

TMRW1FL Torque Motor

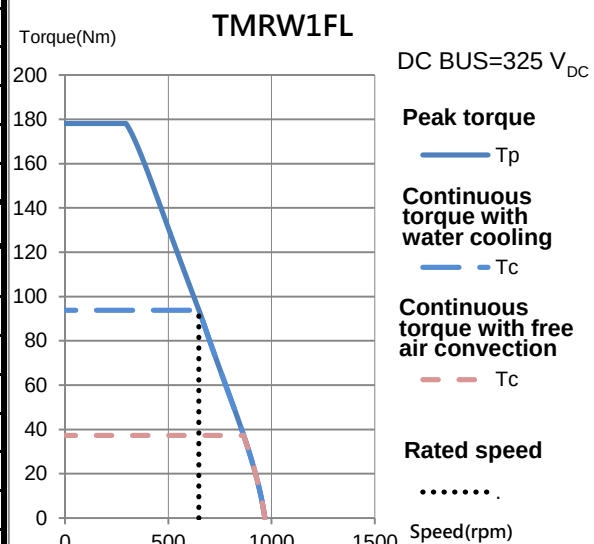
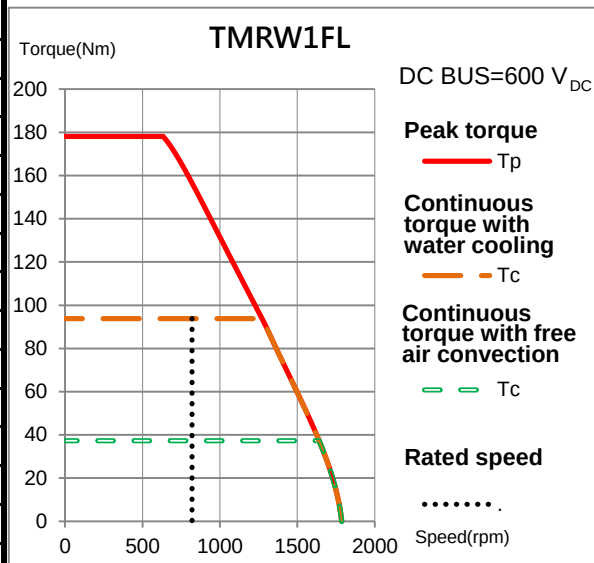
Electrical specifications

Winding code : PB	Symbol	Unit	Free air convection	Water cooling
Continuous torque	T_c	Nm	37.3	93.8
Continuous current	I_c	A_{rms}	11.4	28.8
Stall torque	T_s	Nm	26	66
Stall current	I_s	A_{rms}	8	20.2
Peak torque(for 1sec.)	T_p	Nm	108.5	178.1
Peak current(for 1sec.)	I_p	A_{rms}	34.2	77.8
Torque constant	K_t	Nm/Arms	3.27	
Electrical time constant	T_e	ms	4.3	
Resistance (line to line at 25°C)	R_{25}	Ω	1.37	
Inductance (line to line)	L	mH	5.9	
Number of poles	2p		22	
Back emf constant (line to line)	K_v	Vrms/rad/s	1.89	
Motor constant (at 25°C)	K_m	Nm/ $\sqrt{W}$	2.28	
Thermal resistance	R_{th}	K/W	0.36	0.056
Thermal sensor			PTC SNM100+SNM120+Pt1000	
Max. DC BUS		V_{DC}	750	
Inertia of rotor	J	kgm^2	0.0049	
Thermal time constant	T_{th}	s	2890	92
Max. continuous power dissipation	P_c	W	366	2339
Max. peak power dissipation	P_p	W	17069	
Rated speed(at 600VDC)		rpm	820	

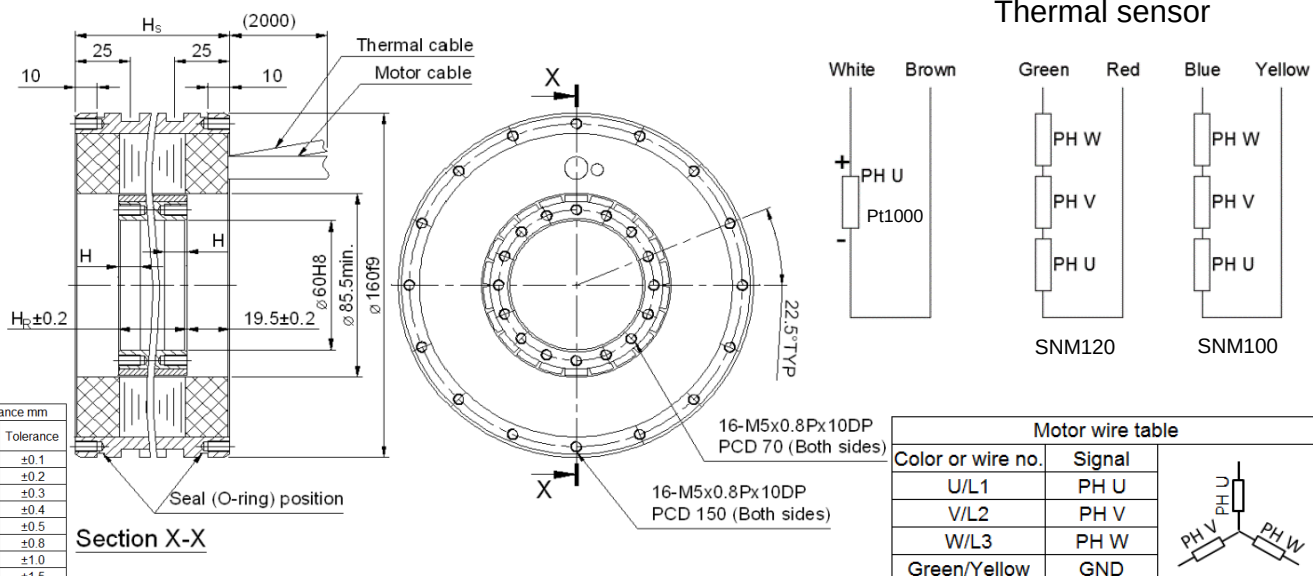
Mechanical specifications

	Symbol	Unit	Free air convection	Water cooling
Mass of rotor	M_r	kg	3	
Mass of stator	M_s	kg	12.2	
Height of stator	H_s	mm	190	
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	-	6.7
Max. pressure drop	Δp	bar	-	1

T-N curve



Thermal sensor



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