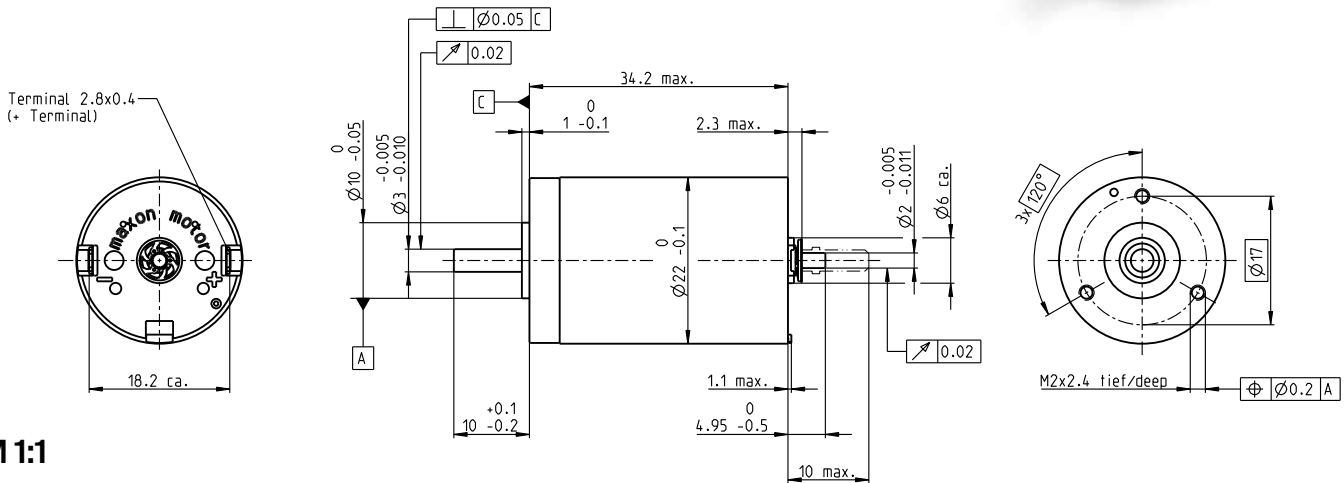


# DCX 22 S $\varnothing 22$ mm, graphite brushes, DC motor

Key Data: 14/24 W, 15.3 mNm, 18 000 rpm

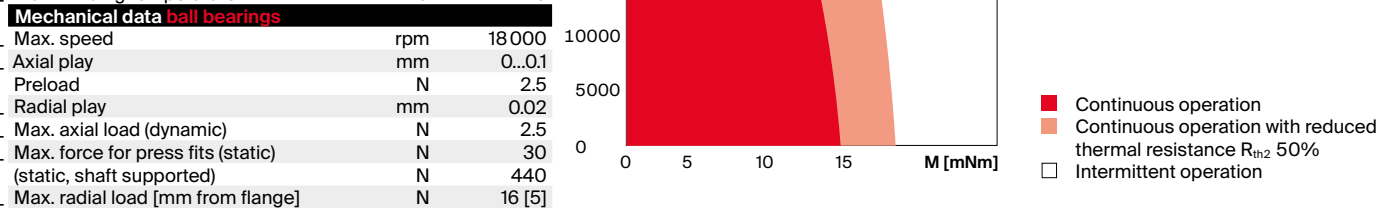
DCX



## 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                            | 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                      | $\Omega$         | 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 <sup>2</sup> | 5.27  | 5.05  | 5.22  | 5.55  | 5.44  | 4.67  |

| Thermal data                            |              | Operating Range |                      |
|---|--------------|-----------------|----------------------|
| 17_ Thermal resistance housing-ambient  | K/W          | 16              | n [rpm] Winding 18 V |
| 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   | $^{\circ}$ C | -40...+100      |                      |
| 21_ Ambient temperature sleeve bearings | $^{\circ}$ C | -30...+100      |                      |
| 22_ Max. winding temperature            | $^{\circ}$ C | 125             |                      |



| Mechanical data ball bearings          |     | Mechanical data sleeve bearings |                  | Modular System |                         | Details on catalog page 36    |               |
|--|-----|---------------------------------|------------------|----------------|-------------------------|-------------------------------|---------------|
| 23_ Max. speed                         | rpm | 18 000                          | rpm              | Gear           | Stages [opt.]           | Sensor                        | Motor Control |
| 24_ Axial play                         | mm  | 0...0.1                         |                  |                |                         |                               |               |
| Preload                                | N   | 2.5                             | 375_GPX 22 A/C   | 1-2 [3-4]      | 473_ENX 10 EASY         | 532_ESCON Module 24/2         |               |
| 25_ Radial play                        | mm  | 0.02                            | 376_GPX 22 LN/LZ | 1-2 [3-4]      | 473_ENX 10 QUAD         | 532_ESCON 36/2 DC             |               |
| 26_ Max. axial load (dynamic)          | N   | 2.5                             | 377_GPX 22 HP    | 2-3 [4]        | 474_ENX 10 EASY XT      | 533_ESCON Module 50/5         |               |
| 27_ Max. force for press fits (static) | N   | 30                              | 378_GPX 22 UP    | 1-4            | 475_ENX 16 EASY         | 535_ESCON 50/5                |               |
| (static, shaft supported)              | N   | 440                             | 380_GPX 26 A/C   | 3              | 476_ENX 16 EASY XT      | 541_EPOS4 Micro 24/5          |               |
| 28_ Max. radial load [mm from flange]  | N   | 16 [5]                          | 381_GPX 26 LN/LZ | 3              | 477_ENX 16 EASY Abs.    | 542_EPOS4 Module 24/1.5       |               |
|  |     |                                 | 382_GPX 26 HP    | 4              | 478_ENX 16 EASY Abs. XT | 542_EPOS4 Module 50/5         |               |
|  |     |                                 |                  |                | 486_ENX 16 RIO          | 543_EPOS4 Compact 24/5 3-axes |               |
|  |     |                                 |                  |                | 517_ENC AEDL 5810       | 544_EPOS4 Compact 24/1.5      |               |
|  |     |                                 |                  |                | 518_ENC 30 HEDS 5540    | 545_EPOS4 Compact 50/5        |               |
|  |     |                                 |                  |                | 524_ENC 30 HEDL 5540    | 547_EPOS4 50/5                |               |

| Other specifications              |     | Configuration |   |
|-----------------------------------|-----|---------------|---|
| 29_ Number of pole pairs          |     | 1             | Bearing: Ball bearings preloaded/sleeve bearings<br>Commutation: Precious metal brushes with or without CLL/<br>graphite brushes/EMI filter<br>Flange front/back: Standard flange/configurable flange/<br>no flange<br>Shaft front/back: Length/diameter/flat face<br>Electric connection: Terminals or cable/<br>alignment of connection/cable length/connector type |
| 30_ Number of commutator segments |     | 9             |   |
| 31_ Weight of motor               | g   | 66            |   |
| 32_ Typical noise level           | dBA | 41            |   |