

NEW

Brushless DC-Gearmotors

30 mNm

For combination with
Speed Controller:
SC 1801

Series 1515 ... B

| | 1515 U | | 006 B | 012 B | |
|-------------------------------------|---------------------------------------|----------|------------------------|------------------------|--------------------------------------|
| 1 Nominal voltage | U _N | | 6 | 12 | Volt |
| 2 Terminal resistance, phase-phase | R | | 22,0 | 92,8 | Ω |
| 3 Output power | P _{2 max.} | | 0,31 | 0,30 | W |
| 4 Efficiency | η _{max.} | | 56 | 55 | % |
| 5 No-load speed | n ₀ | | 14 700 | 14 700 | rpm |
| 6 No-load current | I ₀ | | 0,0174 | 0,0087 | A |
| 7 Stall torque | M _H | | 0,97 | 0,92 | mNm |
| 8 Friction torque, static | C ₀ | | 0,025 | 0,025 | mNm |
| 9 Friction torque, dynamic | C _v | | 2,6 · 10 ⁻⁶ | 2,6 · 10 ⁻⁶ | mNm/rpm |
| 10 Speed constant | k _n | | 2 623 | 1 312 | rpm/V |
| 11 Back-EMF constant | k _E | | 0,381 | 0,762 | mV/rpm |
| 12 Torque constant | k _M | | 3,64 | 7,28 | mNm/A |
| 13 Current constant | k _I | | 0,275 | 0,137 | A/mNm |
| 14 Slope of n-M curve | Δn/ΔM | | 15 856 | 16 721 | rpm/mNm |
| 15 Terminal inductance, phase-phase | L | | 590 | 2 350 | μH |
| 16 Mechanical time constant | τ _m | | 115 | 121 | ms |
| 17 Rotor inertia | J | | 0,69 | 0,69 | gcm ² |
| 18 Angular acceleration | α _{max.} | | 14 | 13 | · 10 ³ rad/s ² |
| 19 Thermal resistance | R _{th 1} / R _{th 2} | 65 / 45 | | | K/W |
| 20 Thermal time constant | τ _{w1} / τ _{w2} | 10 / 130 | | | s |


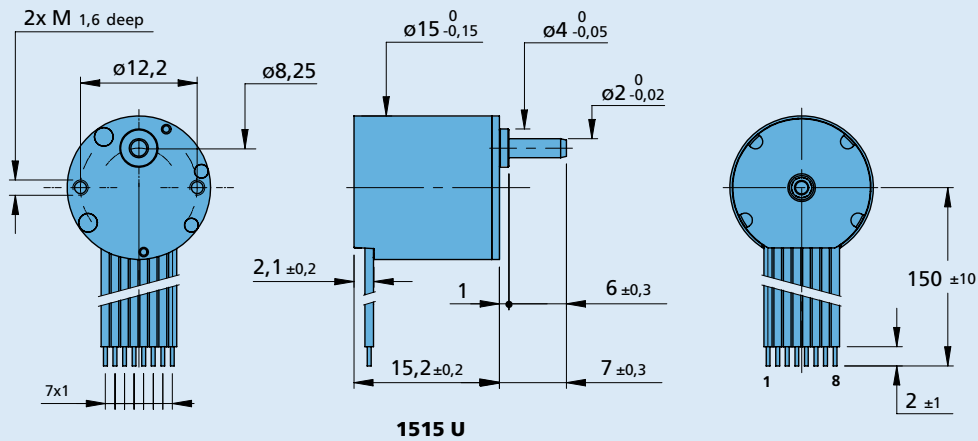
Integrated Gearhead

| | | | |
|------------------------------------|---|-------------------------|----|
| Housing material | | plastic | |
| Geartrain material | | metal | |
| Backlash, at no-load | ≤ | 4 | ° |
| Bearings on output shaft | | plastic / brass bearing | |
| Shaft load max.: | | | |
| – radial (5 mm from mounting face) | ≤ | 1,4 | N |
| – axial | ≤ | 0,3 | N |
| Shaft press fit force, max. | ≤ | 5 | N |
| Shaft play: | | | |
| – radial (5 mm from mounting face) | ≤ | 0,08 | mm |
| – axial | ≤ | 0,25 | mm |
| Operating temperature range | | – 25 ... + 80 | °C |

Specifications

| reduction ratio (rounded) | output speed up to n _{max} rpm | weight with motor g | output torque | | direction of rotation (reversible) | efficiency % |
|------------------------------|--|------------------------------|--|--|--|-----------------|
| | | | continuous operation M _{max} mNm | intermittent operation M _{max} mNm | | |
| 6 : 1 | 779 | 6,9 | 1,4 | 3 | = | 81 |
| 13 : 1 | 372 | 7,0 | 2,8 | 5 | ≠ | 73 |
| 39 : 1 | 129 | 7,2 | 7,0 | 10 | = | 60 |
| 112 : 1 | 45 | 7,4 | 19,8 | 30 | ≠ | 59 |
| 324 : 1 | 15 | 7,7 | 30,0 | 50 | = | 53 |

1515 U ... B

 Scale enlarged 

Connection

| No. | Function |
|-----|---------------|
| 1 | Phase C |
| 2 | Phase B |
| 3 | Phase A |
| 4 | GND |
| 5 | +5V |
| 6 | Hall sensor C |
| 7 | Hall sensor B |
| 8 | Hall sensor A |