

ECI motor.

ECI-63.XX-K1

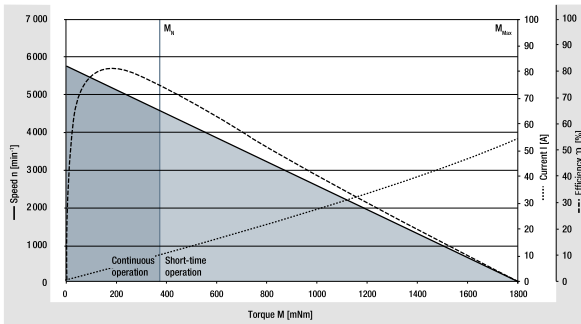


- Highly dynamic 3-phase internal rotor motor with EC technology
- Low cogging torque
- Robust, noise-optimized ball bearing system for a long service life
- High efficiency and high power density realized in a compact design
- Basic motor with electronic module K1 for operation with external control electronics
- Mechanical design and interfaces designed for modular flexibility
- Protection class IP 40 / IP 54 and connection by connector system

| Nominal data | | | | | | | |
|---|------------------------------------|---|----------------------|----------------------|----------------------|----------------------|----------------------|
| Type | | ECI-63.20-K1 -B00 | ECI-63.20-K1 -D00 | ECI-63.40-K1 -B00 | ECI-63.40-K1 -D00 | ECI-63.60-K1 -B00 | ECI-63.60-K1 -D00 |
| Nominal voltage (U_N) | V DC | 24 | 48 | 24 | 48 | 24 | 48 |
| Nominal speed (n_N)** | rpm | 4 000 | | | | | |
| Nominal torque (M_N)** | mNm | 360 | 360 | 670 | 670 | 800 | 880 |
| Nominal current (I_N)** | A | 8.50 | 4.50 | 14.0 | 6.50 | 17.6 | 8.50 |
| Nominal output power (P_N)** | W | 150 | 150 | 280 | 280 | 335 | 370 |
| Starting torque (M_{max}) | mNm | 1 800 | 1 800 | 3 300 | 3 300 | 5 300 | 4 400 |
| Permissible peak current (I_{max})*** | A | 55 | 30 | 95 | 45 | 150 | 57 |
| Speed at no-load operation (n_0) | rpm | 5 800 | 6 800 | 5 900 | 5 900 | 6 100 | 6 000 |
| No-load current (I_0) | A | 0.50 | 0.30 | 0.70 | 0.32 | 1.30 | 0.45 |
| Recommended speed control range | rpm | 0 ... 5 000 | | | | | |
| Rotor moment of inertia (J_R) | kgm ² x10 ⁻⁶ | 19 | 19 | 38 | 38 | 57 | 57 |
| Motor constant (K_E) | mVs/rad | 41.4 | 73.3 | 40.4 | 83.8 | 40.4 | 83.8 |
| Connection resistance (R_N) | Ω | 0.14 | 0.42 | 0.08 | 0.24 | 0.04 | 0.15 |
| Connection inductance (L_N) | mH | 0.26 | 0.88 | 0.14 | 0.57 | 0.09 | 0.33 |
| Overload protection | | To be implemented via the control electronics | | | | | |
| Permissible ambient temperature range (T_U) | °C | 0 ... +40 | | | | | |
| Weight | kg | 0.90 | 0.90 | 1.20 | 1.20 | 1.50 | 1.50 |
| Order no. (wire interface)* | IP 40 | 932 6320 103 | 932 6320 105 | 932 6340 103 | 932 6340 105 | 932 6360 106 | 932 6360 108 |
| Order No. (connector interface)* | IP 54 | 932 6320 100 | 932 6320 102 | 932 6340 100 | 932 6340 102 | | 932 6360 102 |
| Subject to alterations | | * Classification of protection class refers to installed state with sealing on the flange side The wave geometry for the IP54 version differs from the illustrated drawing ** At T_U max. 40°C *** Permissible time for peak current: max. 1 sec. – to be repeated only after complete cool down | | | | | |

Characteristic curve

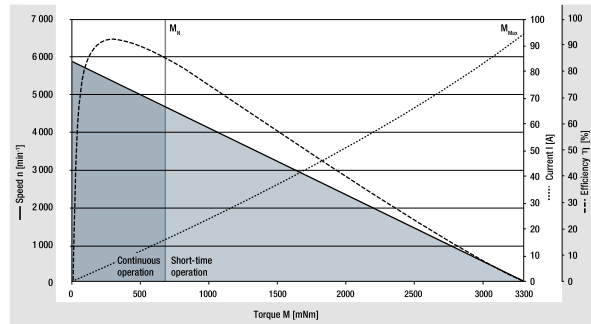
ECI-63.20-K1, 24 V (at 25°C)



