

TM-2-DF-SB0 Torque Motor

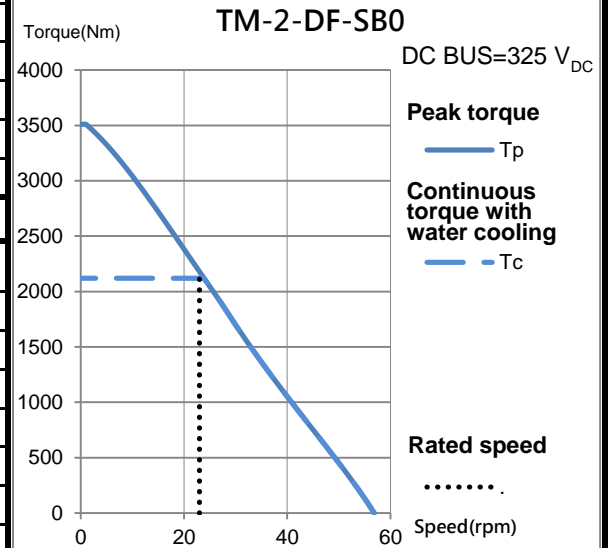
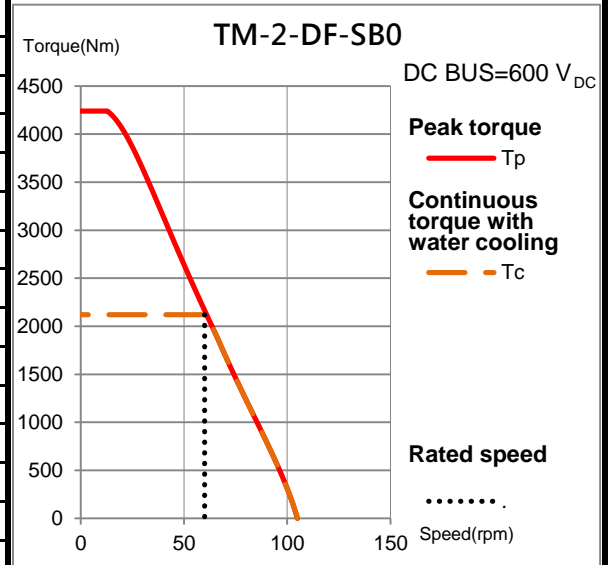
Electrical specifications

| Winding code : SB0 | Symbol | Unit | Water cooling |
|-----------------------------------|----------|----------------|-----------------------------|
| Continuous torque | T_c | Nm | 2120 |
| Continuous current | I_c | A_{rms} | 35.4 |
| Stall torque | T_s | Nm | 1719 |
| Stall current | I_s | A_{rms} | 28.3 |
| Peak torque(for 1sec.) | T_p | Nm | 4240 |
| Peak current(for 1sec.) | I_p | A_{rms} | 106 |
| Torque constant | K_t | Nm/Arms | 60.79 |
| Electrical time constant | T_e | ms | 6.1 |
| Resistance (line to line at 25°C) | R_{25} | Ω | 3.8 |
| Inductance (line to line) | L | mH | 23.2 |
| Number of poles | 2p | | 88 |
| Back emf constant (line to line) | K_v | Vrms/rad/s | 35.1 |
| Motor constant (at 25°C) | K_m | Nm/ \sqrt{W} | 25.44 |
| Thermal resistance | R_{th} | K/W | 0.015 |
| Thermal sensor | | | PTC SNM100+SNM130+Pt1000 |
| Max. DC BUS | | V_{DC} | 750 |
| Inertia of rotor | J | kgm^2 | 0.79 |
| Thermal time constant | T_{th} | s | 130 |
| Max. continuous power dissipation | P_c | W | 10075 |
| Max. peak power dissipation | P_p | W | 90337 |
| Rated speed(at 600VDC) | | rpm | 60 |

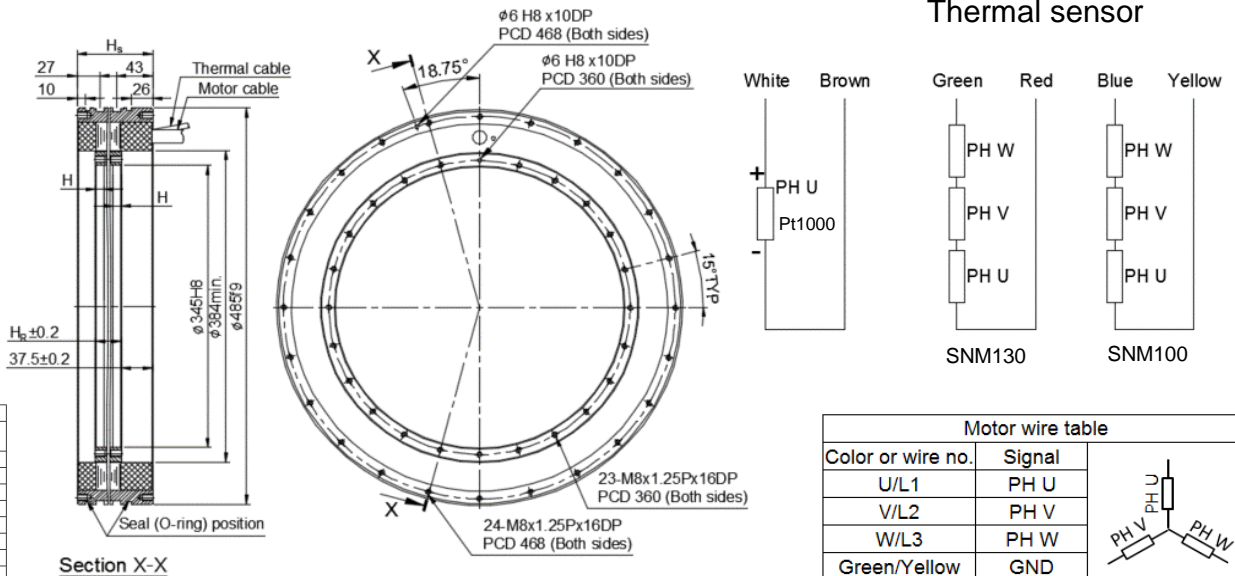
Mechanical specifications

| | Symbol | Unit | Water cooling |
|--|----------------|-------|---------------|
| Mass of rotor | M_r | kg | 23.6 |
| Mass of stator | M_s | kg | 87 |
| Height of stator | H_s | mm | 210 |
| Height of rotor | H_r | mm | 151 |
| Length of rotor centring fit | H | mm | 15 |
| Water temperature difference for P_c | $\Delta\theta$ | K | 5 |
| Minimum water flow | q | l/min | 28.9 |
| Max. pressure drop | Δp | bar | 4 |

T-N curve



Thermal sensor



| General tolerance mm | |
|----------------------|-----------|
| Nominal dimension | Tolerance |
| ~ 6 | ± 0.1 |
| > 6 ~ 30 | ± 0.2 |
| > 30 ~ 120 | ± 0.3 |
| > 120 ~ 300 | ± 0.4 |
| > 300 ~ 600 | ± 0.5 |
| > 600 ~ 1200 | ± 0.8 |
| > 1200 ~ 2400 | ± 1.0 |
| > 2400 | ± 1.5 |

Except dimensions, all the specifications in the table are in $\pm 10\%$ of tolerance

Version: 2.00

This drawing is only for reference, detail dimensions please refer to approval drawing.

Date: 2020/10/23