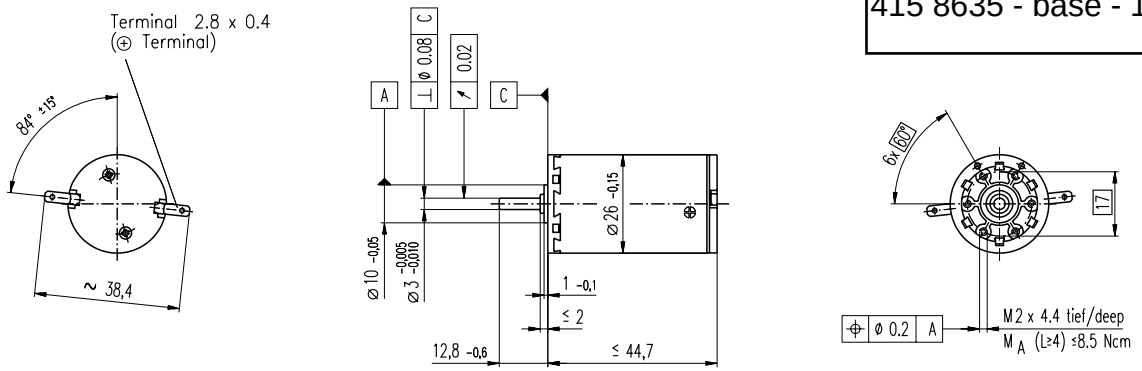
# A-max 26 ∅26 mm, Graphite Brushes, 11 Watt

**High***Power*

| Farnell Codes |
|---|
| 415 8623 - base - 110937 |
| 415 8635 - base - 110940 |






**M 1:2**

Stock program
Standard program
Special program (on request!)

**Order Number**

| | | | 110935 | 110936 | 110937 | 110938 | 110939 | 110940 | 110941 | 110942 | 110943 | 110944 | 110945 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Motor Data** | | | | | | | | | | | | | |
| 1 | Assigned power rating | W | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| 2 | Nominal voltage | Volt | 6.0 | 7.2 | 12.0 | 15.0 | 18.0 | 24.0 | 30.0 | 36.0 | 42.0 | 48.0 | 48.0 |
| 3 | No load speed | rpm | 8700 | 9390 | 7630 | 7930 | 7570 | 8400 | 6680 | 6900 | 7480 | 7100 | 5710 |
| 4 | Stall torque | mNm | 57.1 | 62.6 | 70.0 | 73.9 | 73.3 | 81.5 | 63.6 | 66.4 | 71.9 | 66.4 | 53.2 |
| 5 | Speed / torque gradient | rpm / mNm | 163 | 159 | 112 | 110 | 105 | 105 | 107 | 105 | 105 | 108 | 109 |
| 6 | No load current | mA | 126 | 115 | 51 | 43 | 34 | 29 | 17 | 15 | 14 | 12 | 9 |
| 7 | Starting current | mA | 9310 | 9060 | 4800 | 4190 | 3300 | 3040 | 1510 | 1350 | 1360 | 1040 | 673 |
| 8 | Terminal resistance | Ohm | 0.644 | 0.795 | 2.50 | 3.58 | 5.46 | 7.90 | 19.9 | 26.6 | 30.9 | 46.0 | 71.4 |
| 9 | Max. permissible speed | rpm | 10400 | 10400 | 10400 | 10400 | 10400 | 10400 | 10400 | 10400 | 10400 | 10400 | 10400 |
| 10 | Max. continuous current | mA | 1080 | 1080 | 1080 | 1070 | 878 | 732 | 466 | 403 | 374 | 307 | 247 |
| 11 | Max. continuous torque | mNm | 6.63 | 7.46 | 15.7 | 18.9 | 19.5 | 19.6 | 19.7 | 19.8 | 19.8 | 19.6 | 19.6 |
| 12 | Max. power output at nominal voltage | mW | 10800 | 13300 | 13100 | 14500 | 14000 | 17400 | 10900 | 11800 | 13800 | 12200 | 7830 |
| 13 | Max. efficiency | % | 69 | 71 | 77 | 78 | 79 | 80 | 79 | 80 | 80 | 80 | 78 |
| 14 | Torque constant | mNm / A | 6.14 | 6.91 | 14.6 | 17.6 | 22.3 | 26.9 | 42.2 | 49.1 | 52.9 | 63.7 | 79.0 |
| 15 | Speed constant | rpm / V | 1560 | 1380 | 655 | 541 | 429 | 356 | 226 | 194 | 180 | 150 | 121 |
| 16 | Mechanical time constant | ms | 24 | 21 | 15 | 15 | 14 | 14 | 13 | 13 | 13 | 13 | 13 |
| 17 | Rotor inertia | gcm² | 13.9 | 12.4 | 13.0 | 12.6 | 12.7 | 12.4 | 11.8 | 11.9 | 11.8 | 11.4 | 11.3 |
| 18 | Terminal inductance | mH | 0.04 | 0.05 | 0.23 | 0.33 | 0.53 | 0.77 | 1.90 | 2.57 | 2.99 | 4.33 | 6.67 |
| 19 | Thermal resistance housing-ambient | K / W | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |
| 20 | Thermal resistance rotor-housing | K / W | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 | 3.2 |
| 21 | Thermal time constant winding | s | 13 | 12 | 12 | 12 | 12 | 12 | 11 | 11 | 11 | 11 | 11 |

