

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

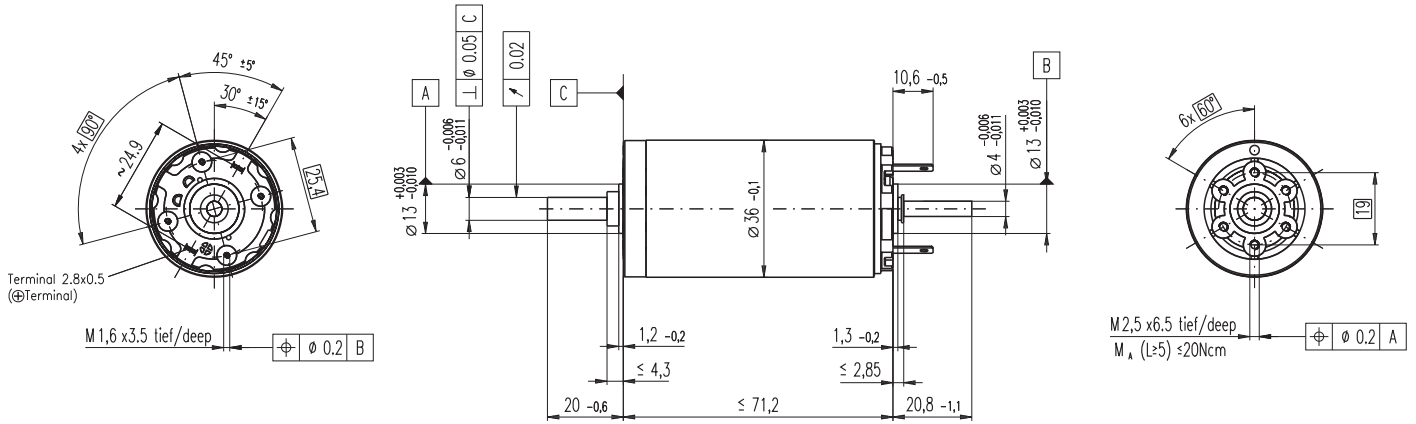
137576 MOTOR, 36MMDIA, 24VDC, 70W – Farnell Order Code 1761309  
Maxon base no 118798

Maxon motor UK Ltd

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

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# RE 36 Ø36 mm, Graphite Brushes, 70 Watt



M 1:2

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

### Order Number

118797 118798 118799 118800 118801 118802 118803 118804 118805 118806 118807 118808 118809 118810

