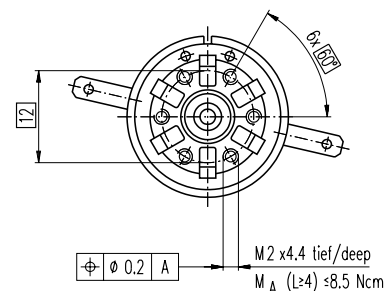
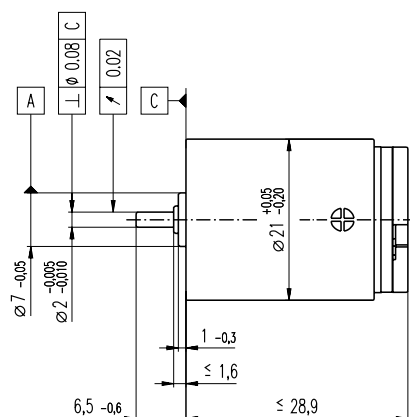
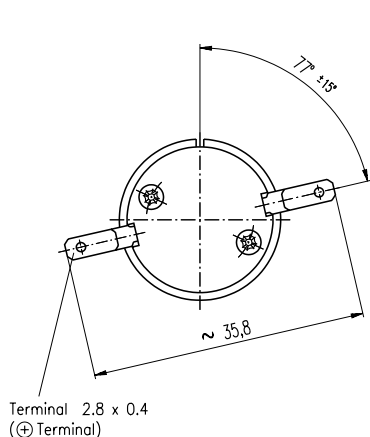


RE-max 21 Ø21 mm, Precious Metal Brushes CLL, 5 Watt



M 1:1

- Stock program
- Standard program
- Special program (on request!)

Order Number

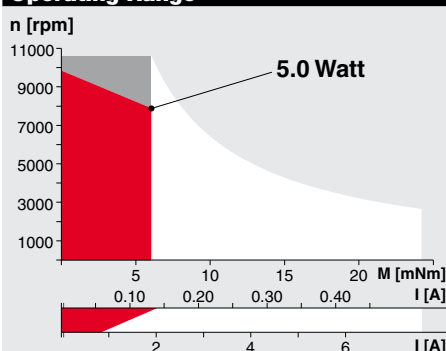
Motor Data (provisional)

		221009	221010	221011	221012	221013	221015	221016	221017	221019										
1	Assigned power rating	W	5	5	5	5	5	5	5	5										
2	Nominal voltage	Volt	3	6	9	12	18	21	24	36	48									
3	No load speed	rpm	8880	9980	10400	8630	10200	9980	9130	10300	9830									
4	Stall torque	mNm	29.7	29.8	33.6	27.5	32.9	30.9	28.2	31.3	28.5									
5	Speed / torque gradient	rpm / mNm	301	337	312	316	311	325	325	331	347									
6	No load current	mA	45	27	20	11	9	8	6	5	3									
7	Starting current	mA	9230	5220	4090	2080	1960	1550	1130	943	614									
8	Terminal resistance	Ohm	0.325	1.15	2.2	5.77	9.17	13.6	21.3	38.2	78.2									
9	Max. permissible speed	rpm	10600	10600	10600	10600	10600	10600	10600	10600	10600									
10	Max. continuous current	mA	840	840	835	515	409	336	268	200	140									
11	Max. continuous torque	mNm	2.7	4.8	6.85	6.8	6.85	6.71	6.7	6.64	6.49									
12	Max. power output at nominal voltage	mW	6880	7770	9140	6190	8780	8060	6720	8430	7310									
13	Max. efficiency	%	87	86	87	86	87	87	86	87	86									
14	Torque constant	mNm / A	3.21	5.71	8.21	13.2	16.8	20	25	33.2	46.4									
15	Speed constant	rpm / W	2970	1670	1160	723	569	478	382	288	206									
16	Mechanical time constant	ms	8	7	7	7	7	7	7	7	7									
17	Rotor inertia	gcm ²	2.45	1.98	2.08	2.03	2.06	1.98	1.97	1.94	1.86									
18	Terminal inductance	mH	0.02	0.06	0.12	0.32	0.51	0.72	1.13	1.99	3.89									
19	Thermal resistance housing-ambient	K / W	21	21	21	21	21	21	21	21	21									
20	Thermal resistance rotor-housing	K / W	11	11	11	11	11	11	11	11	11									
21	Thermal time constant winding	s	13	10	11	11	11	10	10	10	10									

Specifications

- Axial play 0.05 - 0.15 mm
- Max. **sleeve bearing** loads
 - axial (dynamic) 1.0 N
 - radial (5 mm from flange) 2.7 N
 - Force for press fits (static) 80 N
- Max. **ball bearing** loads
 - axial (dynamic) 3.3 N
 - radial (5 mm from flange) 11.9 N
 - Force for press fits (static) 45 N
- Radial play **sleeve bearing** 0.012 mm
- Radial play **ball bearing** 0.025 mm
- Ambient temperature range -30 ... +85°C
- Max. rotor temperature +85°C
- Number of commutator segments 9
- Weight of motor 42 g
- Values listed in the table are nominal. For applicable tolerances see page 43. For additional details please use the maxon selection program on the enclosed CD-Rom.
- CLL = Capacitor Long Life

Operating Range

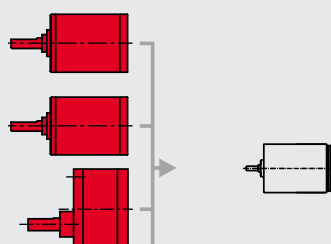


Comments

- Recommended operating range**
- Continuous operation**
In observation of above listed thermal resistances (lines 19 and 20) the maximum permissible rotor temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit
- Short term operation**
The motor may be briefly overloaded (recurring).
- 221019** Motor with high resistance winding
- 221009** Motor with low resistance winding

maxon Modular System

- Planetary Gearhead**
Ø22 mm
0.5 - 1.0 Nm
Details page 190
- Planetary Gearhead**
Ø22 mm
0.5 - 2.0 Nm
Details page 191
- Spur Gearhead**
Ø38 mm
0.1 - 0.6 Nm
Details page 200



Recommended Electronics:
LSC 30/2 page 231
Notes 17