

TMRWAFL Torque Motor

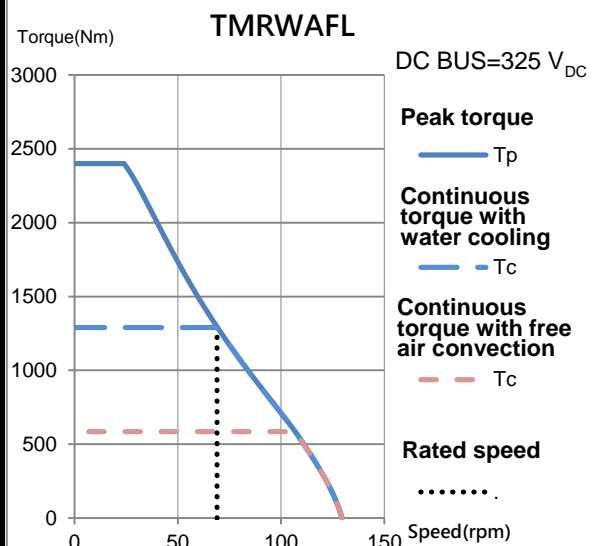
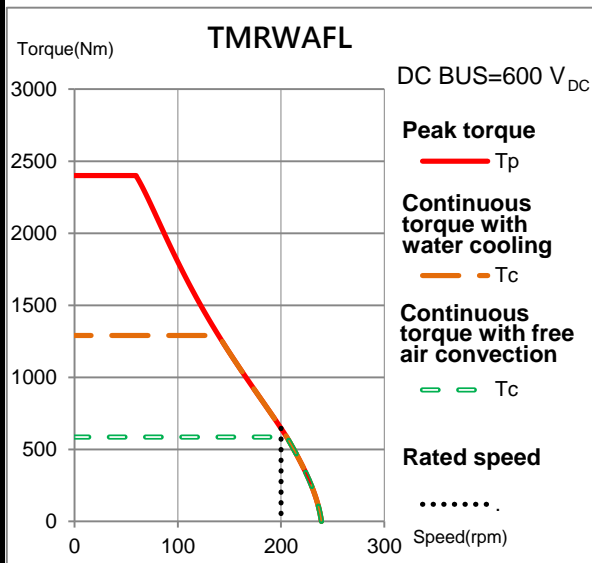
Electrical specifications

Winding code : PF	Symbol	Unit	Free air convection	Water cooling
Continuous torque	T_c	Nm	585	1290
Continuous current	I_c	A_{rms}	24	60
Stall torque	T_s	Nm	410	903
Stall current	I_s	A_{rms}	16.8	42
Peak torque(for 1sec.)	T_p	Nm	1488.7	2400
Peak current(for 1sec.)	I_p	A_{rms}	72	162
Torque constant	K_t	Nm/Arms	24.45	
Electrical time constant	T_e	ms	10	
Resistance (line to line at 25°C)	R_{25}	Ω	1	
Inductance (line to line)	L	mH	10	
Number of poles	2p		66	
Back emf constant (line to line)	K_v	Vrms/rad/s	14.12	
Motor constant (at 25°C)	K_m	Nm/ \sqrt{W}	19.9	
Thermal resistance	R_{th}	K/W	0.11	0.018
Thermal sensor			PTC SNM100+SNM120+Pt1000	
Max. DC BUS		V_{DC}	750	
Inertia of rotor	J	kgm^2	0.32	
Thermal time constant	T_{th}	s	4120	120
Max. continuous power dissipation	P_c	W	1183	7398
Max. peak power dissipation	P_p	W	53931	
Rated speed(at 600VDC)		rpm	200	

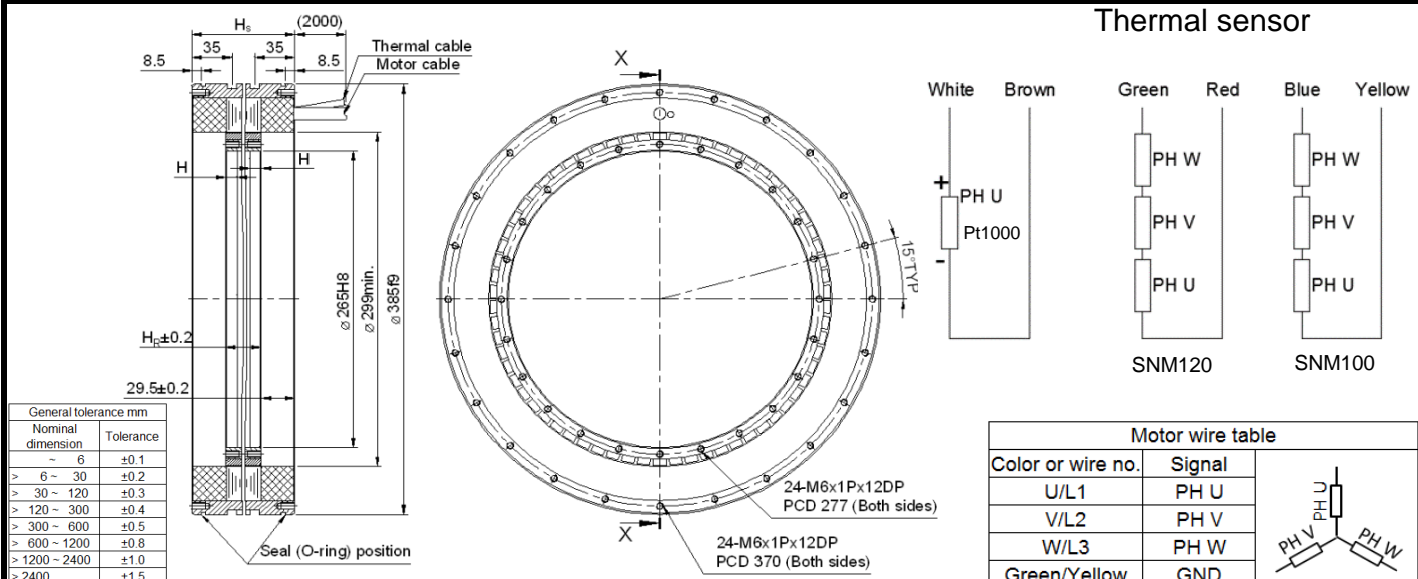
Mechanical specifications

	Symbol	Unit	Free air convection	Water cooling
Mass of rotor	M_r	kg	15.3	
Mass of stator	M_s	kg	63.1	
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	-	21.2
Max. pressure drop	Δp	bar	-	3

T-N curve



Thermal sensor



Except dimensions, all the specifications in the table are in ±10% of tolerance

Version: 2.00

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

Date: 2020/10/23