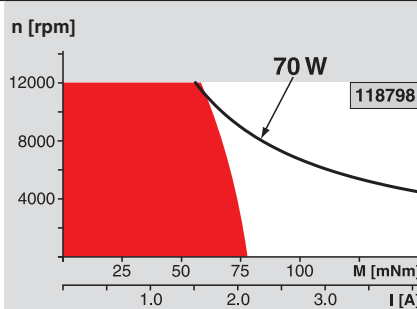
### Motor Data

Values at nominal voltage		118797	118798	118799	118800	118801	118802	118803	118804	118805	118806	118807	118808	118809	118810
1	Nominal voltage	V	18.0	24.0	32.0	42.0	42.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0
2	No load speed	rpm	6610	6210	6790	7020	6340	6420	5220	4320	3450	2830	2280	1780	1420
3	No load current	mA	153	105	88.6	70.4	61.4	54.6	41.6	32.6	24.7	19.5	15.2	11.5	8.97
4	Nominal speed	rpm	5880	5530	6120	6350	5660	5740	4520	3600	2720	2090	1530	1010	651
5	Nominal torque (max. continuous torque)	mNm	70.2	78.2	77.1	77.9	79.9	79.5	81.5	82.2	83.6	84.1	84.1	83.8	84.1
6	Nominal current (max. continuous current)	A	2.90	2.25	1.82	1.45	1.33	1.18	0.978	0.813	0.660	0.545	0.439	0.343	0.275
7	Stall torque	mNm	730	783	832	866	786	785	627	504	403	326	258	198	158
8	Starting current	A	28.6	21.5	18.7	15.3	12.6	11.1	7.22	4.80	3.06	2.04	1.30	0.784	0.501
9	Max. efficiency	%	84	85	86	86	86	86	85	84	82	81	79	77	75
<b>Characteristics</b>															
10	Terminal resistance	Ω	0.628	1.11	1.71	2.74	3.35	4.32	6.65	10.0	15.7	23.5	36.8	61.3	95.8
11	Terminal inductance	mH	0.0988	0.201	0.300	0.487	0.597	0.760	1.15	1.68	2.62	3.87	5.96	9.70	15.1
12	Torque constant	mNm / A	25.5	36.4	44.5	56.6	62.6	70.7	86.9	105	131	160	198	253	315
13	Speed constant	rpm / V	375	263	215	169	152	135	110	90.9	72.7	59.8	48.2	37.8	30.3
14	Speed / torque gradient	rpm / mNm	9.23	8.05	8.27	8.18	8.14	8.25	8.41	8.65	8.67	8.80	8.96	9.17	9.21
15	Mechanical time constant	ms	6.00	5.89	5.84	5.81	5.81	5.80	5.81	5.81	5.82	5.83	5.84	5.86	5.85
16	Rotor inertia	gcm <sup>2</sup>	62.0	69.9	67.5	67.8	68.1	67.2	66.0	64.2	64.1	63.3	62.2	61.1	60.7

### Specifications

- Thermal data**
- 17 Thermal resistance housing-ambient 6.4 K / W
  - 18 Thermal resistance winding-housing 3.4 K / W
  - 19 Thermal time constant winding 44.2 s
  - 20 Thermal time constant motor 1120 s
  - 21 Ambient temperature -30 ... +100°C
  - 22 Max. permissible winding temperature +125°C
- Mechanical data (ball bearings)**
- 23 Max. permissible speed 12000 rpm
  - 24 Axial play 0.05 - 0.15 mm
  - 25 Radial play 0.025 mm
  - 26 Max. axial load (dynamic) 5.6 N
  - 27 Max. force for press fits (static) 5.6 N
  - (static, shaft supported) 1200 N
  - 28 Max. radial loading, 5 mm from flange 28 N

### 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**

### Other specifications

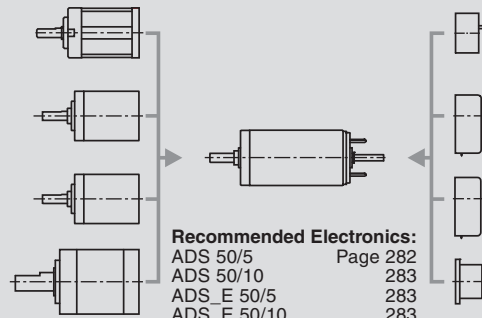
- 29 Number of pole pairs 1
  - 30 Number of commutator segments 13
  - 31 Weight of motor 350 g
- Values listed in the table are nominal.  
Explanation of the figures on page 49.
- △ Tolerances may vary from the standard specification.

### Option

Preloaded ball bearings

### maxon Modular System

- Planetary Gearhead**  
Ø32 mm  
0.4 - 2.0 Nm  
Page 345
- Planetary Gearhead**  
Ø32 mm  
0.75 - 4.5 Nm  
Page 234
- Planetary Gearhead**  
Ø32 mm  
1.0 - 6.0 Nm  
Page 235
- Planetary Gearhead**  
Ø42 mm  
3 - 15 Nm  
Page 240

