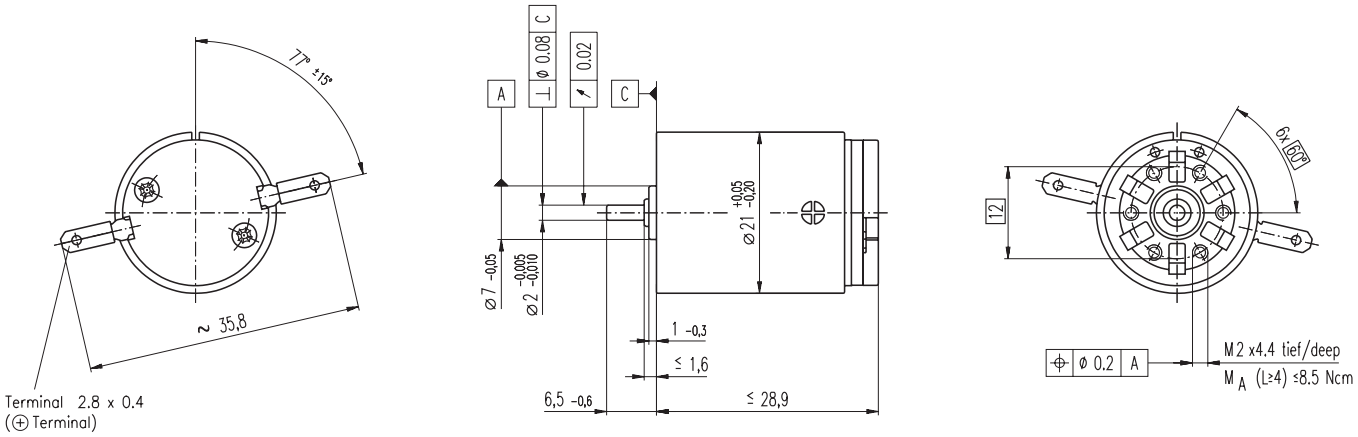
RE-max 21 ∅21 mm, Precious Metal Brushes CLL, 5 Watt



M 1:1

Stock program
Standard program
Special program (on request)

			Order Number								
			221009	221010	221011	221012	221013	221015	221016	221017	221019
Motor Data											
	Values at nominal voltage										
1	Nominal voltage	V	3.0	6.0	9.0	12.0	18.0	21.0	24.0	36.0	48.0
2	No load speed	rpm	8860	9960	10400	8610	10200	9960	9110	10300	9800
3	No load current	mA	43.6	26.6	19.1	10.4	9.20	7.61	5.71	4.69	3.24
4	Nominal speed	rpm	8090	8400	8480	6660	8250	8000	7130	8300	7770
5	Nominal torque (max. continuous torque)	mNm	2.57	4.67	6.21	6.22	6.22	6.10	6.11	6.03	5.90
6	Nominal current (max. continuous current)	A	0.840	0.840	0.771	0.479	0.378	0.311	0.249	0.185	0.130
7	Stall torque	mNm	29.7	29.9	33.6	27.5	33.0	31.0	28.3	31.4	28.5
8	Starting current	A	9.23	5.22	4.09	2.08	1.96	1.55	1.13	0.943	0.614
9	Max. efficiency	%	87	87	87	87	87	87	87	87	86
	Characteristics										
10	Terminal resistance	Ω	0.325	1.15	2.20	5.77	9.17	13.6	21.3	38.2	78.2
11	Terminal inductance	mH	0.0130	0.041	0.0846	0.219	0.353	0.502	0.784	1.38	2.70
12	Torque constant	mNm / A	3.22	5.72	8.23	13.2	16.8	20.0	25.0	33.3	46.5
13	Speed constant	rpm / V	2970	1670	1160	721	568	477	381	287	205
14	Speed / torque gradient	rpm / mNm	299	335	311	315	310	323	324	329	345
15	Mechanical time constant	ms	7.94	7.26	7.08	7.04	7.00	7.05	7.06	7.08	7.17
16	Rotor inertia	gcm²	2.53	2.07	2.18	2.14	2.16	2.08	2.08	2.05	1.98

Specifications

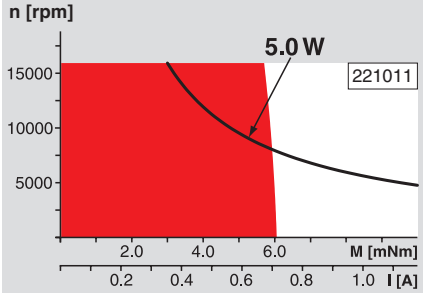
	Thermal data	
17	Thermal resistance housing-ambient	28 K / W
18	Thermal resistance winding-housing	8.0 K / W
19	Thermal time constant winding	8.77 s
20	Thermal time constant motor	588 s
21	Ambient temperature	-30 ... +65°C
22	Max. permissible winding temperature	+85°C
	Mechanical data (sleeve bearings)	
23	Max. permissible speed	16000 rpm
24	Axial play	0.05 - 0.15 mm
25	Radial play	0.012 mm
26	Max. axial load (dynamic)	1 N
27	Max. force for press fits (static)	80 N
28	Max. radial loading, 5 mm from flange	2.7 N
	Mechanical data (ball bearings)	
23	Max. permissible speed	16000 rpm
24	Axial play	0.05 - 0.15 mm
25	Radial play	0.012 mm
26	Max. axial load (dynamic)	3.3 N
27	Max. force for press fits (static)	45 N
28	Max. radial loading, 5 mm from flange	11.9 N
	Other specifications	
29	Number of pole pairs	1
30	Number of commutator segments	9
31	Weight of motor	42 g

CLL = Capacitor Long Life

Values listed in the table are nominal.
Explanation of the figures on page 49.

Option
Ball bearings in place of sleeve bearings
Pigtails in place of terminals
Without CLL

Operating Range



Comments

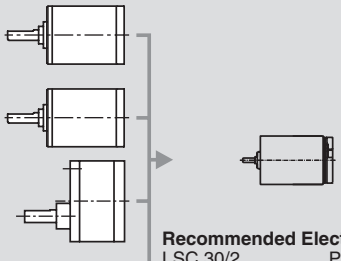
Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

Short term operation
The motor may be briefly overloaded (recurring).

Assigned power rating

maxon Modular System

Overview on page 16 - 21



Planetary Gearhead
∅22 mm
0.5 - 1.0 Nm
Page 230

Planetary Gearhead
∅22 mm
0.5 - 2.0 Nm
Page 231

Spur Gearhead
∅38 mm
0.1 - 0.6 Nm
Page 243

Recommended Electronics:
LSC 30/2 Page 276
Notes **18**