

Intuitive Motion Systems

DC Motors

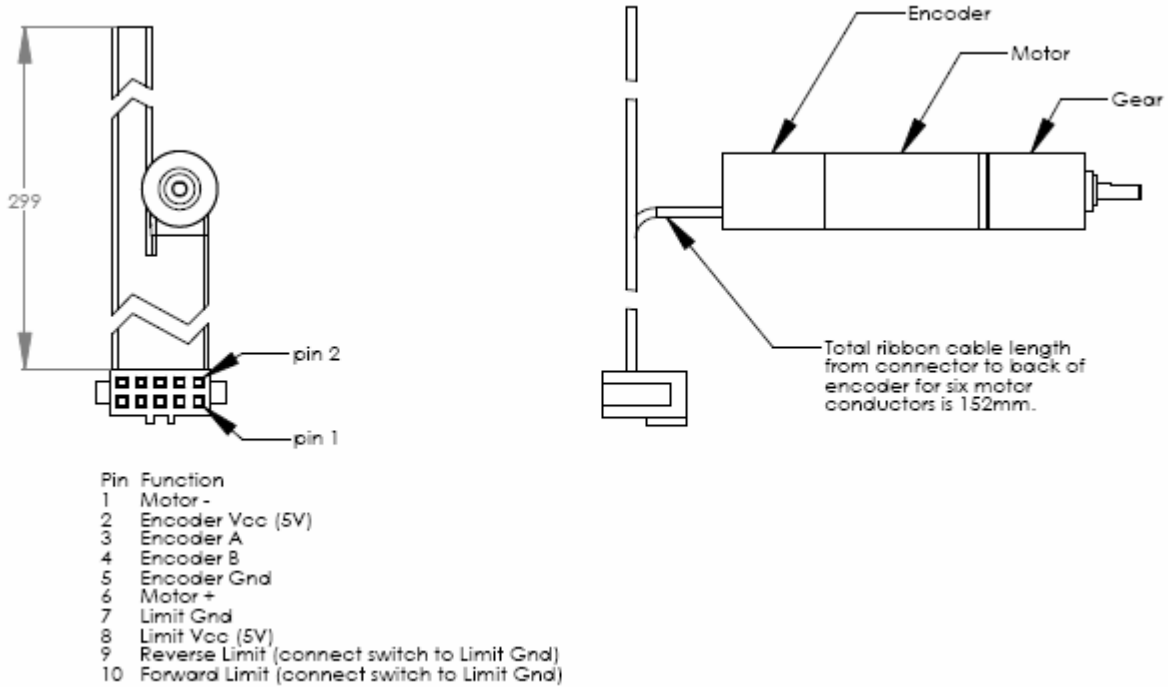


Parameter	1016	1024	1331	1524	1724	
1 Nominal voltage	6	6	6	6	6	Volt
2 Terminal resistance	20.1	10.8	3.6	11.0	4.0	Ohm
3 Output Power	0.42	0.81	2.43	0.78	2.21	W
4 Efficiency	67	78	78	74	82	%
5 No-load speed	18,400	13,200	10,900	13,400	8,000	rpm
6 No-load current	0.010	0.008	0.025	0.012	0.015	A
7 Stall torque	0.87	2.34	8.49	2.23	10.5	mNm
8 Friction torque	0.03	0.03	0.127	0.049	0.113	mNm
9 Speed constant	3,173	2,231	1,840	2,280	1,350	rpm/V
10 Back EMF constant	0.315	0.448	0.542	0.438	0.742	mV/rpm
11 Torque constant	3.01	4.28	5.18	4.18	7.08	mNm/A
12 Current constant	0.322	0.234	0.193	0.239	0.141	A/mNm
13 Slope of n-M curve	21,185	5,630	1,283	6,010	762	rpm/mNm
14 Rotor Inductance	60	100	80	150	100	uH
15 Mechanical time constant	13	7	9	27	8	ms
16 Rotor inertia	0.06	0.12	0.67	0.43	1.00	g cm ²
17 Angular acceleration	145	195	130	52	100	1000 rad/s ²
18 Thermal resistance (Rth1*/Rth2**)	26/56	14/41	8/40	8/43	8/33	K/W
19 Thermal time constant (t1*/t2**)	3.1/260	5.0/289	5.0/292	2.1/300	7.0/350	s
20 Operating temp. range:						
- motor	-30... +85	-30... +85	-30... +85	-30... +85	-30... +85	deg C
- rotor, max. permissible	+85	+85	+100	+125	+125	deg C
21 Shaft bearings	sleeve	sleeve	sleeve	sleeve	sleeve	
22 Shaft load max:						
- with shaft diameter	0.8	1	1.5	1	1.5	mm
- radial at 3000 rpm	0.5 ***	0.5 ***	1.20 ****	0.6 ****	1.20 ****	N
- axial at 3000 rpm	0.1	0.1	0.2	0.1	0.2	N
- axial at standstill	20	20	200	200	200	N
23 Shaft play						
- radial <=	0.03	0.03	0.03	0.03	0.03	mm
- axial <=	0.2	0.2	0.2	0.2	0.2	mm
24 Housing material	steel	steel	steel	steel	steel	
25 Weight	6.5	8.8	20.2	18.2	26.1	g
26 Direction	clockwise	clockwise	clockwise	clockwise	clockwise	
Recommended values						
27 Speed up to	13,000	12,000	12,000	12,000	8,000	rpm
28 Torque up to	0.48	1.21	2.5	1.0	2.0	mNm
29 Current up to (therm lim)	0.170	0.291	0.580	0.360	.660	A
30 Motor Diameter	10	10	13	15	17	mm
31 Encoder Diameter	10	10	16	16	17	mm
32 Gear Diameter	10	10	14	16	16	mm
33 Gear Type	10/1K	10/1K	14/1	16/7	16/7	

* winding to case ** winding to ambient *** 1.5 mm from bearing **** 3 mm from bearing

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Motor Wiring



Connector Type: ITW Pancon 050-010-455A