Constar

벤츠가 인정한 기술력

Precision DC Coreless Motor

Precision Servo Motor

Precision Gear Motor

motor114.co.kr

서울시 금천구 가산동 가산디지털2로 184
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㈜모터114의 사업 지표

–심플 모션 / Simple Motion
–고객 사양 / Customer Spec.
–정밀 유통 / Precision Marketing

지난 20여 년간의 모터, 모션시스템의 오랜 현장 경험과 독창적인 사업지표를 가지고 있습니다.
앞으로 고객의 요구에 신선한 창의로 가치 창출을 위해 최선의 노력을 약속합니다.

Step Motor	IMS, UIROBOT, Dings, Kis, Fastech, Autonics
Servo Motor	SANKYO, LS메카피온,Mitsubishi
Robot Actuator	FESTO, 아이로보, 로보스타
BLDC Motor	SPG, HSG, MTM, HITOK(주문사양가능)
소형 AC/DC	DAE YOUNG, HSG, SPG, HITOK(주문사양가능)
Micro DC/BLDC	Constar, Coopwin
Reducer	영진웜, SPG, APEX, Motovario, JMC

Contents.

벤츠가 인정하는 기술력

Precision DC
Coreless Motor

0615RCN

Precious metal commutation

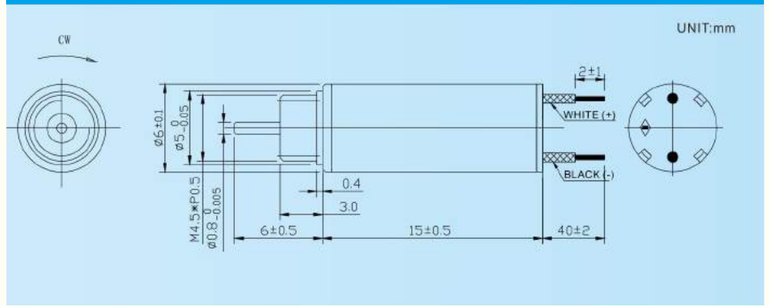
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-1-3.0	
1	Voltage	V	3.0	
2	Terminal resistance	Ω	19.0	
3	No-load speed	rpm	12200	
4	No-load current	mA	10	
5	Stall torque	mNm	0.41	
6	Stall current	mA	160	
7	Nominal torque	mNm	0.1	
8	Nominal speed	rpm	8150	
9	Nominal current	mA	60	
10	Max. output power	W	0.25	
11	Max. efficiency	%	60	
12	Back-EMF constant	mV/rpm	0.1	
13	Torque constant	mNm/A	1.1	
14	Speed/torque gradient	rpm/mNm	29900	
15	Rotor inertia	gcm^2	0.015	
16	Weight	g	2.5	
17	Thermal resistance housing-ambient	K/W	77	
18	Thermal resistance winding-housing	K/W	16.5	
19	Thermal time constant motor	s	52	
20	Thermal time constant winding	s	15	
21	Operating temperature range	℃	-20～+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	≤0.3	
24	Radial play	mm	0.012	
25	Axial load dynamic	N	0.15	
26	Axial load static	N	10	
27	Radial load at 3 mm from mounting face	N	0.7	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 40	

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0816RCN**B

Precious metal commutation

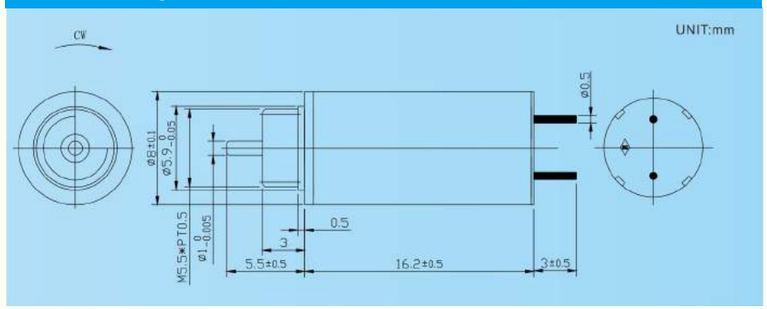
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-1-8.0	-2-4.2
1	Voltage	V	8.0	4.2
2	Terminal resistance	Ω	60.0	12.4
3	No-load speed	rpm	15500	13700
4	No-load current	mA	6	15
5	Stall torque	mNm	0.61	0.95
6	Stall current	mA	130	340
7	Nominal torque	mNm	0.15	0.25
8	Nominal speed	rpm	11200	9800
9	Nominal current	mA	45	110
10	Max. output power	W	0.25	0.34
11	Max. efficiency	%	65	65
12	Back-EMF constant	mV/rpm	0.5	0.3
13	Torque constant	mNm/A	4.7	2.8
14	Speed/torque gradient	rpm/mNm	25300	14400
15	Rotor inertia	gcm^2	0.04	0.04
16	Weight	g	3.6	3.6
17	Thermal resistance housing-ambient	K/W	47	
18	Thermal resistance winding-housing	K/W	20	
19	Thermal time constant motor	s	72	
20	Thermal time constant winding	s	21	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	≤0.3	
24	Radial play	mm	0.012	
25	Axial load dynamic	N	0.15	
26	Axial load static	N	10	
27	Radial load at 3 mm from mounting face	N	0.7	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 40	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder

Outline Drawing



1025RCN

Precious metal commutation

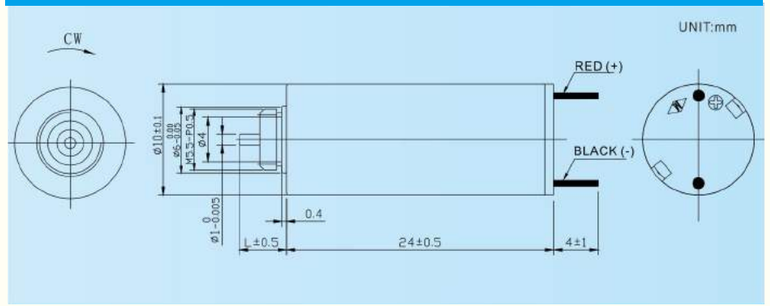
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-1S-12.0	
1	Voltage	V	12.0	
2	Terminal resistance	Ω	28.0	
3	No-load speed	rpm	11500	
4	No-load current	mA	10	
5	Stall torque	mNm	4.2	
6	Stall current	mA	430	
7	Nominal torque	mNm	2.1	
8	Nominal speed	rpm	5520	
9	Nominal current	mA	230	
10	Max. output power	W	1.3	
11	Max. efficiency	%	74	
12	Back-EMF constant	mV/rpm	1.0	
13	Torque constant	mNm/A	9.7	
14	Speed/torque gradient	rpm/mNm	2700	
15	Rotor inertia	gcm^2	0.09	
16	Weight	g	7	
17	Thermal resistance housing-ambient	K/W	37.9	
18	Thermal resistance winding-housing	K/W	9.2	
19	Thermal time constant motor	s	85	
20	Thermal time constant winding	s	8	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	≤0.15	
24	Radial play	mm	0.012	
25	Axial load dynamic	N	0.15	
26	Axial load static	N	15	
27	Radial load at 3 mm from mounting face	N	0.4	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 40	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder

Outline Drawing



1220RCN

Precious metal commutation

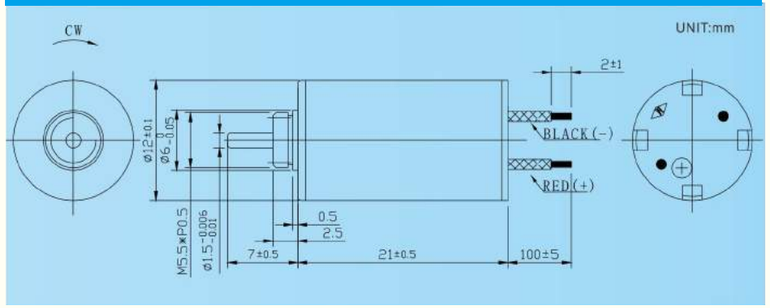
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics					
			-26-3.3	-27-6.0	-43P-12.0
1	Voltage	V	3.3	6.0	12.0
2	Terminal resistance	Ω	6.9	5.2	17.9
3	No-load speed	rpm	7900	12000	14100
4	No-load current	mA	12	30	8
5	Stall torque	mNm	1.9	5.3	5.4
6	Stall current	mA	480	1150	670
7	Nominal torque	mNm	0.4	2.3	2.1
8	Nominal speed	rpm	6000	6960	8600
9	Nominal current	mA	120	490	270
10	Max. output power	W	0.4	1.7	2.0
11	Max. efficiency	%	73	72	80
12	Back-EMF constant	mV/rpm	0.4	0.5	0.8
13	Torque constant	mNm/A	3.9	4.7	8.0
14	Speed/torque gradient	rpm/mNm	4200	2200	2600
15	Rotor inertia	gcm^2	0.15	0.15	0.15
16	Weight	g	10	10	10
17	Thermal resistance housing-ambient	K/W		45	
18	Thermal resistance winding-housing	K/W		25	
19	Thermal time constant motor	s		92	
20	Thermal time constant winding	s		15	
21	Operating temperature range	℃		-20 ~ +85	
22	Max. winding temperature	℃		85	
23	Axial play	mm		0.02 ~ 0.15	
24	Radial play	mm		0.025	
25	Axial load dynamic	N		0.8	
26	Axial load static	N		30	
27	Radial load at 3 mm from mounting face	N		4	
28	No. of pole pairs			1	
29	Bearings			2 ball bearings	
30	Commutator			metal 5 segments	
31	Protection class			IP 40	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type

Outline Drawing



1230RCN

Precious metal commutation

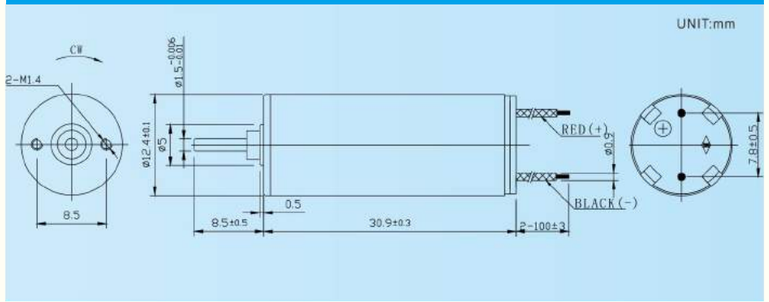
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics					
			-6-5.3	-15P-12.0	-17P-24.0
1	Voltage	V	5.3	12.0	24.0
2	Terminal resistance	Ω	12.9	10.4	59.0
3	No-load speed	rpm	4450	11300	10800
4	No-load current	mA	10	15	5
5	Stall torque	mNm	4.5	11.5	8.6
6	Stall current	mA	410	1150	410
7	Nominal torque	mNm	0.9	3.0	3.7
8	Nominal speed	rpm	3450	7900	5990
9	Nominal current	mA	110	385	185
10	Max. output power	W	0.5	3.4	2.4
11	Max. efficiency	%	73	80	80
12	Back-EMF constant	mV/rpm	1.2	1.0	2.2
13	Torque constant	mNm/A	11.1	10.0	21.0
14	Speed/torque gradient	rpm/mNm	980	980	1260
15	Rotor inertia	gcm^2	0.25	0.25	0.25
16	Weight	g	17.7	17.7	17.7
17	Thermal resistance housing-ambient	K/W	28.8		
18	Thermal resistance winding-housing	K/W	24		
19	Thermal time constant motor	s	135		
20	Thermal time constant winding	s	20		
21	Operating temperature range	℃	-20~+85		
22	Max. winding temperature	℃	85		
23	Axial play	mm	0.02~0.15		
24	Radial play	mm	0.014		
25	Axial load dynamic	N	0.8		
26	Axial load static	N	30		
27	Radial load at 3 mm from mounting face	N	1.4		
28	No. of pole pairs		1		
29	Bearings		2 sleeve bearings		
30	Commutator		metal 5 segments		
31	Protection class		IP 40		

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type

Outline Drawing



1331RCN

Precious metal commutation

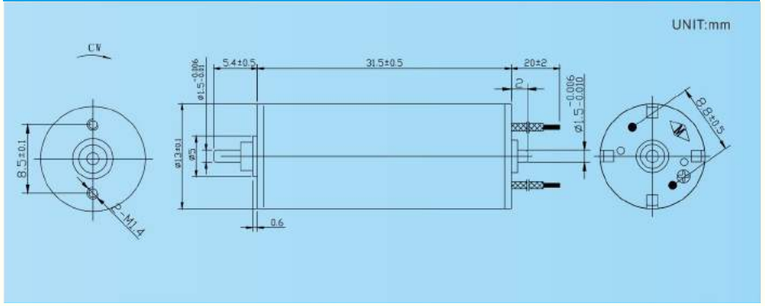
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-1SP-9.0	
1	Voltage	V	9.0	
2	Terminal resistance	Ω	17.7	
3	No-load speed	rpm	6730	
4	No-load current	mA	7	
5	Stall torque	mNm	6.4	
6	Stall current	mA	510	
7	Nominal torque	mNm	2.0	
8	Nominal speed	rpm	4420	
9	Nominal current	mA	185	
10	Max. output power	W	1.13	
11	Max. efficiency	%	79	
12	Back-EMF constant	mV/rpm	1.3	
13	Torque constant	mNm/A	12.6	
14	Speed/torque gradient	rpm/mNm	1050	
15	Rotor inertia	gcm^2	0.52	
16	Weight	g	19	
17	Thermal resistance housing-ambient	K/W	28.2	
18	Thermal resistance winding-housing	K/W	23	
19	Thermal time constant motor	s	152	
20	Thermal time constant winding	s	14	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.014	
25	Axial load dynamic	N	0.8	
26	Axial load static	N	30	
27	Radial load at 3 mm from mounting face	N	1.4	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type

Outline Drawing



1416RCN

Precious metal commutation

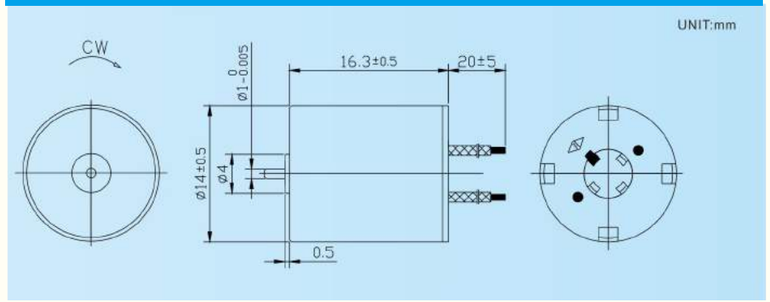
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-2P-3.0	
1	Voltage	V	3.0	
2	Terminal resistance	Ω	2.6	
3	No-load speed	rpm	11600	
4	No-load current	mA	20	
5	Stall torque	mNm	2.8	
6	Stall current	mA	1150	
7	Nominal torque	mNm	0.5	
8	Nominal speed	rpm	9680	
9	Nominal current	mA	210	
10	Max. output power	W	0.85	
11	Max. efficiency	%	77	
12	Back-EMF constant	mV/rpm	0.3	
13	Torque constant	mNm/A	2.4	
14	Speed/torque gradient	rpm/mNm	4160	
15	Rotor inertia	gcm^2	0.19	
16	Weight	g	10.2	
17	Thermal resistance housing-ambient	K/W	32.5	
18	Thermal resistance winding-housing	K/W	26.5	
19	Thermal time constant motor	s	101	
20	Thermal time constant winding	s	16	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	≤0.3	
24	Radial play	mm	0.012	
25	Axial load dynamic	N	0.15	
26	Axial load static	N	15	
27	Radial load at 3 mm from mounting face	N	0.4	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1515RCN

Precious metal commutation

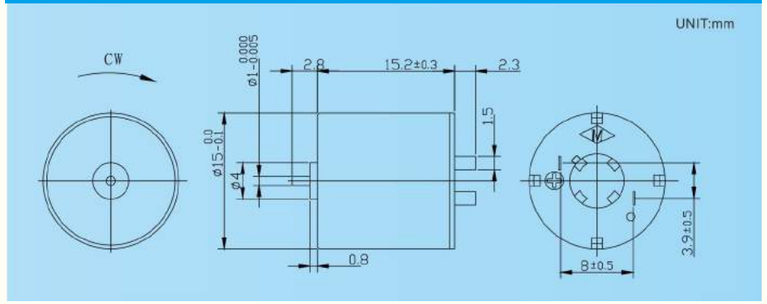
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-4P-3.0	
1	Voltage	V	3.0	
2	Terminal resistance	Ω	6.1	
3	No-load speed	rpm	6200	
4	No-load current	mA	10	
5	Stall torque	mNm	2.2	
6	Stall current	mA	490	
7	Nominal torque	mNm	0.6	
8	Nominal speed	rpm	4650	
9	Nominal current	mA	130	
10	Max. output power	W	0.36	
11	Max. efficiency	%	75	
12	Back-EMF constant	mV/rpm	0.5	
13	Torque constant	mNm/A	4.5	
14	Speed/torque gradient	rpm/mNm	2800	
15	Rotor inertia	gcm^2	0.21	
16	Weight	g	14.2	
17	Thermal resistance housing-ambient	K/W	32.1	
18	Thermal resistance winding-housing	K/W	26.3	
19	Thermal time constant motor	s	130	
20	Thermal time constant winding	s	9	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	≤0.3	
24	Radial play	mm	0.012	
25	Axial load dynamic	N	0.15	
26	Axial load static	N	15	
27	Radial load at 3 mm from mounting face	N	0.4	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1620RCN

Precious metal commutation

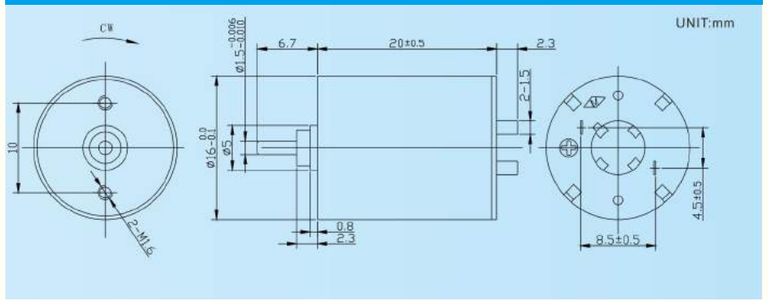
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-21P-5.0	
1	Voltage	V	5.0	
2	Terminal resistance	Ω	4.7	
3	No-load speed	rpm	10300	
4	No-load current	mA	25	
5	Stall torque	mNm	4.8	
6	Stall current	mA	1060	
7	Nominal torque	mNm	1.0	
8	Nominal speed	rpm	8240	
9	Nominal current	mA	230	
10	Max. output power	W	1.3	
11	Max. efficiency	%	73	
12	Back-EMF constant	mV/rpm	0.5	
13	Torque constant	mNm/A	4.5	
14	Speed/torque gradient	rpm/mNm	2150	
15	Rotor inertia	gcm^2	0.25	
16	Weight	g	16	
17	Thermal resistance housing-ambient	K/W	35.7	
18	Thermal resistance winding-housing	K/W	25.6	
19	Thermal time constant motor	s	172	
20	Thermal time constant winding	s	15	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.014	
25	Axial load dynamic	N	0.8	
26	Axial load static	N	30	
27	Radial load at 3 mm from mounting face	N	1.4	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1625RCN

Precious metal commutation

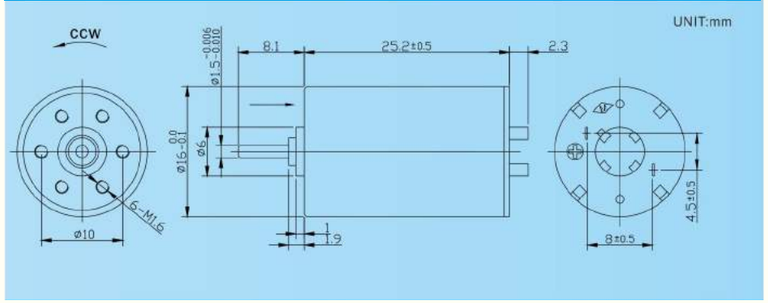
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics					
			-24P-3.7	-25P-6.0	-17P-12.0
1	Voltage	V	3.7	6.0	12.0
2	Terminal resistance	Ω	7.6	3.1	16.5
3	No-load speed	rpm	6000	9800	8100
4	No-load current	mA	15	20	10
5	Stall torque	mNm	2.9	11.0	9.8
6	Stall current	mA	500	1900	700
7	Nominal torque	mNm	0.5	2.0	2.0
8	Nominal speed	rpm	4730	8080	6520
9	Nominal current	mA	95	350	150
10	Max. output power	W	0.4	2.8	2.1
11	Max. efficiency	%	70	81	79
12	Back-EMF constant	mV/rpm	0.6	0.6	1.5
13	Torque constant	mNm/A	5.7	5.8	14.0
14	Speed/torque gradient	rpm/mNm	2100	890	830
15	Rotor inertia	gcm^2	0.78	0.8	0.8
16	Weight	g	21.8	21.8	21.8
17	Thermal resistance housing-ambient	K/W	29.1		
18	Thermal resistance winding-housing	K/W	19.3		
19	Thermal time constant motor	s	193		
20	Thermal time constant winding	s	8		
21	Operating temperature range	℃	-20~+85		
22	Max. winding temperature	℃	85		
23	Axial play	mm	0.02~0.15		
24	Radial play	mm	0.014		
25	Axial load dynamic	N	0.8		
26	Axial load static	N	30		
27	Radial load at 3 mm from mounting face	N	1.4		
28	No. of pole pairs		1		
29	Bearings		2 sleeve bearings		
30	Commutator		metal 5 segments		
31	Protection class		IP 30		

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type

Outline Drawing



1627RCN**C

Precious metal commutation

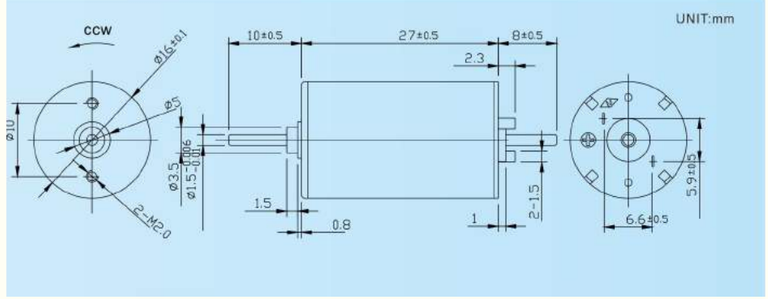
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics					
			-7-4.5	-13-6.0	-14-12.0
1	Voltage	V	4.5	6.0	12.0
2	Terminal resistance	Ω	1.5	2.0	8.5
3	No-load speed	rpm	10100	10000	10000
4	No-load current	mA	45	35	35
5	Stall torque	mNm	12.6	17.0	15.6
6	Stall current	mA	3000	3000	1400
7	Nominal torque	mNm	4.5	4.5	4.5
8	Nominal speed	rpm	6410	7350	7150
9	Nominal current	mA	1120	820	420
10	Max. output power	W	3.33	4.45	4.10
11	Max. efficiency	%	78	81	73
12	Back-EMF constant	mV/rpm	0.4	0.6	1.2
13	Torque constant	mNm/A	4.2	5.7	11.2
14	Speed/torque gradient	rpm/mNm	800	590	640
15	Rotor inertia	gcm²	0.6	0.6	0.7
16	Weight	g	25	25	25
17	Thermal resistance housing-ambient	K/W		29	
18	Thermal resistance winding-housing	K/W		18.9	
19	Thermal time constant motor	s		195	
20	Thermal time constant winding	s		8	
21	Operating temperature range	℃		-20~+85	
22	Max. winding temperature	℃		85	
23	Axial play	mm		0.02~0.15	
24	Radial play	mm		0.014	
25	Axial load dynamic	N		0.8	
26	Axial load static	N		30	
27	Radial load at 3 mm from mounting face	N		1.4	
28	No. of pole pairs			1	
29	Bearings			2 sleeve bearings	
30	Commutator			metal 5 segments	
31	Protection class			IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type

Outline Drawing



1630RCN

Precious metal commutation

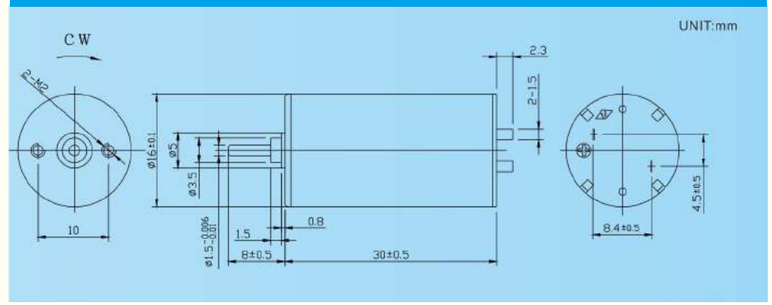
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-23-6.0	-4P-12.0
1	Voltage	V	6.0	12.0
2	Terminal resistance	Ω	3.2	15.4
3	No-load speed	rpm	8700	10900
4	No-load current	mA	20	20
5	Stall torque	mNm	12.4	8.2
6	Stall current	mA	1900	800
7	Nominal torque	mNm	3.0	3.0
8	Nominal speed	rpm	6570	7170
9	Nominal current	mA	480	270
10	Max. output power	W	2.82	2.34
11	Max. efficiency	%	81	73
12	Back-EMF constant	mV/rpm	0.7	1.1
13	Torque constant	mNm/A	6.5	10.2
14	Speed/torque gradient	rpm/mNm	700	1330
15	Rotor inertia	gcm²	0.6	0.7
16	Weight	g	27	27
17	Thermal resistance housing-ambient	K/W	28.5	
18	Thermal resistance winding-housing	K/W	18	
19	Thermal time constant motor	s	187	
20	Thermal time constant winding	s	11	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.025	
25	Axial load dynamic	N	2.2	
26	Axial load static	N	30	
27	Radial load at 3 mm from mounting face	N	8	
28	No. of pole pairs		1	
29	Bearings		2 ball bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type

Outline Drawing



2018RCN

Precious metal commutation

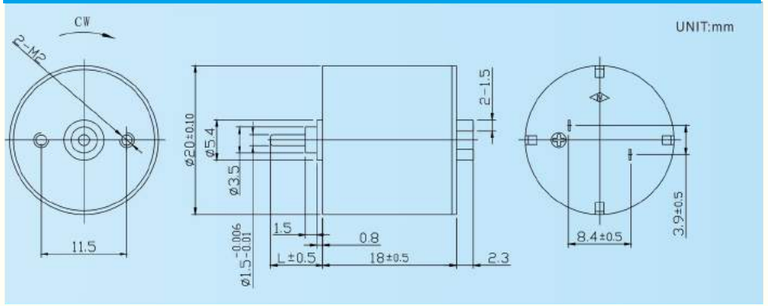
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-1P-7.4	-6P-12.0
1	Voltage	V	6.0	12.0
2	Terminal resistance	Ω	1.8	11.7
3	No-load speed	rpm	9350	10000
4	No-load current	mA	30	15
5	Stall torque	mNm	20.7	11.3
6	Stall current	mA	3400	1000
7	Nominal torque	mNm	4.5	4.0
8	Nominal speed	rpm	7290	6550
9	Nominal current	mA	760	360
10	Max. output power	W	5.1	3.0
11	Max. efficiency	%	83	78
12	Back-EMF constant	mV/rpm	0.6	1.2
13	Torque constant	mNm/A	6.1	11.3
14	Speed/torque gradient	rpm/mNm	450	890
15	Rotor inertia	gcm^2	1.1	1.1
16	Weight	g	26	26
17	Thermal resistance housing-ambient	K/W	22.2	
18	Thermal resistance winding-housing	K/W	13.7	
19	Thermal time constant motor	s	178	
20	Thermal time constant winding	s	8	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.014	
25	Axial load dynamic	N	0.8	
26	Axial load static	N	30	
27	Radial load at 3 mm from mounting face	N	1.4	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



2224RCN

Precious metal commutation

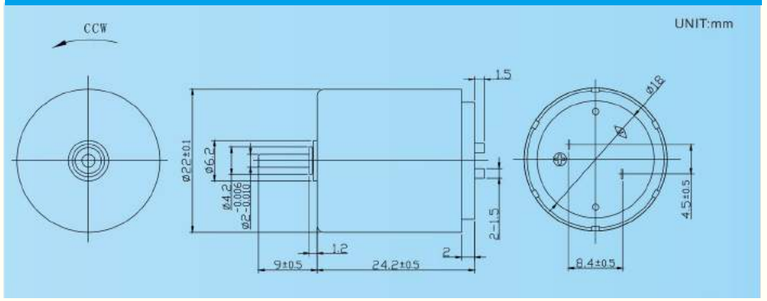
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-2P-6.0	
1	Voltage	V	6.0	
2	Terminal resistance	Ω	2.2	
3	No-load speed	rpm	7650	
4	No-load current	mA	35	
5	Stall torque	mNm	20.0	
6	Stall current	mA	2700	
7	Nominal torque	mNm	5.0	
8	Nominal speed	rpm	5770	
9	Nominal current	mA	680	
10	Max. output power	W	4.0	
11	Max. efficiency	%	80	
12	Back-EMF constant	mV/rpm	0.8	
13	Torque constant	mNm/A	7.4	
14	Speed/torque gradient	rpm/mNm	380	
15	Rotor inertia	gcm^2	2.4	
16	Weight	g	36	
17	Thermal resistance housing-ambient	K/W	16.5	
18	Thermal resistance winding-housing	K/W	8.9	
19	Thermal time constant motor	s	255	
20	Thermal time constant winding	s	14	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.025	
25	Axial load dynamic	N	3.3	
26	Axial load static	N	60	
27	Radial load at 3 mm from mounting face	N	14	
28	No. of pole pairs		1	
29	Bearings		2 ball bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 40	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type

