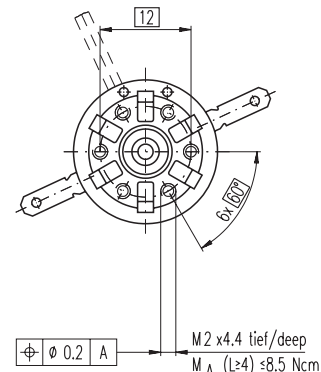
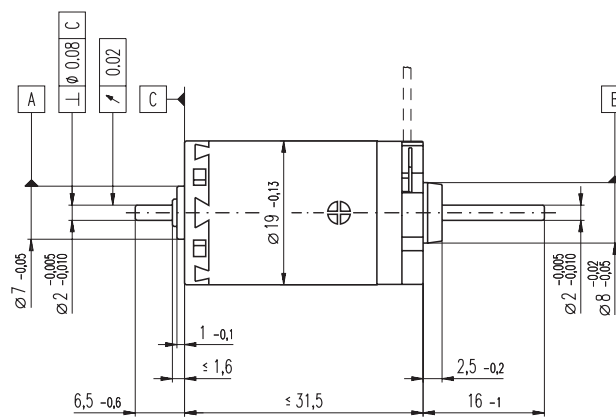
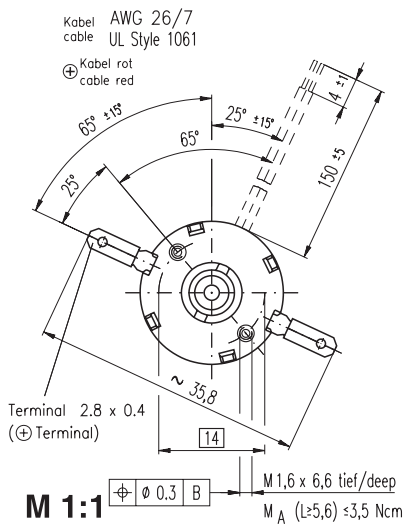


A-max 19 Ø19 mm, Graphite Brushes, 2.5 Watt



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

Order Number

with terminals	249991	249992	249993	249994	249995	249996	249997	249998	249999
with cables	240035	352971	353590	352972	352973	344596	352974	352975	352976

Motor Data

Values at nominal voltage															
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	25.3	25.0	24.7	24.4	24.6				
16	Rotor inertia	gcm ²	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 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 362 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 (static, shaft supported) 480 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 (static, shaft supported) 480 N
 - 28 Max. radial loading, 5 mm from flange 11.9 N

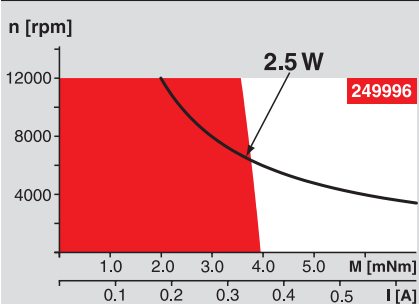
- Other specifications**
- 29 Number of pole pairs 1
 - 30 Number of commutator segments 9
 - 31 Weight of motor 34 g

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

Option

Ball bearings in place of sleeve bearings

Operating Range



Comments

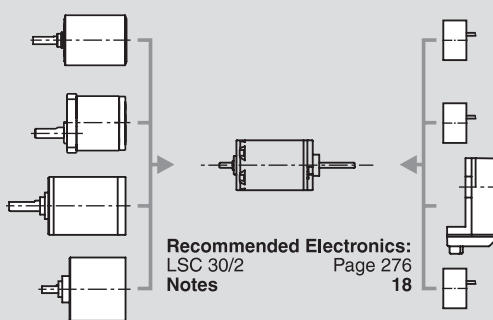
Continuous operation
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

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

— Assigned power rating

maxon Modular System

- Planetary Gearhead**
Ø19 mm
0.1 - 0.3 Nm
Page 226
- Spur Gearhead**
Ø20.3 mm
0.06 - 0.25 Nm
Page 227
- Planetary Gearhead**
Ø22 mm
0.1 - 2.0 Nm
Page 228 / 230 / 231
- Spur Gearhead**
Ø24 mm
0.1 Nm
Page 234



Overview on page 16 - 21

- Encoder MR**
32 CPT,
2 / 3 channels
Page 255
- Encoder MR**
128 / 256 / 512 CPT,
2 / 3 channels
Page 256
- Encoder Enc**
22 mm
100 CPT, 2 channels
Page 261
- Encoder MEnc**
Ø13 mm
16 CPT, 2 channels
Page 270