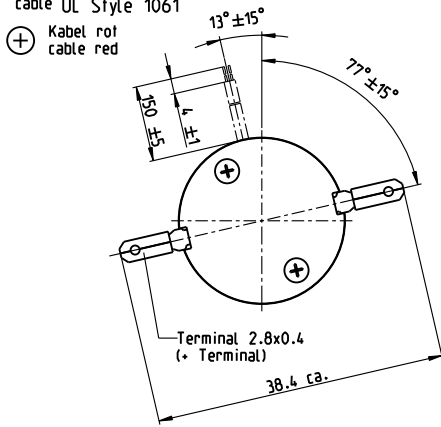
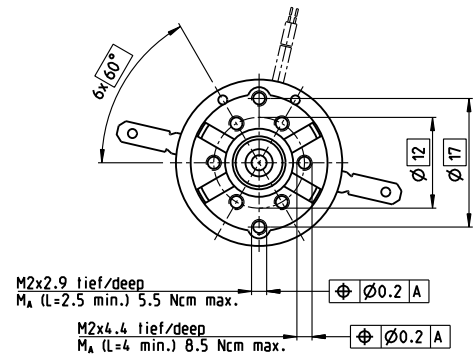
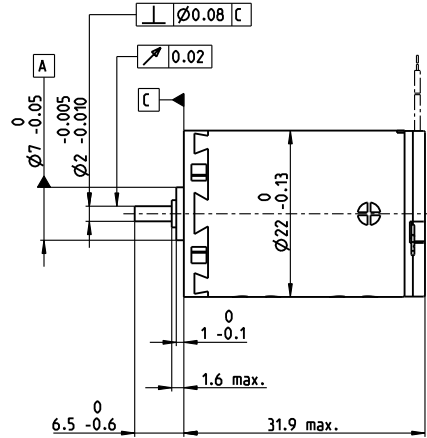


# A-max 22 Ø22 mm, Precious Metal Brushes CLL, 5 Watt

Kabel AWG 24/7  
cable UL Style 1061  
Kabel rot  
cable red



M 1:1



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

Part Numbers												
with terminals	110117	110119	110120	110121	110122	110123	110124	110125	110126	110127	110128	110129
with cables	139838	218799	238798	202413	258367	137255	134267	134666	267423	137476	310003	342390

Motor Data													
Values at nominal voltage													
1 Nominal voltage	V	6	9	9	12	12	15	18	24	30	36	48	48
2 No load speed	rpm	9630	9970	8760	10400	9400	10300	9970	10700	10800	9800	9280	8370
3 No load current	mA	29.5	20.8	16.8	16.8	14.2	13.1	10.4	8.81	7.18	5.06	3.47	2.93
4 Nominal speed	rpm	7390	7300	6100	7770	6700	7530	7220	7970	8070	7000	6420	5520
5 Nominal torque (max. continuous torque)	mNm	4.81	6.22	6.3	6.24	6.18	6.1	6.05	6.02	5.98	5.94	5.83	5.9
6 Nominal current (max. continuous current)	A	0.84	0.745	0.661	0.586	0.523	0.451	0.362	0.291	0.234	0.175	0.122	0.111
7 Stall torque	mNm	20.1	22.9	20.5	24.3	21.4	22.9	22	23.5	23.5	20.8	19	17.4
8 Stall current	A	3.42	2.68	2.11	2.23	1.77	1.65	1.28	1.11	0.894	0.599	0.387	0.32
9 Max. efficiency	%	83	84	83	84	83	83	83	83	83	83	82	82
Characteristics													
10 Terminal resistance	Ω	1.76	3.36	4.27	5.39	6.78	9.07	14	21.6	33.5	60.1	124	150
11 Terminal inductance	mH	0.106	0.222	0.288	0.362	0.445	0.584	0.89	1.37	2.1	3.68	7.29	8.95
12 Torque constant	mNm/A	5.9	8.55	9.73	10.9	12.1	13.9	17.1	21.2	26.2	34.8	48.9	54.3
13 Speed constant	rpm/V	1620	1120	981	875	790	689	558	450	364	274	195	176
14 Speed / torque gradient	rpm/mNm	482	438	430	432	443	451	458	459	465	474	494	486
15 Mechanical time constant	ms	20.5	19.8	19.7	19.7	19.8	20.2	20.1	20.2	20.3	20.3	20.5	20.4
16 Rotor inertia	gcm <sup>2</sup>	4.07	4.32	4.37	4.36	4.26	4.27	4.2	4.2	4.16	4.09	3.97	4.01

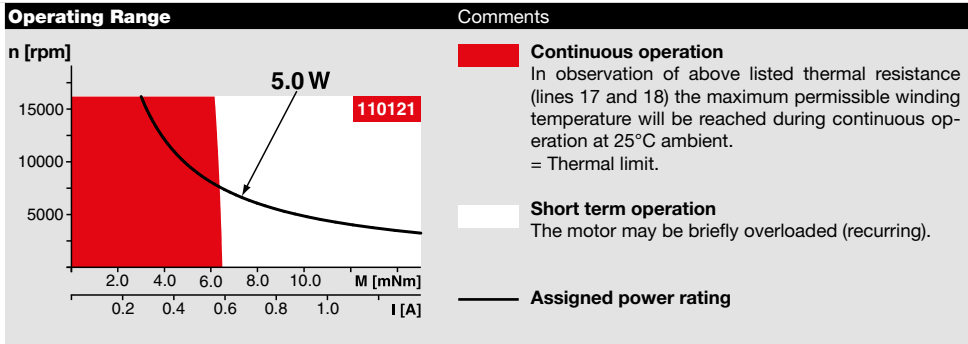
Specifications	
Thermal data	
17 Thermal resistance housing-ambient	20 K/W
18 Thermal resistance winding-housing	6.0 K/W
19 Thermal time constant winding	10.2 s
20 Thermal time constant motor	313 s
21 Ambient temperature	-30...+65°C
22 Max. winding temperature	+85°C
Mechanical data (sleeve bearings)	
23 Max. 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 load, 5 mm from flange	2.8 N

Mechanical data (ball bearings)	
23 Max. 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 load, 5 mm from flange	12.3 N

Other specifications	
29 Number of pole pairs	1
30 Number of commutator segments	9
31 Weight of motor	54 g
CLL = Capacitor Long Life	

Values listed in the table are nominal.  
Explanation of the figures on page 68.

**Option**  
Ball bearings in place of sleeve bearings  
Without CLL



**maxon Modular System** Details on catalog page 32

<b>Planetary Gearhead</b> Ø22 mm 0.1 - 0.6 Nm Page 337/338	
<b>Planetary Gearhead</b> Ø22 mm 0.5 - 2.0 Nm Page 339/341	
<b>Spur Gearhead</b> Ø24 mm 0.1 Nm Page 345	
<b>Screw Drive</b> Ø22 mm Page 380/381	

**Recommended Electronics:** Page 32

<b>Notes</b>	
ESCON Module 24/2	454
ESCON 36/2 DC	454
ESCON Module 50/5	455
ESCON 50/5	457