Outline Drawing



2225RCN

Precious metal commutation

Applications: Nail gun

Characteristics

			-1P-7.2
1	Voltage	V	7.2
2	Terminal resistance	Ω	1.9
3	No-load speed	rpm	16100
4	No-load current	mA	130
5	Stall torque	mNm	15.7
6	Stall current	mA	3800
7	Nominal torque	mNm	2.5
8	Nominal speed	rpm	13500
9	Nominal current	mA	730
10	Max. output power	W	6.6
11	Max. efficiency	%	69
12	Back-EMF constant	mV/rpm	0.4
13	Torque constant	mNm/A	4.1
14	Speed/torque gradient	rpm/mNm	1027
15	Rotor inertia	gcm^2	2.3
16	Weight	g	42.5
17	Thermal resistance housing-ambient	K/W	16.4
18	Thermal resistance winding-housing	K/W	8.9
19	Thermal time constant motor	s	258
20	Thermal time constant winding	s	15
21	Operating temperature range	℃	-20~+100
22	Max. winding temperature	℃	120
23	Axial play	mm	0.02~0.15
24	Radial play	mm	0.012
25	Axial load dynamic	N	2
26	Axial load static	N	150
27	Radial load at 3 mm from mounting face	N	4
28	No. of pole pairs		1
29	Bearings		2 sleeve bearings
30	Commutator		metal 5 segments
31	Protection class		IP 40

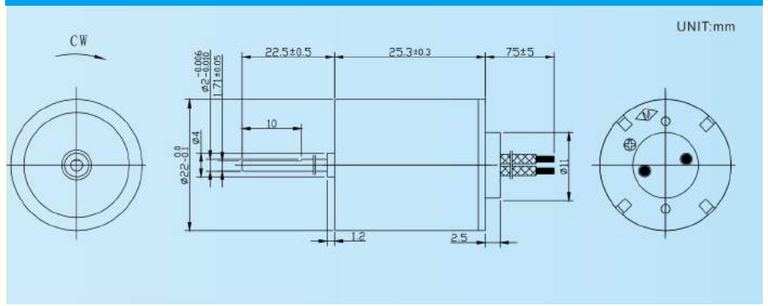
Options

Lead wires length

Shaft length

Special coils

Outline Drawing



2232RCN

Precious metal commutation

Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics

			-3P-6.0	-8P-9.0	-4P-12.0	-5P-24.0
1	Voltage	V	6.0	9.0	12.0	24.0
2	Terminal resistance	Ω	2.0	2.9	4.4	18.0
3	No-load speed	rpm	8100	9400	10100	10200
4	No-load current	mA	20	17	20	15
5	Stall torque	mNm	21.1	28.2	30.4	28.9
6	Stall current	mA	3000	3100	2700	1300
7	Nominal torque	mNm	6.0	7.0	8.0	8.0
8	Nominal speed	rpm	5790	7060	7470	7440
9	Nominal current	mA	870	770	720	370
10	Max. output power	W	4.5	6.9	8.0	7.7
11	Max. efficiency	%	85	86	84	81
12	Back-EMF constant	mV/rpm	0.7	1.0	1.2	2.3
13	Torque constant	mNm/A	7.0	9.1	11.3	22.2
14	Speed/torque gradient	rpm/mNm	380	330	330	350
15	Rotor inertia	gcm^2	2.2	4.4	4.4	4.4
16	Weight	g	55.8	55.8	55.8	55.8
17	Thermal resistance housing-ambient	K/W	20			
18	Thermal resistance winding-housing	K/W	11			
19	Thermal time constant motor	s	265			
20	Thermal time constant winding	s	12			
21	Operating temperature range	℃	-20~+85			
22	Max. winding temperature	℃	85			
23	Axial play	mm	0.02~0.15			
24	Radial play	mm	0.025			
25	Axial load dynamic	N	3.3			
26	Axial load static	N	60			
27	Radial load at 3 mm from mounting face	N	14			
28	No. of pole pairs		1			
29	Bearings		2 ball bearings			
30	Commutator		metal 5 segments			
31	Protection class		IP 30			

Options

Lead wires length

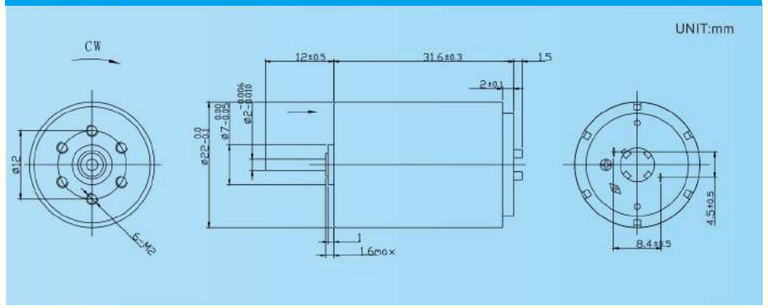
Shaft length

Special coils

Gearheads

Bearing type

Outline Drawing



2233RCN

Precious metal commutation

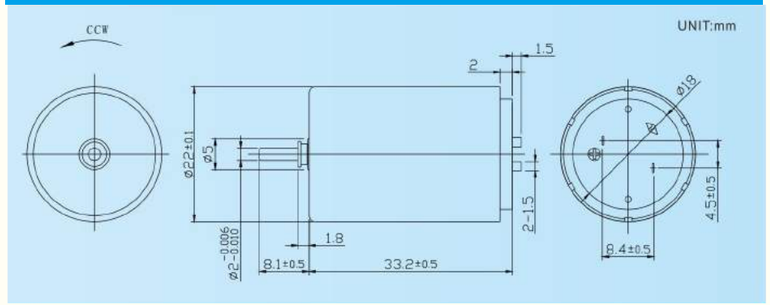
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-1-3.0	
1	Voltage	V	3.0	
2	Terminal resistance	Ω	0.5	
3	No-load speed	rpm	9000	
4	No-load current	mA	35	
5	Stall torque	mNm	21.2	
6	Stall current	mA	6700	
7	Nominal torque	mNm	1.5	
8	Nominal speed	rpm	8250	
9	Nominal current	mA	500	
10	Max. output power	W	5.0	
11	Max. efficiency	%	87	
12	Back-EMF constant	mV/rpm	0.3	
13	Torque constant	mNm/A	3.2	
14	Speed/torque gradient	rpm/mNm	420	
15	Rotor inertia	gcm^2	2.2	
16	Weight	g	55	
17	Thermal resistance housing-ambient	K/W	21	
18	Thermal resistance winding-housing	K/W	11.2	
19	Thermal time constant motor	s	260	
20	Thermal time constant winding	s	14	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.025	
25	Axial load dynamic	N	3.3	
26	Axial load static	N	60	
27	Radial load at 3 mm from mounting face	N	14	
28	No. of pole pairs		1	
29	Bearings		2 ball bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 40	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type

Outline Drawing



1625RCG

Graphite Brush

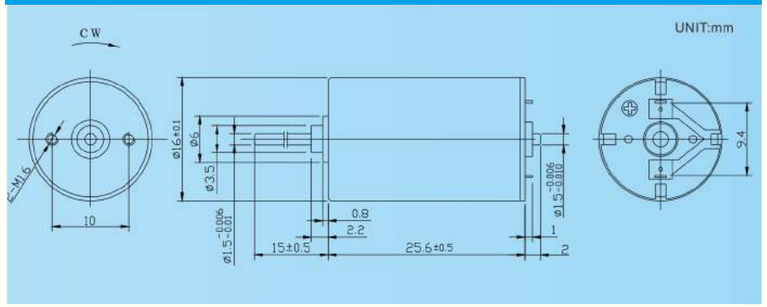
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-1SP-12.0	
1	Voltage	V	12.0	
2	Rotor resistance	Ω	13.0	
3	No-load speed	rpm	15000	
4	No-load current	mA	25	
5	Stall torque	mNm	6.7	
6	Stall current	mA	900	
7	Nominal torque	mNm	3.3	
8	Nominal speed	rpm	7650	
9	Nominal current	mA	460	
10	Max. output power	W	2.6	
11	Max. efficiency	%	72	
12	Back-EMF constant	mV/rpm	0.8	
13	Torque constant	mNm/A	7.4	
14	Speed/torque gradient	rpm/mNm	2240	
15	Rotor inertia	gcm^2	0.95	
16	Weight	g	22.5	
17	Thermal resistance housing-ambient	K/W	29.1	
18	Thermal resistance winding-housing	K/W	15.3	
19	Thermal time constant motor	s	195	
20	Thermal time constant winding	s	9	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.012	
25	Axial load dynamic	N	0.8	
26	Axial load static	N	30	
27	Radial load at 3 mm from mounting face	N	1.5	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type

Outline Drawing



1630RCG

Graphite Brush

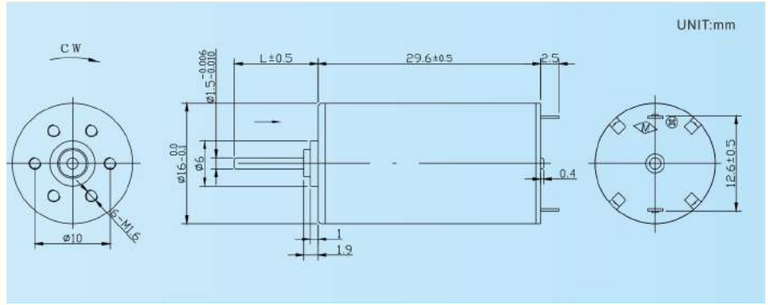
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			-1SP-24.0	
1	Voltage	V	24.0	
2	Terminal resistance	Ω	42.5	
3	No-load speed	rpm	9500	
4	No-load current	mA	15	
5	Stall torque	mNm	13.3	
6	Stall current	mA	565	
7	Nominal torque	mNm	5.4	
8	Nominal speed	rpm	5460	
9	Nominal current	mA	250	
10	Max. output power	W	3.3	
11	Max. efficiency	%	72	
12	Back-EMF constant	mV/rpm	2.5	
13	Torque constant	mNm/A	23.5	
14	Speed/torque gradient	rpm/mNm	720	
15	Rotor inertia	gcm²	0.95	
16	Weight	g	22.5	
17	Thermal resistance housing-ambient	K/W	28.5	
18	Thermal resistance winding-housing	K/W	16	
19	Thermal time constant motor	s	180	
20	Thermal time constant winding	s	12	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.012	
25	Axial load dynamic	N	0.8	
26	Axial load static	N	30	
27	Radial load at 3 mm from mounting face	N	1.5	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type

Outline Drawing



1640RCG

Graphite Brush

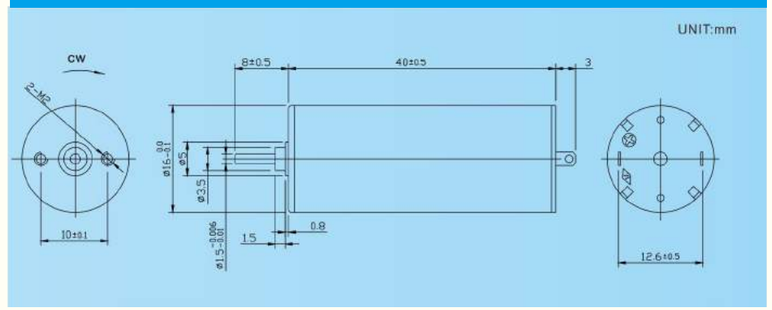
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics				
			3-24.0	
1	Voltage	V	24.0	
2	Rotor resistance	Ω	10.7	
3	No-load speed	rpm	13700	
4	No-load current	mA	60	
5	Stall torque	mNm	35.8	
6	Stall current	mA	2200	
7	Nominal torque	mNm	6.5	
8	Nominal speed	rpm	11230	
9	Nominal current	mA	450	
10	Max. output power	W	12.9	
11	Max. efficiency	%	72	
12	Back-EMF constant	mV/rpm	1.7	
13	Torque constant	mNm/A	16.3	
14	Speed/torque gradient	rpm/mNm	380	
15	Rotor inertia	gcm²	1.00	
16	Weight	g	37	
17	Thermal resistance housing-ambient	K/W	27.5	
18	Thermal resistance winding-housing	K/W	15.1	
19	Thermal time constant motor	s	205	
20	Thermal time constant winding	s	11	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.012	
25	Axial load dynamic	N	0.8	
26	Axial load static	N	30	
27	Radial load at 3 mm from mounting face	N	1.5	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type

Outline Drawing



2233RCG

Graphite Brush

Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

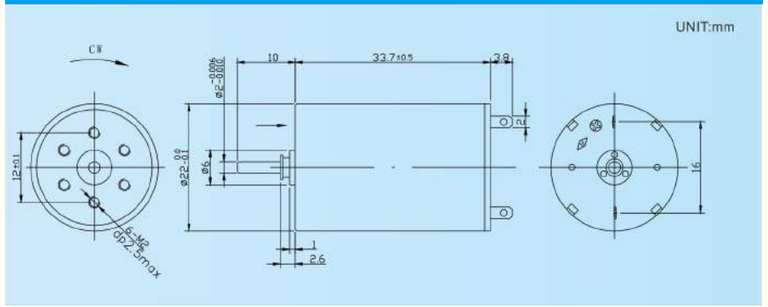
Characteristics

			-1S-24.0	
1	Voltage	V	24.0	
2	Terminal resistance	Ω	19.6	
3	No-load speed	rpm	7600	
4	No-load current	mA	20	
5	Stall torque	mNm	35.6	
6	Stall current	mA	1200	
7	Nominal torque	mNm	12.3	
8	Nominal speed	rpm	4970	
9	Nominal current	mA	440	
10	Max. output power	W	7.1	
11	Max. efficiency	%	77	
12	Back-EMF constant	mV/rpm	3.1	
13	Torque constant	mNm/A	29.7	
14	Speed/torque gradient	rpm/mNm	210	
15	Rotor inertia	gcm²	2.5	
16	Weight	g	52	
17	Thermal resistance housing-ambient	K/W	21	
18	Thermal resistance winding-housing	K/W	11.2	
19	Thermal time constant motor	s	240	
20	Thermal time constant winding	s	10	
21	Operating temperature range	℃	-20～+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02～0.15	
24	Radial play	mm	0.012	
25	Axial load dynamic	N	1	
26	Axial load static	N	80	
27	Radial load at 3 mm from mounting face	N	3	
28	No. of pole pairs		1	
29	Bearings		2 ball bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 30	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type

Outline Drawing



2430RCG

Graphite Brush

Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

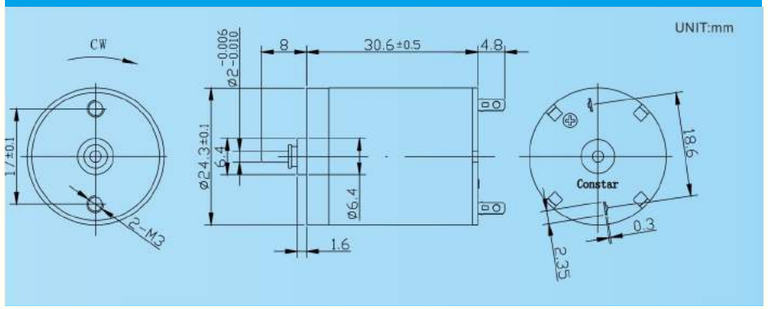
Characteristics

			-3-7.4	
1	Voltage	V	7.4	
2	Rotor resistance	Ω	0.85	
3	No-load speed	rpm	13700	
4	No-load current	mA	180	
5	Stall torque	mNm	43.9	
6	Stall current	mA	8700	
7	Nominal torque	mNm	6.9	
8	Nominal speed	rpm	11500	
9	Nominal current	mA	1540	
10	Max. output power	W	15.8	
11	Max. efficiency	%	75	
12	Back-EMF constant	mV/rpm	0.5	
13	Torque constant	mNm/A	5.1	
14	Speed/torque gradient	rpm/mNm	310	
15	Rotor inertia	gcm²	4.5	
16	Weight	g	50	
17	Thermal resistance housing-ambient	K/W	27	
18	Thermal resistance winding-housing	K/W	9.5	
19	Thermal time constant motor	s	210	
20	Thermal time constant winding	s	10	
21	Operating temperature range	℃	-20~+85	
22	Max. winding temperature	℃	85	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.012	
25	Axial load dynamic	N	1	
26	Axial load static	N	60	
27	Radial load at 3 mm from mounting face	N	4	
28	No. of pole pairs		1	
29	Bearings		2 sleeve bearings	
30	Commutator		metal 5 segments	
31	Protection class		IP 20	

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



2543RCG

Graphite Brush

Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

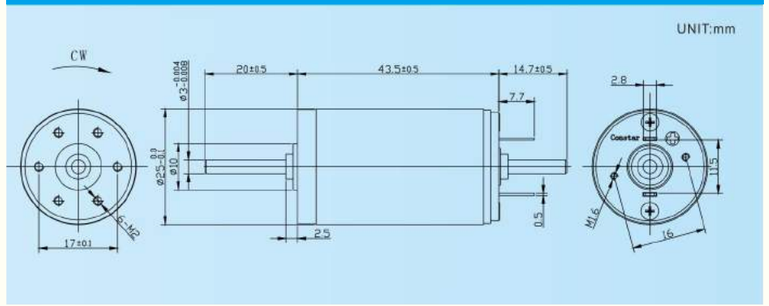
Characteristics

			-3-24.0
1	Voltage	V	24.0
2	Terminal resistance	Ω	6.3
3	No-load speed	rpm	6300
4	No-load current	mA	25
5	Stall torque	mNm	137.7
6	Stall current	mA	3810
7	Nominal torque	mNm	37.6
8	Nominal speed	rpm	4570
9	Nominal current	mA	1070
10	Max. output power	W	22.7
11	Max. efficiency	%	85
12	Back-EMF constant	mV/rpm	3.8
13	Torque constant	mNm/A	36.1
14	Speed/torque gradient	rpm/mNm	45.8
15	Rotor inertia	gcm²	13.2
16	Weight	g	98
17	Thermal resistance housing-ambient	K/W	13.1
18	Thermal resistance winding-housing	K/W	9.6
19	Thermal time constant motor	s	240
20	Thermal time constant winding	s	9
21	Operating temperature range	℃	-20~+100
22	Max. winding temperature	℃	120
23	Axial play	mm	0.025
24	Radial play	mm	0.02~0.15
25	Axial load dynamic	N	20
26	Axial load static	N	60
27	Radial load at 3 mm from mounting face	N	40
28	No. of pole pairs		1
29	Bearings		2 ball bearings
30	Commutator		metal 9 segments
31	Protection class		IP 20

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder

Outline Drawing



3068RCG

Graphite Brush

Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

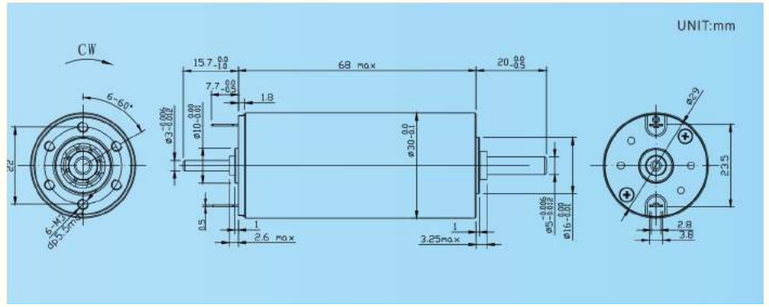
Characteristics

			-1SP-24.0	-2SP-36.0
1	Voltage	V	24.0	36.0
2	Rotor resistance	Ω	0.7	1.5
3	No-load speed	rpm	8500	8600
4	No-load current	mA	150	130
5	Stall torque	mNm	977.4	954.2
6	Stall current	mA	36400	24000
7	Nominal torque	mNm	60.0	86.0
8	Nominal speed	rpm	7930	7820
9	Nominal current	mA	2460	2270
10	Max. output power	W	218	215
11	Max. efficiency	%	88	86
12	Back-EMF constant	mV/rpm	2.8	4.2
13	Torque constant	mNm/A	26.9	39.8
14	Speed/torque gradient	rpm/mNm	8.7	9.0
15	Rotor inertia	gcm²	33	33
16	Weight	g	250	250
17	Thermal resistance housing-ambient	K/W	6.2	
18	Thermal resistance winding-housing	K/W	3.8	
19	Thermal time constant motor	s	225	
20	Thermal time constant winding	s	7.8	
21	Operating temperature range	℃	-20~+100	
22	Max. winding temperature	℃	120	
23	Axial play	mm	0.02~0.15	
24	Radial play	mm	0.025	
25	Axial load dynamic	N	5.6	
26	Axial load static	N	110	
27	Radial load at 3 mm from mounting face	N	30	
28	No. of pole pairs		1	
29	Bearings		2 ball bearings	
30	Commutator		metal 9 segments	
31	Protection class		IP 20	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder

Outline Drawing



Constar

PRECISION DC CORELESS MOTOR

3257RCG

Graphite Brush

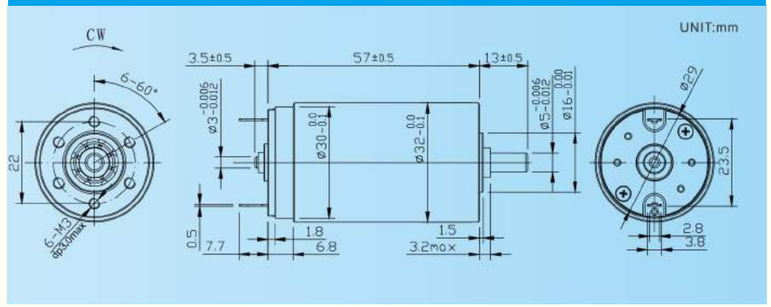
Applications: Precision driving field in medical, health care, automobile, industrial automation, etc.

Characteristics			
			-2-24.0
1	Voltage	V	24.0
2	Terminal resistance	Ω	2.2
3	No-load speed	rpm	5900
4	No-load current	mA	130
5	Stall torque	mNm	422.2
6	Stall current	mA	11000
7	Nominal torque	mNm	56.5
8	Nominal speed	rpm	5100
9	Nominal current	mA	1585
10	Max. output power	W	65
11	Max. efficiency	%	80
12	Back-EMF constant	mV/rpm	4.0
13	Torque constant	mNm/A	38.4
14	Speed/torque gradient	rpm/mNm	14.0
15	Rotor inertia	gcm^2	42
16	Weight	g	230
17	Thermal resistance housing-ambient	K/W	8
18	Thermal resistance winding-housing	K/W	3.3
19	Thermal time constant motor	s	230
20	Thermal time constant winding	s	5.9
21	Operating temperature range	℃	-20~+100
22	Max. winding temperature	℃	120
23	Axial play	mm	0.02~0.15
24	Radial play	mm	0.025
25	Axial load dynamic	N	5.6
26	Axial load static	N	110
27	Radial load at 3 mm from mounting face	N	30
28	No. of pole pairs		1
29	Bearings		2 ball bearings
30	Commutator		metal 9 segments
31	Protection class		IP 20

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder

Outline Drawing



Brushless DC Motor

1215ZWWN

Inner Rotor without Sensor

Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics

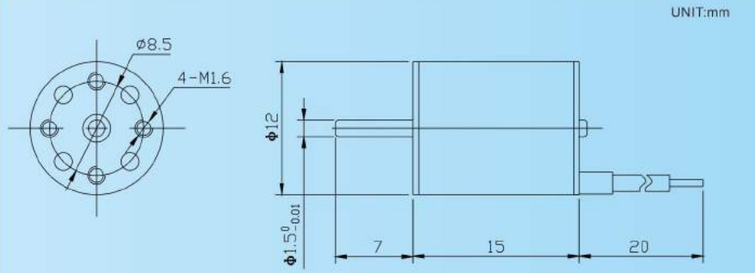
			-9-3.6	-6-3.6	-12-7.4
1	Voltage	V	3.6	4.5	7.4
2	Terminal resistance	Ω	0.67	5.2	2.6
3	No-load speed	rpm	35000	14500	42500
4	No-load current	A	0.3	0.1	0.2
5	Nominal torque	mNm	1.2	1.5	0.8
6	Nominal speed	rpm	26000	3600	34000
7	Nominal current	A	1.6	0.7	0.7
8	Max. output power	W	4.3	0.8	4.6
9	Max. efficiency	%	58	44	54
10	Back-EMF constant	mV/rpm	0.10	0.27	0.16
11	Torque constant	mNm/A	0.93	2.62	1.55
12	KV Value	rpm/V	9720	3220	5740
13	Speed/torque gradient	rpm/mNm	7440	7230	10400
14	Rotor inertia	gcm^2	0.14	0.14	0.14
15	Weight	g	7	7	7
16	Thermal resistance housing-ambient	K/W	38	38	38
17	Thermal resistance winding-housing	K/W	40	40	40
18	Thermal time constant motor	s	170	170	170
19	Thermal time constant winding	s	2	2	2
20	Operating temperature range	℃	-40~+100	-40~+100	-40~+100
21	Max. winding temperature	℃	155	155	155
22	Axial play	mm	0.012	0.012	0.012
23	Radial play	mm	0.008	0.008	0.008
24	Axial load dynamic	N	1	1	1
25	Axial load static	N	25	25	25
26	Radial load at 3 mm from mounting face	N	6.3	6.3	6.3
27	No. of pole pairs		1	1	1
28	Bearings		2 ball bearings		
29	Commutation		Sensorless		
30	Protection class		IP 20		

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver

Outline Drawing

UNIT:mm



1220ZWWN

Inner Rotor without Sensor

Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics

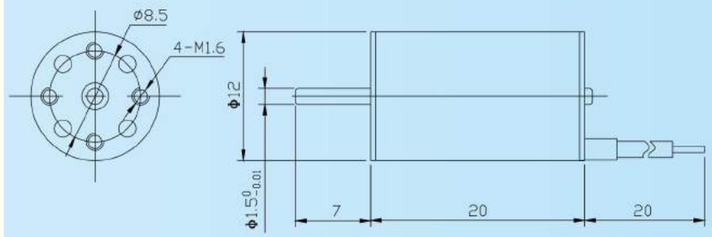
			-3-7.4	-2-6.0	-1-5.0
1	Voltage	V	7.4	6	5
2	Terminal resistance	Ω	3.8	3.4	2
3	No-load speed	rpm	23000	17200	17500
4	No-load current	A	0.1	0.15	0.18
5	Nominal torque	mNm	2.2	2.0	2.1
6	Nominal speed	rpm	13800	10000	11000
7	Nominal current	A	0.8	0.8	1.1
8	Max. output power	W	3.3	2.2	2.5
9	Max. efficiency	%	62	50	51
10	Back-EMF constant	mV/rpm	0.3	0.3	0.3
11	Torque constant	mNm/A	2.9	3.0	2.5
12	KV Value	rpm/V	3100	2900	3500
13	Speed/torque gradient	rpm/mNm	3800	3700	3030
14	Rotor inertia	gcm^2	0.17	0.17	0.17
15	Weight	g	9.5	9.5	9.5
16	Thermal resistance housing-ambient	K/W	31	31	31
17	Thermal resistance winding-housing	K/W	32	32	32
18	Thermal time constant motor	s	190	190	190
19	Thermal time constant winding	s	1.5	1.5	1.5
20	Operating temperature range	℃	-40~+100	-40~+100	-40~+100
21	Max. winding temperature	℃	155	155	155
22	Axial play	mm	0.012	0.012	0.012
23	Radial play	mm	0.008	0.008	0.008
24	Axial load dynamic	N	1	1	1
25	Axial load static	N	25	25	25
26	Radial load at 3 mm from mounting face	N	6.3	6.3	6.3
27	No. of pole pairs		1	1	1
28	Bearings		2 ball bearings		
29	Commutation		Sensorless		
30	Protection class		IP 20		

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver

Outline Drawing

UNIT:mm



1230ZWWN

Inner Rotor without Sensor

Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics

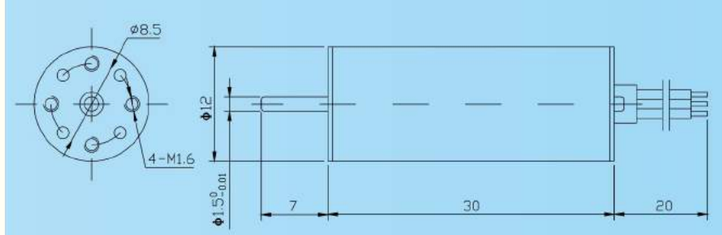
			-14-12.0	-10-9.0	-15-3.7
1	Voltage	V	12	9	3.7
2	Terminal resistance	Ω	9	2.4	0.6
3	No-load speed	rpm	11500	18000	18000
4	No-load current	A	0.05	0.15	0.23
5	Nominal torque	mNm	5.9	4.8	3.6
6	Nominal speed	rpm	6000	12800	12800
7	Nominal current	A	0.67	1.2	2.2
8	Max. output power	W	3.7	7.8	5.9
9	Max. efficiency	%	65	64	67
10	Back-EMF constant	mV/rpm	1.0	0.5	0.2
11	Torque constant	mNm/A	9.6	4.6	1.9
12	KV Value	rpm/V	960	2000	4860
13	Speed/torque gradient	rpm/mNm	930	1090	1430
14	Rotor inertia	gcm^2	0.21	0.21	0.21
15	Weight	g	15	15	15
16	Thermal resistance housing-ambient	K/W	21.6	21.6	21.6
17	Thermal resistance winding-housing	K/W	23	23	23
18	Thermal time constant motor	s	240	240	240
19	Thermal time constant winding	s	2	2	2
20	Operating temperature range	℃	-40~+100	-40~+100	-40~+100
21	Max. winding temperature	℃	155	155	155
22	Axial play	mm	0.012	0.012	0.012
23	Radial play	mm	0.008	0.008	0.008
24	Axial load dynamic	N	1	1	1
25	Axial load static	N	25	25	25
26	Radial load at 3 mm from mounting face	N	6.3	6.3	6.3
27	No. of pole pairs		1	1	1
28	Bearings		2 ball bearings		
29	Commutation		Sensorless		
30	Protection class		IP 30		

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing

UNIT:mm



1329ZWWN

Inner Rotor without Sensor

Applications: Precision driving field in medical equipment, industrial automation, etc.

