

DC-Micromotors

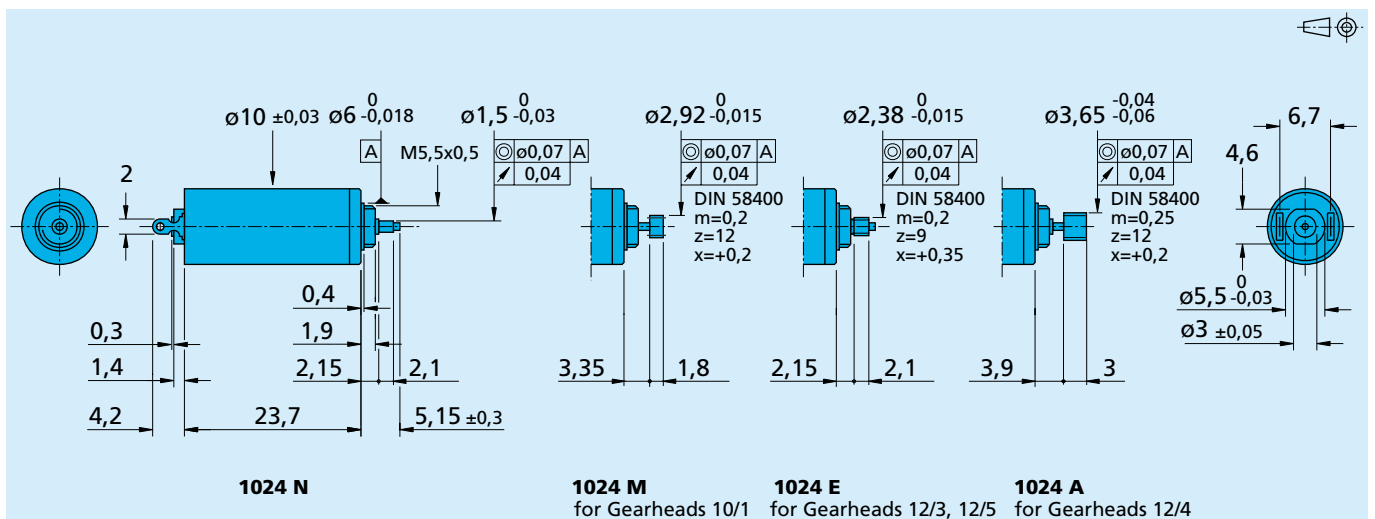
1,28 mNm

Precious Metal Commutation

For combination with (overview on page 14-15)
 Gearheads:
 10/1, 12/3, 12/4, 12/5
 Encoders:
 30B

Series 1024 ... S

	1024 N	003 S	006 S	012 S		
1 Nominal voltage	U_N	3	6	12	Volt	
2 Terminal resistance	R	2,3	10,8	31,6	Ω	
3 Output power	$P_{2 \text{ max.}}$	0,97	0,81	1,11	W	
4 Efficiency	$\eta_{\text{ max.}}$	79	78	79	%	
5 No-load speed	n_0	13 800	13 200	14 700	rpm	
6 No-load current (with shaft \varnothing 1,0 mm)	I_0	0,016	0,008	0,004	A	
7 Stall torque	M_H	2,69	2,34	2,89	mNm	
8 Friction torque	M_R	0,03	0,03	0,03	mNm	
9 Speed constant	k_n	4 658	2 231	1 240	rpm/V	
10 Back-EMF constant	k_E	0,215	0,448	0,806	mV/rpm	
11 Torque constant	k_M	2,05	4,28	7,70	mNm/A	
12 Current constant	k_i	0,488	0,234	0,130	A/mNm	
13 Slope of n-M curve	$\Delta n / \Delta M$	5 135	5 630	5 090	rpm/mNm	
14 Rotor inductance	L	26	100	344	μH	
15 Mechanical time constant	τ_m	6	7	6	ms	
16 Rotor inertia	J	0,12	0,12	0,12	gcm^2	
17 Angular acceleration	$\alpha_{\text{ max.}}$	224	195	241	$\cdot 10^3 \text{ rad/s}^2$	
18 Thermal resistance	$R_{\text{th} 1} / R_{\text{th} 2}$	14 / 41			K/W	
19 Thermal time constant	τ_{w1} / τ_{w2}	5,0 / 289			s	
20 Operating temperature range:						
– motor		- 30 ... + 85			$^{\circ}\text{C}$	
– rotor, max. permissible		+ 85			$^{\circ}\text{C}$	
21 Shaft bearings		sintered bronze sleeves				
22 Shaft load max.:						
– with shaft diameter		1,0			mm	
– radial at 3 000 rpm (1,5 mm from bearing)		0,5			N	
– axial at 3 000 rpm		0,1			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		8,8			g	
26 Direction of rotation		clockwise, viewed from the front face				
Recommended values - mathematically independent of each other						
27 Speed up to	$n_{e \text{ max.}}$		12 000	12 000	12 000	rpm
28 Torque up to	$M_{e \text{ max.}}$		1,27	1,21	1,28	mNm
29 Current up to (thermal limits)	$I_{e \text{ max.}}$		0,636	0,291	0,170	A



For details on technical information and lifetime performance refer to pages 26-32.
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For options on DC-Micromotors refer to page 62.
 Specifications subject to change without notice.
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