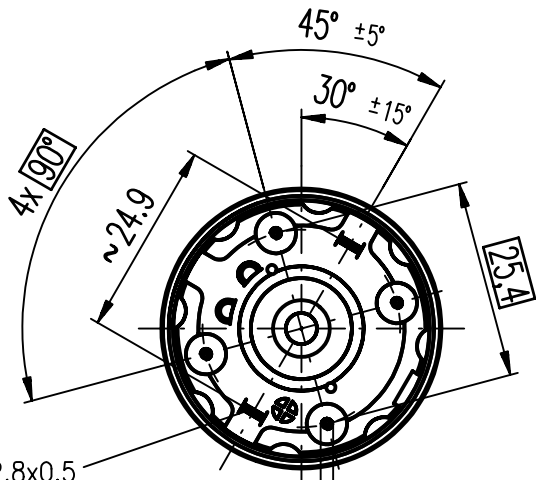


### Recommended Electronics:

- ADS 50/5 282
- ADS 50/10 283
- ADS\_E 50/5 283
- ADS\_E 50/10 283
- EPOS 24/5 303
- EPOS2 50/5 303
- EPOS P 24/5 306
- Notes 18**

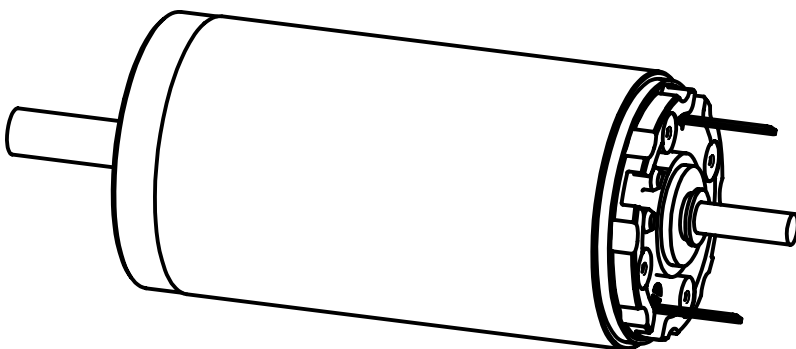
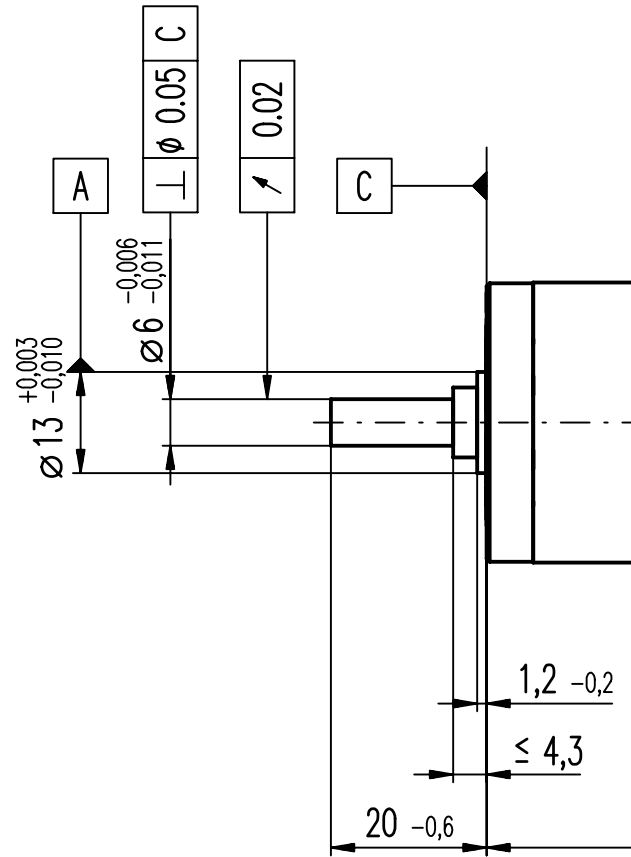
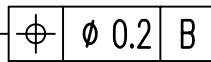
### Overview on page 16 - 21

- Encoder MR**  
256 - 1024 CPT,  
3 channels  
Page 265
- Encoder HEDS 5540**  
500 CPT,  
3 channels  
Page 268
- Encoder HEDL 5540**  
500 CPT,  
3 channels  
Page 270
- DC-Tacho DCT**  
Ø22 mm  
0.52 V  
Page 277



Terminal 2.8x0.5  
(⊕Terminal)

M 1,6 x 3.5 tief/deep



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