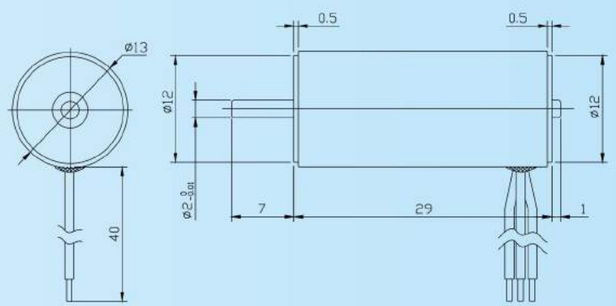
Characteristics			
			-1-12.0
1	Voltage	V	12
2	Terminal resistance	Ω	7.5
3	No-load speed	rpm	25000
4	No-load current	A	0.1
5	Nominal torque	mNm	2.6
6	Nominal speed	rpm	14800
7	Nominal current	A	0.72
8	Max. output power	W	4.2
9	Max. efficiency	%	56.0
10	Back-EMF constant	mV/rpm	0.45
11	Torque constant	mNm/A	4.3
12	KV Value	rpm/V	2100
13	Speed/torque gradient	rpm/mNm	3900
14	Rotor inertia	gcm²	0.18
15	Weight	g	15
16	Thermal resistance housing-ambient	K/W	1.5
17	Thermal resistance winding-housing	K/W	22
18	Thermal time constant motor	s	250
19	Thermal time constant winding	s	2
20	Operating temperature range	℃	-40~+100
21	Max. winding temperature	℃	155
22	Axial play	mm	0.012
23	Radial play	mm	0.008
24	Axial load dynamic	N	1.5
25	Axial load static	N	37
26	Radial load at 3 mm from mounting face	N	12
27	No. of pole pairs		1
28	Bearings		2 ball bearings
29	Commutation		Sensorless
30	Protection class		IP 30

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing

UNIT:mm



1635ZWWN

Inner Rotor without Sensor

Applications: Precision driving field in medical equipment, industrial automation, etc.

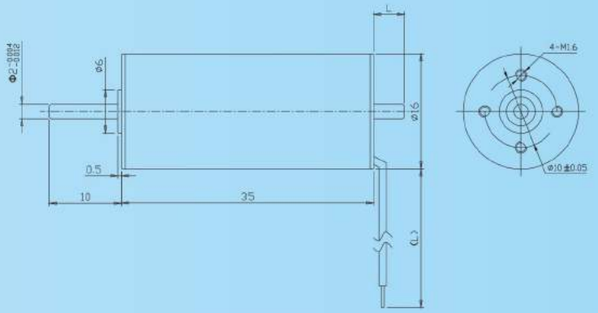
Characteristics			
			-1-12.0
1	Voltage	V	12
2	Terminal resistance	Ω	0.35
3	No-load speed	rpm	45000
4	No-load current	A	0.35
5	Nominal torque	mNm	2.6
6	Nominal speed	rpm	43500
7	Nominal current	A	1.4
8	Max. output power	W	100
9	Max. efficiency	%	81
10	Back-EMF constant	mV/rpm	0.26
11	Torque constant	mNm/A	2.5
12	KV Value	rpm/V	3750
13	Speed/torque gradient	rpm/mNm	530
14	Rotor inertia	gcm²	1.5
15	Weight	g	40
16	Thermal resistance housing-ambient	K/W	17
17	Thermal resistance winding-housing	K/W	21
18	Thermal time constant motor	s	250
19	Thermal time constant winding	s	6
20	Operating temperature range	℃	-40~+100
21	Max. winding temperature	℃	155
22	Axial play	mm	0.012
23	Radial play	mm	0.008
24	Axial load dynamic	N	1.5
25	Axial load static	N	37
26	Radial load at 3 mm from mounting face	N	12
27	No. of pole pairs		1
28	Bearings		2 ball bearings
29	Commutation		Sensorless
30	Protection class		IP 20

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing

UNIT:mm



2030ZWWN

Inner Rotor without Sensor

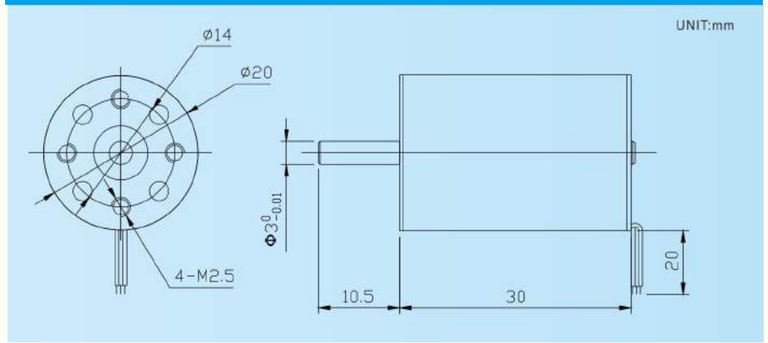
Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics					
			-2-12.0	-3-12.0	-4-12.0
1	Voltage	V	12	12	12
2	Terminal resistance	Ω	0.37	11	6.2
3	No-load speed	rpm	43300	7000	9200
4	No-load current	A	0.37	0.1	0.25
5	Nominal torque	mNm	5.0	9.4	6.6
6	Nominal speed	rpm	40700	2555	5900
7	Nominal current	A	2.3	0.7	0.9
8	Max. output power	W	95	2.7	4.4
9	Max. efficiency	%	80	49	41
10	Back-EMF constant	mV/rpm	0.27	1.6	1
11	Torque constant	mNm/A	2.6	14.9	11
12	KV Value	rpm/V	3600	580	770
13	Speed/torque gradient	rpm/mNm	520	480	500
14	Rotor inertia	gcm²	1.5	1.5	1.5
15	Weight	g	40	40	40
16	Thermal resistance housing-ambient	K/W	14.5	14.5	14.5
17	Thermal resistance winding-housing	K/W	16	16	16
18	Thermal time constant motor	s	600	600	600
19	Thermal time constant winding	s	3	3	3
20	Operating temperature range	℃	-40~+100	-40~+100	-40~+100
21	Max. winding temperature	℃	155	155	155
22	Axial play	mm	0.012	0.012	0.012
23	Radial play	mm	0.008	0.008	0.008
24	Axial load dynamic	N	5	5	5
25	Axial load static	N	80	80	80
26	Radial load at 3 mm from mounting face	N	29	29	29
27	No. of pole pairs		1	1	1
28	Bearings		2 ball bearings		
29	Commutation		Sensorless		
30	Protection class		IP 20		

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



2040ZWWN

Inner Rotor without Sensor

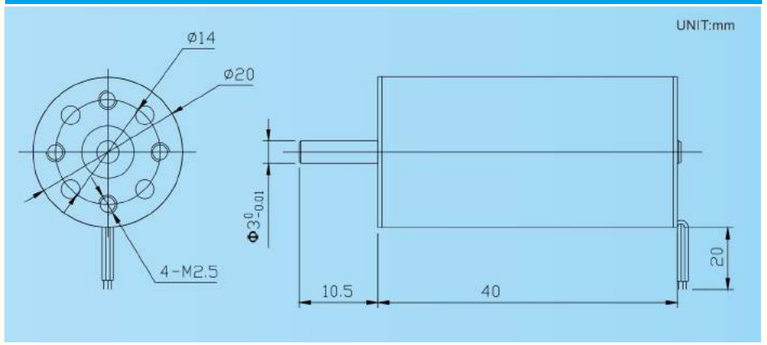
Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics					
			-3-12.0	-4-12.0	-5-9.0
1	Voltage	V	12	12	9
2	Terminal resistance	Ω	1.1	3.6	2.5
3	No-load speed	rpm	15000	8000	6700
4	No-load current	A	0.25	0.22	0.2
5	Nominal torque	mNm	13.5	14.5	17.7
6	Nominal speed	rpm	12200	5200	3800
7	Nominal current	A	2.2	1.3	1.7
8	Max. output power	W	31	8.7	7.2
9	Max. efficiency	%	72	55	58
10	Back-EMF constant	mV/rpm	0.78	1.4	1.3
11	Torque constant	mNm/A	7.5	13.4	12.1
12	KV Value	rpm/V	1250	670	745
13	Speed/torque gradient	rpm/mNm	190	190	163
14	Rotor inertia	gcm²	2	2	2
15	Weight	g	55	55	55
16	Thermal resistance housing-ambient	K/W	11	11	11
17	Thermal resistance winding-housing	K/W	12.5	12.5	12.5
18	Thermal time constant motor	s	620	620	620
19	Thermal time constant winding	s	4	4	4
20	Operating temperature range	℃	-40~+100	-40~+100	-40~+100
21	Max. winding temperature	℃	155	155	155
22	Axial play	mm	0.012	0.012	0.012
23	Radial play	mm	0.008	0.008	0.008
24	Axial load dynamic	N	5	5	5
25	Axial load static	N	80	80	80
26	Radial load at 3 mm from mounting face	N	29	29	29
27	No. of pole pairs		1	1	1
28	Bearings		2 ball bearings		
29	Commutation		Sensorless		
30	Protection class		IP 20		

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



2050ZWWN

Inner Rotor without Sensor

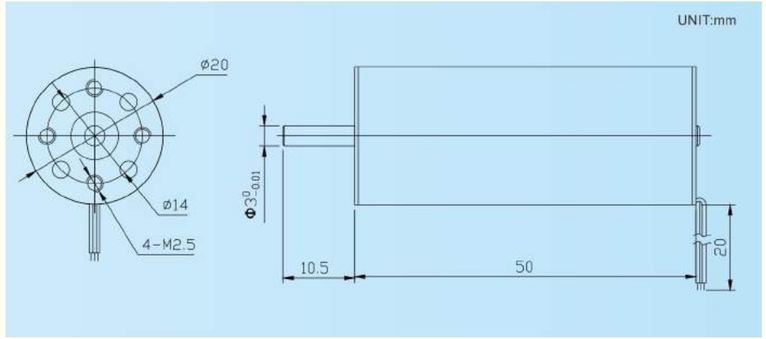
Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics			
			-3-12.0
1	Voltage	V	12
2	Terminal resistance	Ω	4.5
3	No-load speed	rpm	6000
4	No-load current	A	0.16
5	Nominal torque	mNm	24.0
6	Nominal speed	rpm	2800
7	Nominal current	A	1.5
8	Max. output power	W	7.1
9	Max. efficiency	%	57
10	Back-EMF constant	mV/rpm	1.9
11	Torque constant	mNm/A	18
12	KV Value	rpm/V	500
13	Speed/torque gradient	rpm/mNm	135
14	Rotor inertia	gcm²	2.3
15	Weight	g	75
16	Thermal resistance housing-ambient	K/W	8.6
17	Thermal resistance winding-housing	K/W	9.2
18	Thermal time constant motor	s	620
19	Thermal time constant winding	s	4
20	Operating temperature range	℃	-40~+100
21	Max. winding temperature	℃	155
22	Axial play	mm	0.012
23	Radial play	mm	0.008
24	Axial load dynamic	N	5
25	Axial load static	N	80
26	Radial load at 3 mm from mounting face	N	29
27	No. of pole pairs		1
28	Bearings		2 ball bearings
29	Commutation		Sensorless
30	Protection class		IP 20

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



1250ZWN

Inner Rotor with Sensor

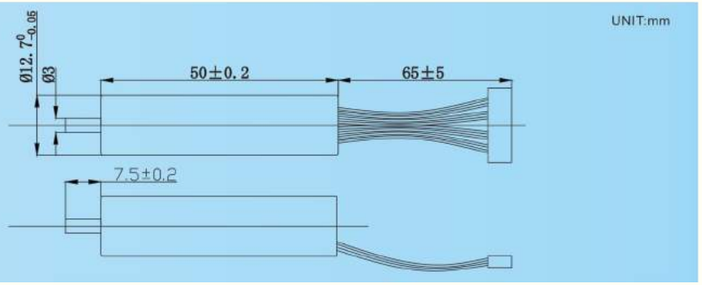
Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics			
			-1-48.0
1	Voltage	V	48
2	Terminal resistance	Ω	14.5
3	No-load speed	rpm	29000
4	No-load current	A	0.1
5	Stall torque	mNm	49
6	Stall current	A	3.3
7	Nominal torque	mNm	3.4
8	Nominal speed	rpm	27000
9	Nominal current	A	0.32
10	Max. output power	W	37
11	Max. efficiency	%	65
12	Back-EMF constant	mV/rpm	1.6
13	Torque constant	mNm/A	15.3
14	KV Value	rpm/V	600
15	Speed/torque gradient	rpm/mNm	600
16	Rotor inertia	gcm²	4
17	Weight	g	29
18	Thermal resistance housing-ambient	K/W	16
19	Thermal resistance winding-housing	K/W	16.7
20	Thermal time constant motor	s	800
21	Thermal time constant winding	s	5
22	Operating temperature range	℃	-40~+100
23	Max. winding temperature	℃	155
24	Axial play	mm	0.012
25	Radial play	mm	0.008
26	Axial load dynamic	N	5
27	Axial load static	N	80
28	Radial load at 3 mm from mounting face	N	29
29	No. of pole pairs		2
30	Bearings		2 ball bearings
31	Commutation		Hall Sensor
32	Protection class		IP 20

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



2040ZWN

Inner Rotor with Sensor

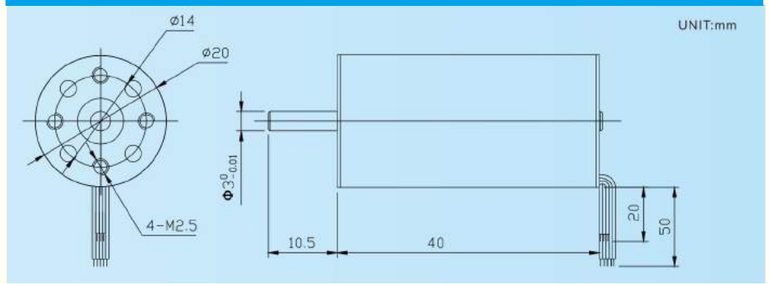
Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics			
			-12-12.0
1	Voltage	V	12
2	Terminal resistance	Ω	0.93
3	No-load speed	rpm	14500
4	No-load current	A	0.35
5	Stall torque	mNm	97.00
6	Stall current	A	13.00
7	Nominal torque	mNm	14.5
8	Nominal speed	rpm	12000
9	Nominal current	A	2.2
10	Max. output power	W	37
11	Max. efficiency	%	70
12	Back-EMF constant	mV/rpm	0.8
13	Torque constant	mNm/A	7.7
14	KV Value	rpm/V	1200
15	Speed/torque gradient	rpm/mNm	150
16	Rotor inertia	gcm²	2
17	Weight	g	55
18	Thermal resistance housing-ambient	K/W	11
19	Thermal resistance winding-housing	K/W	12.5
20	Thermal time constant motor	s	620
21	Thermal time constant winding	s	4
22	Operating temperature range	℃	-40~+100
23	Max. winding temperature	℃	155
24	Axial play	mm	0.012
25	Radial play	mm	0.008
26	Axial load dynamic	N	5
27	Axial load static	N	80
28	Radial load at 3 mm from mounting face	N	29
29	No. of pole pairs		1
30	Bearings		2 ball bearings
31	Commutation		Hall Sensor
32	Protection class		IP 30

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



2050ZWN

Inner Rotor with Sensor

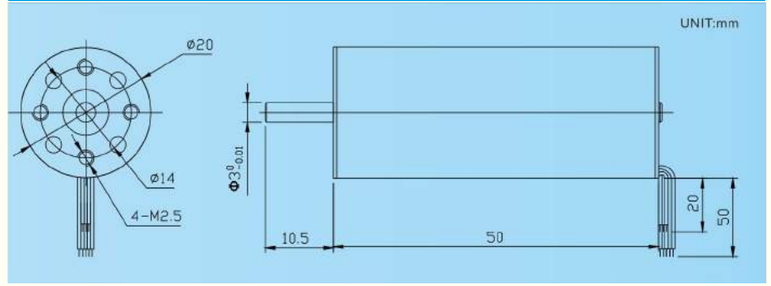
Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics			
			-6-12.0
1	Voltage	V	12
2	Terminal resistance	Ω	6.3
3	No-load speed	rpm	5000
4	No-load current	A	0.09
5	Stall torque	mNm	39
6	Stall current	A	1.9
7	Nominal torque	mNm	25.8
8	Nominal speed	rpm	1700
9	Nominal current	A	1.3
10	Max. output power	W	5.2
11	Max. efficiency	%	62
12	Back-EMF constant	mV/rpm	2.25
13	Torque constant	mNm/A	21.5
14	KV Value	rpm/V	425
15	Speed/torque gradient	rpm/mNm	130
16	Rotor inertia	gcm²	2.3
17	Weight	g	75
18	Thermal resistance housing-ambient	K/W	8.6
19	Thermal resistance winding-housing	K/W	9.2
20	Thermal time constant motor	s	620
21	Thermal time constant winding	s	4
22	Operating temperature range	℃	-40~+100
23	Max. winding temperature	℃	155
24	Axial play	mm	0.012
25	Radial play	mm	0.008
26	Axial load dynamic	N	5
27	Axial load static	N	80
28	Radial load at 3 mm from mounting face	N	29
29	No. of pole pairs		1
30	Bearings		2 ball bearings
31	Commutation		Hall Sensor
32	Protection class		IP 30

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



2940ZWN

Inner Rotor with Sensor

Applications: Precision driving field in medical equipment, industrial automation, etc.

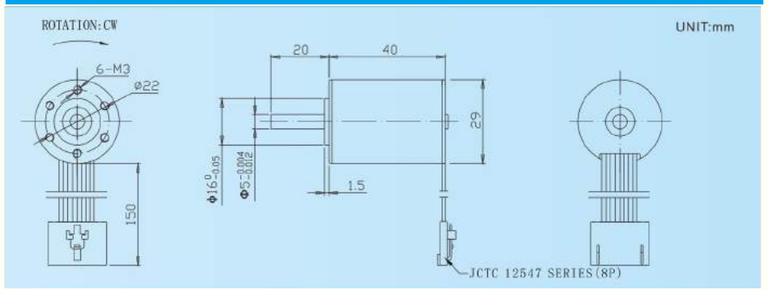
Characteristics

			-1-24.0
1	Voltage	V	24
2	Terminal resistance	Ω	1.1
3	No-load speed	rpm	35000
4	No-load current	A	0.65
5	Stall torque	mNm	133
6	Stall current	A	21.8
7	Nominal torque	mNm	4
8	Nominal speed	rpm	34000
9	Nominal current	A	1.3
10	Max. output power	W	123
11	Max. efficiency	%	68
12	Back-EMF constant	mV/rpm	0.66
13	Torque constant	mNm/A	6.3
14	KV Value	rpm/V	1480
15	Speed/torque gradient	rpm/mNm	270
16	Rotor inertia	gcm²	4.4
17	Weight	g	115
18	Thermal resistance housing-ambient	K/W	4.8
19	Thermal resistance winding-housing	K/W	6
20	Thermal time constant motor	s	1200
21	Thermal time constant winding	s	200
22	Operating temperature range	℃	-40 ~ +100
23	Max. winding temperature	℃	155
24	Axial play	mm	0.012
25	Radial play	mm	0.008
26	Axial load dynamic	N	10
27	Axial load static	N	110
28	Radial load at 3 mm from mounting face	N	42
29	No. of pole pairs		1
30	Bearings		2 ball bearings
31	Commutation		Hall Sensor
32	Protection class		IP 30

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



2950ZWN

Inner Rotor with Sensor

Applications: Precision driving field in medical equipment, industrial automation, etc.

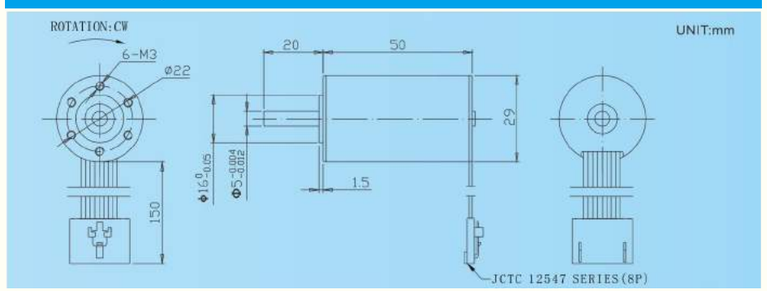
Characteristics

			-1-28.0
1	Voltage	V	28
2	Terminal resistance	Ω	1.16
3	No-load speed	rpm	15500
4	No-load current	A	0.45
5	Stall torque	mNm	400
6	Stall current	A	24
7	Nominal torque	mNm	40
8	Nominal speed	rpm	14000
9	Nominal current	A	2.8
10	Max. output power	W	59
11	Max. efficiency	%	74
12	Back-EMF constant	mV/rpm	1.8
13	Torque constant	mNm/A	16.9
14	KV Value	rpm/V	550
15	Speed/torque gradient	rpm/mNm	38
16	Rotor inertia	gcm²	5
17	Weight	g	140
18	Thermal resistance housing-ambient	K/W	4
19	Thermal resistance winding-housing	K/W	4.8
20	Thermal time constant motor	s	1400
21	Thermal time constant winding	s	20
22	Operating temperature range	℃	-40~+100
23	Max. winding temperature	℃	155
24	Axial play	mm	0.012
25	Radial play	mm	0.008
26	Axial load dynamic	N	5
27	Axial load static	N	80
28	Radial load at 3 mm from mounting face	N	29
29	No. of pole pairs		2
30	Bearings		2 ball bearings
31	Commutation		Hall Sensor
32	Protection class		IP 20

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



3336ZWN

Inner Rotor with Sensor

Applications: Precision driving field in medical equipment, industrial automation, etc.

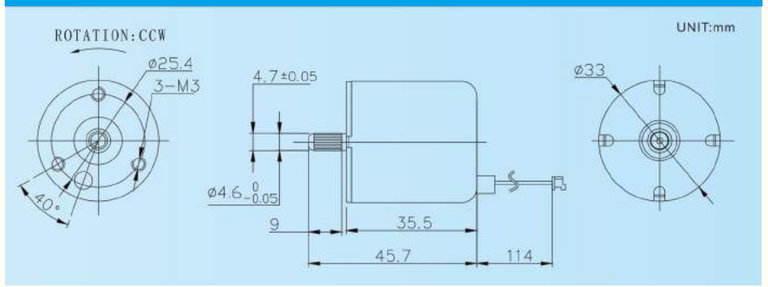
Characteristics

			-1-12.0
1	Voltage	V	12
2	Terminal resistance	Ω	0.26
3	No-load speed	rpm	31500
4	No-load current	A	0.34
5	Stall torque	mNm	165
6	Stall current	A	46
7	Nominal torque	mNm	22
8	Nominal speed	rpm	27000
9	Nominal current	A	6.5
10	Max. output power	W	137
11	Max. efficiency	%	84
12	Back-EMF constant	mV/rpm	0.38
13	Torque constant	mNm/A	3.6
14	KV Value	rpm/V	2630
15	Speed/torque gradient	rpm/mNm	190
16	Rotor inertia	gcm²	8.6
17	Weight	g	103
18	Thermal resistance housing-ambient	K/W	6.6
19	Thermal resistance winding-housing	K/W	6.8
20	Thermal time constant motor	s	1400
21	Thermal time constant winding	s	16
22	Operating temperature range	℃	-40~+100
23	Max. winding temperature	℃	155
24	Axial play	mm	0.012
25	Radial play	mm	0.008
26	Axial load dynamic	N	10
27	Axial load static	N	110
28	Radial load at 3 mm from mounting face	N	42
29	No. of pole pairs		2
30	Bearings		2 ball bearings
31	Commutation		Hall Sensor
32	Protection class		IP 20

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



4040ZWN

Inner Rotor with Sensor

Applications: Precision driving field in medical equipment, industrial automation, etc.

