

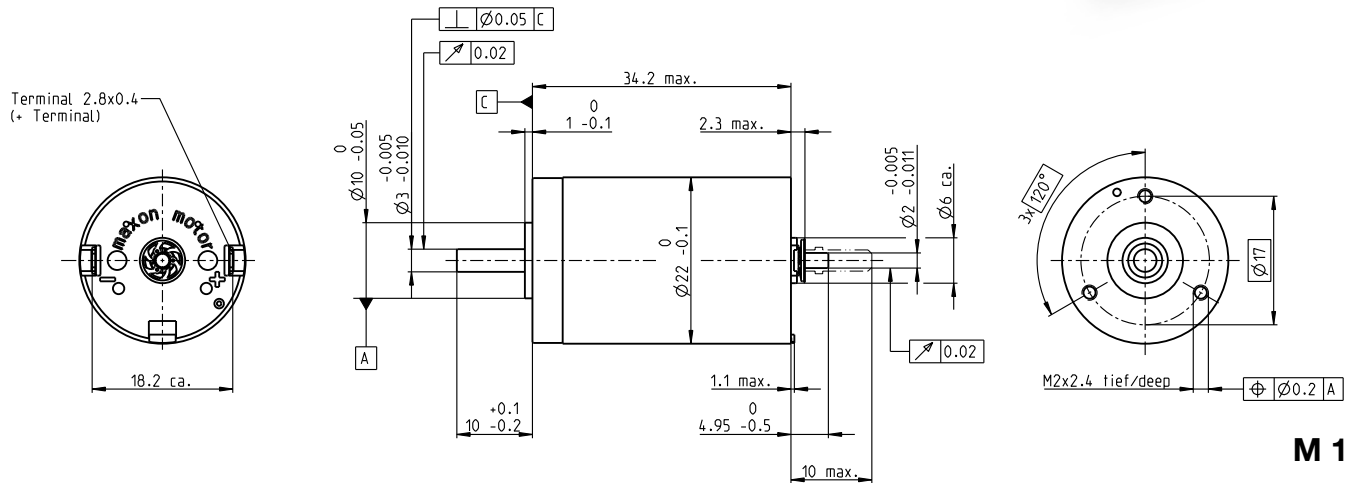
DCX 22 S Graphite Brushes

DC motor Ø22 mm

Key Data: 14/24 W, 15.3 mNm, 18000 rpm



maxon DCX



M 1:1

Motor Data

| | | | | | | | | |
|-----|---|------------------|-------|-------|-------|-------|-------|-------|
| 1_ | Nominal voltage | V | 6 | 12 | 18 | 24 | 36 | 48 |
| 2_ | No load speed | rpm | 11400 | 12400 | 12400 | 12400 | 12200 | 12700 |
| 3_ | No load current | mA | 126 | 71.7 | 47.8 | 35.9 | 23.4 | 18.5 |
| 4_ | Nominal speed | rpm | 9700 | 10700 | 10800 | 10800 | 10500 | 10900 |
| 5_ | Nominal torque (max. continuous torque) | mNm | 14.4 | 14.6 | 14.9 | 15.3 | 14.8 | 14.0 |
| 6_ | Nominal current (max. continuous current) | A | 3.00 | 1.65 | 1.12 | 0.869 | 0.552 | 0.406 |
| 7_ | Stall torque | mNm | 101 | 108 | 112 | 120 | 113 | 104 |
| 8_ | Stall current | A | 20.2 | 11.8 | 8.15 | 6.51 | 4.03 | 2.90 |
| 9_ | Max. efficiency | % | 85 | 85 | 85 | 86 | 85 | 84 |
| 10_ | Terminal resistance | Ω | 0.297 | 1.02 | 2.21 | 3.69 | 8.94 | 16.6 |
| 11_ | Terminal inductance | mH | 0.017 | 0.058 | 0.130 | 0.231 | 0.535 | 0.881 |
| 12_ | Torque constant | mNm/A | 5.01 | 9.18 | 13.8 | 18.4 | 28.0 | 35.9 |
| 13_ | Speed constant | rpm/V | 1910 | 1040 | 693 | 520 | 342 | 266 |
| 14_ | Speed/torque gradient | rpm/mNm | 113 | 116 | 111 | 104 | 109 | 123 |
| 15_ | Mechanical time constant | ms | 6.23 | 6.12 | 6.08 | 6.07 | 6.22 | 6.01 |
| 16_ | Rotor inertia | gcm ² | 5.27 | 5.05 | 5.22 | 5.55 | 5.44 | 4.67 |

