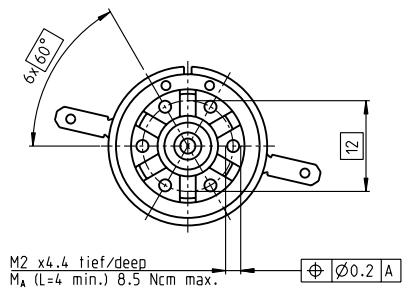
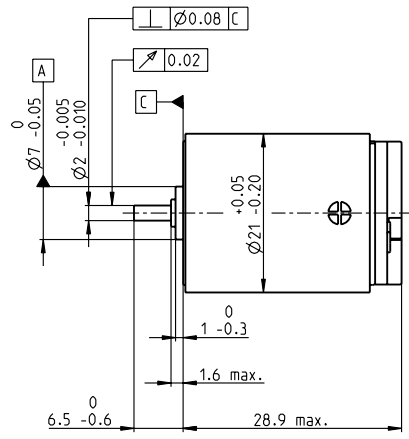
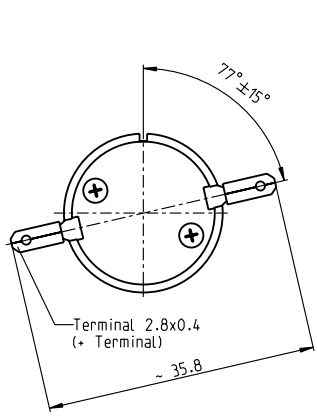


# RE-max 21 Ø21 mm, Precious Metal Brushes CLL, 5 Watt



M 1:1

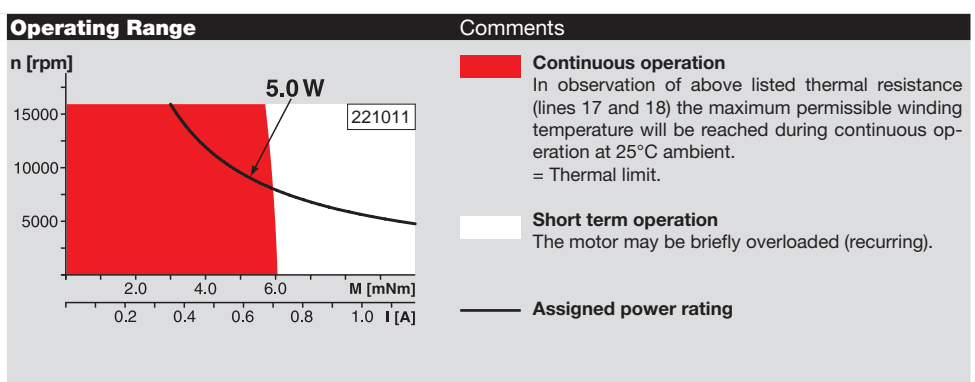
- Stock program
- Standard program
- Special program (on request)

## Part Numbers

221009	221010	221011	221012	221013	221015	221016	221017	221019
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Motor Data																
Values at nominal voltage																
1 Nominal voltage	V	3	6	9	12	18	21	24	36	48						
2 No load speed	rpm	8420	9440	9880	8160	9660	9450	8620	9750	9290						
3 No load current	mA	176	101	70.7	42.5	34.5	28.8	22.7	17.4	12.4						
4 Nominal speed	rpm	7870	8090	8280	6500	8050	7800	6950	8070	7580						
5 Nominal torque (max. continuous torque)	mNm	2.23	4.41	5.59	5.66	5.56	5.45	5.51	5.28	5.26						
6 Nominal current (max. continuous current)	A	0.84	0.84	0.722	0.452	0.352	0.29	0.234	0.17	0.121						
7 Stall torque	mNm	29.7	30	34.3	28.1	33.7	31.6	28.8	31.1	29.1						
8 Stall current	A	8.87	5.03	4.01	2.04	1.93	1.52	1.11	0.9	0.602						
9 Max. efficiency	%	74	74	75	73	75	74	74	74	74						
Characteristics																
10 Terminal resistance	Ω	0.338	1.19	2.24	5.88	9.34	13.8	21.7	40	79.7						
11 Terminal inductance	mH	0.013	0.041	0.085	0.22	0.354	0.503	0.786	1.39	2.71						
12 Torque constant	mNm/A	3.35	5.95	8.55	13.8	17.5	20.8	26	34.6	48.3						
13 Speed constant	rpm/V	2850	1600	1120	694	546	459	367	276	198						
14 Speed / torque gradient	rpm/mNm	288	322	293	297	292	305	305	319	326						
15 Mechanical time constant	ms	7.67	6.98	6.69	6.65	6.62	6.66	6.68	6.88	6.77						
16 Rotor inertia	gcm <sup>2</sup>	2.54	2.07	2.18	2.14	2.16	2.09	2.09	2.06	1.99						

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	10.5 s
20 Thermal time constant motor	502 s
21 Ambient temperature	-30...+65°C
22 Max. winding temperature	+85°C
Mechanical data (sleeve bearings)	
23 Max. speed	16000 rpm
24 Axial play	0.05 - 0.15 mm
25 Radial play	0.025 mm
26 Max. axial load (dynamic)	1 N
27 Max. force for press fits (static)	80 N
28 Max. radial load, 5 mm from flange	2.7 N
Mechanical data (ball bearings)	
23 Max. speed	16000 rpm
24 Axial play	0.05 - 0.15 mm
25 Radial play	0.025 mm
26 Max. axial load (dynamic)	3.3 N
27 Max. force for press fits (static)	45 N
28 Max. radial load, 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 151.	
Option	
Ball bearings in place of sleeve bearings	
Pigtails in place of terminals	
Without CLL	



maxon Modular System		Overview on page 20-27
<p><b>Planetary Gearhead</b> Ø22 mm 0.5 - 1.0 Nm Page 329</p> <p><b>Planetary Gearhead</b> Ø22 mm 0.5 - 2.0 Nm Page 331</p> <p><b>Spur Gearhead</b> Ø38 mm 0.1 - 0.6 Nm Page 348</p> <p><b>Spindle Drive</b> Ø22 mm Page 368/369</p>		<p><b>Recommended Electronics:</b> Notes Page 24</p> <p>ESCON Module 24/2 416</p> <p>ESCON 36/2 DC 416</p> <p>ESCON Module 50/5 417</p> <p>ESCON 50/5 418</p>