

ECI motor.

ECI-63.XX-K1

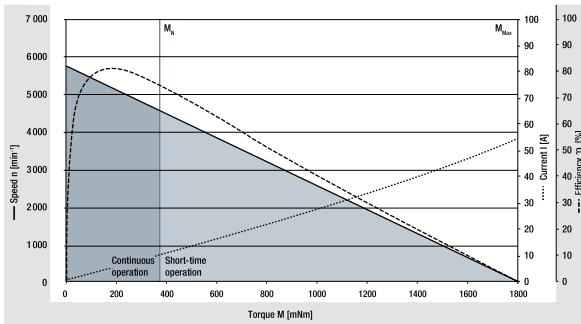


- Highly dynamic 3-phase internal rotor motor with EC technology
- Low cogging torque
- Robust, noise-optimized ball bearing system for a long service life
- High efficiency and high power density realized in a compact design
- Basic motor with electronic module K1 for operation with external control 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

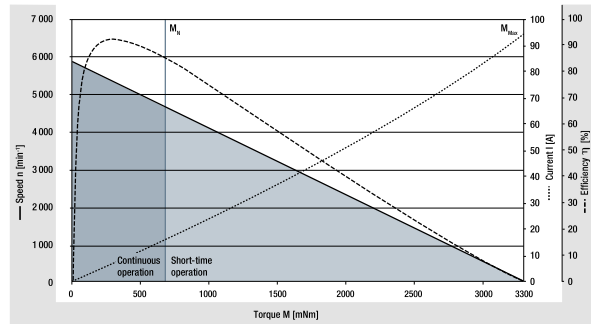
ECI-63.20-K1, 24 V (at 25°C)



¹⁾ Nominal data, see table

Characteristic curve 48 V on request

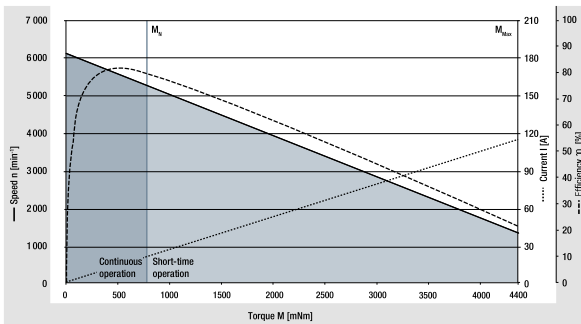
ECI-63.40-K1, 24 V (at 25°C)



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

Planetary gearheads.

Performax®Plus 63



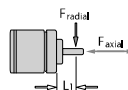
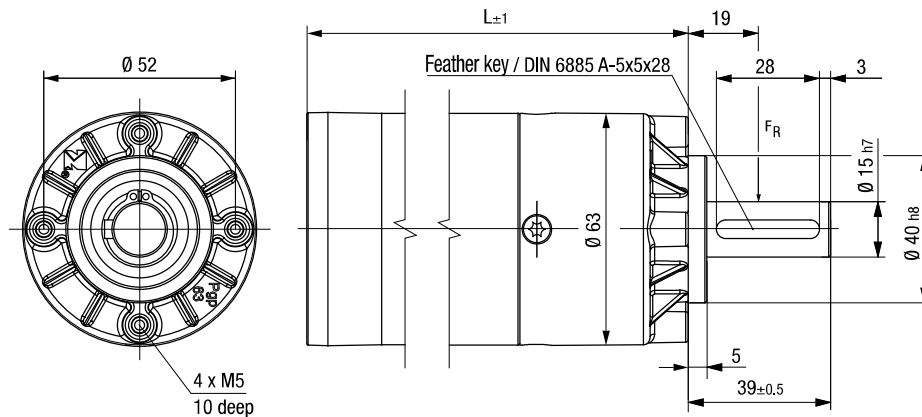
Image of 2-stage gearhead

- High torques thanks to large gearing width in the first gear stage
- Good shock resistance due to housing made of case-hardened steel with linear tooth profile in the output stage
- Very quiet running due to helical teeth in the first gear stage
- Planetary wheels made of plastic with optimized sliding properties in the first stage ensure smooth operation
- Large effective diameter thanks to radial screw connection

| Nominal data | | | | | | | | | | | | |
|---|-----|--|------|------|------|------|---------------------|------|-------|------|------|------|
| Gearheads | | Performax®Plus 63.1 | | | | | Performax®Plus 63.2 | | | | | |
| Reduction ratio | | 3.20 | 5.00 | 9.00 | 17.0 | 21.3 | 30.0 | 38.3 | 54.0 | 72.3 | 102 | 204 |
| 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 | 6.50 | 11.9 | 7.60 | 4.40 | 45.2 | 64.0 | 28.9 | 41.0 | 16.9 | 23.9 | 27.4 |
| Short-term torque (M _{max}) | Nm | 16.3 | 29.8 | 19.0 | 11.0 | 113 | 160 | 72.3 | 102.5 | 42.3 | 59.8 | 68.5 |
| Gear play | ° | 0.7 ... 1.2 | | | | | 0.7 ... 1.2 | | | | | |
| Permissible operating temperature (T _v) | °C | -20 ... +80 | | | | | -20 ... +80 | | | | | |
| Operating mode | | S1 | | | | | S1 | | | | | |
| Protection class | | IP 50 | | | | | IP 50 | | | | | |
| Weight | kg | 0.66 | | | | | 1.20 | | | | | |
| Shaft load radial / axial | N | 350 / 500 | | | | | 350 / 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 / 2-stage design completely cylindrical / All dimensions in mm



F_{axial} 500 N
 F_{radial} 350 N
 $L1$ 19 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).

Length of the possible motor / gearhead combinations

| Motor / gearhead | | L - 1-stage | L - 2-stage |
|-------------------|----|-------------|-------------|
| ECI-63.20-K1-PP63 | mm | 164 | 185 |
| ECI-63.40-K1-PP63 | mm | 184 | 205 |
| ECI-63.60-K1-PP63 | mm | 204 | 225 |
| ECI-63.20-K3-PP63 | mm | 176 | 198 |
| ECI-63.40-K3-PP63 | mm | 196 | 218 |
| ECI-63.60-K3-PP63 | mm | 216 | 238 |
| ECI-63.20-K4-PP63 | mm | 176 | 198 |
| ECI-63.40-K4-PP63 | mm | 196 | 218 |
| ECI-63.60-K4-PP63 | mm | 216 | 238 |
| ECI-63.20-K5-PP63 | mm | 170 | 191 |
| ECI-63.40-K5-PP63 | mm | 190 | 211 |
| ECI-63.60-K5-PP63 | mm | 210 | 231 |
| ECI-80.20-K1-PP63 | mm | 154 | 175 |
| ECI-80.40-K1-PP63 | mm | 174 | 195 |
| ECI-80.60-K1-PP63 | mm | 194 | 215 |

Subject to alterations