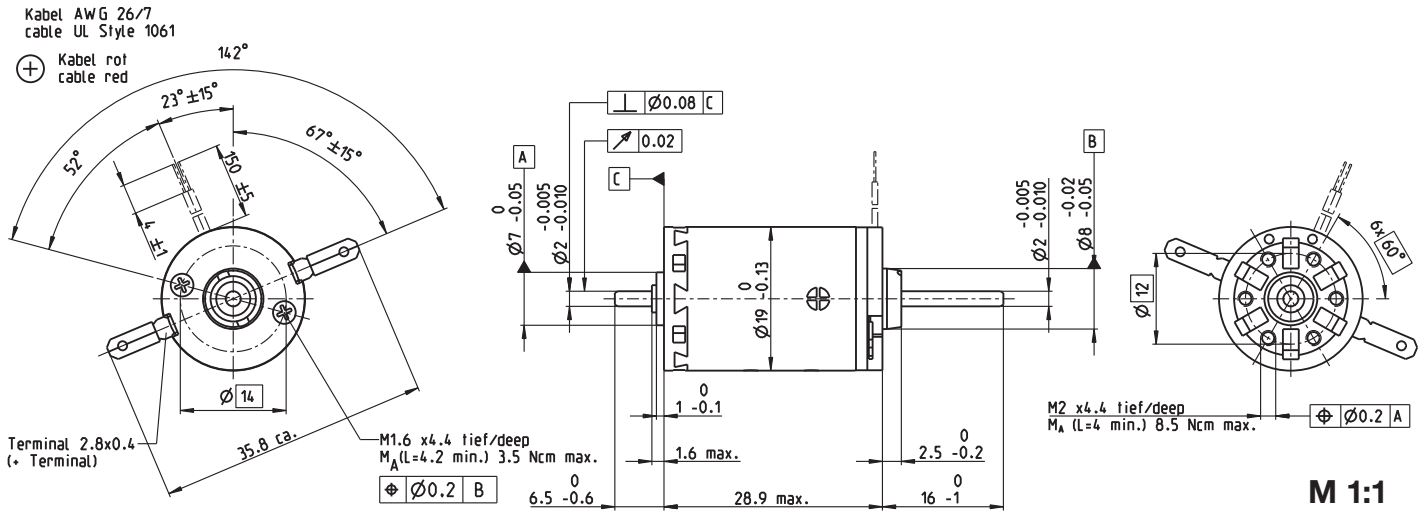


A-max 19 Ø19 mm, Precious Metal Brushes CLL, 1.5 Watt



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

Part Numbers

with terminals	110090	110091	110092	110093	110094	110095	110096	110097	110098
with cables	139832	352925	352926	352927	352928	352929	352930	315468	352931

Motor Data

Values at nominal voltage		1.2	2.4	3	4.8	6	7.2	9	12	18
1 Nominal voltage	V	1.2	2.4	3	4.8	6	7.2	9	12	18
2 No load speed	rpm	6390	7160	6230	6190	6090	6130	6130	6140	6590
3 No load current	mA	88.3	52	34.2	21.2	16.6	14	11.2	8.41	6.19
4 Nominal speed	rpm	5210	4410	2500	2410	2330	2290	2280	2210	2630
5 Nominal torque (max. continuous torque)	mNm	1.33	2.49	3.62	3.57	3.59	3.51	3.51	3.43	3.38
6 Nominal current (max. continuous current)	A	0.84	0.84	0.833	0.511	0.405	0.332	0.265	0.195	0.138
7 Stall torque	mNm	6.23	6.28	6	5.89	5.89	5.68	5.67	5.44	5.73
8 Stall current	A	3.55	2.01	1.34	0.816	0.642	0.52	0.415	0.3	0.226
9 Max. efficiency	%	72	71	71	71	71	70	70	70	70
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	0.019	0.059	0.121	0.314	0.506	0.719	1.12	1.98	3.87
12 Torque constant	mNm/A	1.76	3.12	4.49	7.22	9.17	10.9	13.7	18.1	25.4
13 Speed constant	rpm/V	5440	3060	2130	1320	1040	874	699	526	377
14 Speed / torque gradient	rpm/mNm	1050	1170	1060	1080	1060	1110	1110	1160	1180
15 Mechanical time constant	ms	27.9	25.4	24.3	24.2	24.1	24.3	24.3	25	24.7
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	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	201 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 / 440 N
28 Max. radial load, 5 mm from flange	2.7 N

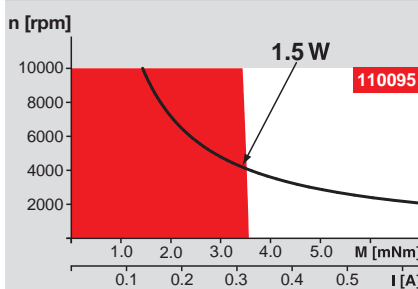
Mechanical data (ball bearings)	
23 Max. speed	10000 rpm
24 Axial play	0.05 - 0.15 mm
25 Radial play	0.025 mm
26 Max. axial load (dynamic)	3.3 N
27 Max. force for press fits (static) (static, shaft supported)	45 N / 440 N
28 Max. radial load, 5 mm from flange	11.9 N

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

Values listed in the table are nominal.
Explanation of the figures on page 151.

Option
Ball bearings in place of sleeve bearings
Without CLL

Operating Range



Comments

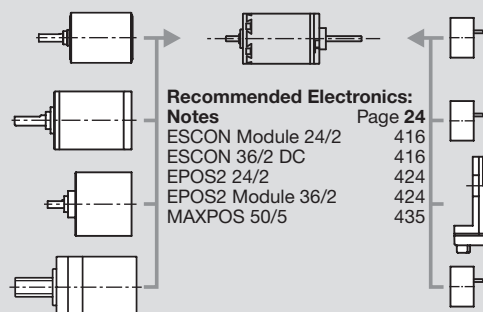
■ **Continuous operation**
In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient.
= Thermal limit.

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

— **Assigned power rating**

maxon Modular System

- Planetary Gearhead**
Ø19 mm
0.1 - 0.3 Nm
Page 325
- Planetary Gearhead**
Ø22 mm
0.5 - 2.0 Nm
Page 329/331
- Spur Gearhead**
Ø24 mm
0.1 Nm
Page 335
- Spindle Drive**
Ø22 mm
Page 368/369



- Recommended Electronics:**
- Notes
 - ESCON Module 24/2
 - ESCON 36/2 DC
 - EPOS2 24/2
 - EPOS2 Module 36/2
 - MAXPOS 50/5

Page 24

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- 435

Overview on page 20-27

- Encoder MR**
32 CPT,
2 / 3 channels
Page 388
- Encoder MR**
128 / 256 / 512 CPT,
2 / 3 channels
Page 390
- Encoder Enc**
22 mm
100 CPT, 2 channels
Page 398
- Encoder MEnc**
Ø13 mm
16 CPT, 2 channels
Page 409