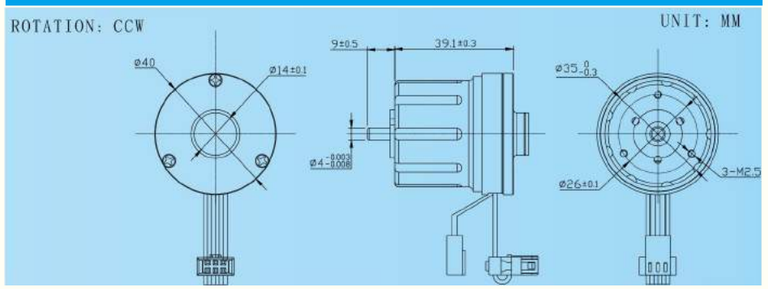
Characteristics

			-2-24.0
1	Voltage	V	24
2	Terminal resistance	Ω	2
3	No-load speed	rpm	42000
4	No-load current	A	0.17
5	Stall torque	mNm	64
6	Stall current	A	12
7	Nominal torque	mNm	7.3
8	Nominal speed	rpm	37200
9	Nominal current	A	1.5
10	Max. output power	W	70
11	Max. efficiency	%	78
12	Back-EMF constant	mV/rpm	0.56
13	Torque constant	mNm/A	5.3
14	KV Value	rpm/V	1750
15	Speed/torque gradient	rpm/mNm	660
16	Rotor inertia	gcm²	20
17	Weight	g	200
18	Thermal resistance housing-ambient	K/W	5
19	Thermal resistance winding-housing	K/W	12
20	Thermal time constant motor	s	1400
21	Thermal time constant winding	s	20
22	Operating temperature range	℃	-40~+100
23	Max. winding temperature	℃	155
24	Axial play	mm	2.3
25	Radial play	mm	0.012
26	Axial load dynamic	N	8
27	Axial load static	N	110
28	Radial load at 3 mm from mounting face	N	31
29	No. of pole pairs		2
30	Bearings		2 ball bearings
31	Commutation		Hall Sensor
32	Protection class		IP 20

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



3216ZWW

Outer Rotor without Sensor

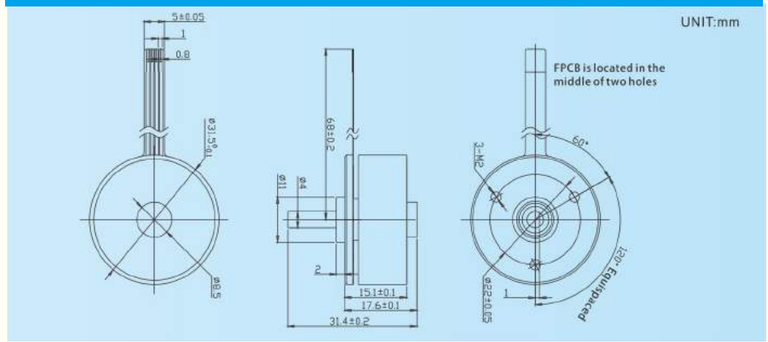
Applications: UAV gimbals & handheld gimbals

Characteristics			
			-1-12.0
1	Voltage	V	12
2	Terminal resistance	Ω	4.1
3	Terminal inductance	mH	1.34
4	No-load speed	rpm	3200
5	No-load current	A	0.5
6	Nominal torque	mNm	50.7
7	Nominal speed	rpm	1600
8	Nominal current	A	1.5
9	Max. output power	W	8.4
10	Max. efficiency	%	73
11	Back-EMF constant	mV/rpm	3.7
12	Torque constant	mNm/A	35
13	Speed/torque gradient	rpm/mNm	32
14	Rotor inertia	gcm²	35
15	Weight	g	48
16	Thermal resistance housing-ambient	K/W	4.8
17	Thermal resistance winding-housing	K/W	10.2
18	Thermal time constant motor	s	110
19	Thermal time constant winding	s	6.9
20	Operating temperature range	℃	-40~+100
21	Max. winding temperature	℃	155
22	Axial play	mm	0.08
23	Radial play	mm	0.006
24	Axial load dynamic	N	5
25	Axial load static	N	80
26	Radial load at 3 mm from mounting face	N	29
27	No. of pole pairs		7
28	Bearings		2 ball bearings
29	Commutation		Sensorless
30	Protection class		IP 20

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



3517ZWW

Outer Rotor without Sensor

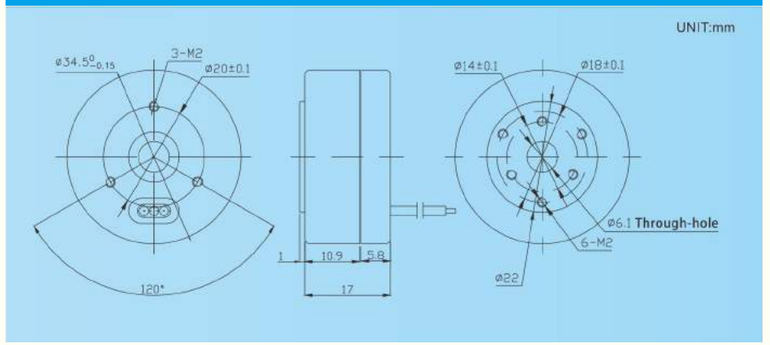
Applications: UAV gimbals & handheld gimbal

Characteristics			
			-1-24.0
1	Voltage	V	24
2	Terminal resistance	Ω	11
3	Terminal inductance	mH	0.3
4	No-load speed	rpm	4450
5	No-load current	A	0.06
6	Nominal torque	mNm	35
7	Nominal speed	rpm	3000
8	Nominal current	A	0.75
9	Max. output power	W	12.4
10	Max. efficiency	%	70
11	Back-EMF constant	mV/rpm	5.2
12	Torque constant	mNm/A	50
13	Speed/torque gradient	rpm/mNm	42
14	Rotor inertia	gcm²	43
15	Weight	g	42
16	Thermal resistance housing-ambient	K/W	6.8
17	Thermal resistance winding-housing	K/W	14
18	Thermal time constant motor	s	120
19	Thermal time constant winding	s	9
20	Operating temperature range	℃	-40~+100
21	Max. winding temperature	℃	155
22	Axial play	mm	0.012
23	Radial play	mm	0.008
24	Axial load dynamic	N	1.5
25	Axial load static	N	37
26	Radial load at 3 mm from mounting face	N	12
27	No. of pole pairs		7
28	Bearings		2 ball bearings
29	Commutation		Sensorless
30	Protection class		IP 30

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



4316ZWW

Outer Rotor without Sensor

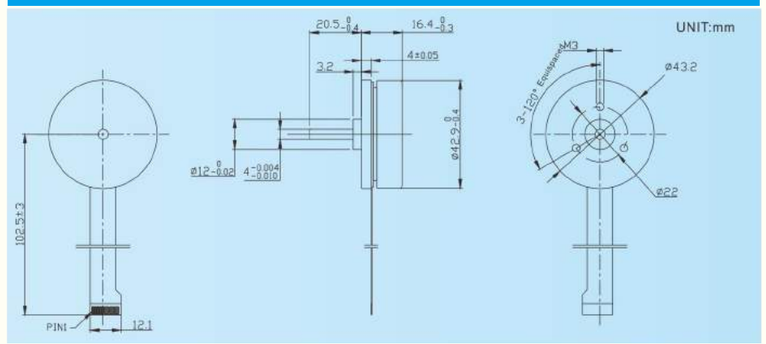
Applications: UAV gimbals & handheld gimbals

Characteristics			
			-8-12.0
1	Voltage	V	12
2	Terminal resistance	Ω	1.2
3	Terminal inductance	mH	2.24
4	No-load speed	rpm	4350
5	No-load current	A	0.18
6	Nominal torque	mNm	89
7	Nominal speed	rpm	2800
8	Nominal current	A	3.6
9	Max. output power	W	29
10	Max. efficiency	%	75
11	Back-EMF constant	mV/rpm	2.7
12	Torque constant	mNm/A	26
13	Speed/torque gradient	rpm/mNm	17
14	Rotor inertia	gcm²	58
15	Weight	g	71.5
16	Thermal resistance housing-ambient	K/W	2.8
17	Thermal resistance winding-housing	K/W	5.8
18	Thermal time constant motor	s	400
19	Thermal time constant winding	s	13
20	Operating temperature range	℃	-40~+100
21	Max. winding temperature	℃	155
22	Axial play	mm	0.012
23	Radial play	mm	0.008
24	Axial load dynamic	N	8
25	Axial load static	N	85
26	Radial load at 3 mm from mounting face	N	26
27	No. of pole pairs		8
28	Bearings		2 ball bearings
29	Commutation		Sensorless
30	Protection class		IP 30

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



4321ZWW

Outer Rotor without Sensor

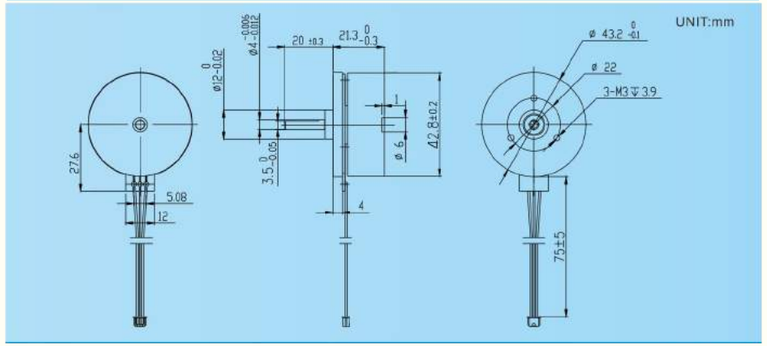
Applications: UAV gimbals & handheld gimbal

Characteristics			
			-3-24.0
1	Voltage	V	24
2	Terminal resistance	Ω	1.03
3	Terminal inductance	mH	0.57
4	No-load speed	rpm	6700
5	No-load current	A	0.2
6	Nominal torque	mNm	117
7	Nominal speed	rpm	5700
8	Nominal current	A	3.7
9	Max. output power	W	138
10	Max. efficiency	%	82
11	Back-EMF constant	mV/rpm	3.5
12	Torque constant	mNm/A	34
13	Speed/torque gradient	rpm/mNm	8.6
14	Rotor inertia	gcm²	130
15	Weight	g	110
16	Thermal resistance housing-ambient	K/W	5.4
17	Thermal resistance winding-housing	K/W	5.5
18	Thermal time constant motor	s	370
19	Thermal time constant winding	s	13
20	Operating temperature range	℃	-40~+100
21	Max. winding temperature	℃	155
22	Axial play	mm	0.012
23	Radial play	mm	0.008
24	Axial load dynamic	N	8
25	Axial load static	N	85
26	Radial load at 3 mm from mounting face	N	26
27	No. of pole pairs		8
28	Bearings		2 ball bearings
29	Commutation		Sensorless
30	Protection class		IP 30

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



5540ZW

Outer Rotor with Sensor

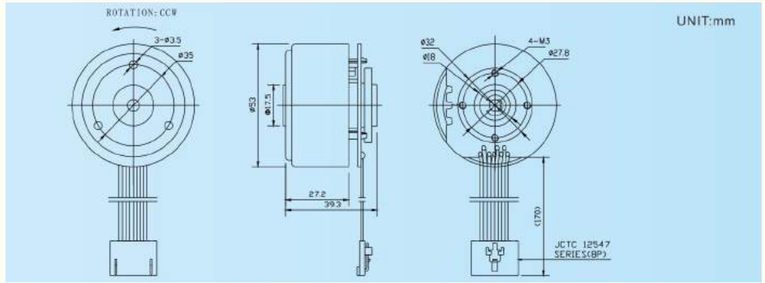
Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics				
			-1-24.0	
1	Voltage	V	24	
2	Terminal resistance	Ω	0.42	
3	No-load speed	rpm	18400	
4	No-load current	A	0.53	
5	Stall torque	mNm	700	
6	Stall current	A	57	
7	Nominal torque	mNm	70	
8	Nominal speed	rpm	16500	
9	Nominal current	A	6.2	
10	Max. output power	W	337	
11	Max. efficiency	%	82	
12	Back-EMF constant	mV/rpm	1.3	
13	Torque constant	mNm/A	12.4	
14	KV Value	rpm/V	770	
15	Speed/torque gradient	rpm/mNm	26	
16	Rotor inertia	gcm²	500	
17	Weight	g	210	
18	Thermal resistance housing-ambient	K/W	3	
19	Thermal resistance winding-housing	K/W	3.5	
20	Thermal time constant motor	s	180	
21	Thermal time constant winding	s	45	
22	Operating temperature range	℃	-40~+100	
23	Max. winding temperature	℃	155	
24	Axial play	mm	2.1	
25	Radial play	mm	0.008	
26	Axial load dynamic	N	10	
27	Axial load static	N	110	
28	Radial load at 3 mm from mounting face	N	42	
29	No. of pole pairs		2	
30	Bearings		2 ball bearings	
31	Commutation		Hall Sensor	
32	Protection class		IP 20	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder
Bearing type
Driver
Hall sensor

Outline Drawing



2040ZWWND

Interior Rotor with Integrated Driver

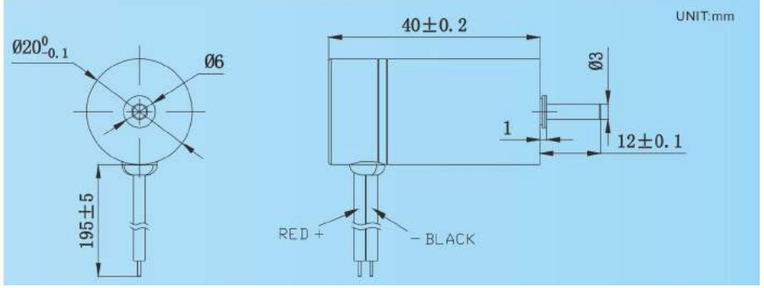
Applications: Precision driving field in medical equipment, industrial automation, etc.

Characteristics				
			-1-6.5	
1	Voltage	V	6.5	
2	Operating Voltage	V	5.8~10	
3	Terminal resistance	Ω	42	
4	No-load speed	rpm	2900	
5	No-load current	A	0.02	
6	Nominal torque	mNm	1.4	
7	Nominal speed	rpm	1200	
8	Nominal current	A	0.1	
9	Max. output power	W	0.18	
10	Max. efficiency	%	38	
11	Back-EMF constant	mV/rpm	1.9	
12	Torque constant	mNm/A	18	
13	KV Value	rpm/V	450	
14	Speed/torque gradient	rpm/mNm	1200	
15	Rotor inertia	gcm²	6.95	
16	Weight	g	47	
17	Thermal resistance housing-ambient	K/W	8	
18	Thermal resistance winding-housing	K/W	10	
19	Thermal time constant motor	s	800	
20	Thermal time constant winding	s	7	
21	Operating temperature range	℃	-40~+100	
22	Max. winding temperature	℃	130	
23	Axial play	mm	0.012	
24	Radial play	mm	0.008	
25	Axial load dynamic	N	5	
26	Axial load static	N	80	
27	Radial load at 3 mm from mounting face	N	29	
28	No. of pole pairs		1	
29	Bearings		2 ball bearings	
30	Commutation		Sensorless	
31	Protection class		IP 42	

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type
(Driver 사양 별도 자료 존재)

Outline Drawing



7584ZWND

Interior Rotor with Integrated Driver

Applications: Precision driving field in medical equipment, industrial automation, etc.

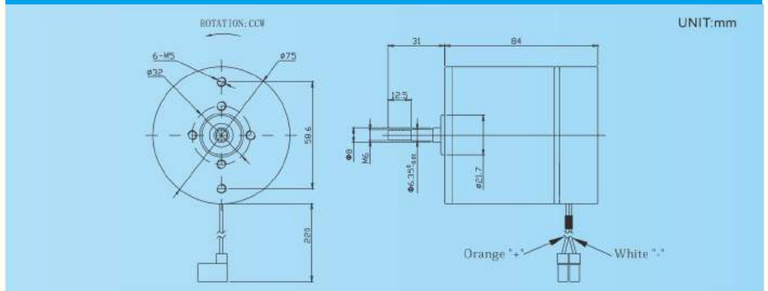
Characteristics

			-1-24.0
1	Voltage	V	24
2	Operating Voltage	V	12~26
3	Terminal resistance	Ω	2.8
4	No-load speed	rpm	6300
5	No-load current	A	0.3
6	Nominal torque	mNm	106
7	Nominal speed	rpm	4000
8	Nominal current	A	3.2
9	Max. output power	W	49
10	Max. efficiency	%	69
11	Back-EMF constant	mV/rpm	3.7
12	Torque constant	mNm/A	35
13	KV Value	rpm/V	263
14	Speed/torque gradient	rpm/mNm	21
15	Rotor inertia	gcm²	28
16	Weight	g	1160
17	Thermal resistance housing-ambient	K/W	2
18	Thermal resistance winding-housing	K/W	3
19	Thermal time constant motor	s	112
20	Thermal time constant winding	s	8.9
21	Operating temperature range	℃	-40~+100
22	Max. winding temperature	℃	130
23	Axial play	mm	4
24	Radial play	mm	0.3
25	Axial load dynamic	N	10
26	Axial load static	N	300
27	Radial load at 3 mm from mounting face	N	215
28	No. of pole pairs		2
29	Bearings		2 ball bearings
30	Commutation		Hall Sensor
31	Protection class		IP 30

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type

Outline Drawing



2135ZWWND

Interior Rotor with Integrated Driver

Applications: Precision driving field in medical equipment, industrial automation, etc.

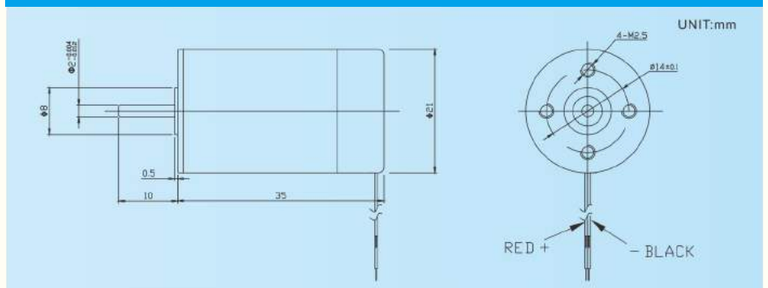
Characteristics

			-1-12.0
1	Voltage	V	12
2	Operating Voltage	V	8~15
3	Terminal resistance	Ω	14
4	No-load speed	rpm	6500
5	No-load current	A	0.1
6	Nominal torque	mNm	8.6
7	Nominal speed	rpm	1800
8	Nominal current	A	0.65
9	Max. output power	W	2.00
10	Max. efficiency	%	43
11	Back-EMF constant	mV/rpm	1.63
12	Torque constant	mNm/A	15.6
13	KV Value	rpm/V	540
14	Speed/torque gradient	rpm/mNm	550
15	Rotor inertia	gcm²	2.1
16	Weight	g	50
17	Thermal resistance housing-ambient	K/W	1.8
18	Thermal resistance winding-housing	K/W	16
19	Thermal time constant motor	s	600
20	Thermal time constant winding	s	3
21	Operating temperature range	℃	-40~+100
22	Max. winding temperature	℃	155
23	Axial play	mm	0.012
24	Radial play	mm	0.008
25	Axial load dynamic	N	1.5
26	Axial load static	N	37
27	Radial load at 3 mm from mounting face	N	12
28	No. of pole pairs		1
29	Bearings		2 ball bearings
30	Commutation		Sensorless
31	Protection class		IP 30

Options

Lead wires length
Shaft length
Special coils
Gearheads
Bearing type
(Driver 사양 별도 자료 존재)

Outline Drawing



벤츠가 인정하는 기술력

Precision Gear
Motor

GB06**R

Planetary Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.

Operating temperature range: −10 ~+80℃

Motor Characteristics

			0615RCN57-2L27-80-3.0	
1	Voltage	V	3.0	
2	Terminal resistance	Ω	8.3	
3	No-load speed	rpm	18500	
4	No-load current	mA	20	
5	Stall torque	mNm	0.5	
6	Stall current	mA	361	
7	Nominal torque	mNm	0.25	
8	Nominal speed	rpm	9240	
9	Nominal current	mA	191	
10	Max. output power	W	0.24	
11	Max. efficiency	%	58	
12	Back-EMF constant	mV/rpm	0.15	
13	Torque constant	mNm/A	1.46	
14	Speed/torque gradient	rpm/mNm	37038	
15	Rotor inertia	gcm^2	0.03	
16	Weight	g	1.7	

Gearbox Characteristics

	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length（L）	
		mNm	mNm	mm	
1	4(3.7)	5	15	10.6	
2	14(13.7)	10	30	13.2	
3	51(50.89)	20	50	15.8	
4	189(188.6)	30	50	18.4	
5	699	30	50	21	

Other Options

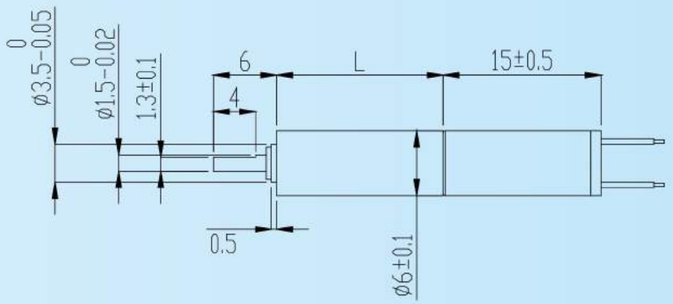
Lead wires length

Shaft length

Special coils

Outline Drawing

UNIT:mm



GB08**R

Planetary Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.

Operating temperature range: −10 ~+80℃

Motor Characteristics

			0816RCN51-1-8.0	
1	Voltage	V	8.0	
2	Terminal resistance	Ω	60.0	
3	No-load speed	rpm	15400	
4	No-load current	mA	7	
5	Stall torque	mNm	0.6	
6	Stall current	mA	133	
7	Nominal torque	mNm	0.30	
8	Nominal speed	rpm	7620	
9	Nominal current	mA	71	
10	Max. output power	W	0.24	
11	Max. efficiency	%	59	
12	Back-EMF constant	mV/rpm	0.49	
13	Torque constant	mNm/A	4.70	
14	Speed/torque gradient	rpm/mNm	25935	
15	Rotor inertia	gcm^2	0.07	
16	Weight	g	3.6	

Gearbox Characteristics

	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length（L）	
		mNm	mNm	mm	
1	4	5	15	9.1	
2	16	10	30	11.8	
3	64	20	60	14.5	
4	256	30	90	17.2	
5	1024	35	105	19.9	
6	4096	40	120	22.6	

Other Options

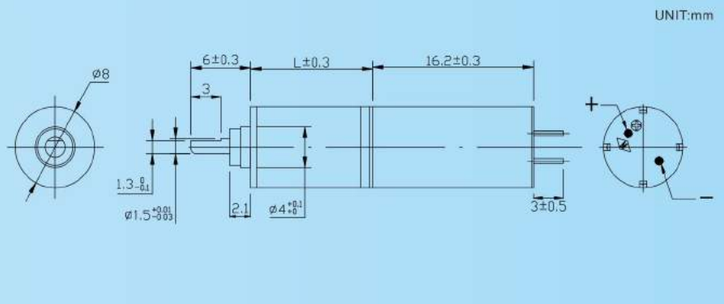
Lead wires length

Shaft length

Special coils

Outline Drawing

UNIT:mm



GB10**R

Planetary Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.

Operating temperature range: -10 ~+80℃

Motor Characteristics

			1016RCN51-90-12.0
1	Voltage	V	7.5
2	Terminal resistance	Ω	56.0
3	No-load speed	rpm	10900
4	No-load current	mA	7
5	Stall torque	mNm	0.8
6	Stall current	mA	134
7	Nominal torque	mNm	0.40
8	Nominal speed	rpm	5384
9	Nominal current	mA	71
10	Max. output power	W	0.23
11	Max. efficiency	%	60
12	Back-EMF constant	mV/rpm	0.65
13	Torque constant	mNm/A	6.23
14	Speed/torque gradient	rpm/mNm	13790
15	Rotor inertia	gcm^2	0.2
16	Weight	g	5

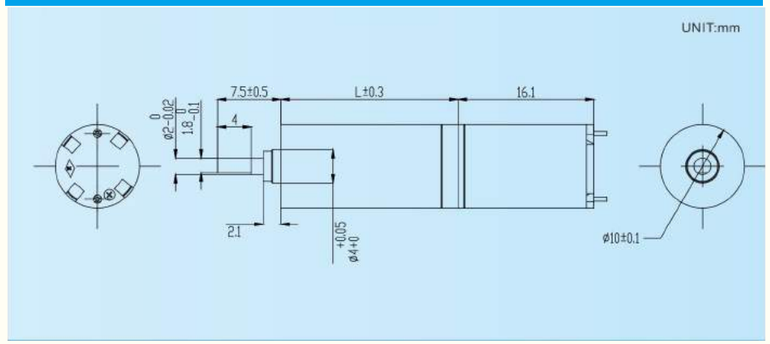
Gearbox Characteristics

	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length（L）
		mNm	mNm	mm
1	4	5	15	11.7
2	16	10	30	14.8
3	64	30	90	17.9
4	256	40	120	21
5	1024	50	150	24.1
6	4096	60	180	27.2

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing



GB12**R

Planetary Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.

Operating temperature range: -10 ~+80℃

Motor Characteristics

			1230RN51-8-12.0
1	Voltage	V	9.0
2	Terminal resistance	Ω	17.0
3	No-load speed	rpm	6300
4	No-load current	mA	8
5	Stall torque	mNm	7.0
6	Stall current	mA	529
7	Nominal torque	mNm	5.30
8	Nominal speed	rpm	1534
9	Nominal current	mA	402
10	Max. output power	W	1.16
11	Max. efficiency	%	77
12	Back-EMF constant	mV/rpm	1.41
13	Torque constant	mNm/A	13.44
14	Speed/torque gradient	rpm/mNm	899
15	Rotor inertia	gcm^2	1
16	Weight	g	16

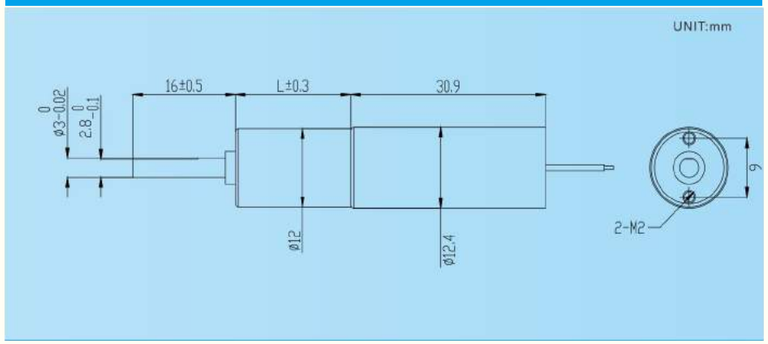
Gearbox Characteristics

	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length（L）
		mNm	mNm	mm
1	4	80	240	15.3
2	16	120	360	18.6
3	64	160	480	21.9
4	256	180	540	25.2
5	1024	200	600	28.5
6	4096	200	600	31.8

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing



GB13**R

Planetary Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.

Operating temperature range: -10 ~+80℃

Motor Characteristics

			1230RN51-8-12.0
1	Voltage	V	9.0
2	Terminal resistance	Ω	17.0
3	No-load speed	rpm	6300
4	No-load current	mA	8
5	Stall torque	mNm	7.0
6	Stall current	mA	529
7	Nominal torque	mNm	5.30
8	Nominal speed	rpm	1534
9	Nominal current	mA	402
10	Max. output power	W	1.16
11	Max. efficiency	%	77
12	Back-EMF constant	mV/rpm	1.41
13	Torque constant	mNm/A	13.44
14	Speed/torque gradient	rpm/mNm	899
15	Rotor inertia	gcm^2	1
16	Weight	g	16

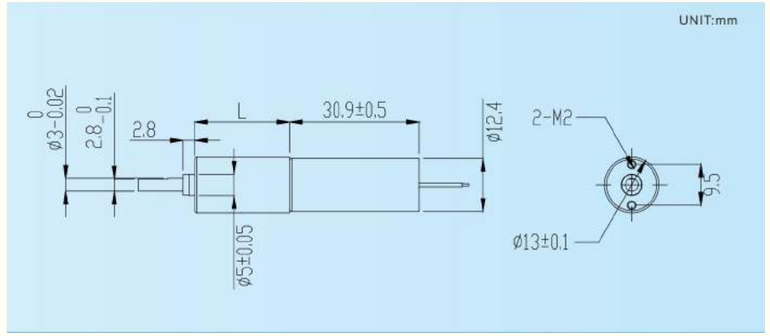
Gearbox Characteristics

	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)
		mNm	mNm	mm
1	4	80	240	12.7
2	16	120	360	16
3	64	160	480	19.3
4	256	180	540	22.6
5	1024	200	600	25.9
6	4096	200	600	29.2

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing



GB16**R

Planetary Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.

Operating temperature range: -10 ~+80℃

Motor Characteristics

			1627RCN51-21P-12.0
1	Voltage	V	12.0
2	Terminal resistance	Ω	71.3
3	No-load speed	rpm	8500
4	No-load current	mA	5
5	Stall torque	mNm	2.1
6	Stall current	mA	168
7	Nominal torque	mNm	1.00
8	Nominal speed	rpm	4521
9	Nominal current	mA	81
10	Max. output power	W	0.48
11	Max. efficiency	%	68
12	Back-EMF constant	mV/rpm	1.37
13	Torque constant	mNm/A	13.08
14	Speed/torque gradient	rpm/mNm	3979
15	Rotor inertia	gcm^2	1.8
16	Weight	g	24

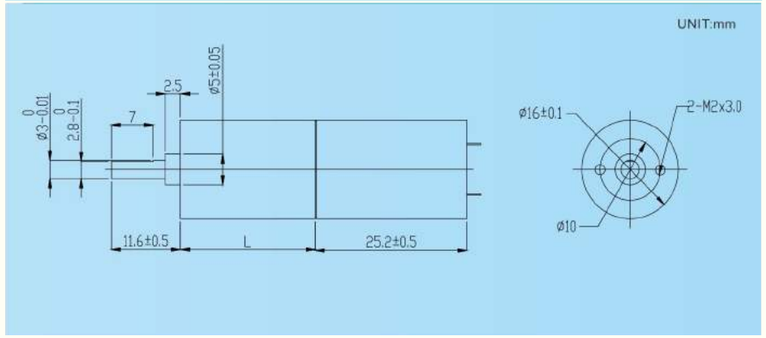
Gearbox Characteristics

	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)
		mNm	mNm	mm
1	4	80	240	15.05
2	14, 16, 19, 29	120	360	18.7
3	53, 62, 72, 84, 104, 128, 157	160	480	22.35
4	231, 316, 370, 455, 561, 690	200	600	26
5	1014, 1621, 1996, 3027	240	720	29.65

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing



GB22**R

Planetary Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: -10 ~+80℃

Motor Characteristics

			2233RCN52C-38L17P-30-12.0	
1	Voltage	V	12.0	
2	Terminal resistance	Ω	70.0	
3	No-load speed	rpm	2300	
4	No-load current	mA	7	
5	Stall torque	mNm	7.9	
6	Stall current	mA	171	
7	Nominal torque	mNm	4.00	
8	Nominal speed	rpm	1129	
9	Nominal current	mA	91	
10	Max. output power	W	0.47	
11	Max. efficiency	%	64	
12	Back-EMF constant	mV/rpm	5.00	
13	Torque constant	mNm/A	47.79	
14	Speed/torque gradient	rpm/mNm	293	
15	Rotor inertia	gcm^2	8	
16	Weight	g	56	

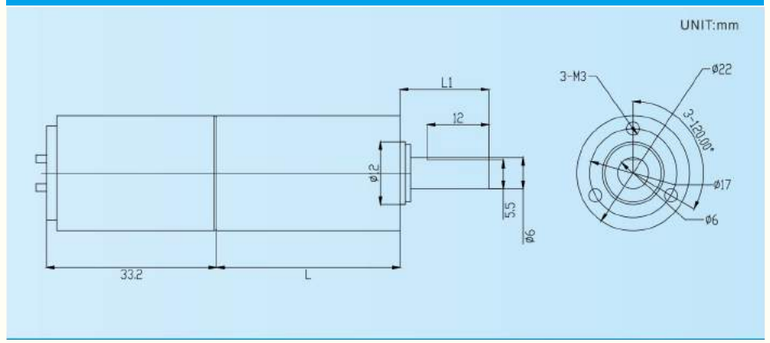
Gearbox Characteristics

	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)
		mNm	mNm	mm
1	5	100	300	23.3
2	18, 20, 25	300	900	29.5
3	66, 77, 90, 110, 136	400	1200	35.7
4	246, 336, 393, 484, 597, 735	500	1500	41.9
5	1475, 2124, 3968	600	1800	48.1

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing



GB28**R

Planetary Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: -10 ~+80℃

Motor Characteristics

			2960ZWND-1-11.0	
1	Voltage	V	11.0	
2	Terminal resistance	Ω	0.5	
3	No-load speed	rpm	24500	
4	No-load current	mA	720	
5	Stall torque	mNm	82.9	
6	Stall current	mA	20755	
7	Nominal torque	mNm	15	
8	Nominal speed	rpm	20068	
9	Nominal current	mA	4344	
10	Max. output power	W	53.18	
11	Max. efficiency	%	66	
12	Back-EMF constant	mV/rpm	0.43	
13	Torque constant	mNm/A	4.14	
14	KV Value	rpm/V	2227	
15	Speed/torque gradient	rpm/mNm	295	
16	Rotor inertia	gcm^2	5	
17	Weight	g	140	

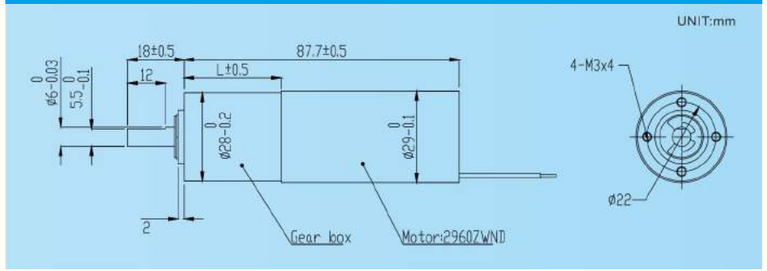
Gearbox Characteristics

	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)
		mNm	mNm	mm
1	4, 5	200	600	24.5
2	14, 19	300	900	30.9
3	27, 35	400	1200	30.9
4	51, 71	600	1800	37.3
5	100, 139	800	2400	37.3
6	189, 264, 516, 721, 939	1000	3000	43.7

Other Options

Lead wires length
Shaft length
Special coils

Outline Drawing



GH0607F

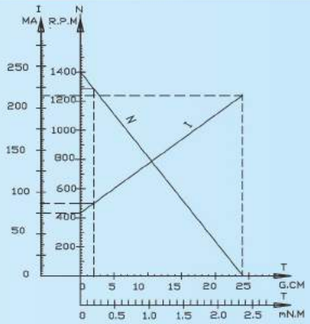
Planetary Gearbox Series

Applications: Medical equipment, security equipment, audio and visual products, high-end toys, personal health care products, etc.

