TMRWDF Torque Motor

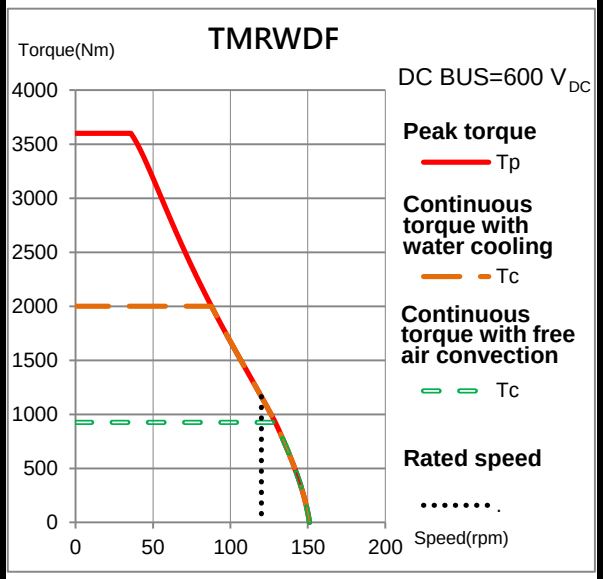
Electrical specifications

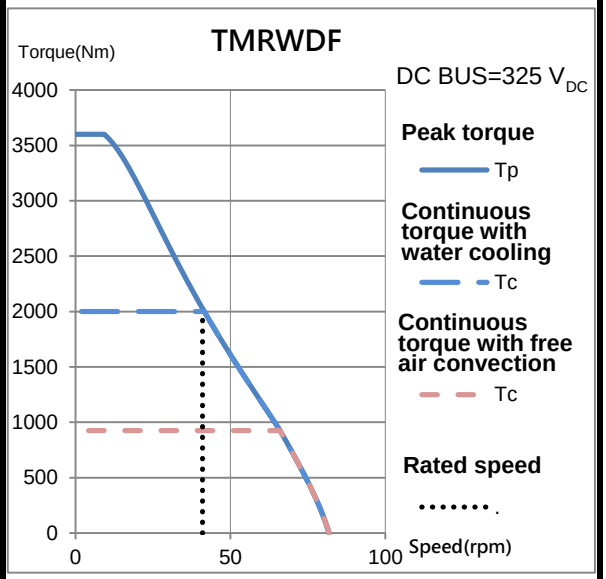
Winding code : SD	Symbol	Unit	Free air convection	Water cooling
Continuous torque	T_c	Nm	925	2000
Continuous current	I_c	A_{rms}	24	60
Stall torque	T_s	Nm	648	1400
Stall current	I_s	A_{rms}	16.8	42
Peak torque(for 1sec.)	T_p	Nm	2299.2	3600
Peak current(for 1sec.)	I_p	A_{rms}	72	162
Torque constant	K_t	Nm/Arms	38.7	
Electrical time constant	T_e	ms	8.3	
Resistance (line to line at 25℃)	R_{25}	Ω	1.35	
Inductance (line to line)	L	mH	11.2	
Number of poles	2p		88	
Back emf constant (line to line)	K_v	Vrms/rad/s	22.35	
Motor constant (at 25℃)	K_m	Nm/√W	27.08	
Thermal resistance	R_{th}	K/W	0.08	0.013
Thermal sensor			PTC SNM100+SNM120+Pt1000	
Max. DC BUS		V_{DC}	750	
Inertia of rotor	J	kgm^2	0.8	
Thermal time constant	T_{th}	s	4220	130
Max. continuous power dissipation	P_c	W	1598	9990
Max. peak power dissipation	P_p	W	72827	
Rated speed(at 600VDC)		rpm	120	

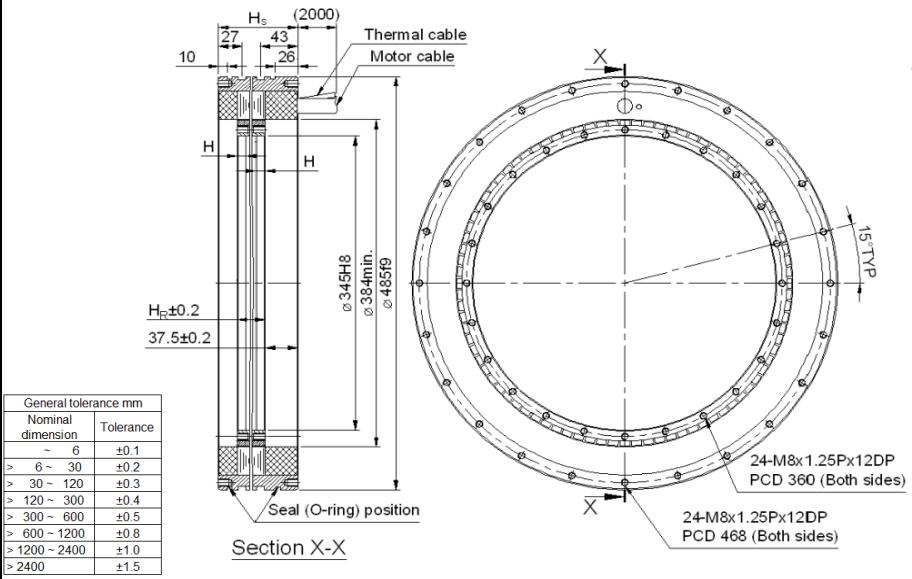
Mechanical specifications

	Symbol	Unit	Free air convection	Water cooling
Mass of rotor	M_r	kg	22	
Mass of stator	M_S	kg	90	
Height of stator	H_S	mm	210	
Height of rotor	H_R	mm	151	
Length of rotor centring fit	H	mm	15	
Water temperture difference for Pc	$\triangle\theta$	K	-	5
Minimum water flow	q	l/min	-	28.6
Max. pressure drop	$\triangle p$	bar	-	1

T-N curve

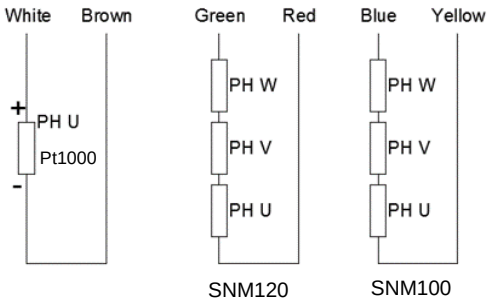




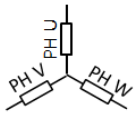


General tolerance mm	
Nominal dimension	Tolerance
~ 6	±0.1
> 6 ~ 30	±0.2
> 30 ~ 120	±0.3
> 120 ~ 300	±0.4
> 300 ~ 600	±0.5
> 600 ~ 1200	±0.8
> 1200 ~ 2400	±1.0
> 2400	±1.5

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 ±10% of tolerance

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

Version: 2.00

Date: 2020/10/23

大銀微系統股份有限公司 HIWIN MIKROSYSTEM CORP.