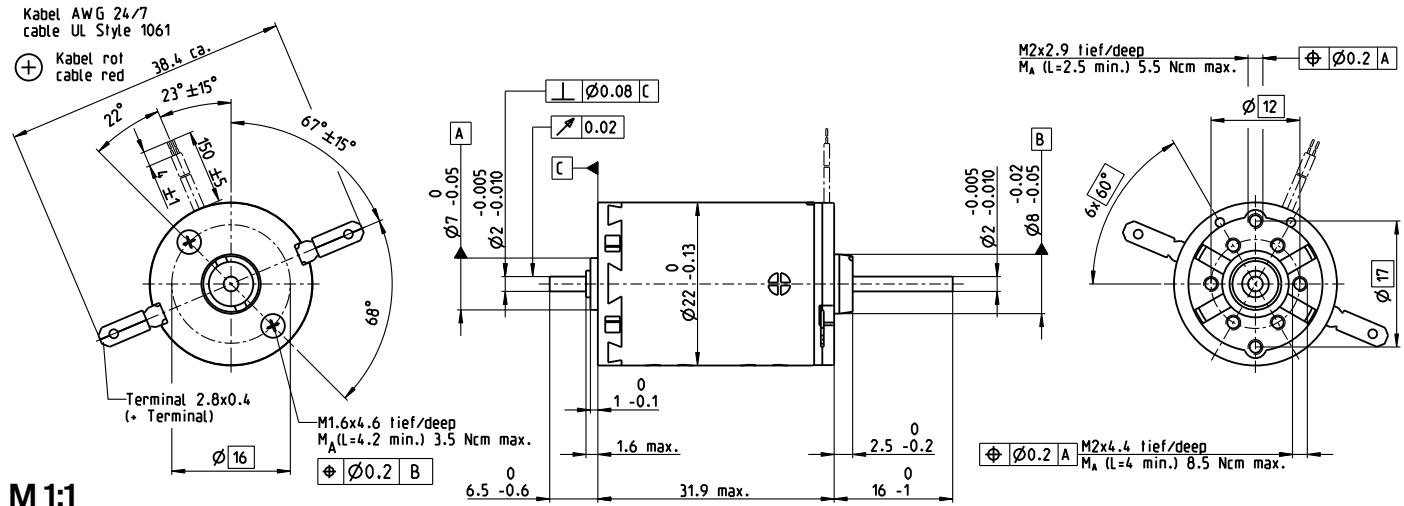


A-max 22 Ø22 mm, precious metal brushes CLL, 3.5 watt

A-max



M 1:1

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

| | | Part Numbers | | | | | | | | | | | |
|----------------|--|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| with terminals | | 110130 | 110132 | 110133 | 110134 | 110135 | 110136 | 110137 | 110138 | 110139 | 110140 | 110141 | 110142 |
| with cables | | 139846 | 352986 | 352987 | 352988 | 352989 | 352990 | 352991 | 352992 | 352993 | 352994 | 352995 | 352996 |