Characteristics

			-0609R001-20-3.0	
1	Voltage	V	3	
2	Terminal resistance	Ω	13.7	
3	No-load speed	rpm	1240	
4	No-load current	mA	45	
5	Max. torque	mNm	3.2	
6	Load torque	mNm	0.19	
7	Load speed	rpm	1164	
8	Load current	mA	54	
9	Reduction ratio		1/25	
10	Weight	g	1.2	
11	Operating temperature range	℃	-10～+70	

Characteristics Curve



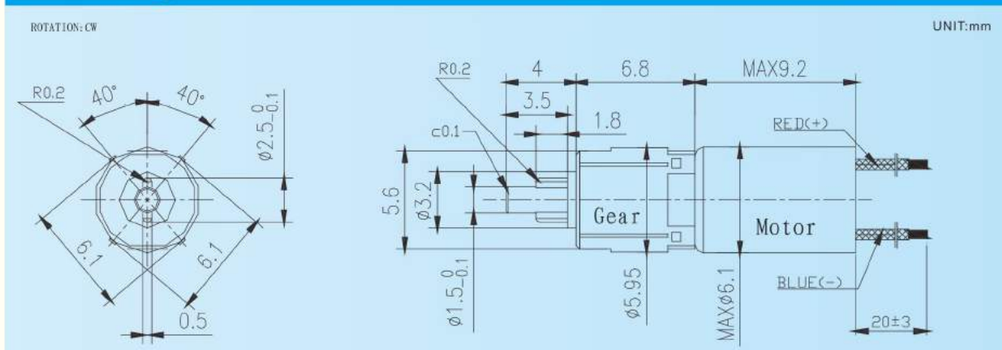
GH0607F-0609R001-20-3.0

Options

Lead wires length

Special coils

Outline Drawing



GH1007FG

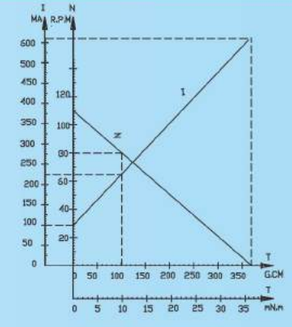
Planetary Gearbox Series

Applications: Medical equipment, security equipment, audio and visual products, high-end toys, personal health care products, etc.

Characteristics

			-1012F050-2.5	
1	Voltage	V	2.5	
2	Terminal resistance	Ω	3.7	
3	No-load speed	rpm	110	
4	No-load current	mA	100	
5	Max. torque	mNm	37.2	
6	Load torque	mNm	9.8	
7	Load speed	rpm	80	
8	Load current	mA	230	
9	Reduction ratio		1/171	
10	Weight	g	3.8	
11	Operating temperature range	℃	-10～+70	

Characteristics Curve



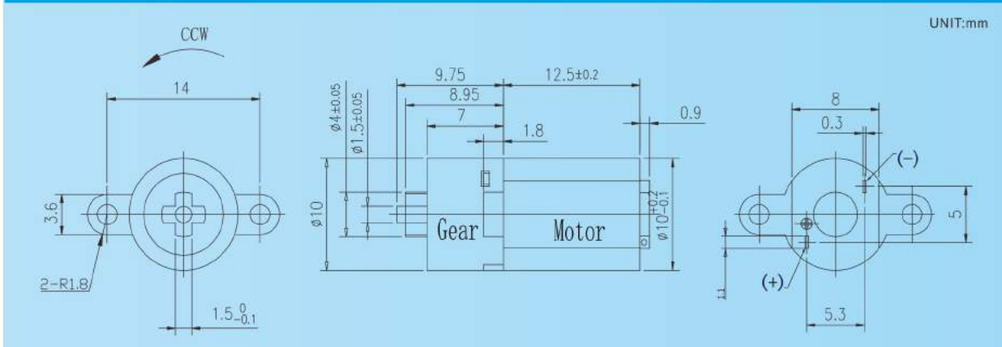
GH1007FC-1012F050-2.5

Options

Lead wires length

Special coils

Outline Drawing



GH1007RC

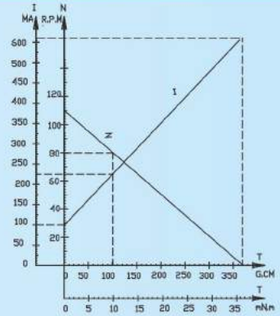
Planetary Gearbox Series

Applications: Medical equipment, security equipment, audio and visual products, high-end toys, personal health care products, etc.

Characteristics

			-1012F050-2.5	
1	Voltage	V	2.5	
2	Terminal resistance	Ω	3.7	
3	No-load speed	rpm	110	
4	No-load current	mA	100	
5	Max. torque	mNm	37.2	
6	Load torque	mNm	9.8	
7	Load speed	rpm	80	
8	Load current	mA	230	
9	Reduction ratio		1/171	
10	Weight	g	3.8	
11	Operating temperature range	℃	-10～+70	

Characteristics Curve



GH1007RC-1012F050-2.5

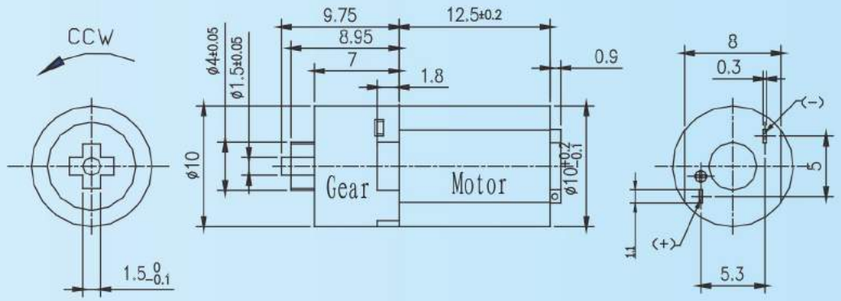
Options

Lead wires length

Special coils

Outline Drawing

UNIT:mm



GH1208RC

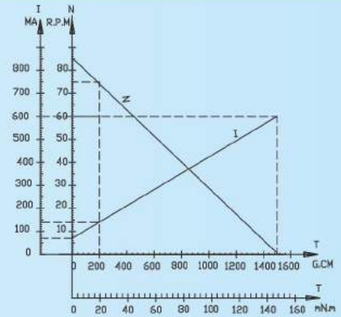
Planetary Gearbox Series

Applications: Medical equipment, security equipment, audio and visual products, high-end toys, personal health care products, etc.

Characteristics

			-1230R004-5.0	
1	Voltage	V	5	
2	Terminal resistance	Ω	7.5	
3	No-load speed	rpm	86	
4	No-load current	mA	70	
5	Max. torque	mNm	137.2	
6	Load torque	mNm	19.6	
7	Load speed	rpm	75	
8	Load current	mA	160	
9	Reduction ratio		1/120	
10	Weight	g	15	
11	Operating temperature range	℃	-10～+70	

Characteristics Curve



GH1208RC-1230R004-5.0

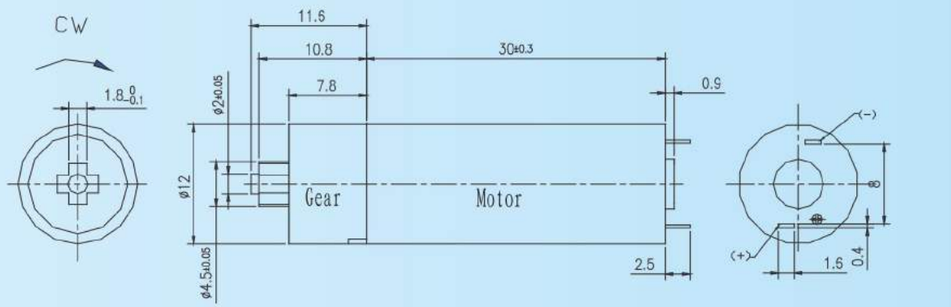
Options

Lead wires length

Special coils

Outline Drawing

UNIT:mm



GH1208FC(1)

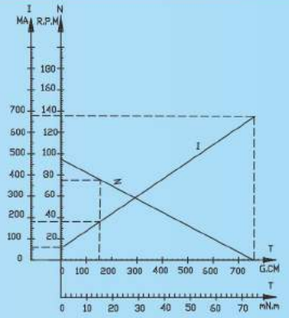
Planetary Gearbox Series

Applications: Medical equipment, security equipment, audio and visual products, high-end toys, personal health care products, etc.

Characteristics

			-1215F050-2.5	-1215F051-5.0	
1	Voltage	V	2.5	5	
2	Terminal resistance	Ω	3.5	17.8	
3	No-load speed	rpm	95	88	
4	No-load current	mA	60	35	
5	Max. torque	mNm	68.6	62.7	
6	Load torque	mNm	14.7	14.7	
7	Load speed	rpm	75	66	
8	Load current	mA	180	100	
9	Reduction ratio		1/120	1/120	
10	Weight	g	6.5	6.5	
11	Operating temperature range	℃	-10～+70	-10～+70	

Characteristics Curve



GH1208FC-1215F050-2.5

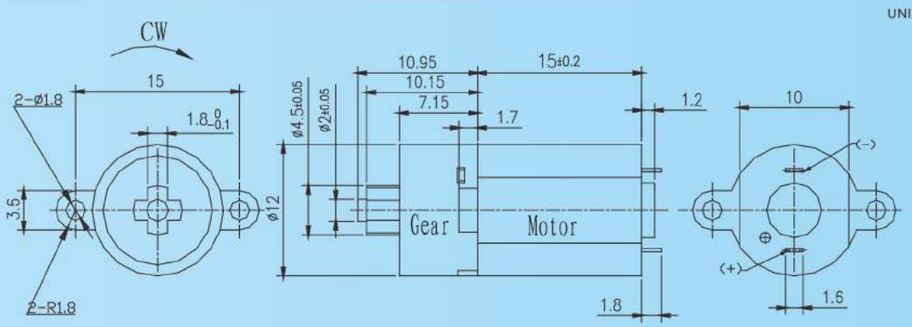
Options

Lead wires length

Special coils

Outline Drawing

UNIT:mm



GH1208FC(2)

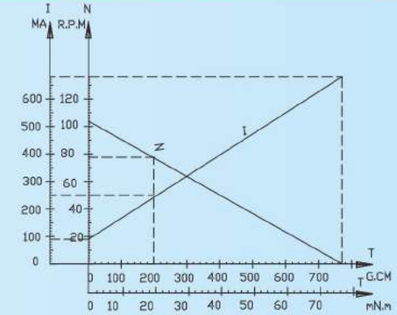
Planetary Gearbox Series

Applications: Medical equipment, security equipment, audio and visual products, high-end toys, personal health care products, etc.

Characteristics

			-1220R018-3.0	
1	Voltage	V	3	
2	Terminal resistance	Ω	4	
3	No-load speed	rpm	105	
4	No-load current	mA	100	
5	Max. torque	mNm	76.4	
6	Load torque	mNm	19.6	
7	Load speed	rpm	73	
8	Load current	mA	260	
9	Reduction ratio		1/120	
10	Weight	g	9	
11	Operating temperature range	℃	-10～+70	

Characteristics Curve



GH1208FC-1220R018-3.0

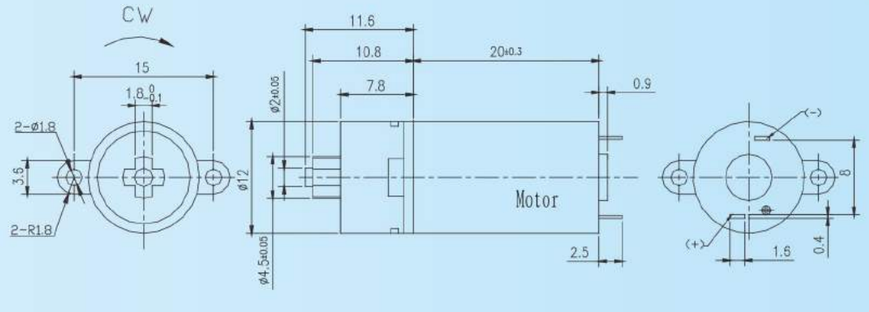
Options

Lead wires length

Special coils

Outline Drawing

UNIT:mm



GH1208FC(3)

Planetary Gearbox Series

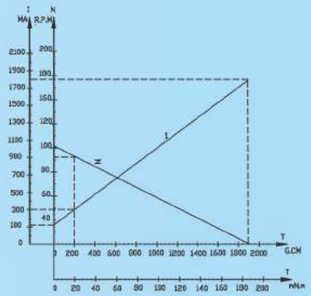
Applications: Medical equipment, security equipment, audio and visual products, high-end toys, personal health care products, etc.

Characteristics

			-1230R003-2.5	
1	Voltage	V	2.5	
2	Terminal resistance	Ω	1.2	
3	No-load speed	rpm	100	
4	No-load current	mA	150	
5	Max. torque	mNm	166.6	
6	Load torque	mNm	19.6	
7	Load speed	rpm	90	
8	Load current	mA	370	
9	Reduction ratio		1/120	
10	Weight	g	15	
11	Operating temperature range	℃	-10～+70	

Characteristics Curve

UNIT:mm



GH1208FC-1230R003-2.5

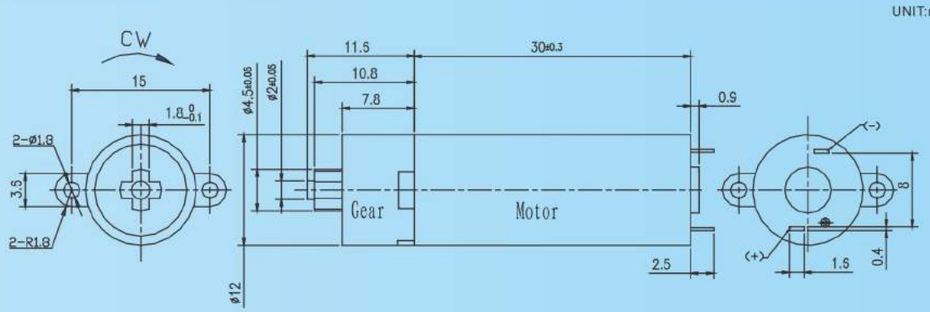
Options

Lead wires length

Special coils

Outline Drawing

UNIT:mm



GA12**F

Spur Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: -10 ～+80℃

Motor Characteristics

			1215F33-06460J-18.3	1215FE-362-1.5	
1	Voltage	V	6.0	1.5	
2	Terminal resistance	Ω	40.0	1.2	
3	No-load speed	rpm	8300	11800	
4	No-load current	mA	25	100	
5	Stall torque	mNm	0.72	1.28	
6	Stall current	mA	150	1250	
7	Nominal torque	mNm	0.35	0.60	
8	Nominal speed	rpm	4260	6287	
9	Nominal current	mA	86	637	
10	Max. output power	W	0.16	0.40	
11	Max. efficiency	%	35	51	
12	Back-EMF constant	mV/rpm	0.60	0.12	
13	Torque constant	mNm/A	5.75	1.12	
14	Speed/torque gradient	rpm/mNm	11543	9188	
15	Rotor inertia	gcm^2	0.3	0.3	
16	Weight	g	5.4	5.4	

Gearbox Characteristics

	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)	
		mNm	mNm	mm	
1	3, 5, 10	20	60	9	
2	17, 20, 30, 36	30	90	9	
3	50, 63	40	120	9	
4	100, 150, 210	50	150	9	
5	250, 298	70	200	9	
6	380, 625, 1000	80	250	11	

Other Options

Lead wires length

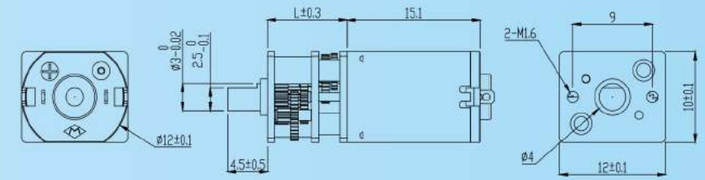
Shaft length

Special coils

Encoder

Outline Drawing

UNIT:mm



GA12**R

Spur Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: −10 ~+80℃

Motor Characteristics

			1215F33-06460J-18.3	1215FE-362-1.5
1	Voltage	V	6.0	1.5
2	Terminal resistance	Ω	40.0	1.2
3	No-load speed	rpm	8300	11800
4	No-load current	mA	25	100
5	Stall torque	mNm	0.72	1.28
6	Stall current	mA	150	1250
7	Nominal torque	mNm	0.35	0.60
8	Nominal speed	rpm	4260	6287
9	Nominal current	mA	86	637
10	Max. output power	W	0.16	0.40
11	Max. efficiency	%	35	51
12	Back-EMF constant	mV/rpm	0.60	0.12
13	Torque constant	mNm/A	5.75	1.12
14	Speed/torque gradient	rpm/mNm	11543	9188
15	Rotor inertia	gcm^2	0.3	0.3
16	Weight	g	5.4	5.4

Gearbox Characteristics

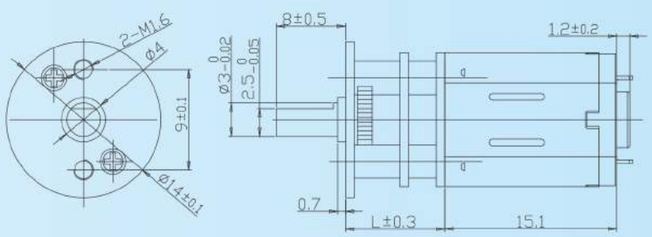
	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)
		mNm	mNm	mm
1	3, 5, 10	20	60	9
2	17, 20, 30, 36	30	90	9
3	50, 63	40	120	9
4	100, 150, 210	50	150	9
5	250, 298	70	200	9
6	380, 625, 1000	80	250	11

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing

UNIT:mm



GA13**F

Spur Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: −10 ~+80℃

Motor Characteristics

			1620F13A-11135-22.7	1620F13A-08180
1	Voltage	V	3.0	6.0
2	Terminal resistance	Ω	4.3	10.3
3	No-load speed	rpm	8270	11700
4	No-load current	mA	145	51
5	Stall torque	mNm	1.52	2.38
6	Stall current	mA	698	583
7	Nominal torque	mNm	0.70	2.10
8	Nominal speed	rpm	4453	1355
9	Nominal current	mA	400	521
10	Max. output power	W	0.33	0.73
11	Max. efficiency	%	30	50
12	Back-EMF constant	mV/rpm	0.29	0.47
13	Torque constant	mNm/A	2.74	4.47
14	Speed/torque gradient	rpm/mNm	5453	4926
15	Rotor inertia	gcm^2	0.5	0.5
16	Weight	g	11	11

Gearbox Characteristics

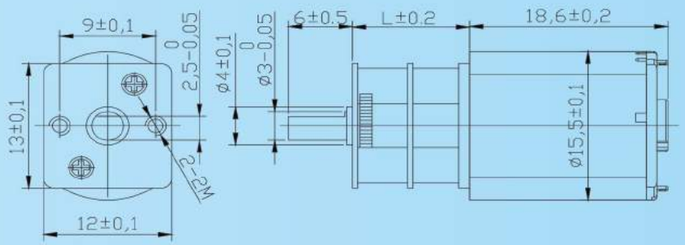
	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)
		mNm	mNm	mm
1	3,7, 10	20	60	11
2	16,17, 20, 30, 35	30	90	11
3	50, 63	40	120	11
4	70, 86	50	150	11
5	115,150	60	180	11
6	210,250	70	200	11
7	360	80	220	11

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing

UNIT:mm



GA14**F

Spur Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: −10 ~+80℃

Motor Characteristics

			1620F13A-11135-22.7	1620F13A-08180	
1	Voltage	V	3.0	6.0	
2	Terminal resistance	Ω	4.3	10.3	
3	No-load speed	rpm	8270	11700	
4	No-load current	mA	145	51	
5	Stall torque	mNm	1.52	2.38	
6	Stall current	mA	698	583	
7	Nominal torque	mNm	0.70	2.10	
8	Nominal speed	rpm	4453	1355	
9	Nominal current	mA	400	521	
10	Max. output power	W	0.33	0.73	
11	Max. efficiency	%	30	50	
12	Back-EMF constant	mV/rpm	0.29	0.47	
13	Torque constant	mNm/A	2.74	4.47	
14	Speed/torque gradient	rpm/mNm	5453	4926	
15	Rotor inertia	gcm^2	0.5	0.5	
16	Weight	g	11	11	

Gearbox Characteristics

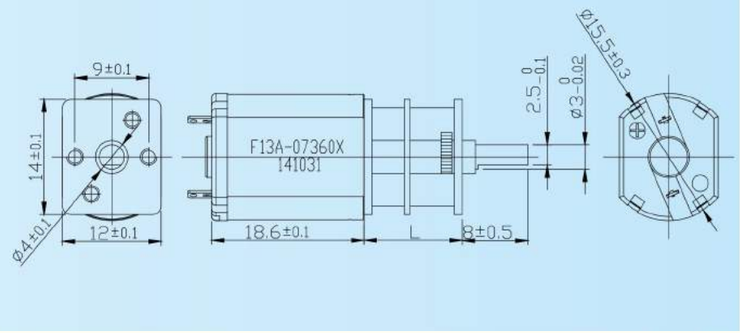
	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)	
		mNm	mNm	mm	
1	63	60	160	12	
2	115, 130, 150, 180	70	200	12	
3	210, 250, 260	80	220	12	
4	300, 350	100	270	12	

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing

UNIT:mm



GA15**R

Spur Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: −10 ~+80℃

Motor Characteristics

			1515RCN51-7P-150-18.0	
1	Voltage	V	18.0	
2	Terminal resistance	Ω	30.5	
3	No-load speed	rpm	22000	
4	No-load current	mA	30	
5	Stall torque	mNm	4.15	
6	Stall current	mA	590	
7	Nominal torque	mNm	1.80	
8	Nominal speed	rpm	12467	
9	Nominal current	mA	273	
10	Max. output power	W	2.39	
11	Max. efficiency	%	60	
12	Back-EMF constant	mV/rpm	0.78	
13	Torque constant	mNm/A	7.42	
14	Speed/torque gradient	rpm/mNm	5296	
15	Rotor inertia	gcm^2	0.8	
16	Weight	g	11	

Gearbox Characteristics

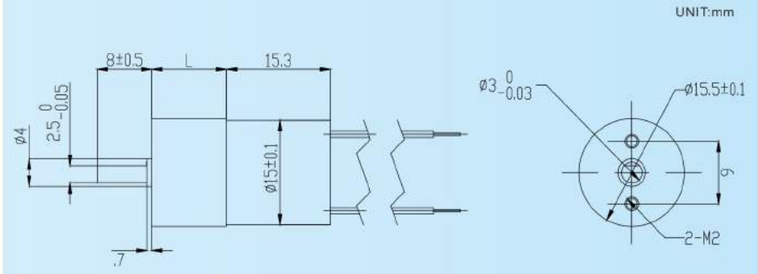
	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)	
		mNm	mNm	mm	
1	3, 7, 10	20	60	11	
2	16, 17, 20, 30, 35	30	90	11	
3	50, 63	40	120	11	
4	70, 86	50	150	11	
5	115, 150	60	180	11	
6	210, 250	70	200	11	
7	360	80	220	11	

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing

UNIT:mm



GA15**R

Spur Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: −10 ~+80℃

Motor Characteristics

			1620F13A-11135-22.7	1620F13A-08180
1	Voltage	V	3.0	6.0
2	Terminal resistance	Ω	4.3	10.3
3	No-load speed	rpm	8270	11700
4	No-load current	mA	145	51
5	Stall torque	mNm	1.52	2.38
6	Stall current	mA	698	583
7	Nominal torque	mNm	0.70	2.10
8	Nominal speed	rpm	4453	1355
9	Nominal current	mA	400	521
10	Max. output power	W	0.33	0.73
11	Max. efficiency	%	30	50
12	Back-EMF constant	mV/rpm	0.29	0.47
13	Torque constant	mNm/A	2.74	4.47
14	Speed/torque gradient	rpm/mNm	5453	4926
15	Rotor inertia	gcm^2	0.5	0.5
16	Weight	g	11	11

Gearbox Characteristics

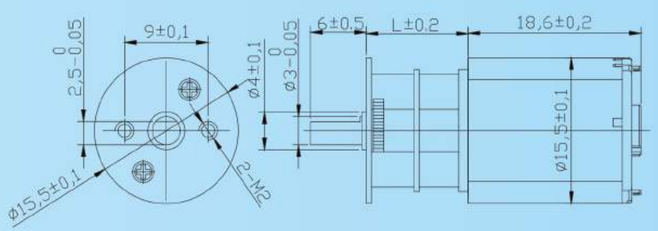
	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)
		mNm	mNm	mm
1	3, 7, 10	20	60	11
2	16, 17, 20, 30, 35	30	90	11
3	50, 63	40	120	11
4	70, 86	50	150	11
5	115, 150	60	180	11
6	210, 250	70	200	11
7	360	80	220	11

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing

UNIT:mm



GA15**R

Spur Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: −10 ~+80℃

Motor Characteristics

			1627RCN51-21P-12.0
1	Voltage	V	12.0
2	Terminal resistance	Ω	70.9
3	No-load speed	rpm	8490
4	No-load current	mA	6
5	Stall torque	mNm	2.13
6	Stall current	mA	169
7	Nominal torque	mNm	1.00
8	Nominal speed	rpm	4495
9	Nominal current	mA	83
10	Max. output power	W	0.47
11	Max. efficiency	%	66
12	Back-EMF constant	mV/rpm	1.36
13	Torque constant	mNm/A	13.02
14	Speed/torque gradient	rpm/mNm	3995
15	Rotor inertia	gcm^2	1.8
16	Weight	g	16

Gearbox Characteristics

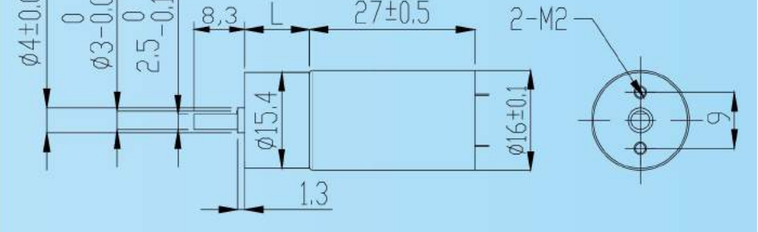
	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)
		mNm	mNm	mm
1	10	20	60	10.6
2	21, 34	30	90	10.6
3	59, 75	50	150	10.6
4	105, 146	80	240	10.6
5	203, 257, 294, 360	100	300	10.6

