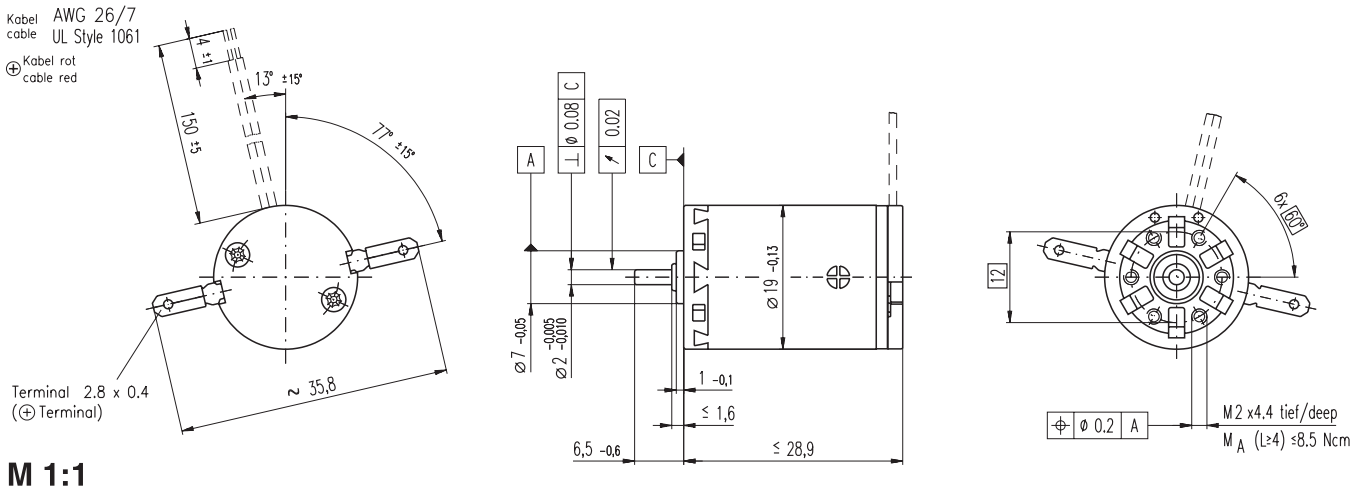
maxon A-max 19 ∅19 mm, Precious Metal Brushes CLL, 2.5 Watt, CE approved



M 1:1

Stock program
Standard program
Special program (on request)

			Order Number															
			with terminals	110081	110082	110083	110084	110085	110086	110087	110088	110089						
			with cables	139828	202411	352922	202412	352923	233453	238388	267427	235373						
Motor Data																		
	Values at nominal voltage																	
1	Nominal voltage	V		1.5	3.6	4.5	6.0	9.0	12.0	15.0	18.0	24.0						
2	No load speed	rpm		8010	10800	9400	7780	9200	10300	10300	9290	8850						
3	No load current	mA		77.5	52.6	33.5	18.5	16.2	14.6	11.7	8.22	5.7						
4	Nominal speed	rpm		6660	8040	5690	4020	5490	6530	6520	5470	4930						
5	Nominal torque (max. continuous torque)	mNm		1.35	2.49	3.61	3.61	3.62	3.52	3.52	3.51	3.43						
6	Nominal current (max. continuous current)	A		0.840	0.840	0.828	0.513	0.406	0.333	0.266	0.199	0.139						
7	Stall torque	mNm		8.12	9.79	9.19	7.52	9.02	9.67	9.65	8.57	7.80						
8	Starting current	A		4.62	3.13	2.04	1.04	0.982	0.884	0.705	0.472	0.307						
9	Max. efficiency	%		76	76	77	76	77	77	77	76	75						
	Characteristics																	
10	Terminal resistance	Ω		0.325	1.15	2.20	5.77	9.17	13.6	21.3	38.2	78.2						
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		1000	1120	1040	1050	1040	1080	1090	1100	1160						
15	Mechanical time constant	ms		26.6	24.3	23.7	23.6	23.5	23.6	23.7	23.7	24.0						
16	Rotor inertia	gcm²		2.53	2.07	2.18	2.14	2.16	2.08	2.08	2.05	1.98						

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 ... +65°C
22	Max. permissible winding temperature	+85°C

Mechanical data (sleeve bearings)

23	Max. permissible speed	16000 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	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 loading, 5 mm from flange	11.9 N

Other specifications

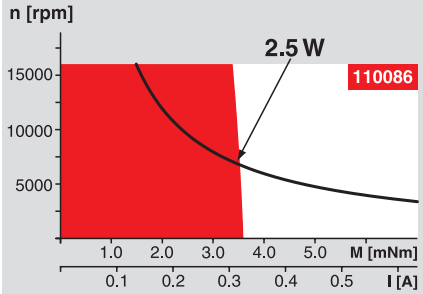
29	Number of pole pairs	1
30	Number of commutator segments	9
31	Weight of motor	33 g

CLL = Capacitor Long Life

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

Option
Ball bearings in place of sleeve bearings
Without CLL

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

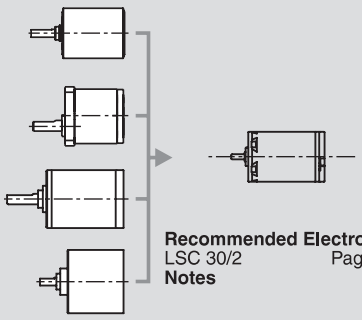
Overview on page 16 - 21

Planetary Gearhead
∅19 mm
0.1 - 0.3 Nm
Page 226

Spur Gearhead
∅20.3 mm
0.06 - 0.25 Nm
Page 227

Planetary Gearhead
∅22 mm
0.1 - 2.0 Nm
Page 228 / 230 / 231

Spur Gearhead
∅24 mm
0.1 Nm
Page 234



Recommended Electronics:
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