

TMRW2AL Torque Motor

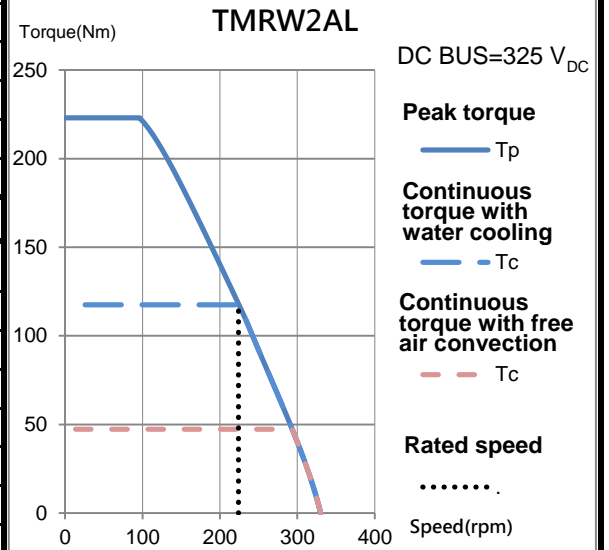
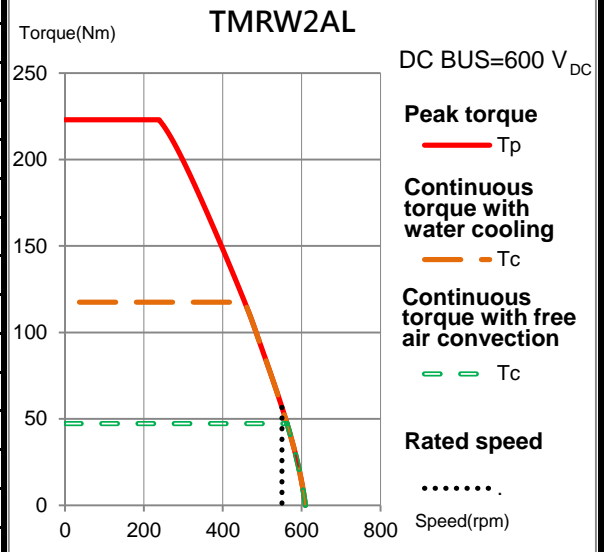
Electrical specifications

Winding code : SA	Symbol	Unit	Free air convection	Water cooling
Continuous torque	T_c	Nm	47.3	117.5
Continuous current	I_c	A_{rms}	4.9	12.3
Stall torque	T_s	Nm	33	82
Stall current	I_s	A_{rms}	3.4	8.6
Peak torque(for 1sec.)	T_p	Nm	136.6	223
Peak current(for 1sec.)	I_p	A_{rms}	14.7	33.2
Torque constant	K_t	Nm/Arms	9.6	
Electrical time constant	T_e	ms	7.4	
Resistance (line to line at 25°C)	R_{25}	Ω	4.4	
Inductance (line to line)	L	mH	32.46	
Number of poles	2p		22	
Back emf constant (line to line)	K_v	Vrms/rad/s	5.54	
Motor constant (at 25°C)	K_m	Nm/ \sqrt{W}	3.76	
Thermal resistance	R_{th}	K/W	0.53	0.095
Thermal sensor			PTC SNM100+SNM120+Pt1000	
Max. DC BUS		V_{DC}	750	
Inertia of rotor	J	kgm^2	0.009	
Thermal time constant	T_{th}	s	2410	75
Max. continuous power dissipation	P_c	W	226	1429
Max. peak power dissipation	P_p	W	10416	
Rated speed(at 600VDC)		rpm	550	

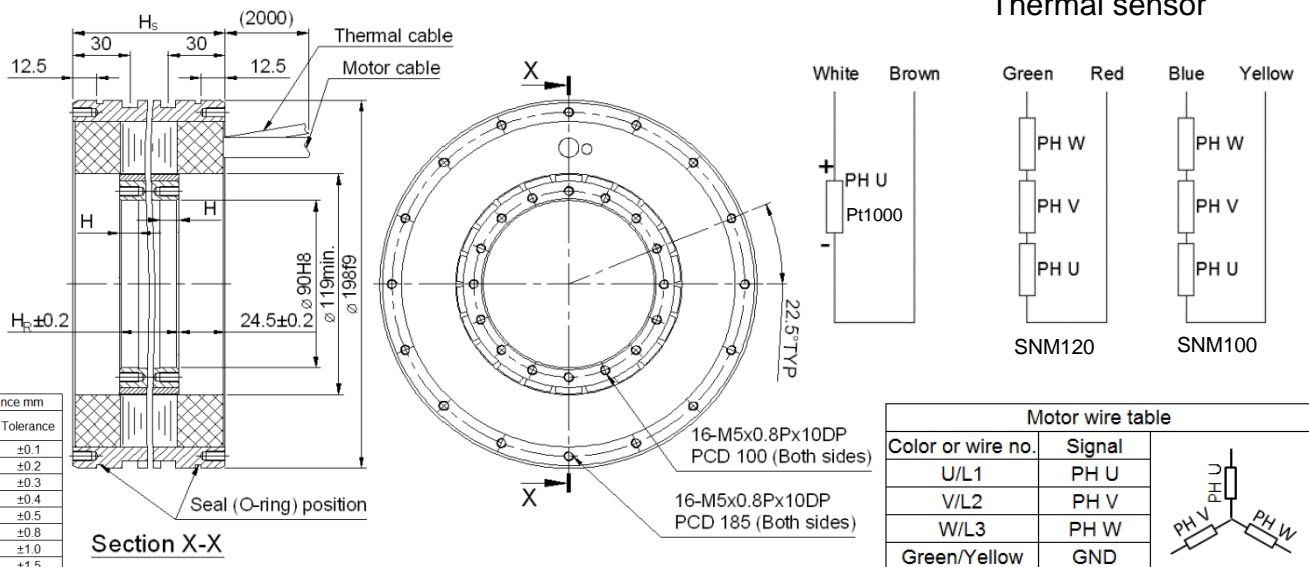
Mechanical specifications

	Symbol	Unit	Free air convection	Water cooling
Mass of rotor	M_r	kg	3.2	
Mass of stator	M_s	kg	14.2	
Height of stator	H_s	mm	150	
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	-	4.1
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