

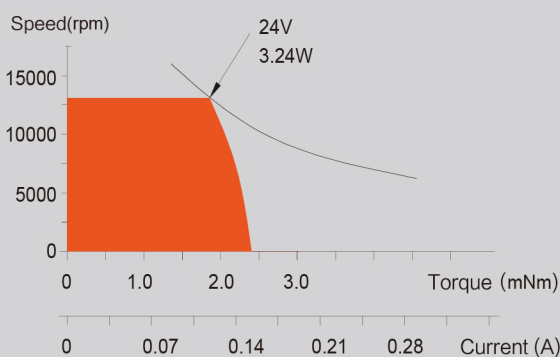
Motor Data

Motor model			DR133503B	DR133506B	DR133509B	DR133512B	DR133524B
1 Nominal voltage	V	V	3	6	9	12	24
2 No load speed	rpm	Wnl	11600	13300	12500	12500	15500
3 No load current	mA	InI	100	42	22	18	12
4 Nominal speed	rpm	Wc	10400	10400	10100	10300	12900
5 Nominal torque	mNm	Tc	2	2.3	2.5	2.4	2.4
6 Nominal current	A	Ic	0.84	0.53	0.37	0.27	0.16
7 Output power	W	Pc	2.2	2.5	2.6	2.6	3.24
8 Stall torque	mNm	Tmax	15.6	11.7	12.7	13.3	13.42
9 Stall current	A	Imax	6.52	2.73	1.88	1.46	0.92
10 Max. efficiency	%	$\eta_{max}$	87	78.2	78.1	78.3	82
11 Terminal resistance	$\Omega$	Rt	0.46	2.2	4.8	8.2	26.1
12 Torque constant	mNm / A	Kt	2.4	4.31	6.79	9.05	14.59
13 Speed constant	rpm / V	Kn	3995	2298	1405	1054	654
14 Speed torque gradient	rpm / mNm	$\Delta n / \Delta T$	677	1261	933	890	1085
15 Terminal inductance	mH	L	0.012	1.2	0.58	1.09	1.1
16 Rotor inertia	gcm <sup>2</sup>	J	0.7	0.6	0.56	0.57	0.58

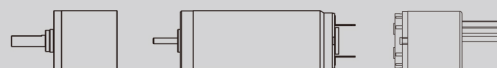
Specifications

1 ambient temperature	Ta	-20~+65 °C
2 max. winding temperature	Tcoilmax	+125 °C
3 max. speed	Nmax	17050 rpm
4 axial play	$\Delta t$	0.05-0.15 mm
5 number of pole pairs	2p	1
6 number of commutator segments		5
7 weight of motor	Wt	16 g
8 Max. axial load (dynamic)		0.8N
9 Max. force for press fits (static)		15N
10 Max. radial load, 4 mm from flange		1.4N

Operating Range



SMJ Modular System



Planetary Gearhead  
 Model number P12H  
 Outside Diameter  $\phi 12$   
 Torque 0.004~0.2N·m  
 See page 47

Encoder  
 1000 CPT  
 3 Channels  
 see page 45