

TM-5-G5-WA0

Torque Motor

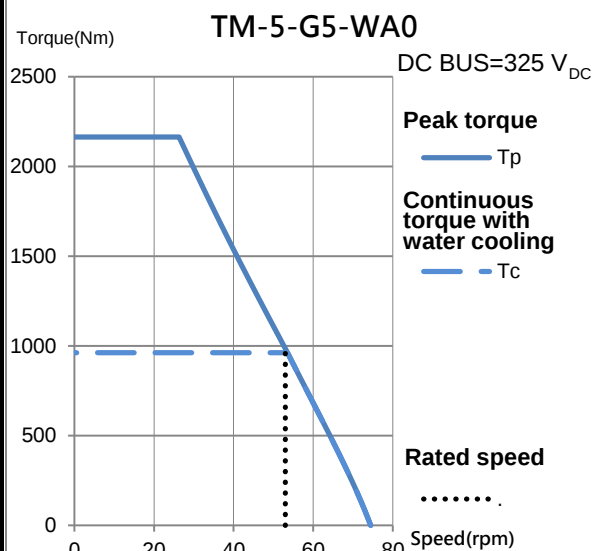
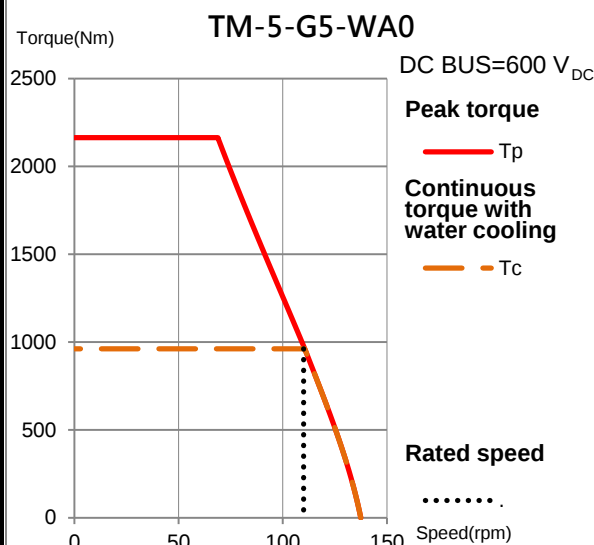
Electrical specifications

Winding code : WA0	Symbol	Unit	Water cooling
Continuous torque	T_c	Nm	962
Continuous current	I_c	A_{rms}	22.3
Stall torque	T_s	Nm	768
Stall current	I_s	A_{rms}	17.8
Peak torque(for 1sec.)	T_p	Nm	2164
Peak current(for 1sec.)	I_p	A_{rms}	56
Torque constant	K_t	Nm/Arms	46.42
Electrical time constant	T_e	ms	7.2
Resistance (line to line at 25°C)	R_{25}	Ω	2.62
Inductance (line to line)	L	mH	18.9
Number of poles	2p		70
Back emf constant (line to line)	K_v	Vrms/rad/s	26.8
Motor constant (at 25°C)	K_m	Nm/ $\sqrt{W}$	21.75
Thermal resistance	R_{th}	K/W	0.054
Thermal sensor			PTC 100+PTC 130+Pt1000
Max. DC BUS		V_{DC}	750
Inertia of rotor	J	kgm^2	0.47
Thermal time constant	T_{th}	s	170
Max. continuous power dissipation	P_c	W	2797
Max. peak power dissipation	P_p	W	17640
Rated speed(at 600VDC)		rpm	110

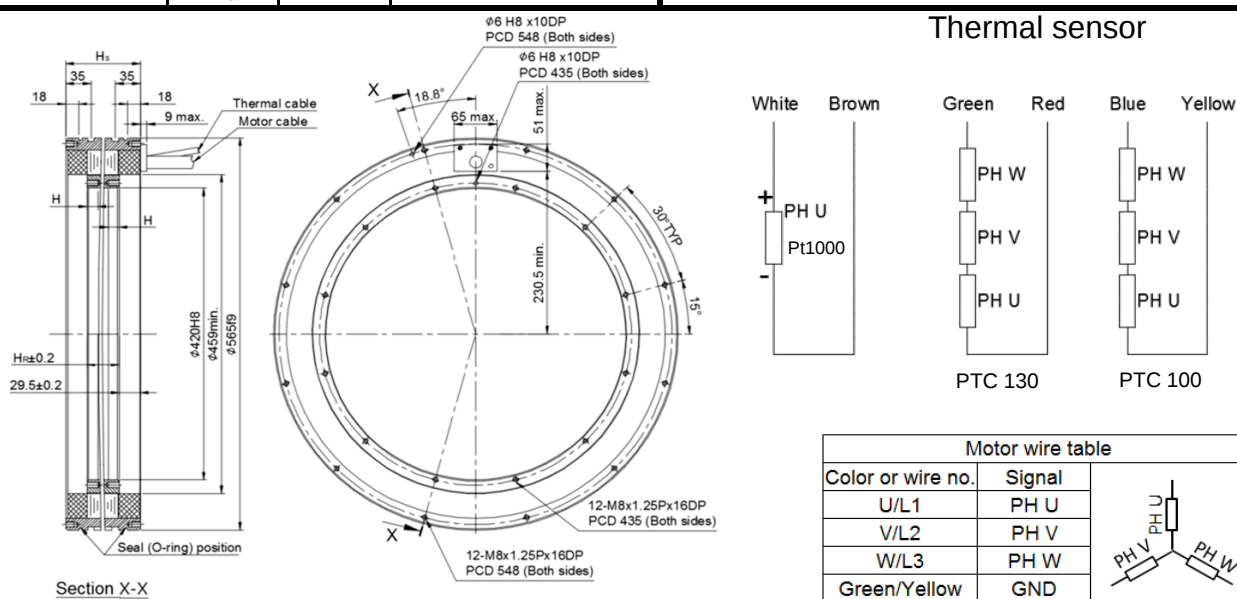
Mechanical specifications

	Symbol	Unit	Water cooling
Mass of rotor	M_r	kg	9.8
Mass of stator	M_s	kg	51.4
Height of stator	H_s	mm	110
Height of rotor	H_r	mm	51
Length of rotor centring fit	H	mm	15
Water temperature difference for P_c	$\Delta\theta$	K	5
Minimum water flow	q	l/min	8
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

The drawing and values are only for reference.

Date: 2024/6/27