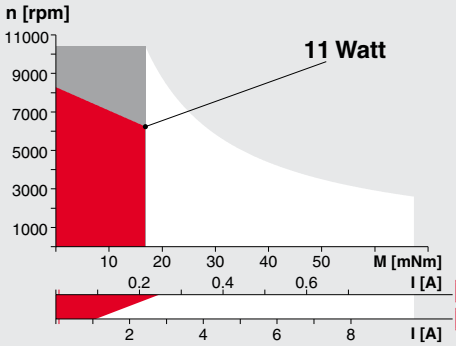
## Specifications

- Axial play 0.1 - 0.2 mm
- Max. **ball bearing** loads
  axial (dynamic) 5.0 N
  radial (5 mm from flange) 20.5 N
  Force for press fits (static) 75 N
- Max. **sleeve bearing** loads
  axial (dynamic) 1.7 N
  radial (5 mm from flange) 5.5 N
  Force for press fits (static) 80 N
- Radial play **ball bearing** 0.025 mm
- Radial play **sleeve bearing** 0.012 mm
- Ambient temperature range -30 ... +85°C
- Max. rotor temperature +125°C
- Number of commutator segments 13
- Weight of motor 117 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.

- Options: Sleeve bearings in place of ball bearings and pigtails in place of terminals.

## Operating Range

Comments Details on page 49




**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).

110945 Motor with high resistance winding
110936 Motor with low resistance winding

## maxon Modular System

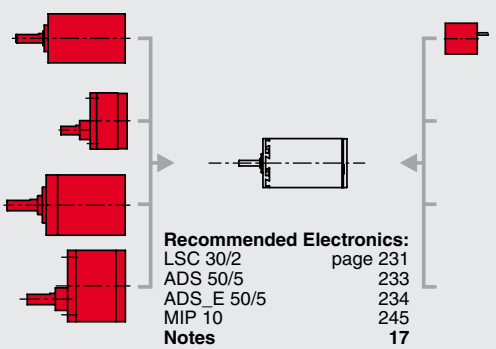
Overview on page 17 - 21

**Planetary Gearhead**
∅26 mm
0.2 - 2.0 Nm
Details page 193

**Spur Gearhead**
∅30 mm
0.07 - 0.2 Nm
Details page 194

**Planetary Gearhead**
∅32 mm
0.4 - 6.0 Nm
Details page 195 / 197 / 199

**Spur Gearhead**
∅38 mm
0.1 - 0.6 Nm
Details page 200



**Digital Magnetic Encoder** ∅13 mm
16 CPT, 2 channels
Details page 223

**Recommended Electronics:**

| | |
|---|---|
| LSC 30/2 | page 231 |
| ADS 50/5 | 233 |
| ADS_E 50/5 | 234 |
| MIP 10 | 245 |
| **Notes** | **17** |