

TMRW1A Torque Motor

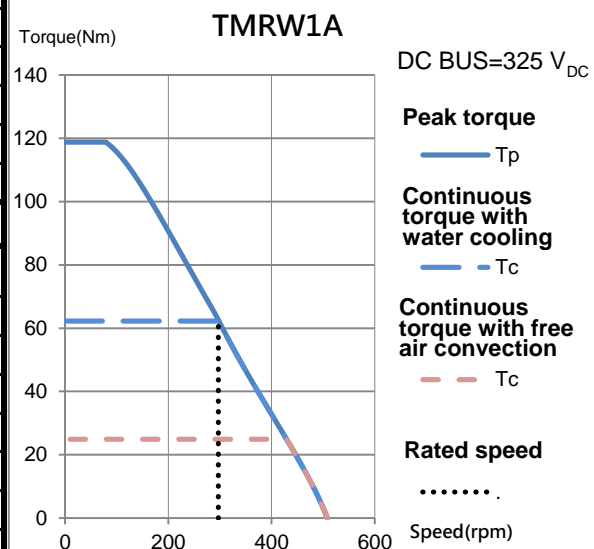
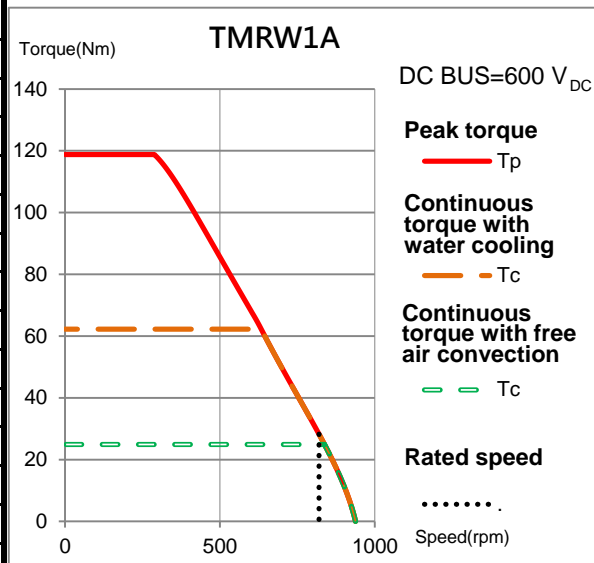
Electrical specifications

Winding code : LA	Symbol	Unit	Free air convection	Water cooling
Continuous torque	T_c	Nm	24.9	62.5
Continuous current	I_c	A_{rms}	4	10
Stall torque	T_s	Nm	17	44
Stall current	I_s	A_{rms}	2.8	7
Peak torque(for 1sec.)	T_p	Nm	73	118.8
Peak current(for 1sec.)	I_p	A_{rms}	12	27
Torque constant	K_t	Nm/Arms	6.23	
Electrical time constant	T_e	ms	4	
Resistance (line to line at 25°C)	R_{25}	Ω	7.7	
Inductance (line to line)	L	mH	31	
Number of poles	2p		22	
Back emf constant (line to line)	K_v	Vrms/rad/s	3.6	
Motor constant (at 25°C)	K_m	Nm/ \sqrt{W}	1.83	
Thermal resistance	R_{th}	K/W	0.51	0.082
Thermal sensor			PTC SNM100+SNM120+Pt1000	
Max. DC BUS		V_{DC}	750	
Inertia of rotor	J	kgm^2	0.0033	
Thermal time constant	T_{th}	s	2690	74
Max. continuous power dissipation	P_c	W	253	1585
Max. peak power dissipation	P_p	W	11558	
Rated speed(at 600VDC)		rpm	820	

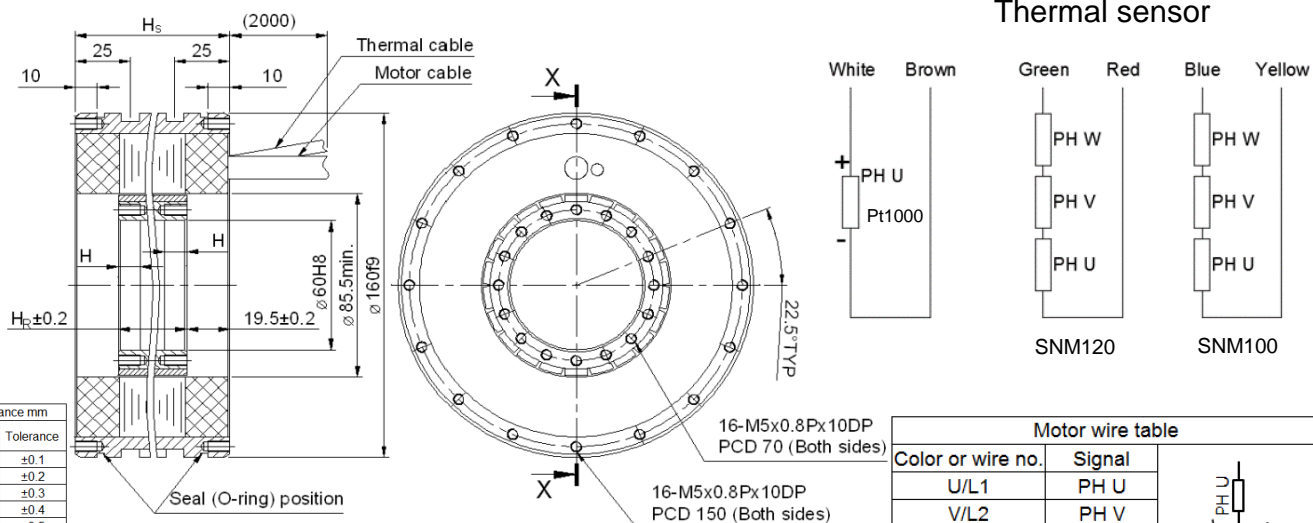
Mechanical specifications

	Symbol	Unit	Free air convection	Water cooling
Mass of rotor	M_r	kg	2	
Mass of stator	M_s	kg	8.6	
Height of stator	H_s	mm	140	
Height of rotor	H_r	mm	101	
Length of rotor centring fit	H	mm	15	
Water temperature difference for P_c	$\Delta\theta$	K	-	5
Minimum water flow	q	l/min	-	4.6
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