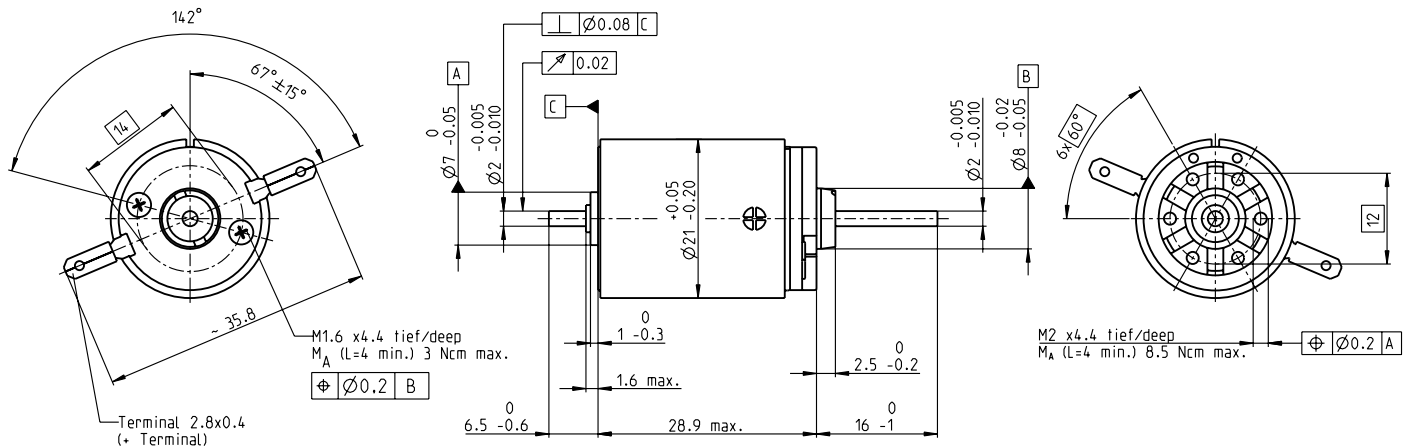


RE-max 21 Ø21 mm, Precious Metal Brushes CLL, 3.5 Watt



M 1:1

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

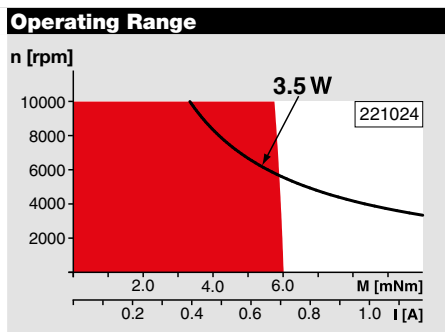
Part Numbers

221020	221023	221024	221025	221026	221028	221030	221031	221032
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Motor Data	221020	221023	221024	221025	221026	221028	221030	221031	221032	
Values at nominal voltage										
1 Nominal voltage	V	2	3.6	5	8.4	10	12	15	21	30
2 No load speed	rpm	5890	5950	5760	6010	5630	5670	5670	5970	6100
3 No load current	mA	54.5	30.8	21.1	13.4	10.2	8.61	6.88	5.31	3.84
4 Nominal speed	rpm	5220	4410	3830	4060	3690	3680	3680	3940	4050
5 Nominal torque (max. continuous torque)	mNm	2.54	4.65	6.25	6.16	6.21	6.07	6.06	5.91	5.85
6 Nominal current (max. continuous current)	A	0.84	0.84	0.778	0.477	0.378	0.311	0.248	0.182	0.129
7 Stall torque	mNm	19	17.3	18.3	18.9	18	17.3	17.3	17.4	17.5
8 Stall current	A	5.91	3.02	2.23	1.43	1.07	0.867	0.692	0.525	0.376
9 Max. efficiency	%	82	81	82	82	82	81	81	81	81
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	0.0846	0.219	0.353	0.502	0.784	1.38	2.7
12 Torque constant	mNm/A	3.22	5.72	8.22	13.2	16.8	20	25	33.2	46.5
13 Speed constant	rpm/V	2970	1670	1160	722	569	477	382	287	206
14 Speed / torque gradient	rpm/mNm	312	348	317	321	316	330	331	346	353
15 Mechanical time constant	ms	8.32	7.57	7.25	7.22	7.18	7.23	7.25	7.46	7.35
16 Rotor inertia	gcm ²	2.54	2.08	2.18	2.15	2.17	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	8.83 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	10000 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) (static, shaft supported)	80 N / 480 N
28 Max. radial load, 5 mm from flange	2.7 N



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

Mechanical data (ball bearings)

23 Max. speed	10000 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) (static, shaft supported)	45 N / 480 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	43 g

CLL = Capacitor Long Life

Values listed in the table are nominal.
Explanation of the figures on page 64.

Option

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

maxon Modular System

Planetary Gearhead
Ø22 mm
0.5 - 1.0 Nm
Page 325

Planetary Gearhead
Ø22 mm
0.5 - 2.0 Nm
Page 327

Spur Gearhead
Ø38 mm
0.1 - 0.6 Nm
Page 344

Spindle Drive
Ø22 mm
Page 364/365

Encoder MR
32 CPT,
2 / 3 channels
Page 401

Encoder MR
128 / 256 / 512 CPT,
2 / 3 channels
Page 403

Recommended Electronics:
Notes Page 30

ESCON Module 24/2 426

ESCON 36/2 DC 426

ESCON Module 50/5 427

ESCON 50/5 428

EPOS2 24/2 434

EPOS2 Module 36/2 434

EPOS4 Mod./CB 24/1.5 441

MAXPOS 50/5 447