DC-Micromotors

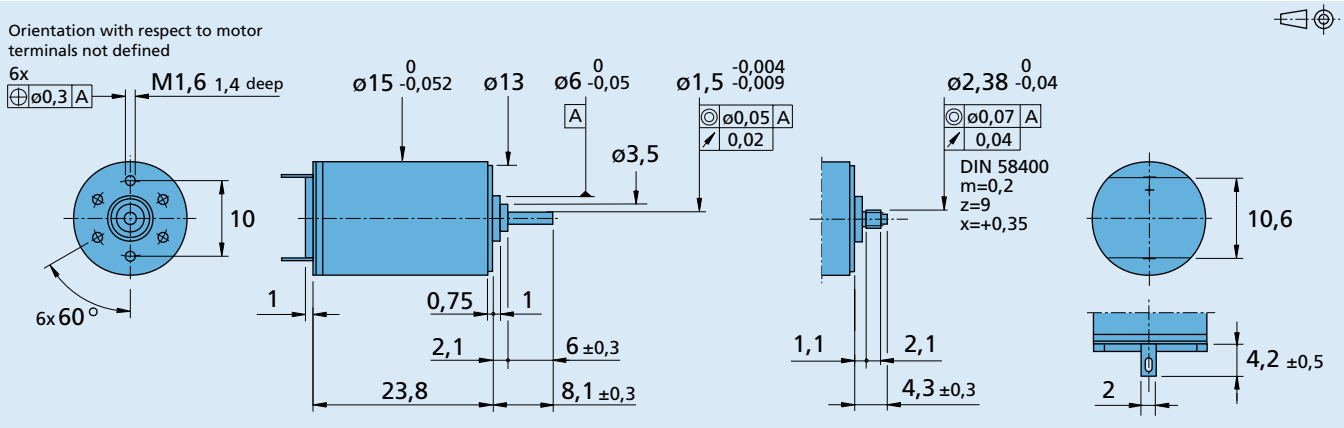
Precious Metal Commutation

2,5 mNm

For combination with
Gearheads:
15A, 15/3, 15/4, 15/5, 15/8, 16A, 16/7
Encoders:
IE2 – 16 ... 512

Series 1524 ... SR

		1524 T	003 SR	006 SR	009 SR	012 SR	018 SR	024 SR	
1	Nominal voltage	U_N	3	6	9	12	18	24	Volt
2	Terminal resistance	R	1,1	5,1	10,4	19,8	44,0	79,6	Ω
3	Output power	$P_{2\ max.}$	1,92	1,70	1,88	1,75	1,78	1,75	W
4	Efficiency	$\eta_{max.}$	77	77	77	76	77	78	%
5	No-load speed	n_o	10 800	9 700	10 100	9 900	9 900	9 900	rpm
6	No-load current (with shaft ø 1,5 mm)	I_o	0,047	0,021	0,014	0,011	0,007	0,005	A
7	Stall torque	M_H	6,80	6,68	7,12	6,76	6,86	6,75	mNm
8	Friction torque	M_R	0,12	0,12	0,12	0,13	0,12	0,11	mNm
9	Speed constant	k_n	3 660	1 650	1 140	840	560	419	rpm/V
10	Back-EMF constant	k_E	0,273	0,607	0,877	1,190	1,790	2,380	mV/rpm
11	Torque constant	k_M	2,61	5,80	8,37	11,40	17,10	22,80	mNm/A
12	Current constant	k_I	0,384	0,172	0,119	0,088	0,059	0,044	A/mNm
13	Slope of n-M curve	$\Delta n/\Delta M$	1 590	1 450	1 420	1 460	1 440	1 470	rpm/mNm
14	Rotor inductance	L	17	70	150	250	560	1 000	µH
15	Mechanical time constant	τ_m	10	10	10	10	10	10	ms
16	Rotor inertia	J	0,60	0,66	0,67	0,65	0,66	0,65	gcm²
17	Angular acceleration	$\alpha_{max.}$	110	100	110	100	100	100	$\cdot 10^3$rad/s²
18	Thermal resistance	$R_{th\,1}$ / $R_{th\,2}$	4,5 / 31						K/W
19	Thermal time constant	τ_{w1} / τ_{w2}	2,4 / 300						s
20	Operating temperature range:								
	– motor		– 30 ... + 85 (optional – 55 ... + 125)						°C
	– rotor, max. permissible		+125						°C
21	Shaft bearings		sintered bronze sleeves (standard)		ball bearings (optional)		ball bearings, preloaded (optional)		
22	Shaft load max.:								
	– with shaft diameter		1,5		1,5		1,5		mm
	– radial at 3 000 rpm (3 mm from bearing)		1,2		5		5		N
	– axial at 3 000 rpm		0,2		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, black coated						
25	Weight		21						g
26	Direction of rotation		clockwise, viewed from the front face						
Recommended values - mathematically independent of each other									
27	Speed up to	$n_{e\ max.}$	10 000	10 000	10 000	10 000	10 000	10 000	rpm
28	Torque up to	$M_{e\ max.}$	2,5	2,5	2,5	2,5	2,5	2,5	mNm
29	Current up to (thermal limits)	$I_{e\ max.}$	1,300	0,630	0,440	0,320	0,210	0,160	A



1524 T ... SR

1524 E ... SR
for Gearheads 15/... (except 15A)

For notes on technical data and lifetime performance refer to "Technical Information".

Edition 2010 – 2011