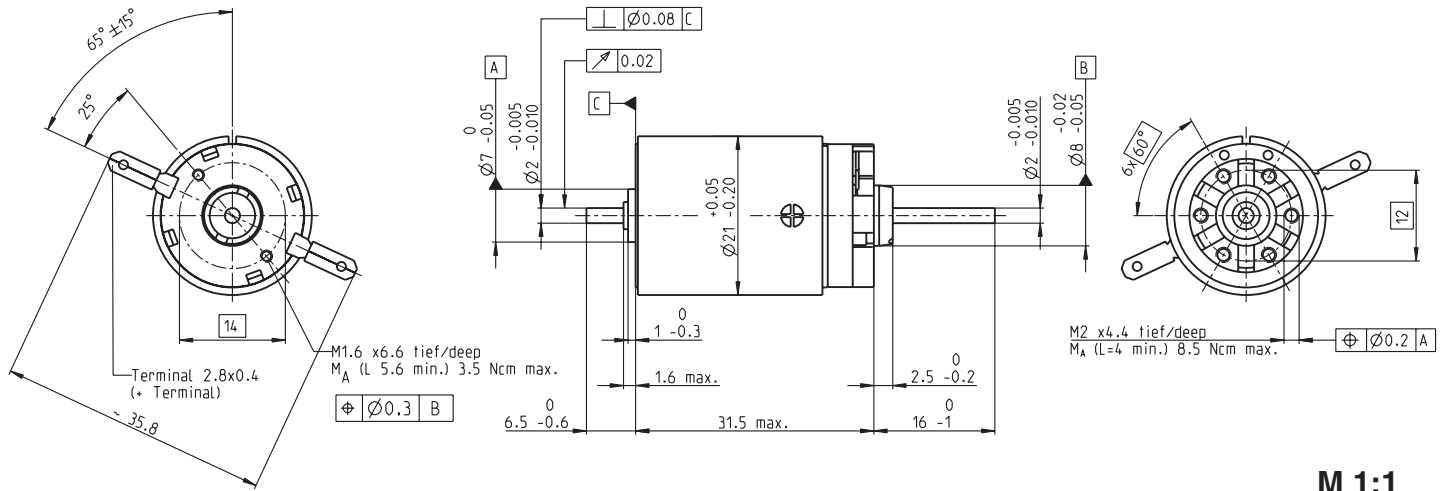


# RE-max 21 Ø21 mm, Graphite Brushes, 6 Watt



M 1:1

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

## Order Number

250020 250021 **250022** 250023 250024 250025 250026 250027 250028

### Motor Data (provisional)

Values at nominal voltage		250020	250021	<b>250022</b>	250023	250024	250025	250026	250027	250028	
1	Nominal voltage	V	4.0	6.0	9.0	15.0	18.0	21.0	24.0	36.0	48.0
2	No load speed	rpm	11400	9680	10200	10600	9980	9760	8920	10100	9600
3	No load current	mA	155	83.9	59.0	37.0	28.8	24.0	18.9	14.6	10.3
4	Nominal speed	rpm	9890	7890	8070	8320	7770	7530	6670	7860	7330
5	Nominal torque (max. continuous torque)	mNm	1.85	3.69	5.51	6.64	6.85	6.78	6.89	6.78	6.68
6	Nominal current (max. continuous current)	A	0.720	0.720	0.720	0.532	0.431	0.359	0.291	0.216	0.152
7	Stall torque	mNm	14.7	20.3	27.1	31.6	31.4	30.0	27.8	31.2	28.6
8	Starting current	A	4.53	3.51	3.26	2.37	1.85	1.49	1.10	0.930	0.609
9	Max. efficiency	%	67	72	75	77	77	76	76	77	76
<b>Characteristics</b>											
10	Terminal resistance	Ω	0.883	1.71	2.76	6.33	9.72	14.1	21.8	38.7	78.8
11	Terminal inductance	mH	0.0130	0.0410	0.0846	0.219	0.353	0.502	0.784	1.38	2.70
12	Torque constant	mNm / A	3.25	5.77	8.30	13.4	17.0	20.2	25.3	33.6	46.9
13	Speed constant	rpm / V	2940	1650	1150	715	563	472	378	284	204
14	Speed / torque gradient	rpm / mNm	799	489	382	339	323	330	326	328	342
15	Mechanical time constant	ms	21.5	10.8	8.84	7.70	7.40	7.32	7.23	7.16	7.20
16	Rotor inertia	gcm <sup>2</sup>	2.57	2.10	2.21	2.17	2.19	2.12	2.12	2.08	2.01

### 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 ... +85°C
  - 22 Max. permissible winding temperature +125°C

- Mechanical data (sleeve bearings)**
- 23 Max. permissible speed 12000 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 480 N

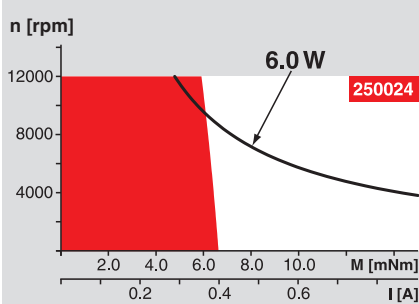
- Mechanical data (ball bearings)**
- 23 Max. permissible speed 12000 rpm
  - 24 Axial play 0.05 - 0.15 mm
  - 25 Radial play 0.025 mm
  - 26 Max. axial load (dynamic) 3.3 N
  - 27 Max. force for press fits (static) 45 N
  - 28 Max. radial loading, 5 mm from flange 480 N

- Other specifications**
- 29 Number of pole pairs 1
  - 30 Number of commutator segments 9
  - 31 Weight of motor 42 g

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

### 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.

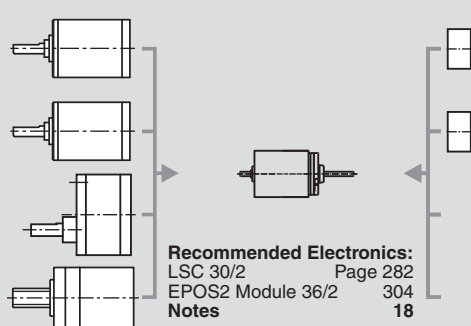
**Short term operation**  
The motor may be briefly overloaded (recurring).

— Assigned power rating

### maxon Modular System

Overview on page 16 - 21

- Planetary Gearhead**  
Ø22 mm  
0.5 - 1.0 Nm  
Page 222
- Planetary Gearhead**  
Ø22 mm  
0.5 - 2.0 Nm  
Page 223
- Spur Gearhead**  
Ø38 mm  
0.1 - 0.6 Nm  
Page 237
- Spindle Drive**  
Ø22 mm  
Page 247 / 248



- Encoder MR**  
32 Imp.,  
2 / 3 channels  
Page 259
- Encoder MR**  
128 / 256 / 512 Imp.,  
2 / 3 channels  
Page 261

**Recommended Electronics:**  
LSC 30/2 Page 282  
EPOS2 Module 36/2 304  
**Notes 18**