

DC-Micromotors

1,6 Watt

Precious Metal Commutation

For combination with:
 Gearheads:
 16A, 16/3, 16/5, 16/7, 16/8
 DC-Motor-Tacho Combinations:
 1841 ... S

Series 1624 ... S

	1624 T	003 S	006 S	009 S	012 S	018 S	024 S	
1 Nominal voltage	U_N	3	6	9	12	18	24	Volt
2 Terminal resistance	R	1,6	8,6	14,5	24,0	42,0	75,0	Ω
3 Output power	$P_{2 \max.}$	1,36	1,00	1,34	1,44	1,87	1,85	W
4 Efficiency	$\eta_{\max.}$	78	74	75	75	77	76	%
5 No-load speed	n_o	12 000	10 600	11 500	13 000	13 800	14 400	rpm
6 No-load current (with shaft \varnothing 1,5 mm)	I_o	0,030	0,016	0,012	0,010	0,007	0,006	A
7 Stall torque	M_H	4,33	3,60	4,46	4,23	5,16	4,91	mNm
8 Friction torque	M_R	0,07	0,08	0,09	0,09	0,09	0,09	mNm
9 Speed constant	k_n	4 070	1 810	1 300	1 110	779	611	rpm/V
10 Back-EMF constant	k_E	0,246	0,553	0,767	0,905	1,280	1,640	mV/rpm
11 Torque constant	k_M	2,35	5,28	7,33	8,64	12,30	15,60	mNm/A
12 Current constant	k_I	0,426	0,189	0,136	0,116	0,082	0,064	A/mNm
13 Slope of n-M curve	$\Delta n/\Delta M$	2 770	2 940	2 580	3 070	2 670	2 930	rpm/mNm
14 Rotor inductance	L	85	200	400	750	1 200	3 000	μH
15 Mechanical time constant	τ_m	19	16	19	19	19	24	ms
16 Rotor inertia	J	0,65	0,52	0,70	0,59	0,68	0,78	gcm ²
17 Angular acceleration	$\alpha_{\max.}$	66	69	63	72	76	63	$\cdot 10^3 \text{ rad/s}^2$
18 Thermal resistance	$R_{th 1} / R_{th 2}$	8 / 39						K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	4 / 335						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		21						g
26 Direction of rotation		clockwise, viewed from the front face						
Recommended values								
27 Speed up to	$n_e \max.$	10 000	10 000	10 000	10 000	10 000	10 000	rpm
28 Torque up to	$M_e \max.$	1,5	1,5	1,5	1,5	1,5	1,5	mNm
29 Current up to (thermal limits)	$I_e \max.$	0,980	0,420	0,320	0,250	0,190	0,140	A