¹⁾ Nominal data, see table

Characteristic curve 48 V on request

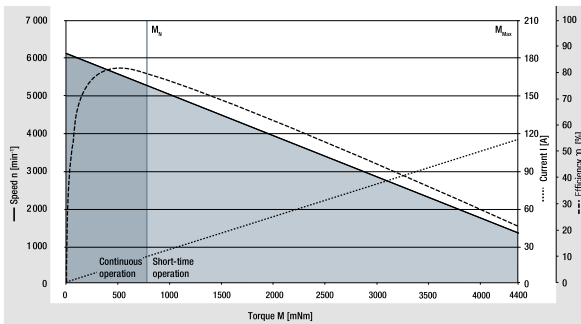
ECI-63.40-K1, 24 V (at 25°C)



¹⁾ Nominal data, see table

Characteristic curve 48 V on request

ECI-63.60-K1, 24 V (at 25°C)



¹⁾ Nominal data, see table

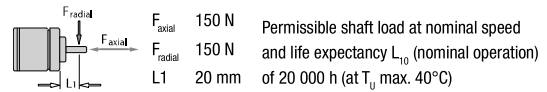
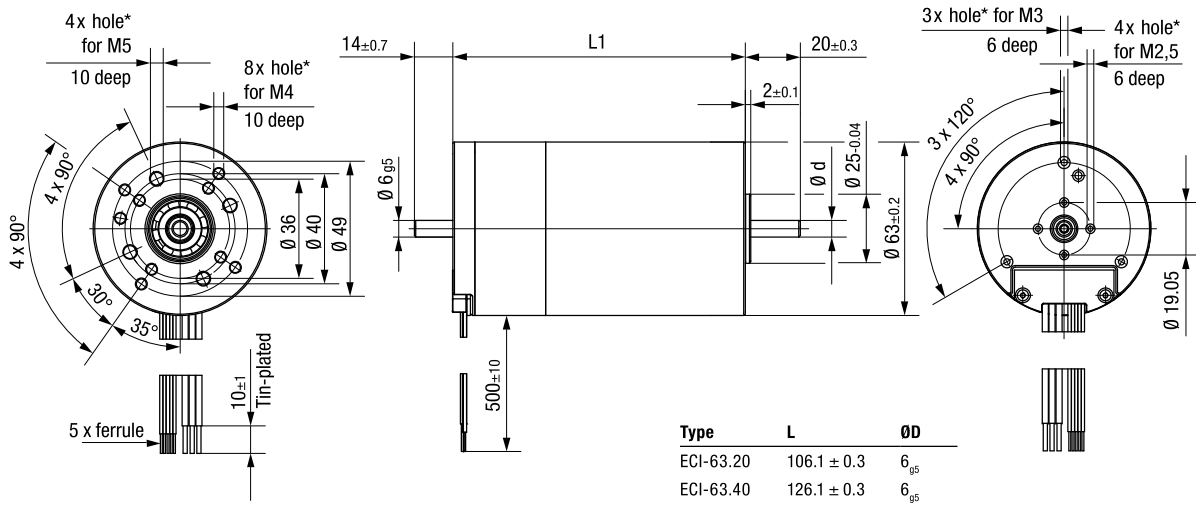
Characteristic curve 48 V on request

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Technical drawing Strand design

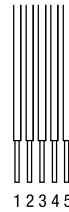
All dimensions in mm



* For thread-rolling screws according to DIN 7500

Electrical connection

| Supply wire | | |
|-------------|--------|----------|
| Wire | Color | Function |
| 1 | yellow | Phase W |
| 2 | violet | Phase V |
| 3 | brown | Phase U |



| Signal wire | | |
|-------------|-------|----------|
| Wire | Color | Function |
| 4 | green | Hall A |
| 5 | white | Hall B |
| 6 | gray | Hall C |
| 7 | red | U_B |
| 8 | black | GND |

Crown gearheads.

