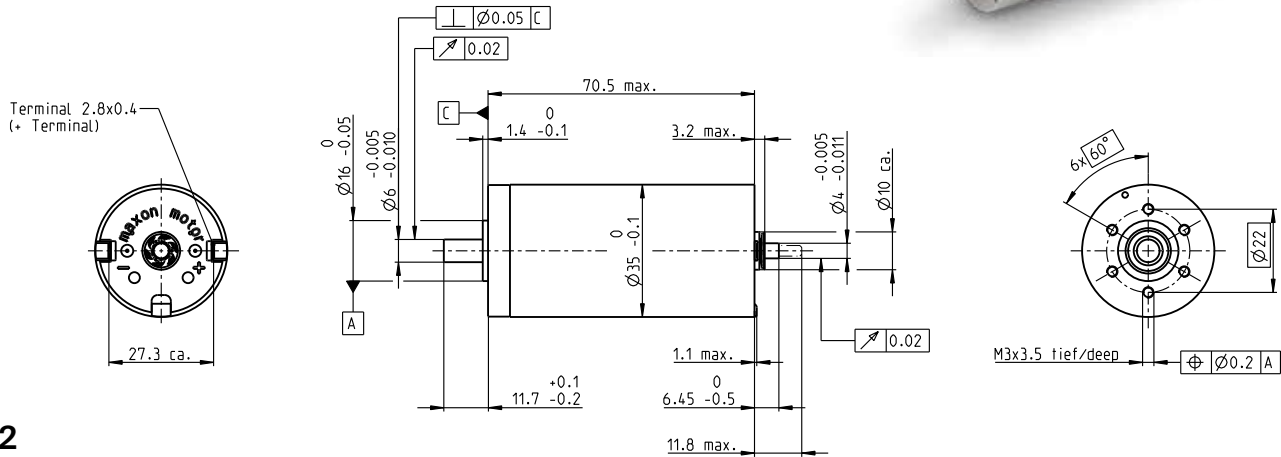
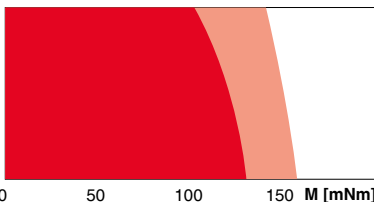


