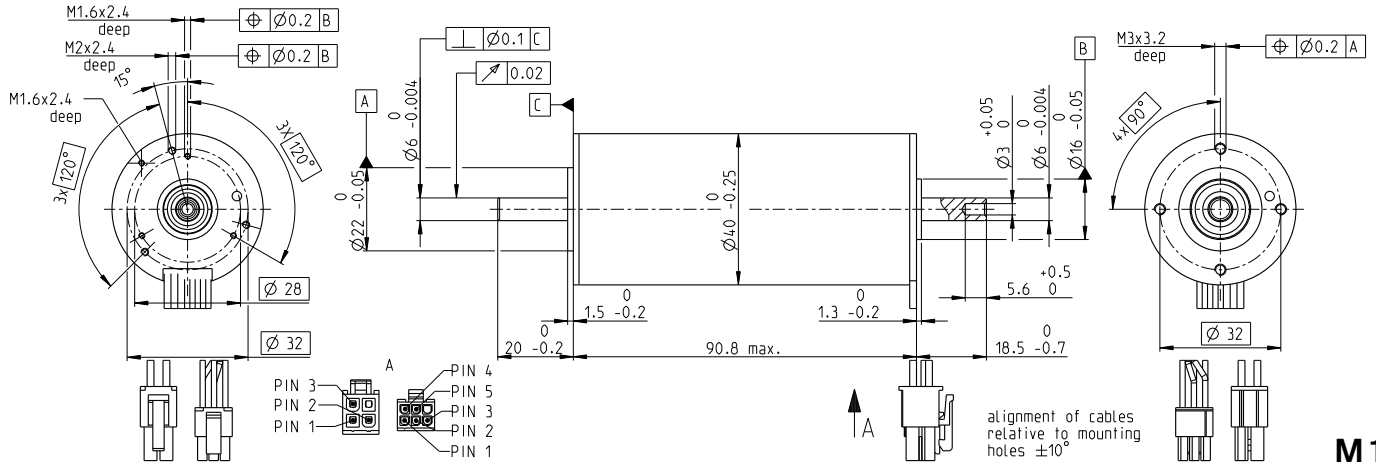


EC-i 40 Ø40 mm, brushless, 130 watt

High Torque

EC-i



M 1:2

- Stock program
- Standard program
- Special program (on request)

| Part Numbers | | | | |
|-------------------|--------|--------|--------|--------|
| with Hall sensors | 666601 | 676600 | 666602 | 666603 |

| Motor Data | | | | | |
|---|------------------|-------|-------|-------|-------|
| Values at nominal voltage | | | | | |
| 1 Nominal voltage | V | 18 | 24 | 36 | 48 |
| 2 No load speed | rpm | 4670 | 4730 | 4670 | 4640 |
| 3 No load current | mA | 496 | 379 | 248 | 185 |
| 4 Nominal speed | rpm | 3920 | 3990 | 3940 | 3910 |
| 5 Nominal torque (max. continuous torque) | mNm | 276 | 299 | 327 | 340 |
| 6 Nominal current (max. continuous current) | A | 7.38 | 6.01 | 4.27 | 3.29 |
| 7 Stall torque ¹ | mNm | 3320 | 4090 | 4950 | 5360 |
| 8 Stall current | A | 91 | 85 | 68 | 55 |
| 9 Max. efficiency | % | 85.9 | 87.2 | 88.4 | 88.8 |
| Characteristics | | | | | |
| 10 Terminal resistance phase to phase | Ω | 0.198 | 0.281 | 0.529 | 0.876 |
| 11 Terminal inductance phase to phase | mH | 0.128 | 0.222 | 0.512 | 0.922 |
| 12 Torque constant | mNm/A | 36.4 | 47.9 | 72.8 | 97.8 |
| 13 Speed constant | rpm/V | 262 | 199 | 131 | 97.7 |
| 14 Speed/torque gradient | rpm/mNm | 1.420 | 1.170 | 0.953 | 0.875 |
| 15 Mechanical time constant | ms | 1.16 | 0.956 | 0.778 | 0.715 |
| 16 Rotor inertia | gcm ² | 78 | 78 | 78 | 78 |