EtaCrown® 75



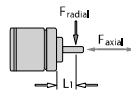
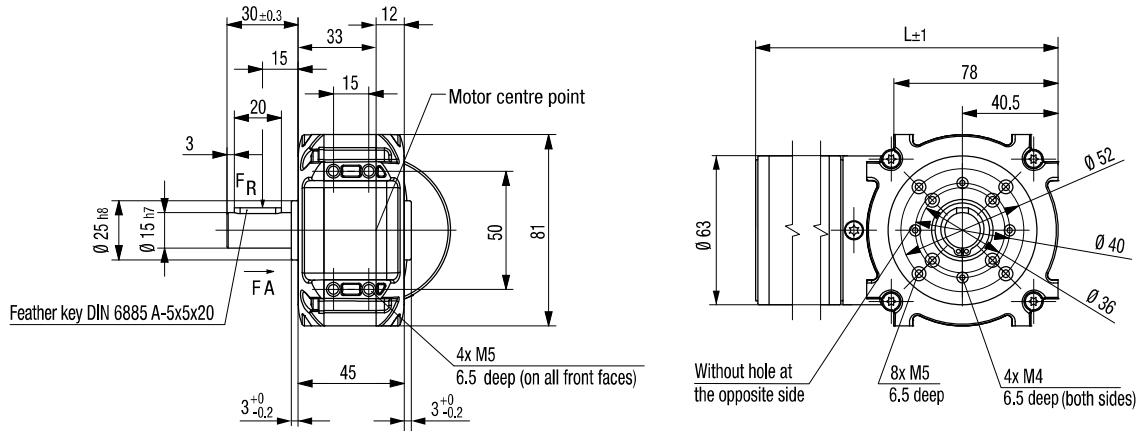
Image of 2-stage gearhead

- Maximum safety in design and operation, as well as optimal vandalism protection; no automatic lock due to high efficiency of the crown wheel technology
- Space-saving installation due to zero offset axle and symmetrical structure
- Flexible application possibilities with various optional shaft outlets and available shaft geometries
- Wide reduction range by means of upstream / downstream planetary stage
- High radial loads due to double ball bearing in the output shaft

| Nominal data | | EtaCrown® 75.1 | | | EtaCrown® 75.2 | | | |
|---|-----|--|-----------|-----------|----------------|-----------|-------------|-------------|
| Gearheads | | | | | | | | |
| Reduction ratio | | 4.10 | 6.70 | 10.1 | 20.3 | 33.3 | 60.0 | 113 |
| No. of stages | | 1 | | | 2 | | | |
| Efficiency | | 0.90 | | | 0.81 | | | |
| Max. input speed (n _i) | rpm | 6 000 | | | 6 000 | | | |
| Rated output torque (M _{ab}) | Nm | 6.00 | 5.00 | 2.43 | 10.0 | 10.0 | 10.0 | 10.0 |
| Short-term torque (M _{max}) | Nm | 15.0 | 12.5 | 6.08 | 25.0 | 25.0 | 25.0 | 25.0 |
| Gear play | ° | 0.55 ... 1.1 | | | 0.55 ... 1.1 | | | |
| Permissible operating temperature (T _v) | °C | -20 ... +80 | | | -20 ... +80 | | | |
| Operating mode | | S1 | | | S1 | | | |
| Protection class | | IP 50 | | | IP 50 | | | |
| Weight | kg | 0.9 | | | 1.3 | | | |
| Shaft load radial / axial | N | 150 / 500 | 250 / 500 | 400 / 500 | 550 / 500 | 800 / 500 | 1 100 / 500 | 1 300 / 500 |
| Service life | h | 5 000 | | | 5 000 | | | |
| Lubrication | | Maintenance-free grease lubrication for life | | | | | | |
| Installation position | | any | | | | | | |
| Subject to alterations | | on request | | | | | | |

Technical drawing

Image of 1-stage gearhead with left shaft end (W05) / All dimensions in mm



F_{axial} 500 N
 F_{radial} see table
 $L1$ 15 mm

Permissible shaft load at nominal speed and life expectancy L_{10} (nominal operation) and operating factor $C_b = 1$ (see page 82) of 5 000 h (at T_u 40°C).

| Shaft end, right (W05) (standard) | Shaft end, left (W06) | Shaft end, both sides (W07) | Hollow shaft (W08) |
|-----------------------------------|-----------------------|-----------------------------|--------------------------------------|
| | | | Hollow shaft \varnothing 10 mm |

Length of the possible motor / gearhead combinations

| Motor / gearhead | | L - 1-stage | L - 2-stage |
|------------------|----|-------------|-------------|
| ECI-63.20-K1-E75 | mm | 197 | 233 |
| ECI-63.40-K1-E75 | mm | 217 | 253 |
| ECI-63.60-K1-E75 | mm | 237 | 273 |
| ECI-63.20-K3-E75 | mm | 210 | 246 |
| ECI-63.40-K3-E75 | mm | 230 | 266 |
| ECI-63.60-K3-E75 | mm | 250 | 286 |
| ECI-63.20-K4-E75 | mm | 210 | 246 |
| ECI-63.40-K4-E75 | mm | 230 | 266 |
| ECI-63.60-K4-E75 | mm | 250 | 286 |
| ECI-63.20-K5-E75 | mm | 203 | 239 |
| ECI-63.40-K5-E75 | mm | 223 | 259 |
| ECI-63.60-K5-E75 | mm | 243 | 279 |

Subject to alterations

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