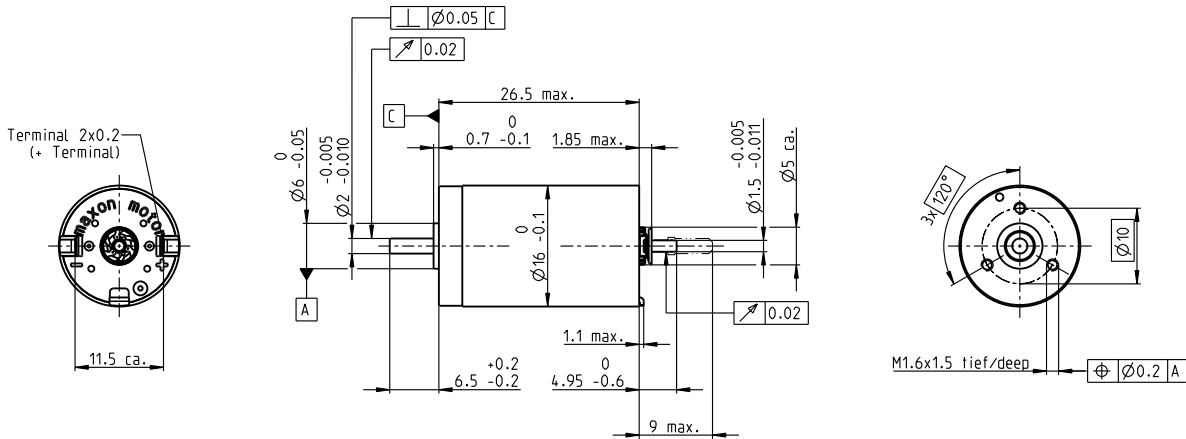


DCX 16 S \varnothing 16 mm, graphite brushes, DC motor

Key Data: 5/10 W, 5.4 mNm, 17000 rpm



DCX



M 1:1

Motor Data

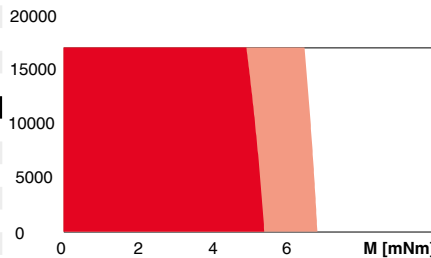
| | | | | | | | | |
|-----|---|------------------|-------|-------|-------|-------|-------|-------|
| 1_ | Nominal voltage | V | 6 | 9 | 12 | 18 | 24 | 48 |
| 2_ | No load speed | rpm | 12700 | 12700 | 13200 | 12700 | 12700 | 12600 |
| 3_ | No load current | mA | 63.9 | 42.6 | 35.4 | 22.4 | 16.8 | 8.28 |
| 4_ | Nominal speed | rpm | 9400 | 9400 | 9850 | 9260 | 9430 | 9250 |
| 5_ | Nominal torque (max. continuous torque) | mNm | 5.45 | 5.4 | 5.36 | 5.21 | 5.43 | 5.32 |
| 6_ | Nominal current (max. continuous current) | A | 1.28 | 0.847 | 0.662 | 0.411 | 0.321 | 0.156 |
| 7_ | Stall torque | mNm | 21.3 | 21 | 22.6 | 20.1 | 21.7 | 20.6 |
| 8_ | Stall current | A | 4.79 | 3.15 | 2.65 | 1.51 | 1.22 | 0.572 |
| 9_ | Max. efficiency | % | 78 | 78 | 76 | 76 | 78 | 77 |
| 10_ | Terminal resistance | Ω | 1.25 | 2.85 | 4.53 | 12 | 19.7 | 83.9 |
| 11_ | Terminal inductance | mH | 0.036 | 0.080 | 0.131 | 0.320 | 0.569 | 2.32 |
| 12_ | Torque constant | mNm/A | 4.45 | 6.67 | 8.53 | 13.3 | 17.8 | 36.0 |
| 13_ | Speed constant | rpm/V | 2150 | 1430 | 1120 | 715 | 536 | 265 |
| 14_ | Speed/torque gradient | rpm/mNm | 605 | 612 | 594 | 641 | 592 | 620 |
| 15_ | Mechanical time constant | ms | 6.35 | 6.21 | 6.74 | 6.43 | 6.32 | 6.23 |
| 16_ | Rotor inertia | gcm ² | 1.00 | 0.970 | 1.08 | 0.959 | 1.02 | 0.960 |

