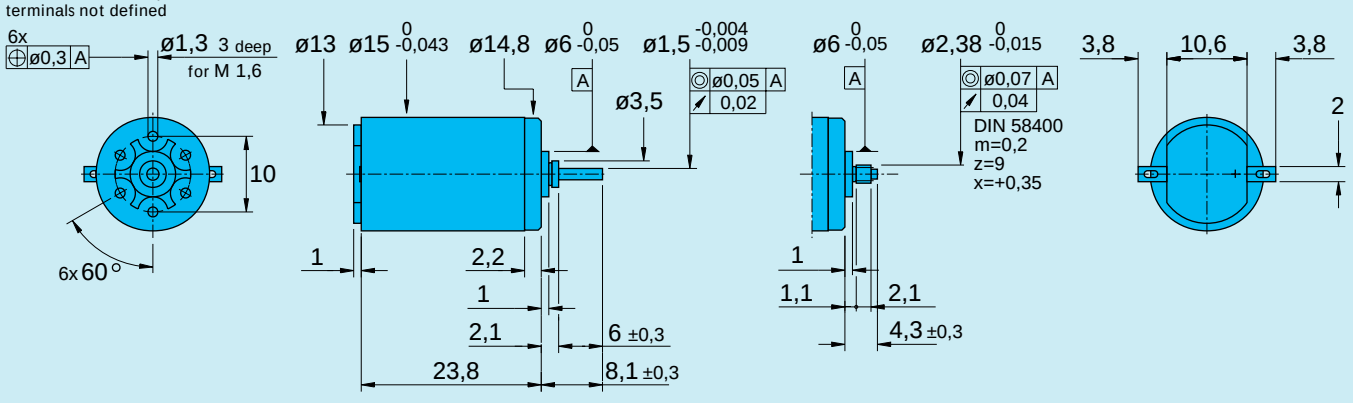
1 mNm

For combination with:
Gearheads:
15A, 15/3, 15/4, 15/5, 15/8, 16A, 16/7

Series 1524 ... S

		1524 E	006 S	009 S	012 S	018 S	024 S	
1	Nominal voltage	U_N	6	9	12	18	24	Volt
2	Terminal resistance	R	11,0	19,0	48,0	90,0	178	Ω
3	Output power	$P_{2\ max.}$	0,78	1,03	0,72	0,86	0,77	W
4	Efficiency	$\eta_{max.}$	74	78	76	76	74	%
5	No-load speed	n_o	13 400	15 000	12 500	12 600	13 000	rpm
6	No-load current (with shaft ø 1,0 mm)	I_o	0,012	0,007	0,005	0,004	0,003	A
7	Stall torque	M_H	2,23	2,63	2,21	2,62	2,27	mNm
8	Friction torque	M_R	0,05	0,04	0,04	0,05	0,05	mNm
9	Speed constant	k_n	2 280	1 690	1 060	714	554	rpm/V
10	Back-EMF constant	k_E	0,438	0,591	0,941	1,400	1,810	mV/rpm
11	Torque constant	k_M	4,18	5,64	8,98	13,40	17,2	mNm/A
12	Current constant	k_I	0,239	0,177	0,111	0,075	0,058	A/mNm
13	Slope of n-M curve	Δn/ΔM	6 010	5 700	5 660	4 810	5 730	rpm/mNm
14	Rotor inductance	L	150	350	850	1 400	3 100	µH
15	Mechanical time constant	τ_m	27	28	26	27	27	ms
16	Rotor inertia	J	0,43	0,47	0,44	0,54	0,45	gcm²
17	Angular acceleration	$\alpha_{max.}$	52	56	50	49	50	$\cdot 10^3$rad/s²
18	Thermal resistance	$R_{th\,1}$ / $R_{th\,2}$	8 / 43					K/W
19	Thermal time constant	τ_{w1} / τ_{w2}	2,1 / 300					s
20	Operating temperature range:							
	– motor		– 30 ... + 85 (optional – 55 ... + 125)					°C
	– 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		1,0	1,5		1,5		mm
	– radial at 3000 rpm (3 mm from bearing)		0,6	5		5		N
	– axial at 3000 rpm		0,1	0,5		0,5		N
	– axial at standstill		20	10		10		N
23	Shaft play:							
	– radial	≤	0,03	0,015		0,015		mm
	– axial	≤	0,2	0,2		0		mm
24	Housing material		steel, zinc galvanized and passivated					
25	Weight		18					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	12 000	12 000	rpm
28	Torque up to	$M_{e\ max.}$	1,0	1,0	1,0	1,0	1,0	mNm
29	Current up to (thermal limits)	$I_{e\ max.}$	0,360	0,270	0,170	0,120	0,090	A

Orientation with respect to motor terminals not defined



1524 T

1524 E
for Gearheads 15/...