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing

UNIT:mm



GA20**R

Spur Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: −10 ~+80℃

Motor Characteristics

			2025F4-2442
1	Voltage	V	3.3
2	Terminal resistance	Ω	0.4
3	No-load speed	rpm	20400
4	No-load current	mA	307
5	Stall torque	mNm	11.8
6	Stall current	mA	8250
7	Nominal torque	mNm	3.20
8	Nominal speed	rpm	14874
9	Nominal current	mA	2459
10	Max. output power	W	6.31
11	Max. efficiency	%	65
12	Back-EMF constant	mV/rpm	0.16
13	Torque constant	mNm/A	1.49
14	Speed/torque gradient	rpm/mNm	1727
15	Rotor inertia	gcm²	1.8
16	Weight	g	24

Gearbox Characteristics

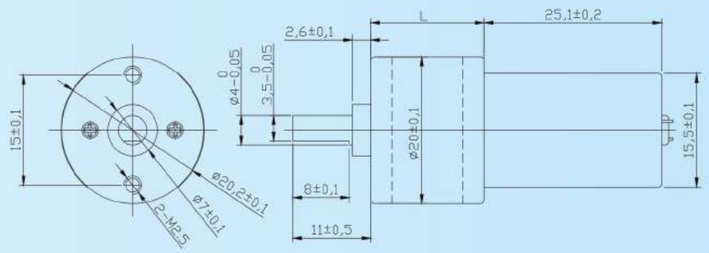
	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)
		mNm	mNm	mm
1	29, 31	60	180	15.9
2	56, 73	80	200	17.4
3	107, 140, 182	120	350	18.9
4	268, 349, 446, 488	150	450	20.4

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing

UNIT:mm



GA25**R

Spur Gearbox Series

Applications: Precision control fields like medical instrument, industrial control and so on.
Operating temperature range: −10 ~+80℃

Motor Characteristics

			2430R43-14340-38
1	Voltage	V	12.0
2	Terminal resistance	Ω	10.4
3	No-load speed	rpm	6070
4	No-load current	mA	20
5	Stall torque	mNm	21.0
6	Stall current	mA	1154
7	Nominal torque	mNm	9.00
8	Nominal speed	rpm	3473
9	Nominal current	mA	505
10	Max. output power	W	3.34
11	Max. efficiency	%	75
12	Back-EMF constant	mV/rpm	1.94
13	Torque constant	mNm/A	18.55
14	Speed/torque gradient	rpm/mNm	289
15	Rotor inertia	gcm²	10
16	Weight	g	47

Gearbox Characteristics

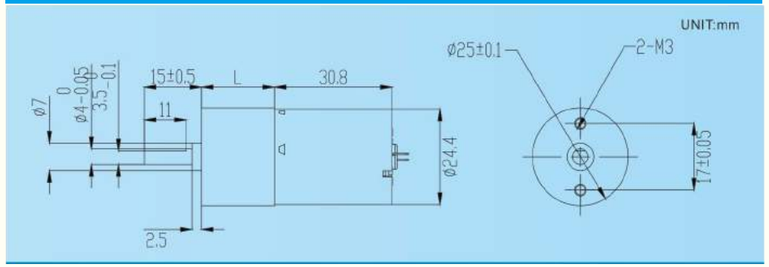
	Reduction ratio	Max. rated tuorque	Max. momentary torque	Length (L)
		mNm	mNm	mm
1	4	30	90	17
2	9	40	120	19
3	20	50	150	19
4	25	80	180	21
5	34, 45	100	300	21
6	75, 99, 103	150	450	23
7	130, 170, 226	250	600	25
8	362, 478, 500	350	700	27

Other Options

Lead wires length
Shaft length
Special coils
Encoder

Outline Drawing

UNIT:mm



벤츠가 인정하는 기술력

Precision

Servo Motor

1043N5M

Precious metal commutation

Applications: Precision control fields like medical instrument, industrial robot and so on.
Operating temperature range: −20 ~+85℃

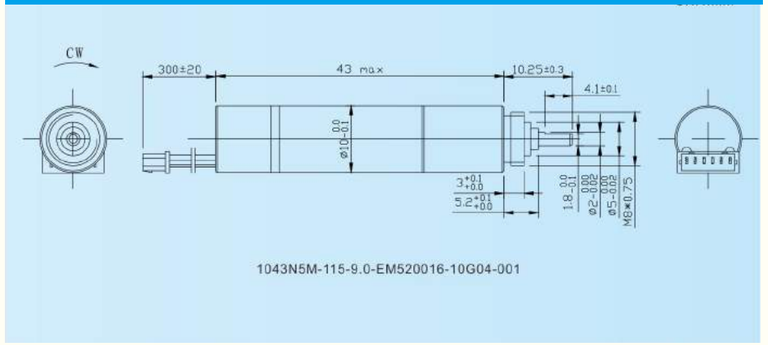
Motor Characteristics			
			1025N5M-115-12.0
1	Voltage	V	12.0
2	Terminal resistance	Ω	28.0
3	No-load speed	rpm	11500
4	No-load current	mA	10
5	Stall torque	mNm	4.17
6	Stall current	mA	429
7	Nominal torque	mNm	1.0
8	Nominal speed	rpm	8100
9	Nominal current	mA	140
10	Max. output power	W	1.26
11	Max. efficiency	%	74
12	Back-EMF constant	mV/rpm	1.02
13	Torque constant	mNm/A	9.73
14	Speed/torque gradient	rpm/mNm	2757
15	Rotor inertia	gcm^2	0.09
16	Weight	g	8

Encoder Characteristics				
1	Number of channels		2	3
2	Counts per turn	cpt	16, 32, 64	16, 32, 64
3	Supply voltage	V	5.0 (5.0)	5.0 (5.0)
4	Max. speed	rpm	30000	30000
5	Phase shift	°e	90±45	90±45
6	Output signal		TTL	TTL
7	Diameter	mm	10	10
8	Length	mm	8.5	8.5

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder channels
Encoder counts per turn

Outline Drawing



1043N5M-115-9.0-EM520016-10G04-001

1653N5M

Precious metal commutation

Applications: Precision control fields like medical instrument, industrial robot and so on.
Operating temperature range: −20 ~+85℃

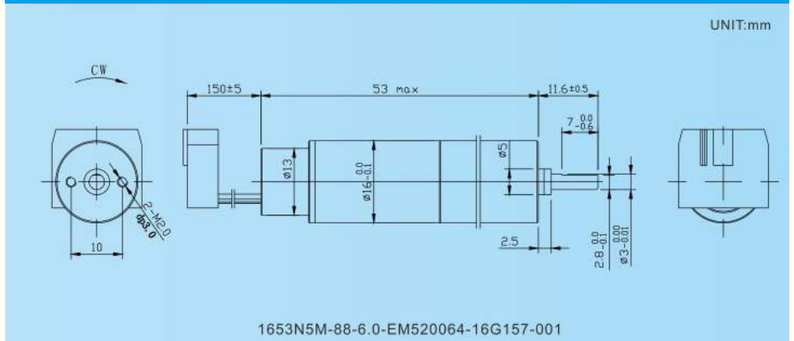
Motor Characteristics			
			1620N5M-88-6.0
1	Voltage	V	6.0
2	Terminal resistance	Ω	7.1
3	No-load speed	rpm	8800
4	No-load current	mA	20
5	Stall torque	mNm	5.37
6	Stall current	mA	845
7	Nominal torque	mNm	2.0
8	Nominal speed	rpm	5400
9	Nominal current	mA	350
10	Max. output power	W	1.24
11	Max. efficiency	%	73
12	Back-EMF constant	mV/rpm	0.67
13	Torque constant	mNm/A	6.36
14	Speed/torque gradient	rpm/mNm	1638
15	Rotor inertia	gcm^2	0.6
16	Weight	g	16.9

Encoder Characteristics				
1	Number of channels		2	3
2	Counts per turn	cpt	16, 32, 64	16, 32, 64
3	Supply voltage	V	5.0 (5.0)	5.0 (5.0)
4	Max. speed	rpm	30000	30000
5	Phase shift	°e	90±45	90±45
6	Output signal		TTL	TTL
7	Diameter	mm	13	13
8	Length	mm	8.5	8.5

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder channels
Encoder counts per turn
Bearing type

Outline Drawing



1653N5M-88-6.0-EM520064-16G157-001

1654N5C

Graphite Brush

Applications: Precision control fields like medical instrument, industrial robot and so on.
Operating temperature range: −20 ~+85℃

Motor Characteristics

			1625N5C-150-12.0
1	Voltage	V	12.0
2	Terminal resistance	Ω	13.0
3	No-load speed	rpm	15000
4	No-load current	mA	25
5	Stall torque	mNm	6.86
6	Stall current	mA	923
7	Nominal torque	mNm	3.2
8	Nominal speed	rpm	7800
9	Nominal current	mA	455
10	Max. output power	W	2.70
11	Max. efficiency	%	72
12	Back-EMF constant	mV/rpm	0.78
13	Torque constant	mNm/A	7.43
14	Speed/torque gradient	rpm/mNm	2186
15	Rotor inertia	gcm²	0.8
16	Weight	g	18.2

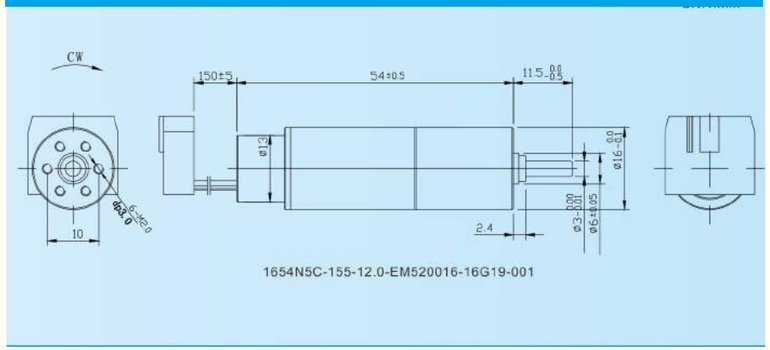
Encoder Characteristics

1	Number of channels		2	3
2	Counts per turn	cpt	16, 32, 64	16, 32, 64
3	Supply voltage	V	5.0 (5.0)	5.0 (5.0)
4	Max. speed	rpm	30000	30000
5	Phase shift	°e	90±45	90±45
6	Output signal		TTL	TTL
7	Diameter	mm	13	13
8	Length	mm	8.5	8.5

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder channels
Encoder counts per turn
Bearing type

Outline Drawing



1654N5C-155-12.0-EM520016-16G19-001

2281N5C

Graphite Brush

Applications: Precision control fields like medical instrument, industrial robot and so on.
Operating temperature range: −20 ~+85℃

Motor Characteristics

			2233N5C-76-24.0
1	Voltage	V	24.0
2	Terminal resistance	Ω	19.6
3	No-load speed	rpm	7600
4	No-load current	mA	20
5	Stall torque	mNm	36.32
6	Stall current	mA	1224
7	Nominal torque	mNm	9.8
8	Nominal speed	rpm	5510
9	Nominal current	mA	350
10	Max. output power	W	7.23
11	Max. efficiency	%	77
12	Back-EMF constant	mV/rpm	3.11
13	Torque constant	mNm/A	29.66
14	Speed/torque gradient	rpm/mNm	209
15	Rotor inertia	gcm²	4
16	Weight	g	52

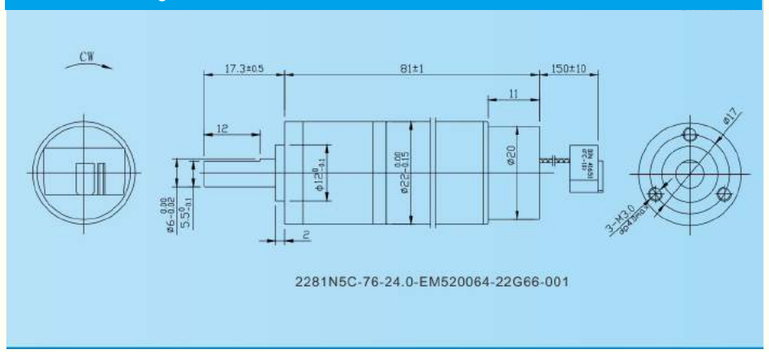
Encoder Characteristics

1	Number of channels		2	3
2	Counts per turn	cpt	16, 32, 64,128,256,512,1024	16, 32, 64,128,256,512,1024
3	Supply voltage	V	5.0 (5.0)	5.0 (5.0)
4	Max. speed	rpm	30000	30000
5	Phase shift	°e	90±45	90±45
6	Output signal		TTL	TTL
7	Diameter	mm	20	20
8	Length	mm	11	11

Options

Lead wires length
Shaft length
Special coils
Gearheads
Encoder channels
Encoder counts per turn
Bearing type

Outline Drawing



2281N5C-76-24.0-EM520064-22G66-001

벤츠가 인정하는 기술력

DC Coreless
Motor

0408RN

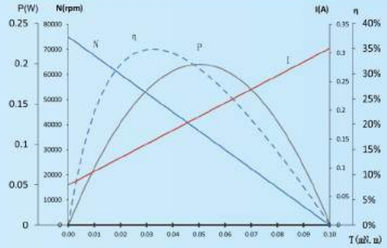
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-8-3.4	-32-3.4	-36-3.4	-70-3.4	-12-5.0(RNC)
1	Voltage	V	3.4	3.4	3.4	3.4	5.0
2	Terminal resistance	Ω	11.00	22.00	15.50	13.20	25.00
3	No-load speed	rpm	75000	58000	60000	65000	78500
4	No-load current	mA	70	40	50	60	50
5	Stall torque	mNm	0.10	0.06	0.09	0.10	0.09
6	Stall current	mA	309	155	219	258	200
7	Load torque	mNm	0.03	0.03	0.03	0.03	0.03
8	Load speed	rpm	53260	30860	40360	45240	52690
9	Load current	mA	139	94	105	120	99
10	Max. output power	W	0.20	0.10	0.14	0.17	0.19
11	Max. efficiency	%	35.5	32.6	35.4	34.9	33.4
12	Back-EMF constant	mV/rpm	0.04	0.04	0.04	0.04	0.05
13	Torque constant	mNm/A	0.33	0.41	0.42	0.38	0.46
14	Speed/torque gradient	rpm/mNm	724618	904540	654718	658632	860412
15	Rotor inertia	gcm^2	0.003	0.003	0.003	0.003	0.003
16	Weight	g	0.5	0.5	0.5	0.5	0.5
17	Operating temperature range	℃	-20～+65	-20～+65	-20～+65	-20～+65	-20～+60

Characteristics Curve

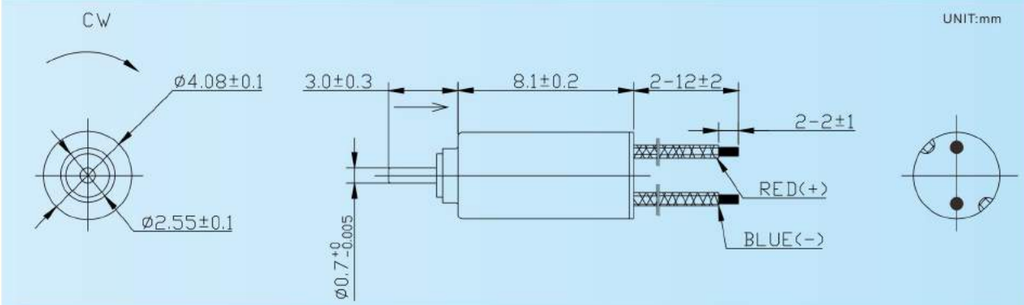


Model: 0408RN-8c-12-3.4

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0410RN

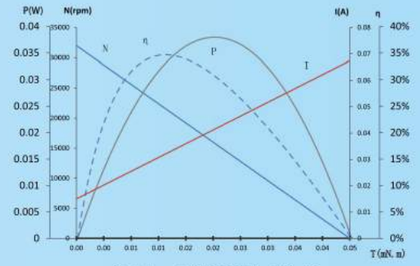
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-30-3.0
1	Voltage	V	3
2	Terminal resistance	Ω	45
3	No-load speed	rpm	32000
4	No-load current	mA	15
5	Stall torque	mNm	0.05
6	Stall current	mA	67
7	Load torque	mNm	0.03
8	Load speed	rpm	11250
9	Load current	mA	49
10	Max. output power	W	0.04
11	Max. efficiency	%	35.7
12	Back-EMF constant	mV/rpm	0.07
13	Torque constant	mNm/A	0.69
14	Speed/torque gradient	rpm/mNm	691826
15	Rotor inertia	gcm^2	0.004
16	Weight	g	0.6
17	Operating temperature range	℃	-20～+60

Characteristics Curve

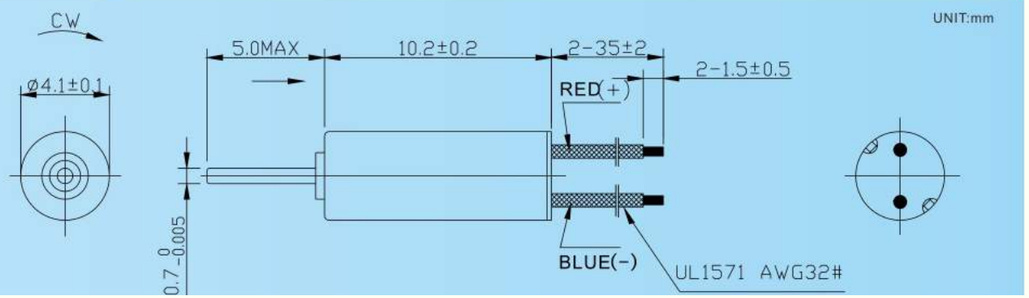


Model: 0410R1N04-30M-35

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0412RN

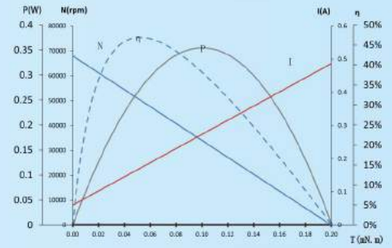
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-71-3.4	-65-3.4	-60-3.4	-75-3.4
1	Voltage	V	3.4	3.4	3.4	3.4
2	Terminal resistance	Ω	7.00	8.30	8.70	20.00
3	No-load speed	rpm	68000	65000	60000	43000
4	No-load current	mA	60	55	50	30
5	Stall torque	mNm	0.20	0.18	0.18	0.11
6	Stall current	mA	486	410	391	170
7	Load torque	mNm	0.03	0.03	0.03	0.03
8	Load speed	rpm	57960	53990	50240	30800
9	Load current	mA	123	115	105	70
10	Max. output power	W	0.36	0.30	0.29	0.12
11	Max. efficiency	%	48.04	46.42	47.36	40.88
12	Back-EMF constant	mV/rpm	0.04	0.05	0.05	0.07
13	Torque constant	mNm/A	0.42	0.43	0.47	0.62
14	Speed/torque gradient	rpm/mNm	334541	366936	325347	406779
15	Rotor inertia	gcm^2	0.005	0.005	0.005	0.005
16	Weight	g	0.8	0.8	0.7	0.7
17	Operating temperature range	℃	-20～+65	-20～+65	-20～+65	-20～+60

Characteristics Curve

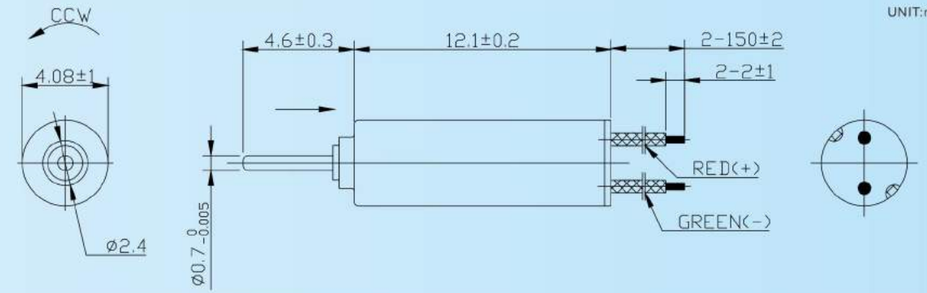


Model：0412RNB-71-150A3C-3.4

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0510RN

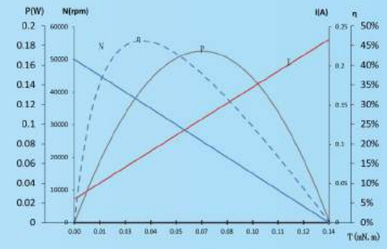
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-1-3.5	-1-4.2
1	Voltage	V	3.5	4.2
2	Terminal resistance	Ω	15.00	15.00
3	No-load speed	rpm	50000	55000
4	No-load current	mA	30	40
5	Stall torque	mNm	0.14	0.18
6	Stall current	mA	233	280
7	Load torque	mNm	0.03	0.03
8	Load speed	rpm	38960	45570
9	Load current	mA	75	81
10	Max. output power	W	0.18	0.25
11	Max. efficiency	%	47.26	45.19
12	Back-EMF constant	mV/rpm	0.06	0.07
13	Torque constant	mNm/A	0.58	0.63
14	Speed/torque gradient	rpm/mNm	367868	314263
15	Rotor inertia	gcm^2	0.006	0.006
16	Weight	g	0.8	0.8
17	Operating temperature range	℃	-20～+65	-20～+65

Characteristics Curve

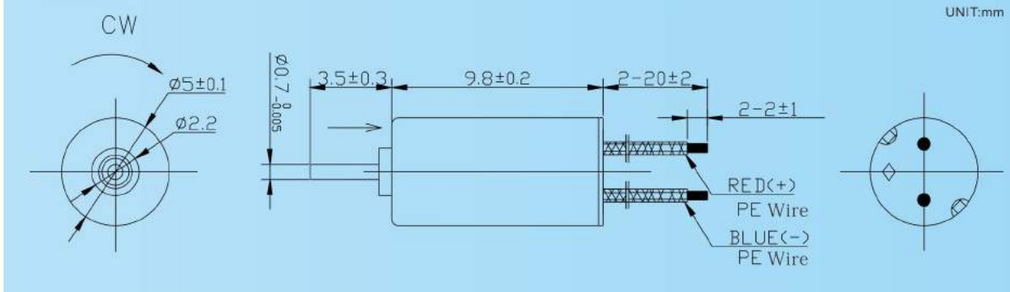


Model：0510RN-1-20N-3.5

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0609RN

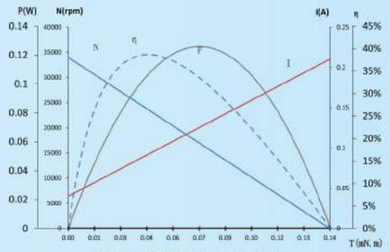
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-58-3.0	-9-3.0			
1	Voltage	V	3.0	3.0			
2	Terminal resistance	Ω	14.20	7.80			
3	No-load speed	rpm	34000	49000			
4	No-load current	mA	40	50			
5	Stall torque	mNm	0.14	0.20			
6	Stall current	mA	211	385			
7	Load torque	mNm	0.05	0.05			
8	Load speed	rpm	22220	36480			
9	Load current	mA	99	136			
10	Max. output power	W	0.13	0.25			
11	Max. efficiency	%	39.40	47.05			
12	Back-EMF constant	mV/rpm	0.07	0.05			
13	Torque constant	mNm/A	0.68	0.51			
14	Speed/torque gradient	rpm/mNm	235608	250469			
15	Rotor inertia	gcm^2	0.008	0.008			
16	Weight	g	1	1			
17	Operating temperature range	℃	-20～+85	-20～+85			

Characteristics Curve



Model: 0609RN01-58hM-20GN

Options

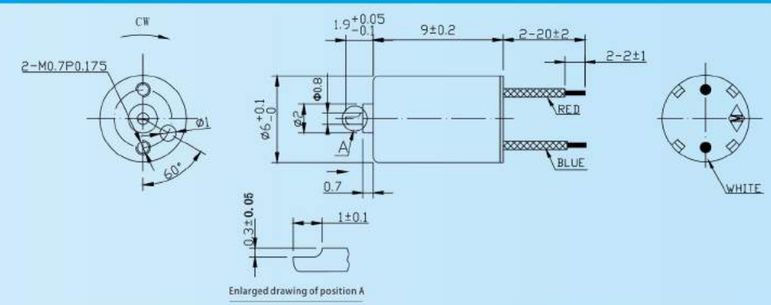
Lead wires length

Shaft length

Special coils

Gearheads

Outline Drawing



0610RN55

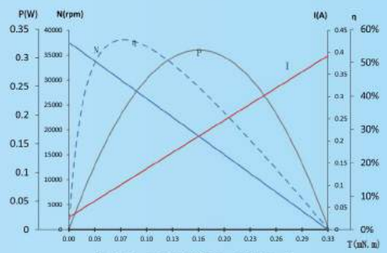
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-8-3.5	-11-5.0	-22-3.4	-5-3.2	-49-3.5
1	Voltage	V	3.5	5.0	3.4	3.2	3.5
2	Terminal resistance	Ω	8.90	7.10	2.70	3.80	35.70
3	No-load speed	rpm	37550	58500	66500	55000	21000
4	No-load current	mA	28	45	100	85	20
5	Stall torque	mNm	0.33	0.54	0.57	0.42	0.12
6	Stall current	mA	393	704	1259	842	98
7	Load torque	mNm	0.05	0.05	0.05	0.05	0.05
8	Load speed	rpm	31780	53060	60630	48460	12550
9	Load current	mA	84	106	202	175	51
10	Max. output power	W	0.32	0.82	0.99	0.61	0.07
11	Max. efficiency	%	57.93	59.71	56.09	51.83	37.81
12	Back-EMF constant	mV/rpm	0.09	0.08	0.05	0.05	0.13
13	Torque constant	mNm/A	0.83	0.76	0.45	0.50	1.27
14	Speed/torque gradient	rpm/mNm	115500	108727	117493	130752	169078
15	Rotor inertia	gcm^2	0.01	0.01	0.01	0.01	0.01
16	Weight	g	1.2	1.2	1.2	1.3	1.2
17	Operating temperature range	℃	-20～+60	-20～+85	-20～+60	-20～+60	-20～+60

Characteristics Curve



Model: 0610RN55-8-30A1-3.5

Options

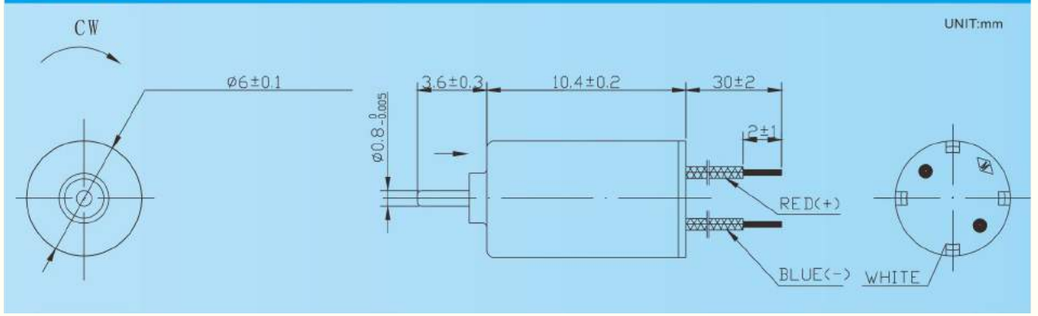
Lead wires length

Shaft length

Special coils

Gearheads

Outline Drawing



0612RN

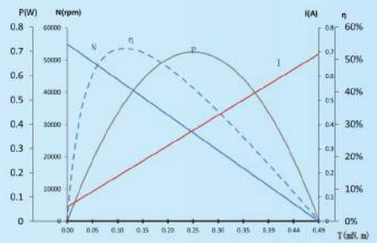
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-8-4.5	-90-3.0
1	Voltage	V	4.5	3.0
2	Terminal resistance	Ω	6.50	39.00
3	No-load speed	rpm	55000	16030
4	No-load current	mA	60	8
5	Stall torque	mNm	0.49	0.12
6	Stall current	mA	692	77
7	Load torque	mNm	0.05	0.05
8	Load speed	rpm	49430	9520
9	Load current	mA	124	36
10	Max. output power	W	0.71	0.05
11	Max. efficiency	%	54.57	51.28
12	Back-EMF constant	mV/rpm	0.07	0.17
13	Torque constant	mNm/A	0.71	1.60
14	Speed/torque gradient	rpm/mNm	111330	130140
15	Rotor inertia	gcm^2	0.014	0.014
16	Weight	g	1.3	1.3
17	Operating temperature range	℃	-20～+85	-20～+60