Thermal data

| | | | | | | | | |
|-----|-------------------------------------|--------------|------------|--|--|--|--|--|
| 17_ | Thermal resistance housing-ambient | K/W | 23.5 | | | | | |
| 18_ | Thermal resistance winding-housing | K/W | 9.9 | | | | | |
| 19_ | Thermal time constant winding | s | 9.63 | | | | | |
| 20_ | Thermal time constant motor | s | 227 | | | | | |
| 21_ | Ambient temperature ball bearings | $^{\circ}$ C | -40...+100 | | | | | |
| | Ambient temperature sleeve bearings | $^{\circ}$ C | -30...+100 | | | | | |
| 22_ | Max. winding temperature | $^{\circ}$ C | 125 | | | | | |

Operating Range

n [rpm] Winding 12 V



■ Continuous operation
■ Continuous operation with reduced thermal resistance R_{th2} 50%
 Intermittent operation

Mechanical data ball bearings

| | | | |
|-----|------------------------------------|-----|---------|
| 23_ | Max. speed | rpm | 17000 |
| 24_ | Axial play | mm | 0...0.1 |
| | Preload | N | 0.8 |
| 25_ | Radial play | mm | 0.015 |
| 26_ | Max. axial load (dynamic) | N | 0.8 |
| 27_ | Max. force for press fits (static) | N | 18 |
| | (static, shaft supported) | N | 300 |
| 28_ | Max. radial load [mm from flange] | N | 10 [5] |

Mechanical data sleeve bearings

| | | | |
|-----|------------------------------------|-----|---------|
| 23_ | Max. speed | rpm | 17000 |
| 24_ | Axial play | mm | 0...0.2 |
| | Preload | N | 0 |
| 25_ | Radial play | mm | 0.015 |
| 26_ | Max. axial load (dynamic) | N | 0.1 |
| 27_ | Max. force for press fits (static) | N | 60 |
| | (static, shaft supported) | N | 300 |
| 28_ | Max. radial load [mm from flange] | N | 2 [5] |

maxon Modular System

| | |
|------------------|---------------|
| maxon gear | Stages [opt.] |
| 341_GPX 16 A/C | 1-2 [3-4] |
| 342_GPX 16 LN/LZ | 1-2 [3-4] |
| 343_GPX 16 HP | 2-3 [4] |
| 345_GPX 19 A/C | 3-4 |
| 346_GPX 19 LN/LZ | 3-4 |
| 347_GPX 19 HP | 4 |

maxon sensor

| |
|-------------------------|
| 447_ENX 10 EASY |
| 447_ENX 10 QUAD |
| 448_ENX 10 EASY XT |
| 450_ENX 16 EASY |
| 451_ENX 16 EASY XT |
| 452_ENX 16 EASY Abs. |
| 453_ENX 16 EASY Abs. XT |
| 458_ENX 16 RIO |

maxon motor control

| |
|-----------------------------|
| 500_ESCON Module 24/2 |
| 500_ESCON 36/2 DC |
| 501_ESCON Module 50/5 |
| 503_ESCON 50/5 |
| 509_EPOS4 Micro 24/5 |
| 510_EPOS4 Mod./Comp. 50/5 |
| 510_EPOS4 Mod./Comp. 24/1.5 |
| 511_EPOS4 Comp. 24/5 3-axes |
| 515_EPOS4 50/5 |

Other specifications

| | | | |
|-----|-------------------------------|-----|----|
| 29_ | Number of pole pairs | | 1 |
| 30_ | Number of commutator segments | | 7 |
| 31_ | Weight of motor | g | 26 |
| 32_ | Typical noise level | dBA | 38 |

Configuration

Bearing: Ball bearings preloaded/sleeve bearings
 Commutation: Precious metal brushes with CLL/graphite brushes
 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