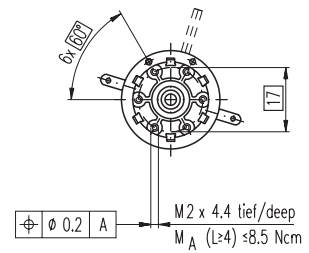
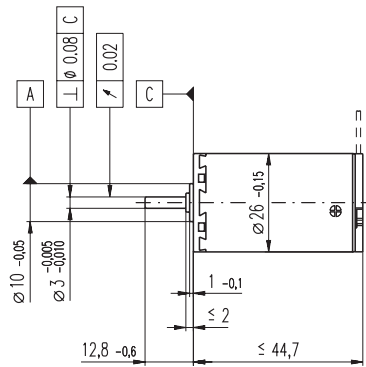
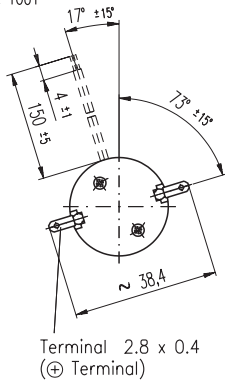


A-max 26 Ø26 mm, Precious Metal Brushes CLL, 4 Watt, CE approved

Kabel AWG 24/7
 cable UL Style 1061
 ⊕ Kabel rot
 cable red



M 1:2

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

Order Number

| | | | | | | | | | | | | |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| with terminals | 110169 | 110170 | 110171 | 110172 | 110173 | 110174 | 110175 | 110176 | 110177 | 110178 | 110179 | 110180 |
| with cables | 353039 | 353040 | 353041 | 353042 | 220031 | 353043 | 353044 | 353045 | 353046 | 353047 | 353048 | 353049 |

Motor Data

| Values at nominal voltage | | | | | | | | | | | | | | | |
|---------------------------|---|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| 1 | Nominal voltage | V | 4.5 | 4.5 | 4.5 | 7.2 | 12.0 | 12.0 | 15.0 | 18.0 | 18.0 | 24.0 | 30.0 | 42.0 | |
| 2 | No load speed | rpm | 6110 | 5230 | 3860 | 5110 | 5590 | 5020 | 5430 | 5980 | 5340 | 5670 | 5890 | 5520 | |
| 3 | No load current | mA | 60.0 | 47.4 | 30.3 | 28.5 | 19.6 | 16.7 | 15.0 | 14.5 | 12.2 | 10.0 | 8.49 | 5.51 | |
| 4 | Nominal speed | rpm | 5090 | 3860 | 2360 | 3260 | 3470 | 2880 | 3180 | 3690 | 3160 | 3500 | 3680 | 3270 | |
| 5 | Nominal torque (max. continuous torque) | mNm | 5.45 | 6.47 | 8.95 | 10.9 | 12.4 | 12.4 | 11.7 | 11.4 | 12.1 | 12.1 | 11.9 | 11.7 | |
| 6 | Nominal current (max. continuous current) | A | 0.840 | 0.840 | 0.840 | 0.840 | 0.629 | 0.564 | 0.463 | 0.414 | 0.391 | 0.312 | 0.254 | 0.168 | |
| 7 | Stall torque | mNm | 32.6 | 24.9 | 23.3 | 30.2 | 32.8 | 29.3 | 28.6 | 29.9 | 29.9 | 31.8 | 31.9 | 28.9 | |
| 8 | Starting current | A | 4.70 | 3.08 | 2.12 | 2.27 | 1.62 | 1.30 | 1.10 | 1.05 | 0.940 | 0.797 | 0.665 | 0.403 | |
| 9 | Max. efficiency | % | 79 | 77 | 78 | 79 | 80 | 79 | 78 | 78 | 79 | 79 | 79 | 78 | |
| Characteristics | | | | | | | | | | | | | | | |
| 10 | Terminal resistance | Ω | 0.958 | 1.46 | 2.12 | 3.17 | 7.41 | 9.24 | 13.7 | 17.1 | 19.2 | 30.1 | 45.1 | 104 | |
| 11 | Terminal inductance | mH | 0.101 | 0.138 | 0.254 | 0.372 | 0.862 | 1.07 | 1.42 | 1.69 | 2.13 | 3.35 | 4.85 | 10.8 | |
| 12 | Torque constant | mNm / A | 6.94 | 8.09 | 11.0 | 13.3 | 20.2 | 22.5 | 26.0 | 28.3 | 31.8 | 39.9 | 48.0 | 71.6 | |
| 13 | Speed constant | rpm / V | 1380 | 1180 | 869 | 718 | 472 | 423 | 367 | 337 | 300 | 239 | 199 | 133 | |
| 14 | Speed / torque gradient | rpm / mNm | 190 | 213 | 168 | 171 | 173 | 173 | 193 | 203 | 181 | 181 | 187 | 194 | |
| 15 | Mechanical time constant | ms | 24.4 | 24.2 | 23.7 | 23.5 | 23.5 | 23.4 | 23.6 | 23.8 | 23.6 | 23.6 | 23.7 | 23.8 | |
| 16 | Rotor inertia | gcm ² | 12.3 | 10.9 | 13.5 | 13.1 | 13.0 | 12.9 | 11.7 | 11.2 | 12.5 | 12.4 | 12.1 | 11.7 | |