Characteristics Curve

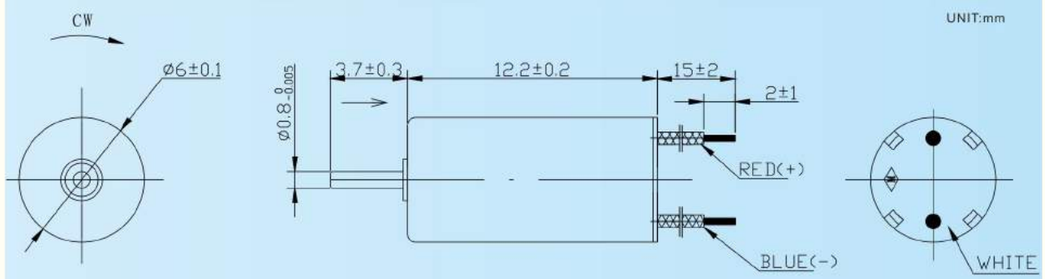


Model：0612RN01-8-15A11-4.5

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0612RN57

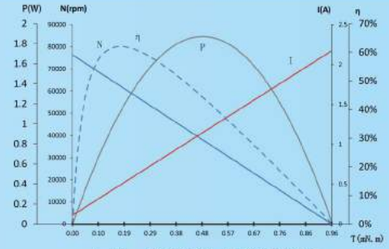
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-55-3.7	-20-3.2	-78-3.7	-64-4.5
1	Voltage	V	3.7	3.2	3.7	4.5
2	Terminal resistance	Ω	1.70	2.20	2.00	6.70
3	No-load speed	rpm	76400	50000	73000	44000
4	No-load current	mA	110	80	90	43
5	Stall torque	mNm	0.96	0.84	0.85	0.61
6	Stall current	mA	2176	1455	1850	672
7	Load torque	mNm	0.05	0.05	0.05	0.05
8	Load speed	rpm	72400	47020	68720	40420
9	Load current	mA	218	162	193	94
10	Max. output power	W	1.91	1.10	1.63	0.71
11	Max. efficiency	%	63.35	62.07	63.92	59.67
12	Back-EMF constant	mV/rpm	0.05	0.06	0.05	0.10
13	Torque constant	mNm/A	0.44	0.58	0.46	0.91
14	Speed/torque gradient	rpm/mNm	79944	59520	85696	71667
15	Rotor inertia	gcm^2	0.014	0.014	0.014	0.014
16	Weight	g	1.3	1.3	1.3	1.3
17	Operating temperature range	℃	-20～+65	-20～+65	-20～+65	-20～+65

Characteristics Curve

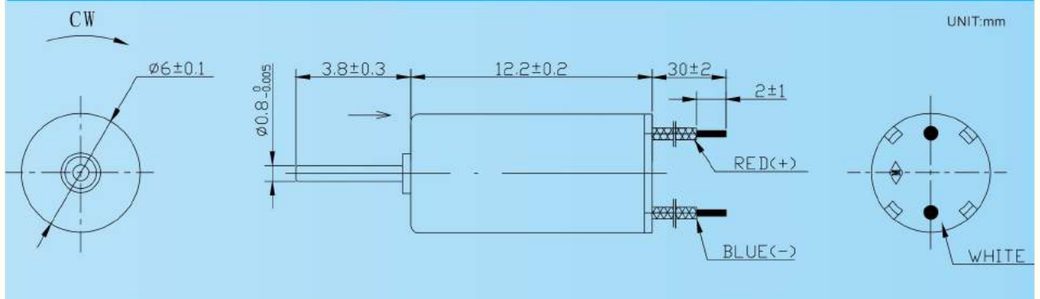


Model：0612RN57L-55-30A1L7-3.7

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0614RN53

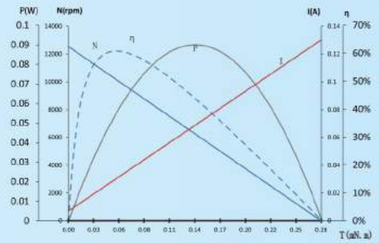
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-44-3.0	-6-3.4(A)	-28-3.4(B)	-60-3.4(B)	-67-3.4(A)	-77-3.4(B)
1	Voltage	V	3.0	3.4	3.4	3.4	3.4	3.4
2	Terminal resistance	Ω	23.10	3.70	2.60	2.95	1.70	1.85
3	No-load speed	rpm	12540	33280	40850	36400	53500	50000
4	No-load current	mA	7.4	37	50	40	75	60
5	Stall torque	mNm	0.28	0.86	1.00	0.99	1.17	1.15
6	Stall current	mA	130	919	1308	1153	2000	1838
7	Load torque	mNm	0.05	0.1	0.1	0.1	0.1	0.1
8	Load speed	rpm	10300	29410	36760	32730	48920	45670
9	Load current	mA	29	140	176	152	240	214
10	Max. output power	W	0.09	0.75	1.07	0.95	1.64	1.51
11	Max. efficiency	%	61.52	66.64	67.36	68.66	67.62	69.46
12	Back-EMF constant	mV/rpm	0.23	0.10	0.08	0.09	0.06	0.07
13	Torque constant	mNm/A	2.15	0.94	0.76	0.86	0.58	0.63
14	Speed/torque gradient	rpm/mNm	44820	38680	40866	36681	45796	43311
15	Rotor inertia	gcm^2	0.016	0.016	0.016	0.016	0.016	0.016
16	Weight	g	1.7	1.7	1.7	1.7	1.7	1.7
17	Operating temperature range	℃	-20～+55	-20～+85	-20～+60	-20～+60	-20～+85	-20～+85

Characteristics Curve

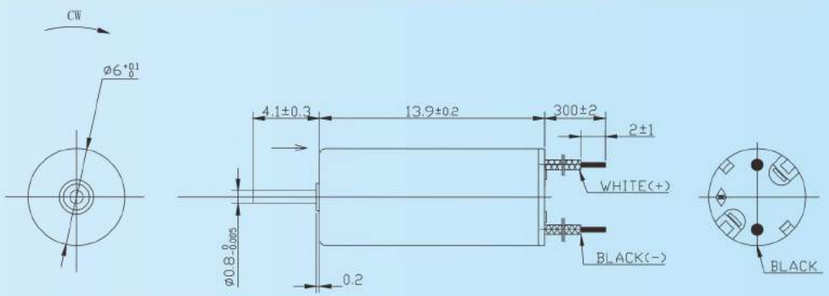


Model： 0614RN53C-44-300J2B-3.0

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0615RN57

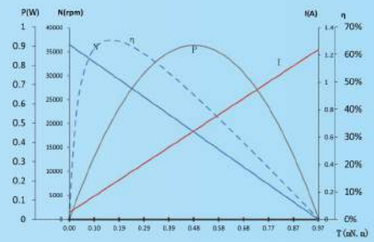
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-25-3.1	-29-3.1	-35-3.1	-37-3.1	-49-3.1	-13-3.1
1	Voltage	V	3.1	3.1	3.1	3.1	3.1	3.1
2	Terminal resistance	Ω	2.50	2.20	1.50	1.90	1.60	1.15
3	No-load speed	rpm	36500	38000	47500	44000	45110	53400
4	No-load current	mA	50	52	75	55	70	100
5	Stall torque	mNm	0.97	1.06	1.24	1.06	1.23	1.44
6	Stall current	mA	1240	1409	2067	1632	1938	2696
7	Load torque	mNm	0.15	0.15	0.15	0.15	0.15	0.15
8	Load speed	rpm	30830	32610	41760	37780	39590	47830
9	Load current	mA	235	245	316	278	299	371
10	Max. output power	W	0.92	1.05	1.55	1.22	1.45	2.01
11	Max. efficiency	%	66.62	67.84	68.07	69.05	68.13	67.77
12	Back-EMF constant	mV/rpm	0.08	0.08	0.06	0.07	0.07	0.06
13	Torque constant	mNm/A	0.78	0.75	0.60	0.65	0.63	0.53
14	Speed/torque gradient	rpm/mNm	37819	35944	38268	41482	36809	37111
15	Rotor inertia	gcm^2	0.016	0.016	0.016	0.016	0.016	0.016
16	Weight	g	1.8	1.8	1.8	1.8	1.8	1.8
17	Operating temperature range	℃	-20～+85	-20～+85	-20～+85	-20～+85	-20～+85	-20～+85

Characteristics Curve

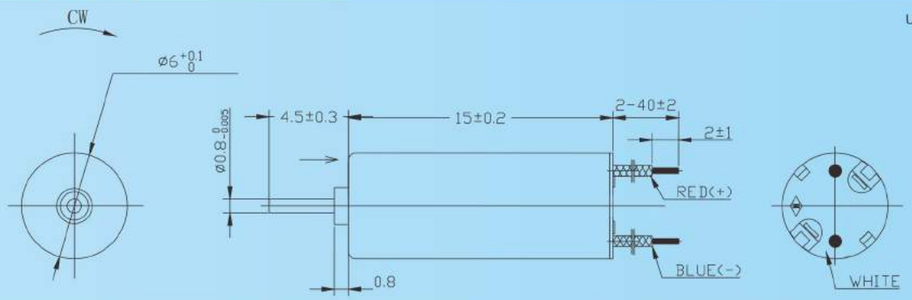


Model： 0615RN57A-25-40H2-3.1

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0710RN

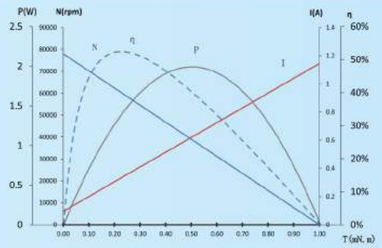
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-61-8.0	-64-8.0
1	Voltage	V	8	8
2	Terminal resistance	Ω	7.2	8.1
3	No-load speed	rpm	78000	74000
4	No-load current	mA	95	80
5	Stall torque	mNm	1.00	0.94
6	Stall current	mA	1111	988
7	Load torque	mNm	0.55	0.55
8	Load speed	rpm	34890	30560
9	Load current	mA	657	613
10	Max. output power	W	2.03	1.82
11	Max. efficiency	%	54.81	55.75
12	Back-EMF constant	mV/rpm	0.09	0.10
13	Torque constant	mNm/A	0.90	0.95
14	Speed/torque gradient	rpm/mNm	78377	78974
15	Rotor inertia	gcm^2	0.02	0.02
16	Weight	g	1.6	1.6
17	Operating temperature range	℃	-20～+65	-20～+65

Characteristics Curve

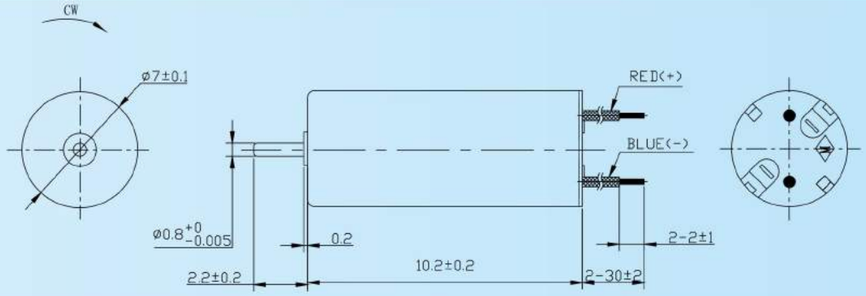


Model：0710R2N57-61-30L102-8.0

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0714RN

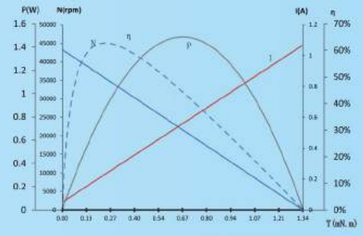
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-61-8.0	-64-8.0	-18-7.4
1	Voltage	V	6	7.4	7.4
2	Terminal resistance	Ω	5.65	6.44	12.1
3	No-load speed	rpm	43300	42600	30450
4	No-load current	mA	50	40	30
5	Stall torque	mNm	1.34	1.84	1.35
6	Stall current	mA	1062	1149	612
7	Load torque	mNm	0.50	0.50	0.50
8	Load speed	rpm	27130	31020	19170
9	Load current	mA	428	341	245
10	Max. output power	W	1.52	2.05	1.08
11	Max. efficiency	%	64.41	68.62	63.80
12	Back-EMF constant	mV/rpm	0.13	0.17	0.23
13	Torque constant	mNm/A	1.26	1.60	2.21
14	Speed/torque gradient	rpm/mNm	32337	23156	22562
15	Rotor inertia	gcm^2	0.04	0.04	0.04
16	Weight	g	2.2	2.2	2.2
17	Operating temperature range	℃	-20～+65	-20～+65	-20~+65

Characteristics Curve

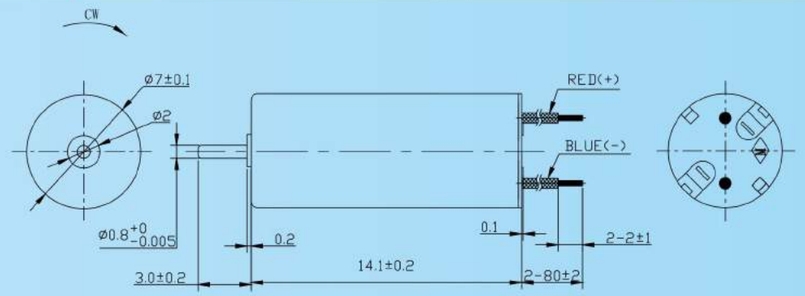


Model：0714R2N57-15-80E1AL73-6.0

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0716RN

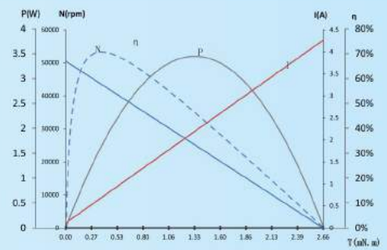
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-61-8.0	-64-8.0	-94-3.2	-81-3.4	-31-3.4
1	Voltage	V	3.4	3.4	3.2	3.4	3.4
2	Terminal resistance	Ω	0.8	0.9	1.1	0.85	0.66
3	No-load speed	rpm	50500	48000	43000	47500	43000
4	No-load current	mA	110	100	90	100	90
5	Stall torque	mNm	2.66	2.49	2.00	2.67	3.82
6	Stall current	mA	4250	3778	2909	4000	5152
7	Load torque	mNm	0.50	0.50	0.50	0.50	0.50
8	Load speed	rpm	41010	38350	32270	38590	37370
9	Load current	mA	888	839	794	831	752
10	Max. output power	W	3.52	3.13	2.26	3.32	4.31
11	Max. efficiency	%	72.36	72.09	70.16	72.77	76.73
12	Back-EMF constant	mV/rpm	0.07	0.07	0.07	0.07	0.08
13	Torque constant	mNm/A	0.63	0.66	0.69	0.67	0.74
14	Speed/torque gradient	rpm/mNm	18973	19295	21464	17819	11251
15	Rotor inertia	gcm^2	0.05	0.05	0.05	0.05	0.05
16	Weight	g	2.5	2.5	2.5	2.8	2.8
17	Operating temperature range	℃	-20～+85	-20～+85	-20~+85	-20~+85	-20~+85

Characteristics Curve

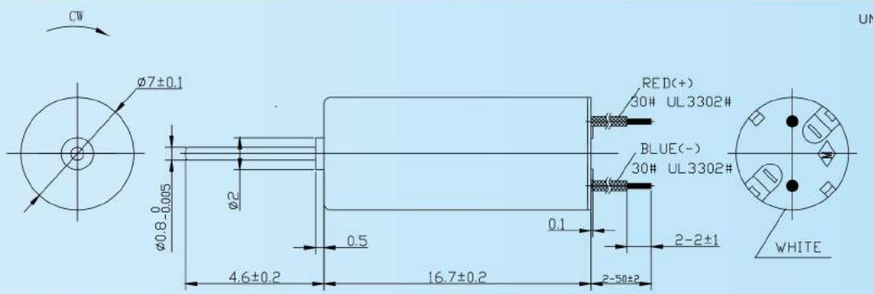


Model：0716R2N57-11g-50E1AL22-3.4

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0720RN

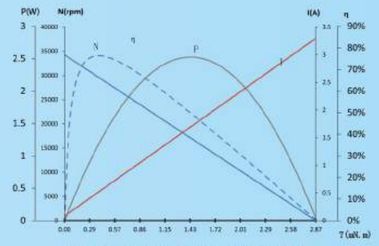
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-61-8.0	-64-8.0	-33-3.0	-39-3.0	-42-3.0
1	Voltage	V	3.2	3.4	3	3	3
2	Terminal resistance	Ω	0.97	0.73	0.67	0.59	0.51
3	No-load speed	rpm	34300	37160	42370	42300	44860
4	No-load current	mA	80	100	100	120	190
5	Stall torque	mNm	2.87	3.98	2.96	3.36	3.64
6	Stall current	mA	3299	4658	4478	5085	5882
7	Load torque	mNm	0.50	0.50	0.50	0.50	0.50
8	Load speed	rpm	28320	32490	35210	36010	38690
9	Load current	mA	641	672	839	858	973
10	Max. output power	W	2.58	3.88	3.29	3.73	4.27
11	Max. efficiency	%	73.13	74.52	74.07	73.44	69.60
12	Back-EMF constant	mV/rpm	0.09	0.09	0.07	0.07	0.06
13	Torque constant	mNm/A	0.87	0.85	0.66	0.66	0.62
14	Speed/torque gradient	rpm/mNm	11961	9332	14315	12580	12341
15	Rotor inertia	gcm^2	0.06	0.06	0.06	0.06	0.06
16	Weight	g	3.3	3.9	3.9	3.9	3.9
17	Operating temperature range	℃	-20～+85	-20～+85	-20~+85	-20~+85	-20~+85

Characteristics Curve



Model：0720R2N57-47-65E7AL52-3.2

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing

X0816RN

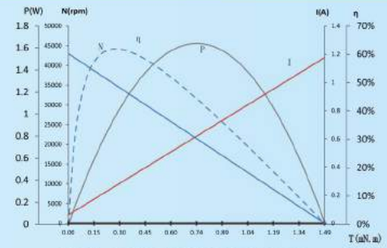
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-13-6.0	-6-5.0
1	Voltage	V	6	5
2	Terminal resistance	Ω	5.1	2.65
3	No-load speed	rpm	43000	35700
4	No-load current	mA	60	40
5	Stall torque	mNm	1.49	2.47
6	Stall current	mA	1176	1887
7	Load torque	mNm	0.5	0.5
8	Load speed	rpm	28550	28470
9	Load current	mA	435	414
10	Max. output power	W	1.68	2.31
11	Max. efficiency	%	63.22	74.66
12	Back-EMF constant	mV/rpm	0.13	0.14
13	Torque constant	mNm/A	1.26	1.31
14	Speed/torque gradient	rpm/mNm	28905	14454
15	Rotor inertia	gcm^2	0.07	0.07
16	Weight	g	3.1	3.1
17	Operating temperature range	℃	-20～+85	-20～+85

Characteristics Curve

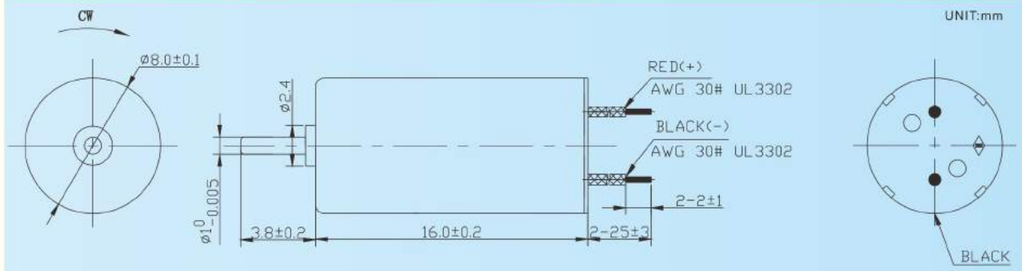


Model: X0816R2N57-13-25A3AL97-6.0

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0820RN

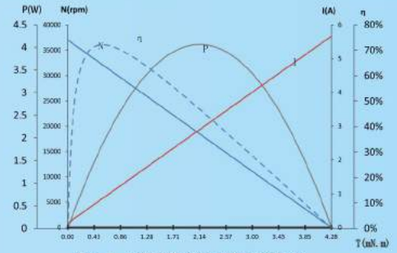
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-10-3.0	-14-3.0	-1-3.4	-59-3.0	-45-3.0
1	Voltage	V	3	3	3.4	3	3
2	Terminal resistance	Ω	0.53	0.67	0.35	0.45	0.38
3	No-load speed	rpm	37000	32500	51000	36700	45700
4	No-load current	mA	130	90	200	130	170
5	Stall torque	mNm	4.28	3.87	6.06	5.10	4.84
6	Stall current	mA	5660	4478	9714	6667	7895
7	Load torque	mNm	1.0	1.0	1.0	1.0	1.0
8	Load speed	rpm	28360	24100	42580	29510	36260
9	Load current	mA	1422	1224	1771	1411	1765
10	Max. output power	W	4.15	3.29	8.10	4.91	5.80
11	Max. efficiency	%	73.75	75.24	74.98	75.57	74.48
12	Back-EMF constant	mV/rpm	0.08	0.09	0.07	0.08	0.06
13	Torque constant	mNm/A	0.76	0.86	0.62	0.77	0.61
14	Speed/torque gradient	rpm/mNm	8641	8403	8420	7193	9437
15	Rotor inertia	gcm^2	0.08	0.08	0.08	0.08	0.08
16	Weight	g	4.85	4.85	5.2	5.2	4.85
17	Operating temperature range	℃	-20～+85	-20～+85	-20～+85	-20～+85	-20～+85

Characteristics Curve



Model: 0820R2N57A4-10M-50C1AL98

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing

X0820RN

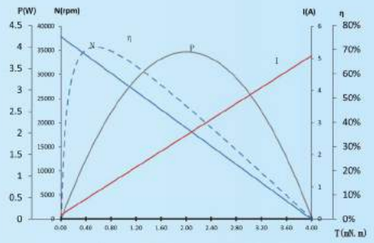
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-12-3.0	-14-3.0	-15-3.0	-23-3.7
1	Voltage	V	3.2	3.4	3.0	3.7
2	Terminal resistance	Ω	0.63	0.5	0.45	3.95
3	No-load speed	rpm	37850	49000	46500	15100
4	No-load current	mA	130	180	200	30
5	Stall torque	mNm	4.00	4.39	3.98	2.12
6	Stall current	mA	5079	6800	6667	937
7	Load torque	mNm	0.5	0.5	0.5	0.5
8	Load speed	rpm	33110	43410	40660	11540
9	Load current	mA	749	935	1012	244
10	Max. output power	W	3.96	5.63	4.85	0.84
11	Max. efficiency	%	72.49	72.09	70.55	69.71
12	Back-EMF constant	mV/rpm	0.08	0.07	0.06	0.24
13	Torque constant	mNm/A	0.79	0.65	0.60	2.26
14	Speed/torque gradient	rpm/mNm	9472	11171	11672	7117
15	Rotor inertia	gcm^2	0.07	0.07	0.07	0.07
16	Weight	g	4.2	4.2	4.2	4.2
17	Operating temperature range	℃	-20～+85	-20～+85	-20～+85	-20～+85

Characteristics Curve

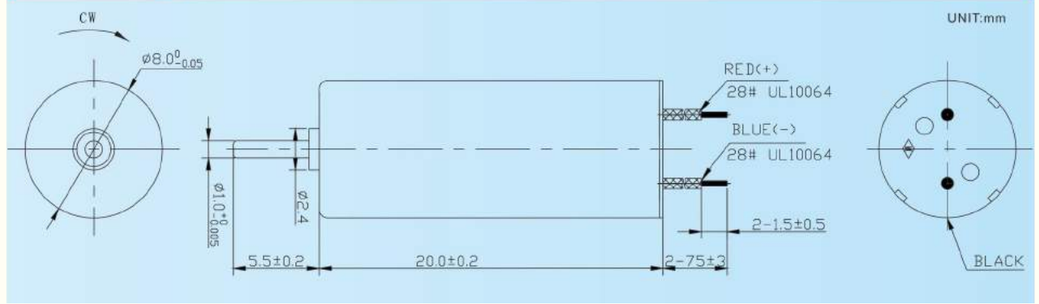


Model： X0820R2N57-10-75A6C-3.2

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



0823RN

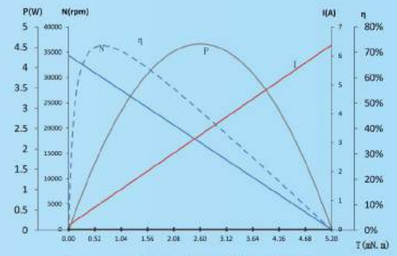
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-12-3.0	-14-3.0
1	Voltage	V	3	3
2	Terminal resistance	Ω	0.47	0.45
3	No-load speed	rpm	34400	36700
4	No-load current	mA	140	160
5	Stall torque	mNm	5.20	5.08
6	Stall current	mA	6383	6667
7	Load torque	mNm	1.0	1.0
8	Load speed	rpm	27780	29470
9	Load current	mA	1341	1441
10	Max. output power	W	4.69	4.88
11	Max. efficiency	%	74.28	73.25
12	Back-EMF constant	mV/rpm	0.09	0.08
13	Torque constant	mNm/A	0.81	0.76
14	Speed/torque gradient	rpm/mNm	6617	7226
15	Rotor inertia	gcm^2	0.09	0.09
16	Weight	g	5.6	5.6
17	Operating temperature range	℃	-20～+85	-20～+85

Characteristics Curve

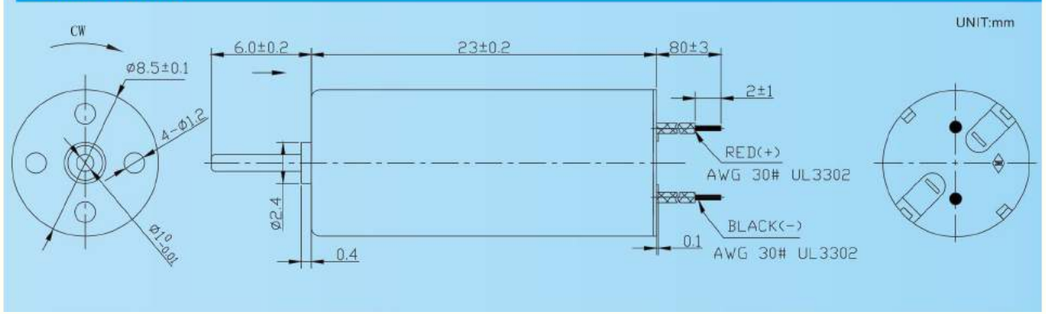


Model： 0823RN57A4-12-80C1AL103-3.0

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1013RN

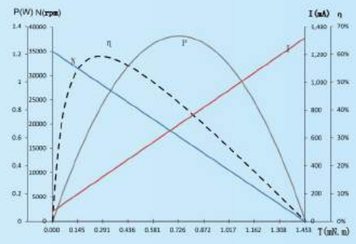
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-10-4.5	-16-3.0
1	Voltage	V	4.5	3.0
2	Terminal resistance	Ω	3.6	20.0
3	No-load speed	rpm	35000	11800
4	No-load current	mA	70	15
5	Stall torque	mNm	1.45	0.33
6	Stall current	mA	1250	150
7	Load torque	mNm	0.3	0.1
8	Load speed	rpm	27750	8200
9	Load current	mA	310	60
10	Max. output power	W	1.3	0.1
11	Max. efficiency	%	62	52
12	Back-EMF constant	mV/rpm	0.1	0.2
13	Torque constant	mNm/A	1.2	2.2
14	Speed/torque gradient	rpm/mNm	24160	36000
15	Rotor inertia	gcm^2	0.06	0.05
16	Weight	g	4.2	4.2
17	Operating temperature range	℃	-20～+65	-20～+65

Characteristics Curve

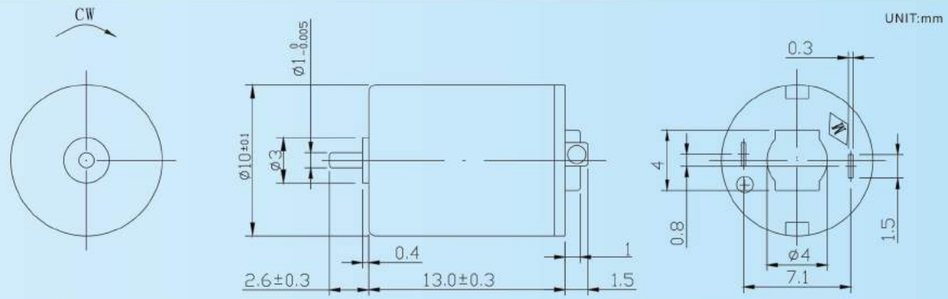


Model：1013RN01-10L97-4.5

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1015RN

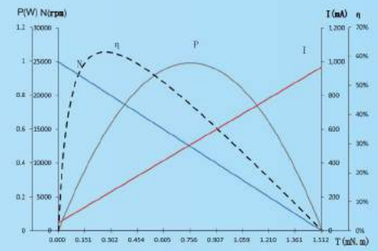
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-64-4.5
1	Voltage	V	4.5
2	Terminal resistance	Ω	4.7
3	No-load speed	rpm	26000
4	No-load current	mA	45
5	Stall torque	mNm	1.51
6	Stall current	mA	960
7	Load torque	mNm	0.5
8	Load speed	rpm	17400
9	Load current	mA	350
10	Max. output power	W	1.0
11	Max. efficiency	%	64
12	Back-EMF constant	mV/rpm	0.2
13	Torque constant	mNm/A	1.6
14	Speed/torque gradient	rpm/mNm	17190
15	Rotor inertia	gcm^2	0.07
16	Weight	g	5.1
17	Operating temperature range	℃	-20～+65

