

DC-Micromotors

2 mNm

Precious Metal Commutation

For combination with:
 Gearheads: 16A, 16/7
 Encoders: 20/21B
 DC-Motor-Tacho Combinations: 1724 ... S

Series 1724 ... S

	1724 T	003 S	4,5 S	006 S	012 S	018 S	024 S	
1 Nominal voltage	U_N	3	4,5	6	12	18	24	Volt
2 Terminal resistance	R	1,1	2,4	4,0	16,0	38,0	65,0	Ω
3 Output power	$P_{2 \max.}$	1,99	2,05	2,21	2,20	2,09	2,17	W
4 Efficiency	$\eta_{\max.}$	80	79	82	82	81	81	%
5 No-load speed	n_o	8 000	8 000	8 000	8 000	8 000	8 000	rpm
6 No-load current (with shaft \varnothing 1,5 mm)	I_o	0,035	0,025	0,015	0,008	0,005	0,004	A
7 Stall torque	M_{H1}	9,52	9,81	10,50	10,50	9,96	10,40	mNm
8 Friction torque	M_{R1}	0,12	0,13	0,11	0,11	0,11	0,11	mNm
9 Speed constant	k_n	2 700	1 800	1 350	674	449	337	rpm/V
10 Back-EMF constant	k_E	0,370	0,555	0,742	1,480	2,230	2,970	mV/rpm
11 Torque constant	k_M	3,54	5,30	7,09	14,20	21,30	28,30	mNm/A
12 Current constant	k_I	0,283	0,189	0,141	0,071	0,047	0,035	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	840	815	762	762	803	769	rpm/mNm
14 Rotor inductance	L	30	60	100	400	1 000	1 800	μH
15 Mechanical time constant	τ_m	8	8	8	8	8	8	ms
16 Rotor inertia	J	0,91	0,94	1,00	1,00	0,95	0,99	gcm ²
17 Angular acceleration	$\alpha_{\max.}$	100	100	100	100	100	100	$\cdot 10^3 \text{rad/s}^2$
18 Thermal resistance	$R_{th 1} / R_{th 2}$	8 / 33						K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	7 / 350						s
20 Operating temperature range:								
- motor		- 30 ... + 85 (optional - 55 ... + 125)						$^{\circ}C$
- rotor, max. permissible		+ 125						$^{\circ}C$
21 Shaft bearings		sintered bronze sleeves		ball bearings		ball bearings, preloaded		
22 Shaft load max.:		(standard)		(optional)		(optional)		
- with shaft diameter		1,5		1,5		1,5		mm
- radial at 3000 rpm (3 mm from bearing)		1,2		5		5		N
- axial at 3000 rpm		0,2		0,5		0,5		N
- axial at standstill		20		10		10		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		26						g
26 Direction of rotation		clockwise, viewed from the front face						
Recommended values								
27 Speed up to	$n_e \max.$	8 000	8 000	8 000	8 000	8 000	8 000	rpm
28 Torque up to	$M_{e \max.}$	2	2	2	2	2	2	mNm
29 Current up to (thermal limits)	$I_e \max.$	1,270	0,860	0,660	0,330	0,210	0,160	A

Orientation with respect to motor terminals not defined

