

# TM-2-15-LA0 Torque Motor

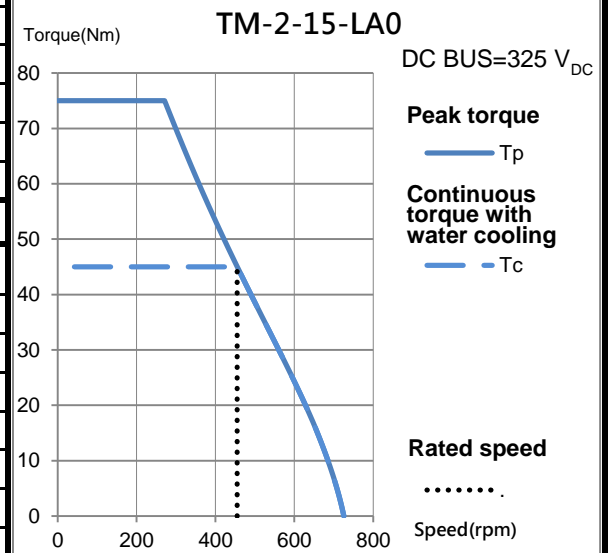
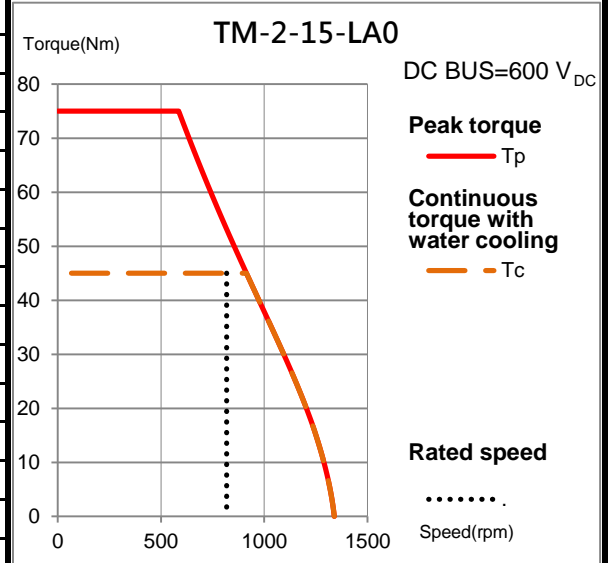
## Electrical specifications

Winding code : LA	Symbol	Unit	Water cooling
Continuous torque	$T_c$	Nm	45
Continuous current	$I_c$	$A_{rms}$	10.3
Stall torque	$T_s$	Nm	37
Stall current	$I_s$	$A_{rms}$	8.2
Peak torque(for 1sec.)	$T_p$	Nm	75
Peak current(for 1sec.)	$I_p$	$A_{rms}$	20
Torque constant	$K_t$	Nm/Arms	4.76
Electrical time constant	$T_e$	ms	4.9
Resistance (line to line at 25°C)	$R_{25}$	$\Omega$	5.1
Inductance (line to line)	L	mH	25.2
Number of poles	2p		22
Back emf constant (line to line)	$K_v$	Vrms/rad/s	2.75
Motor constant (at 25°C)	$K_m$	Nm/ $\sqrt{W}$	1.72
Thermal resistance	$R_{th}$	K/W	0.129
Thermal sensor			PTC SNM100+SNM130+Pt1000
Max. DC BUS		$V_{DC}$	750
Inertia of rotor	J	$kgm^2$	0.0016
Thermal time constant	$T_{th}$	s	150
Max. continuous power dissipation	$P_c$	W	1145
Max. peak power dissipation	$P_p$	W	4320
Rated speed(at 600VDC)		rpm	818

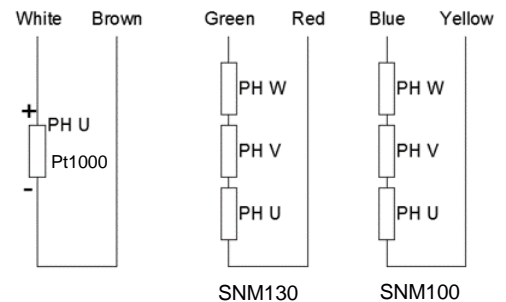
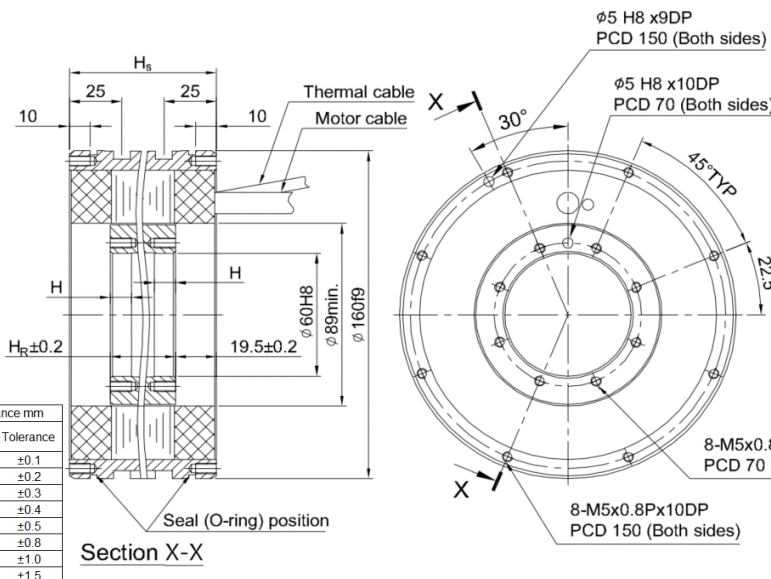
## Mechanical specifications

	Symbol	Unit	Water cooling
Mass of rotor	$M_r$	kg	1.2
Mass of stator	$M_s$	kg	6.4
Height of stator	$H_s$	mm	90
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	3.3
Max. pressure drop	$\Delta p$	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

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

Except dimensions, all the specifications in the table are in  $\pm 10\%$  of tolerance

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

Version: 2.00

Date: 2020/10/23