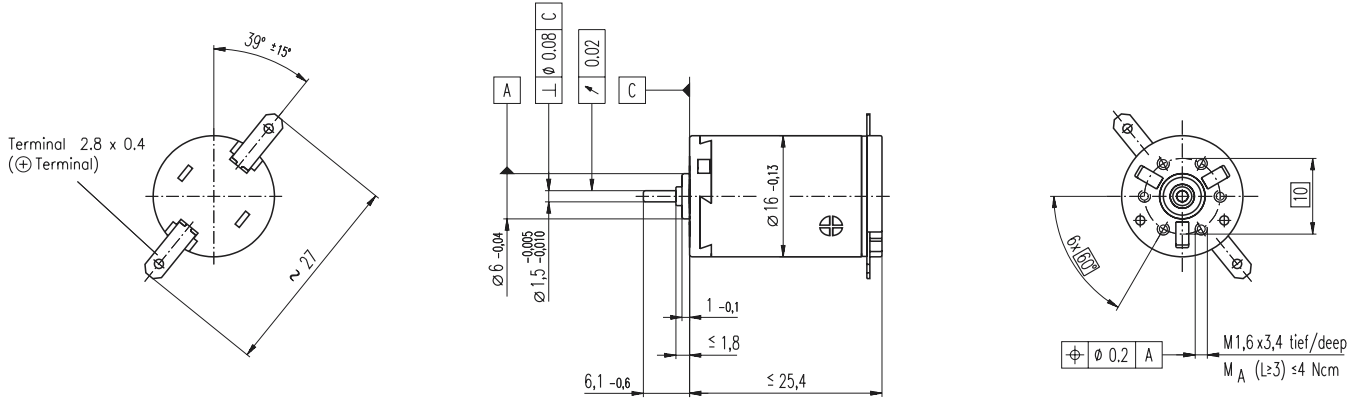


A-max 16 $\varnothing 16$ mm, Precious Metal Brushes CLL, 2 Watt, $\text{C}\epsilon$ approved



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

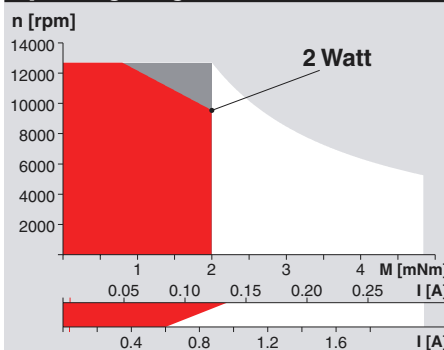
Order Number

Motor Data		110041	110042	110043	110044	110045	110046	110047	110048	110049	110050						
1	Assigned power rating	W	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0						
2	Nominal voltage	Volt	1.5	3.0	6.0	9.0	12.0	15.0	18.0	21.0	24.0	30.0					
3	No load speed	rpm	10700	12200	10100	12200	12200	13100	14000	13600	13800	11300					
4	Stall torque	mNm	4.80	4.52	4.04	4.84	4.78	5.17	5.46	5.23	5.14	4.05					
5	Speed / torque gradient	rpm / mNm	2270	2760	2540	2580	2610	2580	2620	2650	2740	2860					
6	No load current	mA	61	38	14	13	10	9	8	7	6	3					
7	Starting current	mA	3660	1970	723	702	520	482	453	362	315	164					
8	Terminal resistance	Ohm	0.410	1.52	8.30	12.8	23.1	31.1	39.7	57.9	76.2	183					
9	Max. permissible speed	rpm	12700	12700	12700	12700	12700	12700	12700	12700	12700	12700					
10	Max. continuous current	mA	600	600	408	328	244	210	186	154	134	86.7					
11	Max. continuous torque	mNm	0.788	1.38	2.27	2.26	2.25	2.26	2.24	2.23	2.19	2.14					
12	Max. power output at nominal voltage	mW	1340	1440	1060	1540	1520	1770	1990	1860	1840	1190					
13	Max. efficiency	%	77	75	75	76	76	76	76	76	76	74					
14	Torque constant	mNm / A	1.31	2.30	5.58	6.89	9.19	10.7	12.0	14.4	16.3	24.7					
15	Speed constant	rpm / V	7270	4160	1710	1390	1040	890	793	661	586	386					
16	Mechanical time constant	ms	24	23	22	22	22	22	22	22	22	22					
17	Rotor inertia	gcm ²	1.01	0.781	0.819	0.807	0.797	0.804	0.795	0.785	0.763	0.733					
18	Terminal inductance	mH	0.02	0.05	0.31	0.47	0.83	1.13	1.43	2.05	2.62	6.02					
19	Thermal resistance housing-ambient	K / W	30	30	30	30	30	30	30	30	30	30					
20	Thermal resistance rotor-housing	K / W	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5					
21	Thermal time constant winding	s	4	3	3	3	3	3	3	3	3	3					

Specifications

- Axial play 0.05 - 0.15 mm
- Max. **sleeve bearing** loads
 - axial (dynamic) 0.8 N
 - radial (5 mm from flange) 1.4 N
 - Press-fit force (static) 15 N
- Max. **ball bearing** loads
 - axial (dynamic) 2.2 N
 - radial (5 mm from flange) 7.8 N
 - Press-fit force (static) 30 N
- Radial play **sleeve bearing** 0.012 mm
- Radial play **ball bearing** 0.025 mm
- Ambient temperature range -30 / +85°C
- Max. rotor temperature +85°C
- Number of commutator segments 7
- Weight of motor 21 g
- Values listed in the table are nominal. For applicable tolerances (see page 43). For additional details please use the maxon selection program on the enclosed CD-Rom.
- CLL = Capacitor Long Life

Operating Range



Comments

- Recommended operating range**
- Continuous operation**
In observation of above listed thermal resistances (lines 19 and 20) the maximum permissible rotor temperature will be reached during continuous operation at 25°C ambient. = Thermal limit.
- Short term operation**
The motor may be briefly overloaded (recurring).
- 110049** Motor with high resistance winding
- 110042** Motor with low resistance winding

Details on page 49

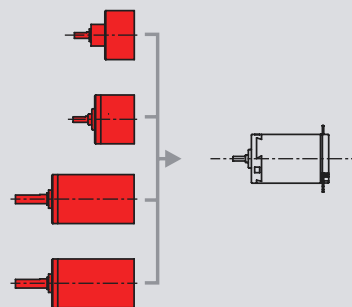
maxon Modular System

Spur Gearhead
 $\varnothing 16$ mm
 0.015 Nm
 Details page 169

Spur Gearhead
 $\varnothing 16$ mm
 0.01 - 0.04 Nm
 Details page 170 / 171

Planetary Gearhead
 $\varnothing 16$ mm
 0.1 - 0.3 Nm
 Details page 172

Planetary Gearhead
 $\varnothing 16$ mm
 0.06 - 0.18 Nm
 Details page 173



Digital Magnetic Encoder $\varnothing 13$ mm
 16 CPT, 2 channels
 Details page 212

Digital MR Encoder
 32 CPT, 2 / 3 channels
 Details page 199

Digital MR Encoder
 128 / 256 / 512 CPT,
 2 / 3 channels
 Details page 200