

BR3 Brushless Motor Data

Date: 5/6/2024

| CHARACTERISTICS | SYMBOL | UNITS | BR-3 |
|---|--------|------------------------------|---------------------|
| Voltage supply | V | VDC | 48 |
| Max. Speed at voltage supply ($\pm 10\%$) | nm | rpm | 3100 |
| Stall Torque ($\pm 10\%$) | Ms | Nm | 2.6 |
| Stall Current ($\pm 10\%$) | Is | A | 18.57 |
| Nominal Torque at 3000rpm (3) | Mn | Nm | 2.35 |
| Peak Torque ($\pm 10\%$) | Mj | Nm | 6.75 |
| EMF Constant ($\pm 5\%$) | Ke | Vs/rad | 0.08 |
| Torque Constant ($\pm 5\%$) | Kt | Nm/A | 0.14 |
| Reluctance Torque | Ct | Nm | 30 |
| Winding Resistance ($\pm 5\%$) | R | W | 0.21 |
| Winding Inductance ($\pm 5\%$) | L | mH | 0.2 |
| Rotor Inertia | J | $\text{kgm}^2 \cdot 10^{-3}$ | 0.105 |
| Mechanical Time Constant | Tm | ms | 1.97 |
| Electrical Time Constant | Te | ms | 0.95 |
| Thermal Time Constant (5) | Tth | s | 1352 |
| Thermal Resistance | Rth | $^{\circ}\text{C/W}$ | 0.79 |
| Insulation | Class | | F |
| Max. winding temperature | | $^{\circ}\text{C}$ | 155 |
| N ^o of poles | | | 20 |
| Axial force | Fa | N | 89 |
| Radial force | Fr | N | 178 |
| Weight | M | kg | 1.2 |
| Temperature sensor type | | | PTC155 ^o |
| With an Aluminium heat sink plate (4) | | mm | 300x300x10 |

