

maxon motor

driven by precision

Please find our works drawings for the parts supplied to Farnell. The parts are modified motors from the base motors (i.e. reduced shaft ready for use with the Gearheads or back shaft reduced ready for the encoder)

I have enclosed the Maxon base part number and the catalogue PDF that gives the electrical specifications

121391 MOTOR, 26MMDIA, 12VDC, 11W – Farnell Order Code 176-1305.
Maxon base part no 110937

121394 MOTOR, 26MMDIA, 24VDC, 11W – Farnell Order Code 176-1306.
Maxon base part no 110940

243066 MOTOR, 32MMDIA, 12VDC, 15W, THRO S – Farnell Order Code 1761307
Maxon base part no 236653

240987 MOTOR, 32MMDIA, 24VDC, 15W, THRO S – Farnell Order Code 1761308
Maxon base part no 236655

137576 MOTOR, 36MMDIA, 24VDC, 70W – Farnell Order Code 1761309
Maxon base part no 118798

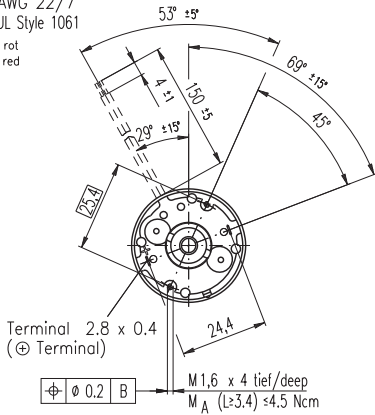
Maxon motor UK Ltd

Maxon House, Hogwood Lane, Finchampstead, Berkshire, RG40 4QW

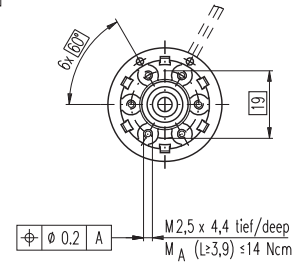
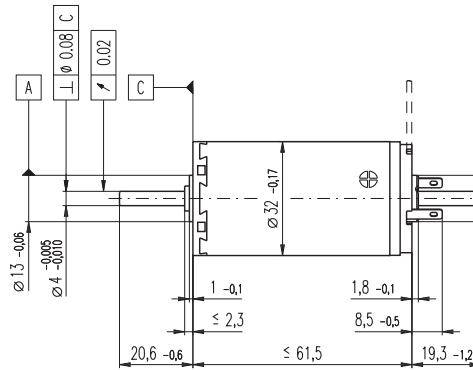
Tel: +44 (0) 118 9733337 Fax: +44 (0) 118 9737472

A-max 32 Ø32 mm, Graphite Brushes, 15 Watt

Kabel AWG 22/7
UL Style 1061
Kabel rot
cable red



Verlegung der Kabel im
Bürstendeckel nicht dargestellt



M 1:2

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

Order Number

with terminals	236651	236652	236653	236654	236655	236656	236657	236658
with cables	353220	353221	353222	353223	353224	353225	353226	353227

Motor Data

Values at nominal voltage		6.0	9.0	12.0	18.0	24.0	30.0	36.0	48.0
1 Nominal voltage	V	6.0	9.0	12.0	18.0	24.0	30.0	36.0	48.0
2 No load speed	rpm	5830	4930	4670	5270	5930	5870	5830	3870
3 No load current	mA	153	83.2	58.4	44.8	38.6	30.5	25.2	11.7
4 Nominal speed	rpm	3800	2980	2860	3550	4180	4140	4090	2080
5 Nominal torque (max. continuous torque)	mNm	31.4	33.1	36.0	37.5	36.7	37.1	36.8	36.9
6 Nominal current (max. continuous current)	A	3.42	2.02	1.55	1.21	0.998	0.798	0.656	0.328
7 Stall torque	mNm	99.7	87.4	95.9	118	127	128	125	81.3
8 Starting current	A	10.4	5.12	3.98	3.66	3.34	2.66	2.15	0.698
9 Max. efficiency	%	75	75	77	79	80	80	80	76
Characteristics		0.577	1.76	3.02	4.92	7.19	11.3	16.7	68.8
10 Terminal resistance	Ω	0.577	1.76	3.02	4.92	7.19	11.3	16.7	68.8
11 Terminal inductance	mH	0.0657	0.209	0.416	0.739	1.04	1.66	2.43	9.71
12 Torque constant	mNm / A	9.58	17.1	24.1	32.2	38.2	48.2	58.3	117
13 Speed constant	rpm / V	996	559	396	297	250	198	164	81.9
14 Speed / torque gradient	rpm / mNm	59.9	57.6	49.5	45.5	47.1	46.3	47.1	48.4
15 Mechanical time constant	ms	27.6	23.5	22.4	21.8	21.7	21.5	21.5	21.5
16 Rotor inertia	gcm ²	43.9	39.0	43.3	45.9	44.0	44.4	43.6	42.4

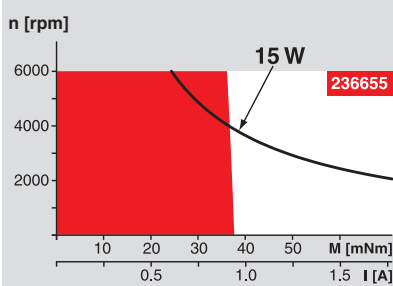
Specifications

Thermal data	
17 Thermal resistance housing-ambient	7.5 K / W
18 Thermal resistance winding-housing	2.1 K / W
19 Thermal time constant winding	17.7 s
20 Thermal time constant motor	791 s
21 Ambient temperature	-20 ... +85°C
22 Max. permissible winding temperature	+125°C
Mechanical data (ball bearings)	
23 Max. permissible speed	6000 rpm
24 Axial play	0.12 - 0.22 mm
25 Radial play	0.025 mm
26 Max. axial load (dynamic)	7.6 N
27 Max. force for press fits (static) (static, shaft supported)	110 N / 2000 N
28 Max. radial loading, 5 mm from flange	32 N
Mechanical data (sleeve bearings)	
23 Max. permissible speed	6000 rpm
24 Axial play	0.12 - 0.22 mm
25 Radial play	0.012 mm
26 Max. axial load (dynamic)	5.0 N
27 Max. force for press fits (static) (static, shaft supported)	110 N / 2000 N
28 Max. radial loading, 5 mm from flange	10.5 N
Other specifications	
29 Number of pole pairs	1
30 Number of commutator segments	13
31 Weight of motor	211 g

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

Option
Sleeve bearings in place of ball bearings

Operating Range



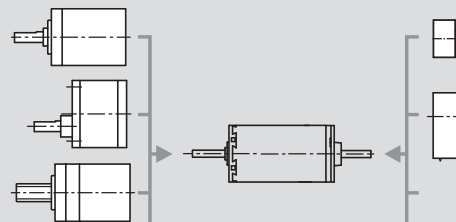
Comments

- **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**
Ø32 mm
0.75 - 6.0 Nm
Page 232 / 234 / 235
- Spur Gearhead**
Ø38 mm
0.1 - 0.6 Nm
Page 239
- Spindle Drive**
Ø32 mm
Page 251 / 252 / 253



- Encoder MR**
256 - 1024 CPT,
3 channels
Page 265
- Encoder HED_5540**
500 CPT,
3 channels
Page 269 / 271

- Recommended Electronics:**
- LSC 30/2 Page 282
 - ADS 50/5 282
 - ADS_E 50/5 283
 - EPOS2 Module 36/2 302
 - EPOS2 24/5 303
 - EPOS2 50/5 303
 - EPOS P 24/5 306
 - Notes 18**