| Motor Data | | | | | | | | | | | | | |
|---|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Values at nominal voltage | | | | | | | | | | | | | |
| 1 Nominal voltage | V | 4.5 | 6 | 7.2 | 7.2 | 7.2 | 9 | 12 | 15 | 18 | 24 | 36 | 42 |
| 2 No load speed | rpm | 7210 | 6630 | 7000 | 6240 | 5620 | 6140 | 6630 | 6680 | 6480 | 6520 | 6950 | 7320 |
| 3 No load current | mA | 26.7 | 17.8 | 16 | 13.6 | 11.8 | 10.6 | 8.88 | 7.17 | 5.73 | 4.33 | 3.16 | 2.92 |
| 4 Nominal speed | rpm | 5010 | 3940 | 4330 | 3550 | 2890 | 3400 | 3890 | 3930 | 3710 | 3720 | 4100 | 4490 |
| 5 Nominal torque (max. continuous torque) | mNm | 4.82 | 6.27 | 6.31 | 6.31 | 6.24 | 6.21 | 6.16 | 6.15 | 6.11 | 6.05 | 5.91 | 5.95 |
| 6 Nominal current (max. continuous current) | A | 0.84 | 0.749 | 0.662 | 0.589 | 0.525 | 0.457 | 0.368 | 0.296 | 0.237 | 0.177 | 0.123 | 0.112 |
| 7 Stall torque | mNm | 15.4 | 15.3 | 16.4 | 14.6 | 12.8 | 14 | 14.9 | 15 | 14.4 | 14.2 | 14.5 | 15.5 |
| 8 Stall current | A | 2.61 | 1.79 | 1.69 | 1.34 | 1.06 | 1.01 | 0.872 | 0.706 | 0.547 | 0.407 | 0.296 | 0.286 |
| 9 Max. efficiency | % | 81 | 81 | 82 | 81 | 80 | 81 | 81 | 81 | 81 | 81 | 81 | 81 |
| Characteristics | | | | | | | | | | | | | |
| 10 Terminal resistance | Ω | 1.72 | 3.36 | 4.27 | 5.39 | 6.78 | 8.9 | 13.8 | 21.2 | 32.9 | 59 | 122 | 147 |
| 11 Terminal inductance | mH | 0.106 | 0.222 | 0.288 | 0.362 | 0.445 | 0.585 | 0.89 | 1.37 | 2.1 | 3.69 | 7.29 | 8.95 |
| 12 Torque constant | mNm/A | 5.9 | 8.55 | 9.73 | 10.9 | 12.1 | 13.9 | 17.1 | 21.2 | 26.2 | 34.8 | 48.9 | 54.3 |
| 13 Speed constant | rpm/V | 1620 | 1120 | 981 | 875 | 790 | 689 | 558 | 450 | 364 | 274 | 195 | 176 |
| 14 Speed/torque gradient | rpm/mNm | 474 | 438 | 430 | 432 | 443 | 443 | 449 | 450 | 456 | 465 | 485 | 477 |
| 15 Mechanical time constant | ms | 20.2 | 19.8 | 19.7 | 19.7 | 19.8 | 19.8 | 19.8 | 19.8 | 19.9 | 19.9 | 20.2 | 20 |
| 16 Rotor inertia | gcm ² | 4.07 | 4.32 | 4.38 | 4.36 | 4.26 | 4.27 | 4.2 | 4.21 | 4.16 | 4.1 | 3.97 | 4.01 |

| Specifications | Operating Range | Comments |
|---|----------------------------|--|
| Thermal data 17 Thermal resistance housing-ambient 20 K/W 18 Thermal resistance winding-housing 6.0 K/W 19 Thermal time constant winding 10.2 s 20 Thermal time constant motor 313 s 21 Ambient temperature -30...+65°C 22 Max. winding temperature +85°C Mechanical data (sleeve bearings) 23 Max. speed 10000 rpm 24 Axial play 0.05 - 0.15 mm 25 Radial play 0.012 mm 26 Max. axial load (dynamic) 1 N 27 Max. force for press fits (static) (static, shaft supported) 80 N / 440 N 28 Max. radial load, 5 mm from flange 2.8 N | Operating Range | 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 |

| Mechanical data (ball bearings) | maxon Modular System | Recommended Electronics: | Details on catalog page 38 |
|--|--|--|---|
| 23 Max. speed 10000 rpm 24 Axial play 0.05 - 0.15 mm 25 Radial play 0.025 mm 26 Max. axial load (dynamic) 3.3 N 27 Max. force for press fits (static) (static, shaft supported) 45 N / 440 N 28 Max. radial load, 5 mm from flange 12.3 N | Planetary Gearhead Ø22 mm 0.1 - 0.6 Nm Page 382 Planetary Gearhead Ø22 mm 0.5 - 2.0 Nm Page 383/385 Spur Gearhead Ø24 mm 0.1 Nm Page 389 Screw Drive Ø22 mm Page 424/425 | ESCON Module 24/2 500 ESCON 36/2 DC 500 ESCON Module 50/5 501 ESCON 50/5 503 EPOS4 Micro 24/5 509 EPOS4 Mod./Comp. 24/1.5 510 EPOS4 Mod./Comp. 50/5 510 EPOS4 Comp. 24/5 3-axes 511 | Encoder MR 32 CPT, 2/3 channels Page 475 Encoder MR 128 / 256 / 512 CPT, 2/3 channels Page 476 Encoder Enc 22 mm 100 CPT, 2 channels Page 483 |