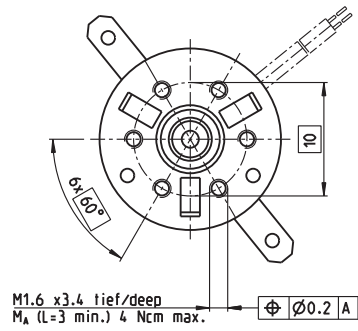
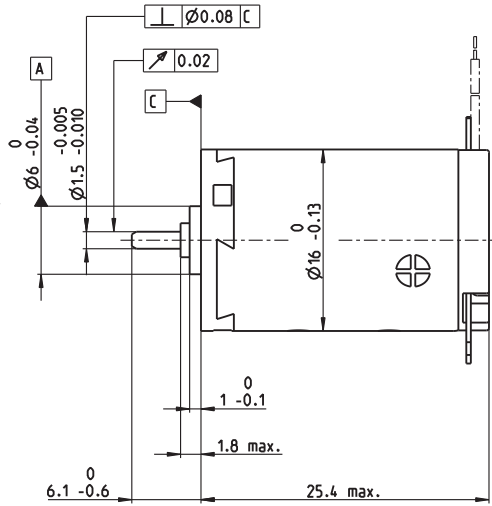
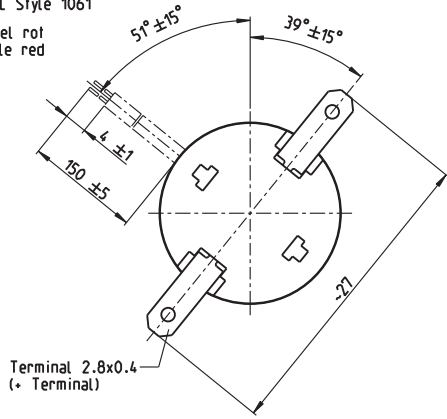


A-max 16 Ø16 mm, Precious Metal Brushes CLL, 2 Watt

Kabel AWG 26/7
cable UL Style 1061
⊕ Kabel rot
cable red



M 3:2

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

Part Numbers

with terminals	110041	110042	110043	110044	110045	110046	110047	110048	110049	110050
with cables	139820	352815	134844	231379	220514	304672	352823	352816	260678	352817

Motor Data														
Values at nominal voltage														
		1.5	3	6	9	12	15	18	21	24	30			
1	Nominal voltage	V	1.5	3	6	9	12	15	18	21	24	30		
2	No load speed	rpm	10800	11000	10100	12300	12300	13200	14100	13700	13800	11400		
3	No load current	mA	61.4	38.1	13.9	12.7	9.54	8.57	7.99	6.53	5.83	3.37		
4	Nominal speed	rpm	9360	8810	4530	6700	6660	7590	8480	8040	8120	5480		
5	Nominal torque (max. continuous torque)	mNm	0.712	1.3	2.22	2.19	2.17	2.17	2.15	2.14	2.11	2.08		
6	Nominal current (max. continuous current)	A	0.6	0.6	0.408	0.327	0.243	0.209	0.185	0.153	0.134	0.0864		
7	Stall torque	mNm	4.79	4.51	4.03	4.82	4.77	5.16	5.44	5.22	5.12	4.04		
8	Stall current	A	3.66	1.97	0.723	0.702	0.52	0.482	0.453	0.362	0.315	0.164		
9	Max. efficiency	%	76	75	75	76	76	76	76	76	76	74		
Characteristics														
10	Terminal resistance	Ω	0.41	1.52	8.3	12.8	23.1	31.1	39.7	57.9	76.2	183		
11	Terminal inductance	mH	0.017	0.052	0.306	0.467	0.83	1.13	1.42	2.05	2.61	6.01		
12	Torque constant	mNm/A	1.31	2.29	5.57	6.88	9.17	10.7	12	14.4	16.3	24.7		
13	Speed constant	rpm/V	7290	4170	1720	1390	1040	893	795	663	587	387		
14	Speed / torque gradient	rpm/mNm	2280	2770	2560	2590	2620	2600	2630	2670	2750	2880		
15	Mechanical time constant	ms	25.3	23.8	23.2	23.3	23.3	23.4	23.5	23.4	23.5	23.9		
16	Rotor inertia	gcm ²	1.06	0.82	0.868	0.859	0.849	0.859	0.852	0.838	0.816	0.793		

Specifications

Thermal data

17	Thermal resistance housing-ambient	29.8 K/W
18	Thermal resistance winding-housing	5.5 K/W
19	Thermal time constant winding	3.55 s
20	Thermal time constant motor	165 s
21	Ambient temperature	-30...+65°C
22	Max. winding temperature	+85°C

Mechanical data (sleeve bearings)

23	Max. speed	19000 rpm
24	Axial play	0.05 - 0.15 mm
25	Radial play	0.012 mm
26	Max. axial load (dynamic)	0.8 N
27	Max. force for press fits (static)	35 N
28	Max. radial load, 5 mm from flange	1.4 N

Mechanical data (ball bearings)

23	Max. speed	19000 rpm
24	Axial play	0.05 - 0.15 mm
25	Radial play	0.025 mm
26	Max. axial load (dynamic)	2.2 N
27	Max. force for press fits (static)	30 N
28	Max. radial load, 5 mm from flange	7.8 N

Other specifications

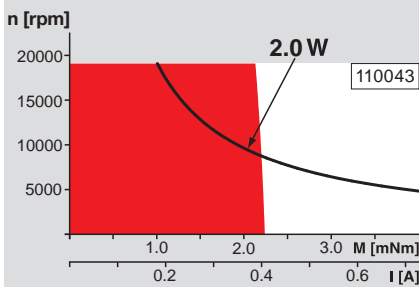
29	Number of pole pairs	1
30	Number of commutator segments	7
31	Weight of motor	21 g

CLL = Capacitor Long Life

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

Overview on page 20–27

Spur Gearhead

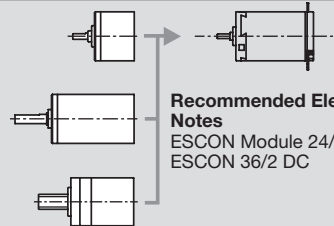
Ø16 mm
0.01 - 0.1 Nm
Page 319–322

Planetary Gearhead

Ø16 mm
0.1 - 0.6 Nm
Page 323/324

Spindle Drive

Ø16 mm
Page 365–367



Recommended Electronics:
Notes Page 24
ESCON Module 24/2 416
ESCON 36/2 DC 416