

Technical Information

Micro DC brushless motor data description (at 25°C)

1. Nominal voltage [V]

This value indicates the voltage at which all other specifications are measured.

2. Terminal resistance [Ω]

The electrical resistance measured across the motor terminals at room temperature.

3. Gearhead reduction ratio [:1]

The nominal gearhead reduction ratio.

4. Gearhead number of stages [-]

The number of stages in the gearhead construction.

5. Max. output power, gearhead output [W]

The maximum mechanical output power achievable at nominal voltage from the gearhead shaft.

6. Max. efficiency [%]

A motor converts electrical input power to mechanical output power. This conversion involves energy losses. Efficiency is the percentage indication of the input and output power conversion (gearhead included).

7. No-load speed, gearhead output [rpm]

The number of rotations per minute under the no-load condition when the motor is supplied with nominal voltage. The speed is measured at the gearhead output shaft.

8. No-load current [mA]

The current absorbed under the no-load condition. This current is generated by mechanical friction losses in the motor and gearhead.

9. Stall torque, gearhead output [mNm]

The torque produced under the stall (starting) condition when supplied with nominal voltage (measurement at 1 points).

10. Friction torque [mNm]

The Torque caused by friction losses in the motor and gear mechanism.

11. Back-EMF constant [mV/rpm]

This constant indicates the relationship between the induced voltage in the coil and the shaft speed. This value refers to the motor-gearhead combination.

12. Torque constant [mNm/A]

This constant indicates the relationship between the generated output torque and the absorbed current. This value refers to the motor-gearhead combination.

13. Coil inductance [μ H]

The inductance measured across the motor terminals at 1kHz.

14. Mechanical time constant [ms]

This constant indicates the time required by the motor-gearhead combination to accelerate from standstill to 63.2% of the no-load speed.

15. Rotor inertia [gcm²]

The mass moment of inertia of the motor.

16. Gearhead length, L₁ [mm]

The gearhead body length without motor.

17. Total length, L₂ [mm]

The Total length of the motor-gearhead combination.

18. Total weight [mg]

The Total weight of the motor-gearhead combination.

19. Operating temperature range [°C]

The most applicable temperature range.

20. Max. temperature rise at stall [°C]

The maximum motor temperature rise reached at stall when the motor is supplied with nominal voltage.

21. Bearing type

The type of bearing used for the gearhead. A specially designed sleeve bearing construction has been used to reduce friction losses and to achieve long-life operation.

22. Max. permissible press fit force, gearhead output [N]

The maximum permissible press-fit force at stand still (push only).

23. Max. radial play, gearhead output [mm]

The maximum shaft radial play measured at the gearhead output shaft side.

24. Max. axial play, gearhead output [mm]

The maximum shaft axial play measured at the gearhead output shaft side.