Specifications

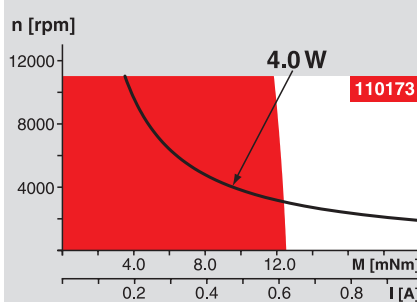
| Thermal data | | |
|-----------------------------------|---------------------------------------|---------------|
| 17 | Thermal resistance housing-ambient | 13.2 K / W |
| 18 | Thermal resistance winding-housing | 3.2 K / W |
| 19 | Thermal time constant winding | 12.4 s |
| 20 | Thermal time constant motor | 660 s |
| 21 | Ambient temperature | -30 ... +65°C |
| 22 | Max. permissible winding temperature | +85°C |
| Mechanical data (sleeve bearings) | | |
| 23 | Max. permissible speed | 11000 rpm |
| 24 | Axial play | 0.1 - 0.2 mm |
| 25 | Radial play | 0.012 mm |
| 26 | Max. axial load (dynamic) | 1.7 N |
| 27 | Max. force for press fits (static) | 80 N |
| 28 | Max. radial loading, 5 mm from flange | 5.5 N |
| Mechanical data (ball bearings) | | |
| 23 | Max. permissible speed | 11000 rpm |
| 24 | Axial play | 0.1 - 0.2 mm |
| 25 | Radial play | 0.025 mm |
| 26 | Max. axial load (dynamic) | 5.0 N |
| 27 | Max. force for press fits (static) | 75 N |
| 28 | Max. radial loading, 5 mm from flange | 20.5 N |
| Other specifications | | |
| 29 | Number of pole pairs | 1 |
| 30 | Number of commutator segments | 13 |
| 31 | Weight of motor | 100 g |
| CLL = Capacitor Long Life | | |

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

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 16 - 21

Planetary Gearhead

Ø26 mm
 0.5 - 2.0 Nm
 Page 235

Spur Gearhead

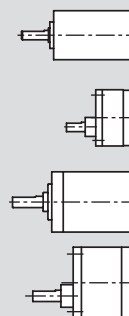
Ø30 mm
 0.07 - 0.2 Nm
 Page 236

Planetary Gearhead

Ø32 mm
 0.4 - 6.0 Nm
 Page 237 / 238 / 241

Spur Gearhead

Ø38 mm
 0.1 - 0.6 Nm
 Page 243



Recommended Electronics:

| | |
|-------------|----------|
| LSC 30/2 | Page 276 |
| EPOS 24/5 | 294 |
| EPOS2 50/5 | 295 |
| EPOS P 24/5 | 297 |
| Notes | 18 |

Encoder MEnc

Ø13 mm
 16 CPT, 2 channels
 Page 270