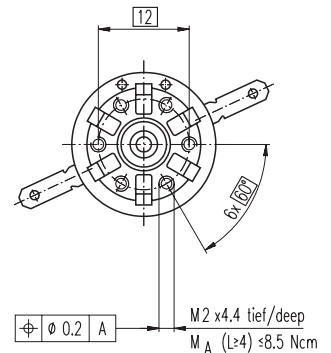
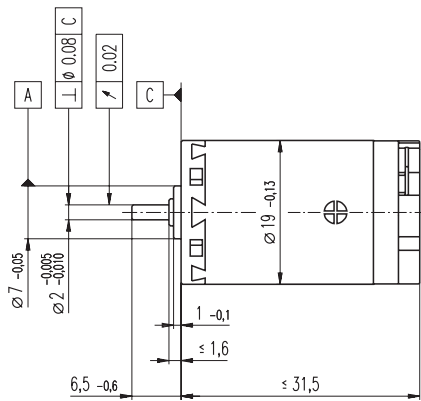
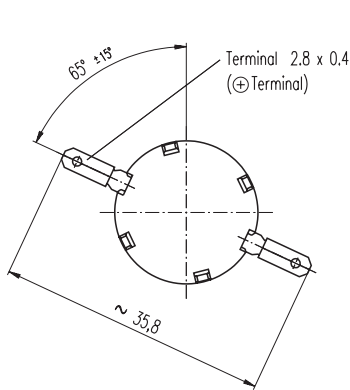


A-max 19 Ø19 mm, Graphite Brushes, 2.5 Watt



M 1:1

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

Order Number

249982 249983 **249984** 249985 249986 **249987** 249988 249989 249990

Motor Data

Values at nominal voltage		249982	249983	249984	249985	249986	249987	249988	249989	249990	
1	Nominal voltage	V	2.4	3.6	6.0	7.2	9.0	12.0	15.0	18.0	24.0
2	No load speed	rpm	11700	10200	12100	8960	8830	9920	9930	8920	8470
3	No load current	mA	287	157	113	66.0	51.8	44.5	35.6	26.2	18.6
4	Nominal speed	rpm	9580	7240	8530	4570	4540	5620	5650	4600	4050
5	Nominal torque (max. continuous torque)	mNm	0.783	1.79	2.76	3.84	3.95	3.86	3.89	3.91	3.84
6	Nominal current (max. continuous current)	A	0.720	0.720	0.720	0.591	0.476	0.393	0.316	0.239	0.168
7	Stall torque	mNm	4.78	6.59	9.77	8.23	8.50	9.29	9.40	8.45	7.74
8	Starting current	A	2.72	2.11	2.17	1.14	0.925	0.849	0.687	0.465	0.305
9	Max. efficiency	%	46	53	60	58	59	60	60	58	57
Characteristics											
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	0.0186	0.0587	0.121	0.314	0.506	0.719	1.12	1.98	3.87
12	Torque constant	mNm / A	1.76	3.13	4.50	7.23	9.19	10.9	13.7	18.2	25.4
13	Speed constant	rpm / V	5430	3050	2120	1320	1040	873	698	525	376
14	Speed / torque gradient	rpm / mNm	2720	1670	1300	1160	1100	1130	1110	1120	1170
15	Mechanical time constant	ms	73.2	36.7	30.1	26.2	25.2	25.0	24.7	24.4	24.6
16	Rotor inertia	gcm ²	2.56	2.10	2.21	2.17	2.19	2.11	2.11	2.08	2.01

Specifications

Thermal data		
17	Thermal resistance housing-ambient	21.3 K / W
18	Thermal resistance winding-housing	10.5 K / W
19	Thermal time constant winding	11 s
20	Thermal time constant motor	351 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	2.7 N

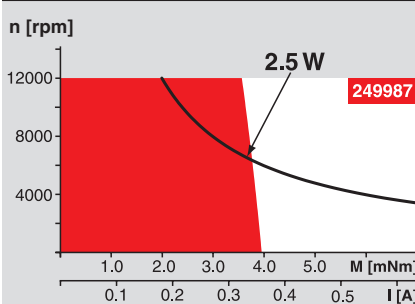
Mechanical data (ball bearings)		
23	Max. permissible speed	12000 rpm
24	Axial play	0.05 - 0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	3.3 N
27	Max. force for press fits (static)	45 N
28	Max. radial loading, 5 mm from flange	11.9 N
Other specifications		
29	Number of pole pairs	1
30	Number of commutator segments	9
31	Weight of motor	33 g

Values listed in the table are nominal.
Explanation of the figures on page 47.

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

Ø19 mm
0.1 - 0.3 Nm
Page 217

Spur Gearhead

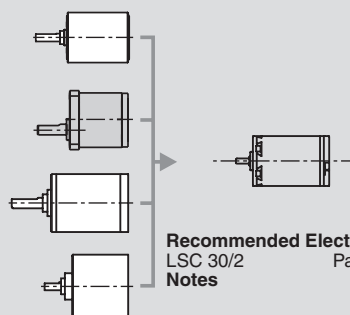
Ø20.3 mm
0.06 - 0.25 Nm
Page 218

Planetary Gearhead

Ø22 mm
0.1 - 2.0 Nm
Page 219 / 221 / 222

Spur Gearhead

Ø24 mm
0.1 Nm
Page 225



Recommended Electronics:
LSC 30/2 Page 268
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