| Specifications | | Operating Range | | Comments | | | |
|---|---------------|-----------------|--|---|--|--|--|
| Thermal data | | n [rpm] | | Continuous operation | | | |
| 17 Thermal resistance housing-ambient | 5.08 K/W | | | In observation of above listed thermal resistance (lines 17 and 18) the maximum permissible winding temperature will be reached during continuous operation at 25°C ambient. = Thermal limit. | | | |
| 18 Thermal resistance winding-housing | 0.6 K/W | | | Short term operation | | The motor may be briefly overloaded (recurring). | |
| 19 Thermal time constant winding | 18.5 s | | | Assigned power rating | | | |
| 20 Thermal time constant motor | 1490 s | | | | | | |
| 21 Ambient temperature | -40...+100°C | | | | | | |
| 22 Max. winding temperature | +155°C | | | | | | |
| Mechanical data (preloaded ball bearings) | | | | | | | |
| 23 Max. speed | 8000 rpm | | | | | | |
| 24 Axial play at axial load < 9.0 N | 0 mm | | | | | | |
| | > 9.0 N | | | | | | |
| 25 Radial play | preloaded | | | | | | |
| 26 Max. axial load (dynamic) | 7 N | | | | | | |
| 27 Max. force for press fits (static) (static, shaft supported) | 87 N / 3000 N | | | | | | |
| 28 Max. radial load, 5 mm from flange | 29.9 N | | | | | | |

- Other specifications**
- 29 Number of pole pairs
 - 30 Number of phases
 - 31 Weight of motor

Values listed in the table are nominal.

| Connection motor (Cable AWG 20) | | |
|---------------------------------|-----------------|-------|
| red | Motor winding 1 | Pin 1 |
| black | Motor winding 2 | Pin 2 |
| white | Motor winding 3 | Pin 3 |
| | N.C. | Pin 4 |

| Connector Article number | | |
|----------------------------------|--------------------------------|-------|
| Molex | 39-01-2040 | |
| Connection sensor (Cable AWG 26) | | |
| yellow | Hall sensor 1 | Pin 1 |
| brown | Hall sensor 2 | Pin 2 |
| grey | Hall sensor 3 | Pin 3 |
| blue | GND | Pin 4 |
| green | V _{Hall} 4.5...24 VDC | Pin 5 |
| | N.C. | Pin 6 |

Connector Article number
Molex 430-25-0600
Wiring diagram for Hall sensors see p. 59
¹Calculation does not include saturation effect (p. 71/178)

maxon Modular System Details on catalog page 42

- 8
- 3
- 587 g
- Planetary Gearhead**
- Ø42 mm
- 3-15 Nm
- Page 407



| Recommended Electronics: | |
|--------------------------|---------|
| Notes | Page 42 |
| ESCON Mod. 50/4 EC-S | 501 |
| ESCON Module 50/5 | 501 |
| ESCON Mod. 50/8 (HE) | 502 |
| ESCON 50/5 | 503 |
| ESCON 70/10 | 503 |
| DEC Module 50/5 | 505 |
| EPOS4 Mod./Comp. 50/5 | 513 |
| EPOS4 Mod./Comp. 50/8 | 513 |
| EPOS4 50/5 | 515 |
| EPOS4 70/15 | 515 |
| EPOS2 P 24/5 | 520 |

- Encoder 16 EASY/XT**
- 128-1024 CPT, 3 channels
- Page 465/467
- Encoder 16 EASY Absolute/XT**
- 4096 steps
- Page 469/471
- Encoder 16 RIO**
- 1024 - 32 768 CPT, 3 channels
- Page 482
- Encoder AEDL 5810**
- 1024 - 5000 CPT, 3 channels
- Page 485
- Encoder HEDL 5540**
- 500 CPT, 3 channels
- Page 492