# DCX 35 L Ø35 mm, graphite brushes, DC motor

Key Data: 80/120 W, 138 mNm, 12300 rpm



## M 1:2

| Motor Data                                                                                  |                                           |                  |                      |                                                                                                                                                                                                                                                    |               |                            |                             |       |
|---------------------------------------------------------------------------------------------|-------------------------------------------|------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------|-----------------------------|-------|
| 1_                                                                                          | Nominal voltage                           | V                | 12                   | 18                                                                                                                                                                                                                                                 | 24            | 36                         | 48                          | 60    |
| 2_                                                                                          | No load speed                             | rpm              | 8130                 | 7200                                                                                                                                                                                                                                               | 7720          | 7940                       | 6670                        | 7690  |
| 3_                                                                                          | No load current                           | mA               | 320                  | 177                                                                                                                                                                                                                                                | 146           | 101                        | 58.6                        | 57.5  |
| 4_                                                                                          | Nominal speed                             | rpm              | 7610                 | 6640                                                                                                                                                                                                                                               | 7160          | 7410                       | 6140                        | 7160  |
| 5_                                                                                          | Nominal torque (max. continuous torque)   | mNm              | 77.7                 | 120                                                                                                                                                                                                                                                | 121           | 128                        | 138                         | 132   |
| 6_                                                                                          | Nominal current (max. continuous current) | A                | 6.00                 | 5.32                                                                                                                                                                                                                                               | 4.26          | 3.07                       | 2.08                        | 1.84  |
| 7_                                                                                          | Stall torque                              | mNm              | 2080                 | 1980                                                                                                                                                                                                                                               | 2030          | 2160                       | 1860                        | 2050  |
| 8_                                                                                          | Stall current                             | A                | 152                  | 84.8                                                                                                                                                                                                                                               | 69.3          | 50.3                       | 27.3                        | 27.7  |
| 9_                                                                                          | Max. efficiency                           | %                | 85                   | 88                                                                                                                                                                                                                                                 | 89            | 90                         | 90                          | 90    |
| 10_                                                                                         | Terminal resistance                       | Ω                | 0.079                | 0.212                                                                                                                                                                                                                                              | 0.346         | 0.716                      | 1.76                        | 2.16  |
| 11_                                                                                         | Terminal inductance                       | mH               | 0.026                | 0.077                                                                                                                                                                                                                                              | 0.121         | 0.260                      | 0.658                       | 0.776 |
| 12_                                                                                         | Torque constant                           | mNm/A            | 13.7                 | 23.4                                                                                                                                                                                                                                               | 29.3          | 42.9                       | 68.3                        | 74.1  |
| 13_                                                                                         | Speed constant                            | rpm/V            | 699                  | 408                                                                                                                                                                                                                                                | 326           | 223                        | 140                         | 129   |
| 14_                                                                                         | Speed/torque gradient                     | rpm/mNm          | 4.04                 | 3.70                                                                                                                                                                                                                                               | 3.86          | 3.72                       | 3.61                        | 3.76  |
| 15_                                                                                         | Mechanical time constant                  | ms               | 4.21                 | 3.97                                                                                                                                                                                                                                               | 3.91          | 3.84                       | 3.76                        | 3.75  |
| 16_                                                                                         | Rotor inertia                             | gcm <sup>2</sup> | 99.5                 | 102                                                                                                                                                                                                                                                | 96.6          | 98.7                       | 99.5                        | 95.2  |
| Thermal data                                                                                |                                           |                  | Operating Range      |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| 17_                                                                                         | Thermal resistance housing-ambient        | K/W              | 6.98                 | <div><div>n [rpm]</div><div>Winding 36 V</div></div>                                                                                                           |               |                            |                             |       |
| 18_                                                                                         | Thermal resistance winding-housing        | K/W              | 2.1                  |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| 19_                                                                                         | Thermal time constant winding             | s                | 43.9                 |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| 20_                                                                                         | Thermal time constant motor               | s                | 1030                 |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| 21_                                                                                         | Ambient temperature                       | °C               | -40...+100           |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| 22_                                                                                         | Max. winding temperature                  | °C               | 155                  |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| Mechanical data ball bearings                                                               |                                           |                  |                      |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| 23_                                                                                         | Max. speed                                | rpm              | 12 300               | <div><div>0</div><div>50</div><div>100</div><div>150</div></div> <div>M [mNm]</div> <div><div>Continuous operation</div><div>Continuous operation with reduced thermal resistance R<sub>th2</sub> 50%</div><div>Intermittent operation</div></div> |               |                            |                             |       |
| 24_                                                                                         | Axial play                                | mm               | 0...0.1              |                                                                                                                                                                                                                                                    |               |                            |                             |       |
|                                                                                             | Preload                                   | N                | 7                    |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| 25_                                                                                         | Radial play                               | mm               | 0.02                 |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| 26_                                                                                         | Max. axial load (dynamic)                 | N                | 7                    |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| 27_                                                                                         | Max. force for press fits (static)        | N                | 22.6                 |                                                                                                                                                                                                                                                    |               |                            |                             |       |
|                                                                                             | (static, shaft supported)                 | N                | 2510                 |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| 28_                                                                                         | Max. radial load [mm from flange]         | N                | 65.3 [5]             |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| Other specifications                                                                        |                                           |                  | maxon Modular System |                                                                                                                                                                                                                                                    |               | Details on catalog page 34 |                             |       |
| 29_                                                                                         | Number of pole pairs                      |                  | 1                    | maxon gear                                                                                                                                                                                                                                         | Stages [opt.] | maxon sensor               | maxon motor control         |       |
| 30_                                                                                         | Number of commutator segments             |                  | 11                   | 361_GPX 37 A                                                                                                                                                                                                                                       | 1-2           | 447_ENX 10 EASY            | 501_ESCON Module 50/5       |       |
| 31_                                                                                         | Weight of motor                           | g                | 385                  | 362_GPX 37 LN/LZ                                                                                                                                                                                                                                   | 1-2           | 447_ENX 10 QUAD            | 502_ESCON Module 50/8 HE    |       |
| 32_                                                                                         | Typical noise level                       | dBA              | 48                   | 363_GPX 42 C                                                                                                                                                                                                                                       | 1-4           | 448_ENX 10 EASY XT         | 503_ESCON 50/5, 70/10       |       |
|                                                                                             |                                           |                  |                      | 363_GPX 42 UP                                                                                                                                                                                                                                      | 1-4           | 450_ENX 16 EASY            | 509_EPOS4 Micro 24/5        |       |
|                                                                                             |                                           |                  |                      |                                                                                                                                                                                                                                                    |               | 451_ENX 16 EASY XT         | 510_EPOS4 Mod./Comp. 50/5   |       |
|                                                                                             |                                           |                  |                      |                                                                                                                                                                                                                                                    |               | 452_ENX 16 EASY Abs.       | 511_EPOS4 Comp. 24/5 3-axes |       |
|                                                                                             |                                           |                  |                      |                                                                                                                                                                                                                                                    |               | 453_ENX 16 EASY Abs. XT    | 513_EPOS4 Mod./Comp. 50/8   |       |
|                                                                                             |                                           |                  |                      |                                                                                                                                                                                                                                                    |               | 458_ENX 16 RIO             | 515_EPOS4 50/5, 70/15       |       |
|                                                                                             |                                           |                  |                      |                                                                                                                                                                                                                                                    |               | 485_ENC AEDL 5810          | 516_EPOS4 Disk 60/8         |       |
|                                                                                             |                                           |                  |                      |                                                                                                                                                                                                                                                    |               | 486_ENC 30 HEDS 5540       | 517_EPOS4 Disk 60/12        |       |
|                                                                                             |                                           |                  |                      |                                                                                                                                                                                                                                                    |               | 492_ENC 30 HEDL 5540       | 520_EPOS2 P 24/5            |       |
| Configuration                                                                               |                                           |                  |                      |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| Bearing: Ball bearings preloaded                                                            |                                           |                  |                      |                                                                                                                                                                                                                                                    |               |                            |                             |       |
| Commutation: 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 |                                           |                  |                      |                                                                                                                                                                                                                                                    |               |                            |                             |       |