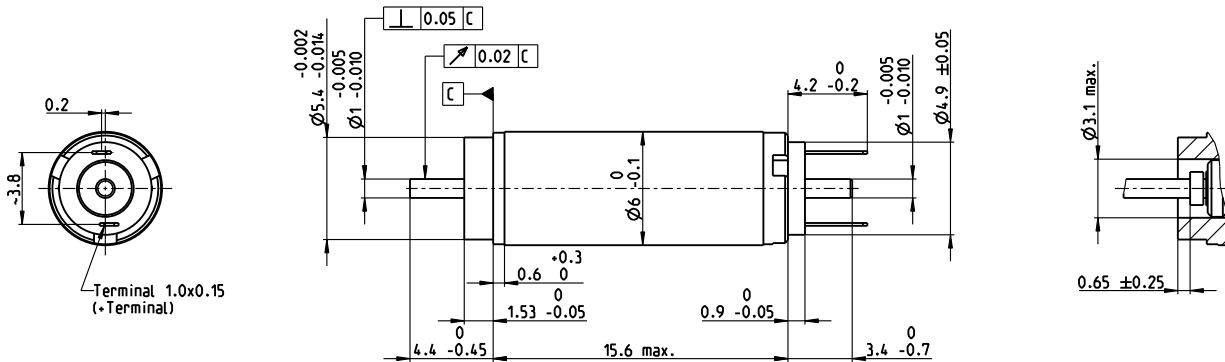


DCX 6 M Precious Metal Brushes

DC motor Ø6 mm



Key Data: 0.3/0.56 W, 0.3 mNm, 17300 rpm



M 5:2

Motor Data

| | | | | | | |
|-----|---|------------------|-------|--------|--------|-------|
| 1_ | Nominal voltage | V | 1.5 | 3 | 4.5 | 6 |
| 2_ | No load speed | rpm | 17300 | 17500 | 17400 | 17400 |
| 3_ | No load current | mA | 34.1 | 17.1 | 11.4 | 8.54 |
| 4_ | Nominal speed | rpm | 4950 | 5940 | 5730 | 5690 |
| 5_ | Nominal torque (max. continuous torque) | mNm | 0.309 | 0.332 | 0.326 | 0.325 |
| 6_ | Nominal current (max. continuous current) | A | 0.425 | 0.228 | 0.149 | 0.111 |
| 7_ | Stall torque | mNm | 0.453 | 0.524 | 0.507 | 0.503 |
| 8_ | Stall current | A | 0.581 | 0.336 | 0.217 | 0.161 |
| 9_ | Max. efficiency | % | 58 | 61 | 60 | 60 |
| 10_ | Terminal resistance | Ω | 2.58 | 9.0 | 20.8 | 37.2 |
| 11_ | Terminal inductance | mH | 0.008 | 0.0316 | 0.0711 | 0.126 |
| 12_ | Torque constant | mNm/A | 0.779 | 1.560 | 2.34 | 3.12 |
| 13_ | Speed constant | rpm/V | 12300 | 6130 | 4090 | 3060 |
| 14_ | Speed/torque gradient | rpm/mNm | 40600 | 35100 | 36300 | 36600 |
| 15_ | Mechanical time constant | ms | 7.06 | 6.74 | 6.81 | 6.81 |
| 16_ | Rotor inertia | gcm ² | 0.017 | 0.0183 | 0.0179 | 0.018 |

Thermal data

| | | | |
|-----|-------------------------------------|-----|-----------|
| 17_ | Thermal resistance housing-ambient | K/W | 105 |
| 18_ | Thermal resistance winding-housing | K/W | 20 |
| 19_ | Thermal time constant winding | s | 1.71 |
| 20_ | Thermal time constant motor | s | 79 |
| 21_ | Ambient temperature ball bearings | °C | -30...+85 |
| 21_ | Ambient temperature sleeve bearings | °C | -30...+85 |
| 22_ | Max. winding temperature | °C | 100 |

Mechanical data ball bearings

| | | | |
|-----|------------------------------------|-----|---------|
| 23_ | Max. speed | rpm | 17300 |
| 24_ | Axial play | mm | 0...0.1 |
| 24_ | Preload | N | 0.5 |
| 25_ | Radial play | mm | 0.012 |
| 26_ | Max. axial load (dynamic) | N | 0.1 |
| 27_ | Max. force for press fits (static) | N | 8.8 |
| 27_ | (static, shaft supported) | N | 100 |
| 28_ | Max. radial load [mm from flange] | N | 0.6 [5] |

Mechanical data sleeve bearings

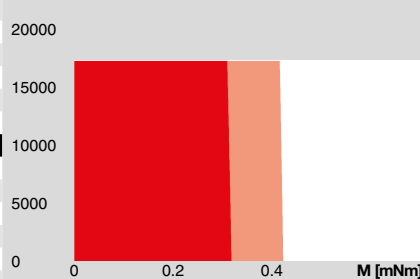
| | | | |
|-----|------------------------------------|-----|------------|
| 23_ | Max. speed | rpm | 17300 |
| 24_ | Axial play | mm | 0.02...0.1 |
| 24_ | Preload | N | 0 |
| 25_ | Radial play | mm | 0.012 |
| 26_ | Max. axial load (dynamic) | N | 0.1 |
| 27_ | Max. force for press fits (static) | N | 10 |
| 27_ | (static, shaft supported) | N | 100 |
| 28_ | Max. radial load [mm from flange] | N | 0.4 [5] |

Other specifications

| | | | |
|-----|-------------------------------|-----|-----|
| 29_ | Number of pole pairs | | 1 |
| 30_ | Number of commutator segments | | 5 |
| 31_ | Weight of motor | g | 2.4 |
| 32_ | Typical noise level | dBA | - |

Operating Range

n [rpm] Winding 4.5 V



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

maxon Modular System

| | | | | | | | |
|-----|------------------------------------|-----|------------|-------------------|---------------|---------------------|-------------------------------|
| 23_ | Max. speed | rpm | 17300 | maxon gear | Stages [opt.] | maxon sensor | maxon motor control |
| 24_ | Axial play | mm | 0.02...0.1 | 284_GPX 6 A | 1-5 | 386_ENX 6 MAG | 444_ESCON Module 24/2 |
| 24_ | Preload | N | 0 | | | 397_ENX 6 OPT | 444_ESCON 36/2 DC |
| 25_ | Radial play | mm | 0.012 | | | | 452_EPOS4 Module/Comp. 24/1.5 |
| 26_ | Max. axial load (dynamic) | N | 0.1 | | | | |
| 27_ | Max. force for press fits (static) | N | 10 | | | | |
| 27_ | (static, shaft supported) | N | 100 | | | | |
| 28_ | Max. radial load [mm from flange] | N | 0.4 [5] | | | | |

Configuration

Bearing: Sleeve bearings/ball bearings preloaded
 Commutation: Precious metal brushes
 Flange front/back: Standard flange
 Shaft front/back: Length
 Electric connection: Terminals or cables (encoder always with Flex)

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