Thermal data

| | | | |
|-----|-------------------------------------|-----|------------|
| 17_ | Thermal resistance housing-ambient | K/W | 16 |
| 18_ | Thermal resistance winding-housing | K/W | 7 |
| 19_ | Thermal time constant winding | s | 20 |
| 20_ | Thermal time constant motor | s | 528 |
| 21_ | Ambient temperature ball bearings | °C | -40...+100 |
| 21_ | Ambient temperature sleeve bearings | °C | -30...+100 |
| 22_ | Max. winding temperature | °C | 125 |

Mechanical data ball bearings

| | | | |
|-----|------------------------------------|-----|---------|
| 23_ | Max. speed | rpm | 18000 |
| 24_ | Axial play | mm | 0...0.1 |
| 24_ | Preload | N | 2.5 |
| 25_ | Radial play | mm | 0.02 |
| 26_ | Max. axial load (dynamic) | N | 2.5 |
| 27_ | Max. force for press fits (static) | N | 30 |
| 27_ | (static, shaft supported) | N | 440 |
| 28_ | Max. radial load [mm from flange] | N | 16 [5] |

Mechanical data sleeve bearings

| | | | |
|-----|------------------------------------|-----|---------|
| 23_ | Max. speed | rpm | 18000 |
| 24_ | Axial play | mm | 0...0.2 |
| 24_ | Preload | N | 0 |
| 25_ | Radial play | mm | 0.02 |
| 26_ | Max. axial load (dynamic) | N | 0.1 |
| 27_ | Max. force for press fits (static) | N | 80 |
| 27_ | (static, shaft supported) | N | 440 |
| 28_ | Max. radial load [mm from flange] | N | 3 [5] |

Other specifications

| | | | |
|---------------|-------------------------------|-----|-----------------|
| 29_ | Number of pole pairs | 1 | 468_MAXPOS 50/5 |
| 30_ | Number of commutator segments | 9 | |
| 31_ | Weight of motor | g | |
| 32_ | Typical noise level | dBA | |
| | | | 41 |
| Configuration | | | |

maxon Modular System

| maxon gear | Stages [opt.] | maxon sensor | maxon motor control |
|------------------|---------------|----------------------|-------------------------------|
| 302_GPX 22 A/C | 1-2 [3-4] | 390_ENX 10 EASY | 444_ESCON Module 24/2 |
| 303_GPX 22 LN/LZ | 1-2 [3-4] | 390_ENX 10 QUAD | 444_ESCON 36/2 DC |
| 304_GPX 22 HP | 2-3 [4] | 392_ENX 16 EASY | 445_ESCON Module 50/5 |
| 306_GPX 26 A/C | 3 | 393_ENX 16 EASY Abs. | 447_ESCON 50/5 |
| 307_GPX 26 LN/LZ | 3 | 399_ENX 16 RIO | 452_EPOS4 Module/Comp. 24/1.5 |
| 308_GPX 26 HP | 4 | 428_ENC AEDL 5810 | 453_EPOS4 50/5 |
| | | 429_ENC 30 HEDS 5540 | 453_EPOS4 Module/Comp. 50/5 |
| | | 435_ENC 30 HEDL 5540 | 464_EPOS2 P 24/5 |
| | | | 468_MAXPOS 50/5 |

Configuration

Bearing: Ball bearings preloaded/sleeve bearings
 Commutation: Precious metal brushes with or without CLL/graphite brushes/EMI filter
 Flange front/back: Standard flange/configurable flange/no flange
 Shaft front/back: Length/diameter/flat face
 Electric connection: Terminals or cable/alignment of connection/cable length/connector type

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