

TMRW47 Torque Motor

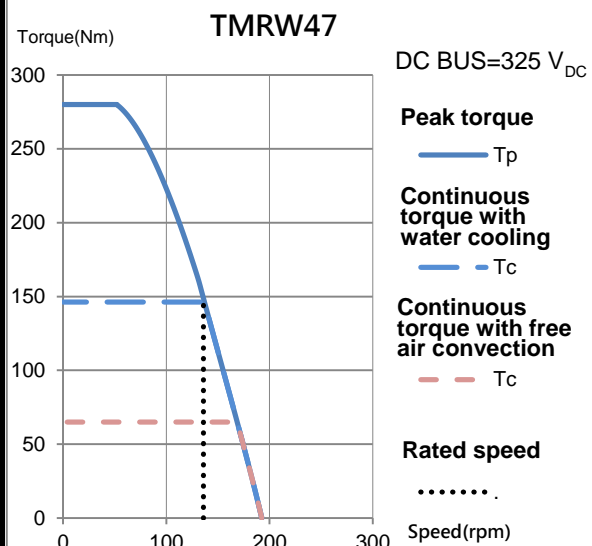
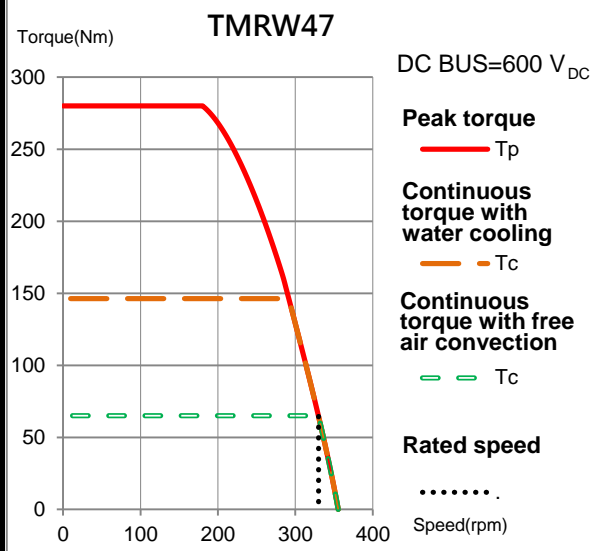
Electrical specifications

Winding code : PA	Symbol	Unit	Free air convection	Water cooling
Continuous torque	T_c	Nm	65	148
Continuous current	I_c	A_{rms}	4	9
Stall torque	T_s	Nm	46	104
Stall current	I_s	A_{rms}	2.8	6.3
Peak torque(for 1sec.)	T_p	Nm	188.4	280
Peak current(for 1sec.)	I_p	A_{rms}	12	24.3
Torque constant	K_t	Nm/Arms	16.47	
Electrical time constant	T_e	ms	4.9	
Resistance (line to line at 25°C)	R_{25}	Ω	7.63	
Inductance (line to line)	L	mH	37.6	
Number of poles	2p		22	
Back emf constant (line to line)	K_v	Vrms/rad/s	9.5	
Motor constant (at 25°C)	K_m	Nm/ \sqrt{W}	4.8	
Thermal resistance	R_{th}	K/W	0.52	0.102
Thermal sensor			PTC SNM100+SNM120+Pt1000	
Max. DC BUS		V_{DC}	750	
Inertia of rotor	J	kgm^2	0.022	
Thermal time constant	T_{th}	s	2100	82
Max. continuous power dissipation	P_c	W	251	1272
Max. peak power dissipation	P_p	W	9273	
Rated speed(at 600VDC)		rpm	330	

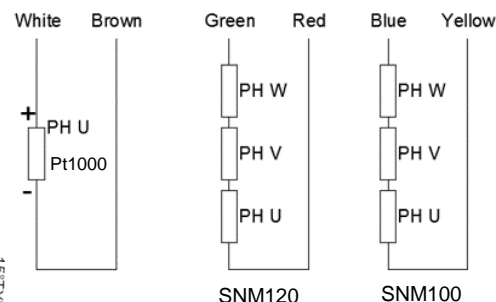
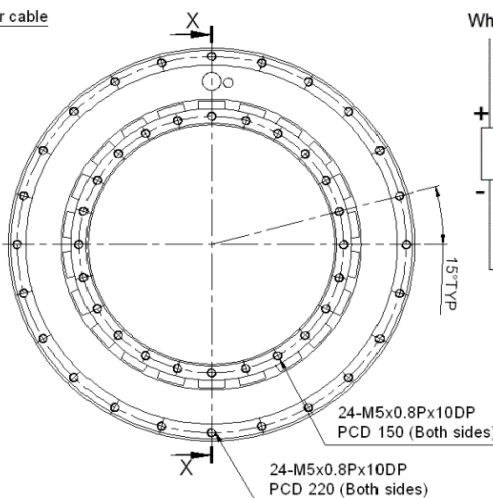
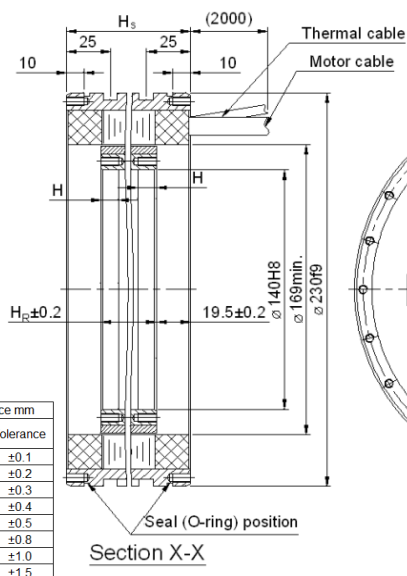
Mechanical specifications

	Symbol	Unit	Free air convection	Water cooling
Mass of rotor	M_r	kg	3.3	
Mass of stator	M_s	kg	9.6	
Height of stator	H_s	mm	110	
Height of rotor	H_r	mm	71	
Length of rotor centring fit	H	mm	15	
Water temperature difference for P_c	$\Delta\theta$	K	-	5
Minimum water flow	q	l/min	-	3.7
Max. pressure drop	Δp	bar	-	1

T-N curve



Thermal sensor



Motor wire table		
Color or wire no.	Signal	
U/L1	PH U	
V/L2	PH V	
W/L3	PH W	
Green/Yellow	GND	

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