Characteristics Curve

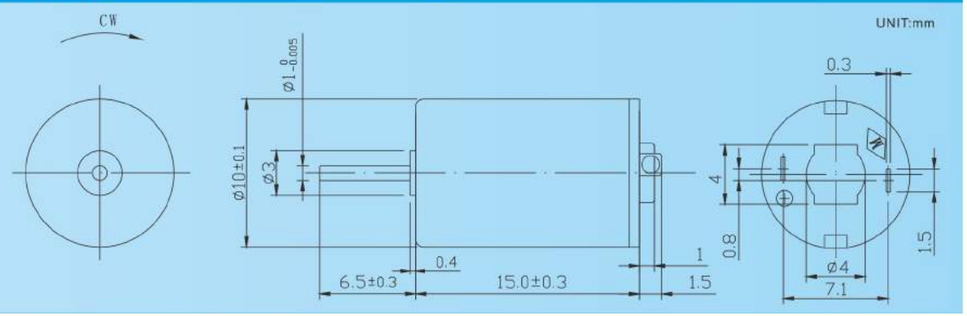


Model：1015RN01-64L13-4.5

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1020RN

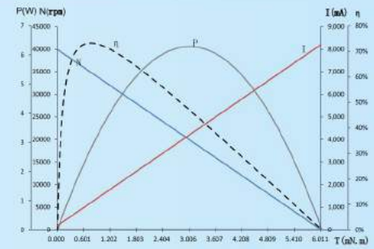
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-47-3.2
1	Voltage	V	3.2
2	Terminal resistance	Ω	0.4
3	No-load speed	rpm	40000
4	No-load current	mA	170
5	Stall torque	mNm	6.0
6	Stall current	mA	8000
7	Load torque	mNm	1.5
8	Load speed	rpm	29970
9	Load current	mA	2130
10	Max. output power	W	6.3
11	Max. efficiency	%	75
12	Back-EMF constant	mV/rpm	0.1
13	Torque constant	mNm/A	0.7
14	Speed/torque gradient	rpm/mNm	6690
15	Rotor inertia	gcm^2	0.15
16	Weight	g	7.9
17	Operating temperature range	℃	−20～+85

Characteristics Curve

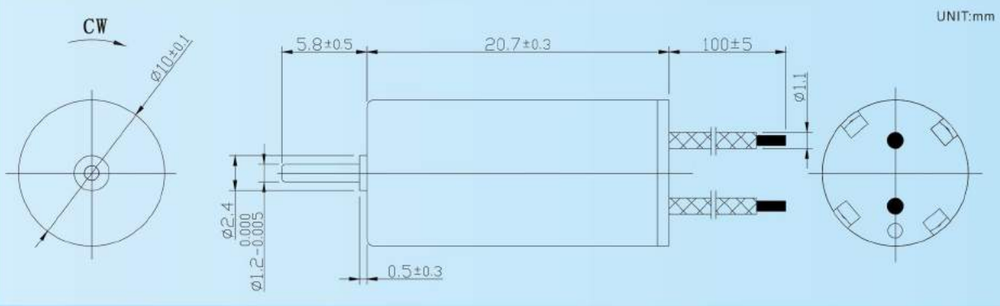


Model: 1020RN51A-47-100-3.7

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1620RN

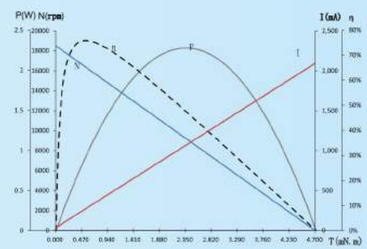
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-3-4.5
1	Voltage	V	4.5
2	Terminal resistance	Ω	2.2
3	No-load speed	rpm	18500
4	No-load current	mA	35
5	Stall torque	mNm	4.7
6	Stall current	mA	2050
7	Load torque	mNm	1.0
8	Load speed	rpm	14550
9	Load current	mA	470
10	Max. output power	W	2.3
11	Max. efficiency	%	77
12	Back-EMF constant	mV/rpm	0.2
13	Torque constant	mNm/A	2.3
14	Speed/torque gradient	rpm/mNm	3950
15	Rotor inertia	gcm^2	0.45
16	Weight	g	15.8
17	Operating temperature range	℃	−20～+85

Characteristics Curve

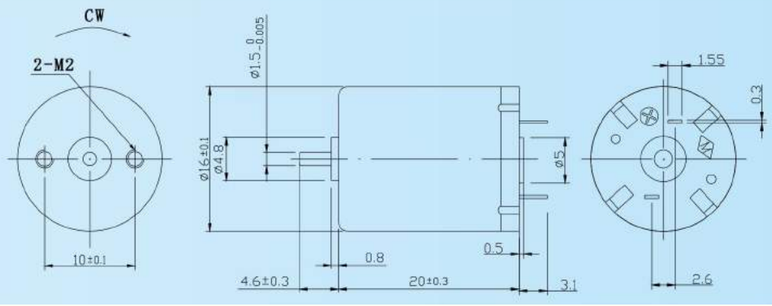


Model: 1620RN01-3-4.5

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1625RN

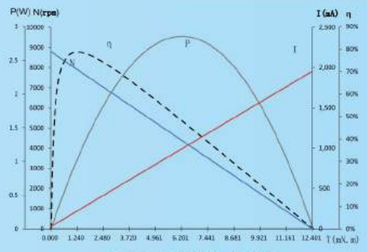
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-25-6.0
1	Voltage	V	6.0
2	Terminal resistance	Ω	3.1
3	No-load speed	rpm	8800
4	No-load current	mA	25
5	Stall torque	mNm	12.4
6	Stall current	mA	1935
7	Load torque	mNm	2.0
8	Load speed	rpm	7390
9	Load current	mA	332
10	Max. output power	W	2.9
11	Max. efficiency	%	80
12	Back-EMF constant	mV/rpm	0.67
13	Torque constant	mNm/A	6.43
14	Speed/torque gradient	rpm/mNm	710
15	Rotor inertia	gcm^2	0.7
16	Weight	g	20.5
17	Operating temperature range	℃	-20～+85

Characteristics Curve

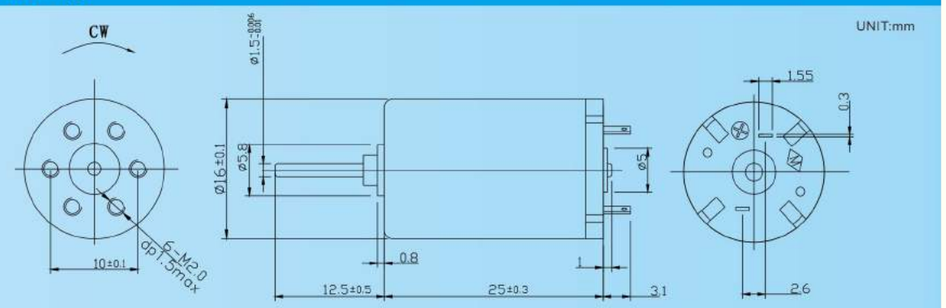


Model: 1625RN51-25-6.0

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1630RN

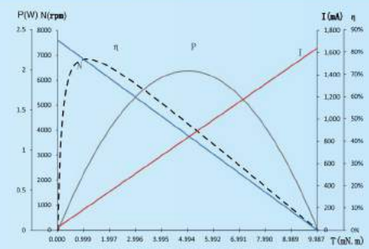
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-11-5.0
1	Voltage	V	5.0
2	Terminal resistance	Ω	3.1
3	No-load speed	rpm	7600
4	No-load current	mA	25
5	Stall torque	mNm	10.0
6	Stall current	mA	1610
7	Load torque	mNm	1.5
8	Load speed	rpm	6460
9	Load current	mA	260
10	Max. output power	W	2.0
11	Max. efficiency	%	78
12	Back-EMF constant	mV/rpm	0.6
13	Torque constant	mNm/A	6.2
14	Speed/torque gradient	rpm/mNm	760
15	Rotor inertia	gcm^2	0.7
16	Weight	g	25.2
17	Operating temperature range	℃	-20～+85

Characteristics Curve

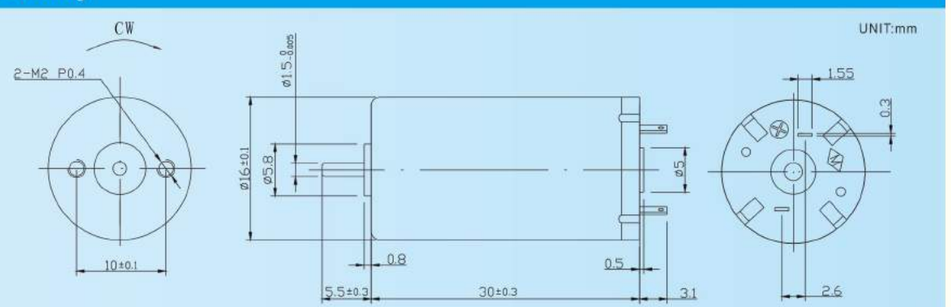


Model: 1630RN51-11L10-5.0

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1718RN

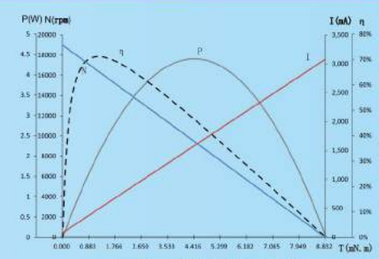
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-6-6.0	-57-5.5	-70-5.0
1	Voltage	V	6.0	5.5	5.0
2	Terminal resistance	Ω	2.0	1.7	1.2
3	No-load speed	rpm	19000	15800	17500
4	No-load current	mA	75	60	70
5	Stall torque	mNm	8.8	10.6	11.2
6	Stall current	mA	3000	3235	4167
7	Load torque	mNm	2.0	2.5	2.5
8	Load speed	rpm	14690	12060	13590
9	Load current	mA	740	810	990
10	Max. output power	W	4.4	4.4	5.1
11	Max. efficiency	%	73	76	77
12	Back-EMF constant	mV/rpm	0.3	0.3	0.3
13	Torque constant	mNm/A	2.9	3.3	2.7
14	Speed/torque gradient	rpm/mNm	2150	1500	1570
15	Rotor inertia	gcm²	0.8	0.8	0.8
16	Weight	g	19.3	19.3	19.3
17	Operating temperature range	℃	-20～+85	-20～+85	-20～+85

Characteristics Curve

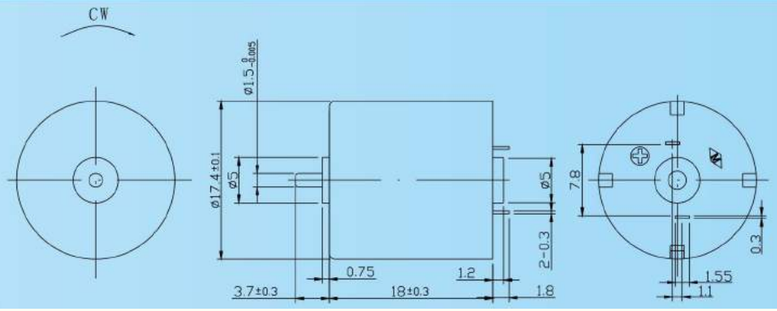


Model： 1718RN55-6L25-6.0

Options

Lead wires length
Shaft length
Special Coils
Gearhead

Outline Drawing



2233RN

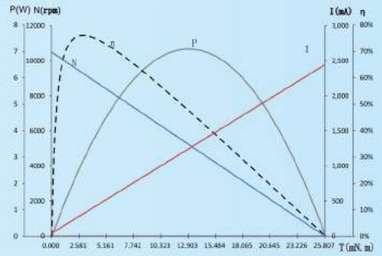
Precious metal commutation

Applications: Mini UAV, remote control toys, aerocrafts, mini household appliances and so on.

Characteristics

			-10-12.0	-4-12.0
1	Voltage	V	12.0	12.0
2	Terminal resistance	Ω	5.0	34.0
3	No-load speed	rpm	10500	5200
4	No-load current	mA	40	20
5	Stall torque	mNm	25.8	7.3
6	Stall current	mA	2400	353
7	Load torque	mNm	3.0	3.5
8	Load speed	rpm	9280	2720
9	Load current	mA	310	180
10	Max. output power	W	7.1	1.0
11	Max. efficiency	%	77	62
12	Back-EMF constant	mV/rpm	1.1	2.2
13	Torque constant	mNm/A	10.7	20.8
14	Speed/torque gradient	rpm/mNm	410	710
15	Rotor inertia	gcm²	2.6	2.4
16	Weight	g	52	52
17	Operating temperature range	℃	-20～+85	-20～+85

Characteristics Curve

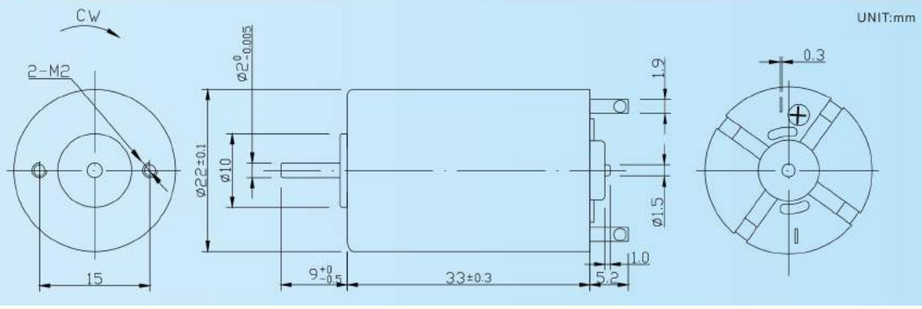


Model： 2233RN51-10-12.0

Options

Lead wires length
Shaft length
Special Coils
Gearhead

Outline Drawing



Constar

DC CORELESS MOTOR

0408RN

Precious metal commutation

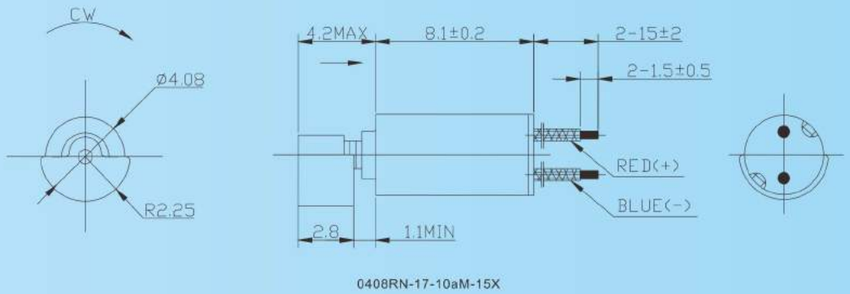
Applications: Wearable device, mobile phones, tablet PC, health care equipment, etc.

Characteristics

			-17-10	-5-10(P3)
1	Voltage	V	3	2.7
2	Terminal resistance	Ω	32	32
3	Speed	rpm	12000	8500
4	Current	mA	75	70
5	Starting voltage	V	1.4	1.5
6	Stall current	mA	95	100
7	Weight	g	0.8	1.15
8	Operating temperature range	℃	-10～+55	-10～+50

Outline Drawing

UNIT:mm



0408RN-17-10aM-15X

Options

Lead wires length

Shaft length

Eccentric weight

Silicone sets

벤츠가 인정하는 기술력

DC Core Motor

1012F43

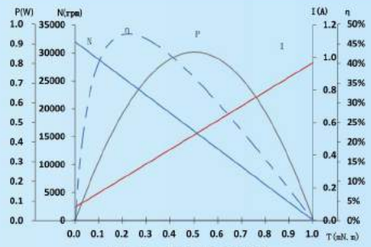
Precious metal commutation

Applications: Security equipment, mini electronic products, remote control aerocrafts, personal caring products, portable tools and so on.

Characteristics

			09135DM6
1	Voltage	V	4.5
2	Terminal resistance	Ω	3.7
3	No-load speed	rpm	32000
4	No-load current	mA	80
5	Stall torque	mNm	1.00
6	Stall current	mA	960
7	Load torque	mNm	0.29
8	Load speed	rpm	23000
9	Load current	mA	330
10	Max. output power	W	0.84
11	Max. efficiency	%	46.8
12	Back-EMF constant	mV/rpm	0.13
13	Torque constant	mNm/A	1.14
14	Speed/torque gradient	rpm/mNm	32000
15	Varistor	Yes/No	Yes
16	Weight	g	3.15
17	Operating temperature range	℃	-20~+80

Characteristics Curve



Model： 1012F43-09135D

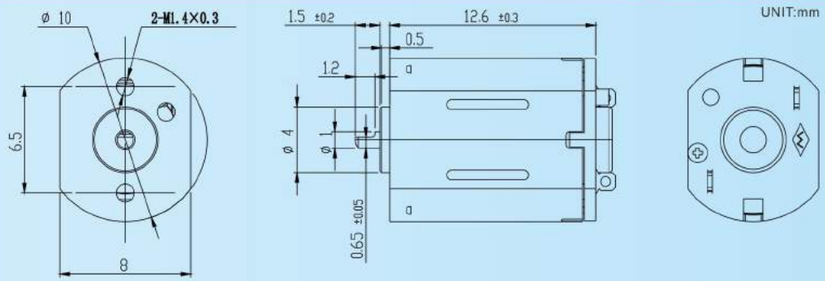
Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing

ROTATION :CW

UNIT:mm



1015F13

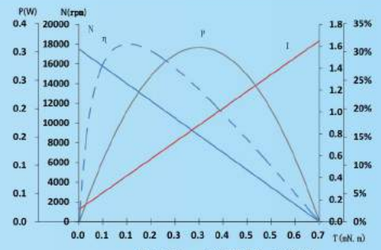
Precious metal commutation

Applications: Security equipment, mini electronic products, remote control aerocrafts, personal caring products, portable tools and so on.

Characteristics

			14053
1	Voltage	V	1.5
2	Terminal resistance	Ω	0.9
3	No-load speed	rpm	17500
4	No-load current	mA	110
5	Stall torque	mNm	0.70
6	Stall current	mA	1688
7	Load torque	mNm	0.10
8	Load speed	rpm	15060
9	Load current	mA	330
10	Max. output power	W	0.32
11	Max. efficiency	%	32.3
12	Back-EMF constant	mV/rpm	0.08
13	Torque constant	mNm/A	0.45
14	Speed/torque gradient	rpm/mNm	24898
15	Varistor	Yes/No	Yes
16	Weight	g	3.9
17	Operating temperature range	℃	-20~+80

Characteristics Curve



Model： 1015F13-14053

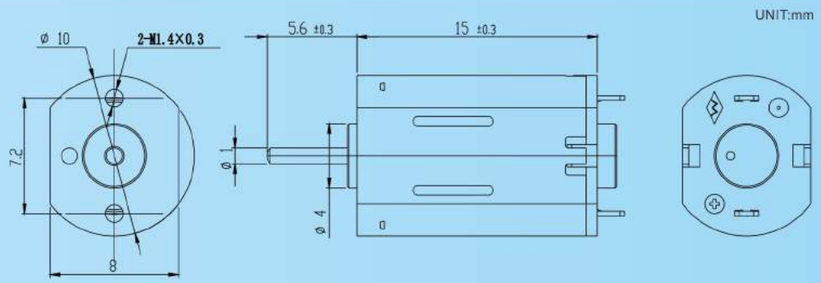
Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing

ROTATION :CW

UNIT:mm



1215F13

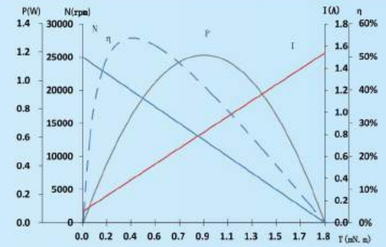
Precious metal commutation

Applications: Security equipment, mini electronic products, remote control aerocrafts, personal caring products, portable tools and so on.

Characteristics

			13087	
1	Voltage	V	3.5	
2	Terminal resistance	Ω	1.7	
3	No-load speed	rpm	25000	
4	No-load current	mA	100	
5	Stall torque	mNm	1.80	
6	Stall current	mA	1506	
7	Load torque	mNm	0.29	
8	Load speed	rpm	20910	
9	Load current	mA	330	
10	Max. output power	W	1.18	
11	Max. efficiency	%	56.5	
12	Back-EMF constant	mV/rpm	0.13	
13	Torque constant	mNm/A	1.28	
14	Speed/torque gradient	rpm/mNm	13912	
15	Varistor	Yes/No	Yes	
16	Weight	g	5.4	
17	Operating temperature range	℃	-20~+80	

Characteristics Curve

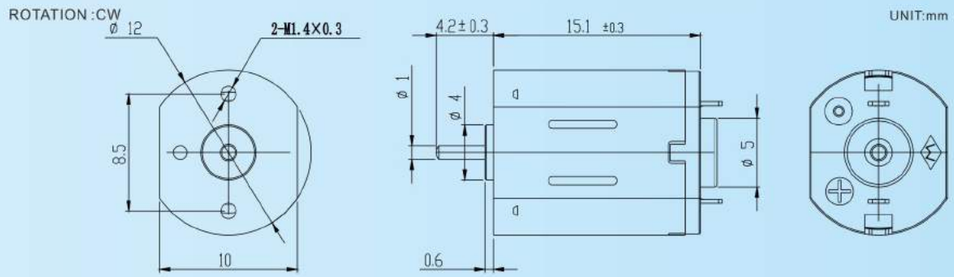


Model: 1215F13-13087

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1220F35

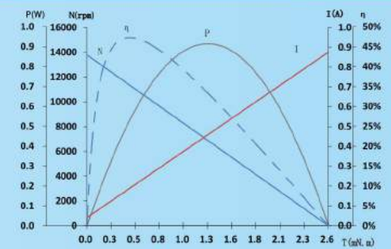
Precious metal commutation

Applications: Security equipment, mini electronic products, remote control aerocrafts, personal caring products, portable tools and so on.

Characteristics

			10170M6	
1	Voltage	V	6	
2	Terminal resistance	Ω	7.4	
3	No-load speed	rpm	13800	
4	No-load current	mA	50	
5	Stall torque	mNm	2.60	
6	Stall current	mA	846	
7	Load torque	mNm	0.29	
8	Load speed	rpm	12240	
9	Load current	mA	140	
10	Max. output power	W	0.94	
11	Max. efficiency	%	48.0	
12	Back-EMF constant	mV/rpm	0.41	
13	Torque constant	mNm/A	3.27	
14	Speed/torque gradient	rpm/mNm	5306	
15	Varistor	Yes/No	Yes	
16	Weight	g	7.9	
17	Operating temperature range	℃	-20~+80	

Characteristics Curve

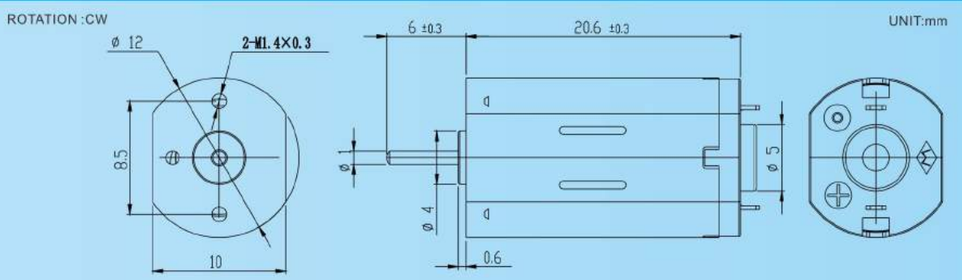


Model: 1220F35-10170M6

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1718R14

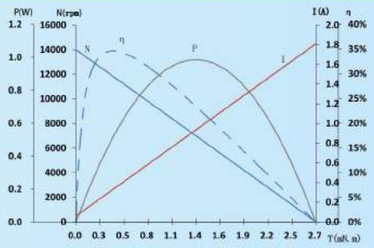
Precious metal commutation

Applications: Security equipment, mini electronic products, remote control aerocrafts, personal caring products, portable tools and so on.

Characteristics

			12160
1	Voltage	V	4.5
2	Terminal resistance	Ω	3.5
3	No-load speed	rpm	14000
4	No-load current	mA	65
5	Stall torque	mNm	2.74
6	Stall current	mA	1780
7	Load torque	mNm	0.39
8	Load speed	rpm	12000
9	Load current	mA	310
10	Max. output power	W	1.01
11	Max. efficiency	%	35.4
12	Back-EMF constant	mV/rpm	0.31
13	Torque constant	mNm/A	1.60
14	Speed/torque gradient	rpm/mNm	5102
15	Varistor	Yes/No	Yes
16	Weight	g	12.6
17	Operating temperature range	℃	-20~+80

Characteristics Curve

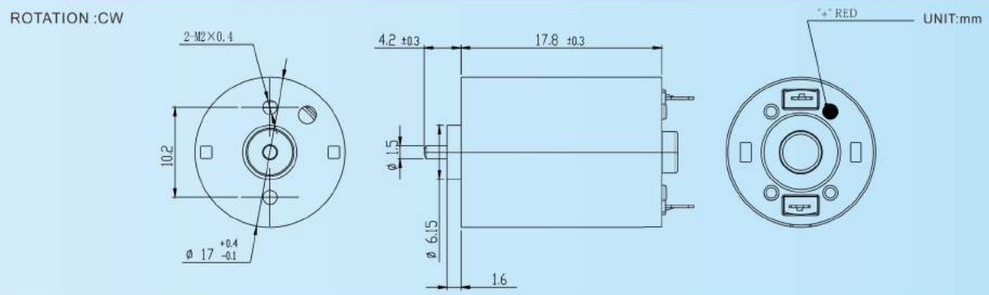


Model: 1718R14-12160

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing



1723R14

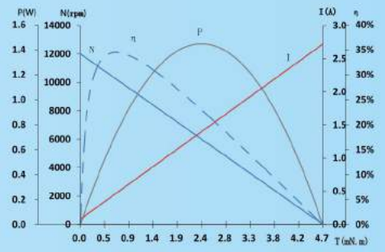
Precious metal commutation

Applications: Security equipment, mini electronic products, remote control aerocrafts, personal caring products, portable tools and so on.

Characteristics

			19120
1	Voltage	V	4.5
2	Terminal resistance	Ω	1.7
3	No-load speed	rpm	12000
4	No-load current	mA	85
5	Stall torque	mNm	4.70
6	Stall current	mA	2665
7	Load torque	mNm	0.39
8	Load speed	rpm	11000
9	Load current	mA	300
10	Max. output power	W	1.48
11	Max. efficiency	%	35.5
12	Back-EMF constant	mV/rpm	0.36
13	Torque constant	mNm/A	1.82
14	Speed/torque gradient	rpm/mNm	2551
15	Varistor	Yes/No	Yes
16	Weight	g	18.5
17	Operating temperature range	℃	-20~+80

Characteristics Curve

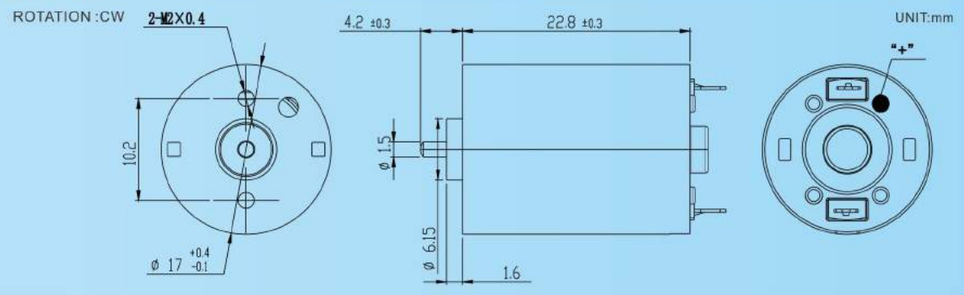


Model: 1723R14-19120

Options

Lead wires length
Shaft length
Special coils
Gearheads

Outline Drawing

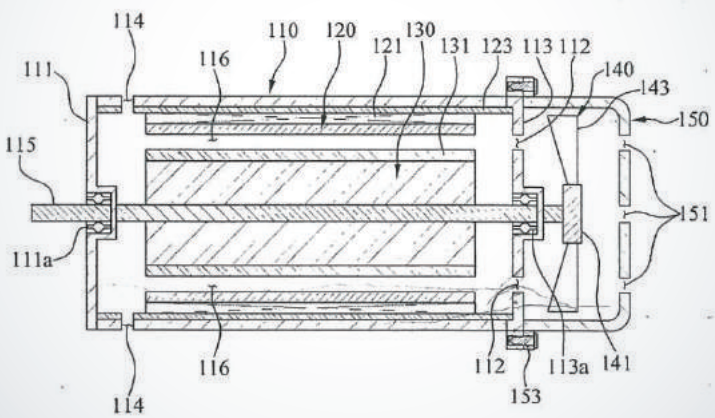


hitok®

– 심플 모션 / Simple Motion
– 고객 사양 / Customer Spec.
– 정밀 유통 / Precision Marketing

국내 특허 제 10-1312720호

모터 내부로 에어 유로를 형성한 모터 장치



국내 특허 제 10-1312721호

냉각팬의 팬 구조를 개선한 모터 장치