

# TRM-200 Technical Information

Motor Parameters		Symbols	Units	TML-200-030		TML-200-060		TML-200-120	
PERFORMANCE	DC Bus Voltage	$V_{DC}$	V	24	48	24	48	24	48
	Rated Torque	$T_r$	Nm	19.7		34.8		70.1	
	Peak Torque	$T_p$	Nm	31.3		62.9		129.1	
	Rated Speed	$N_r$	rpm	115	275	70	175	40	105
	No-Load Speed	$N_{no-load}$	rpm	170	350	105	220	65	135
	Torque Constant	$K_t$	Nm/A	1.58		2.49		3.92	
	Voltage Constant	$K_v$	V/rpm	0.135		0.213		0.341	
	Max. Cogging Torque	$T_{cog}$	%			<1			
	Torque Ripple	$T_{ripple}$	%			<1			
	ELECTRICAL	Number of Pole	$2p$	--			24		
Rated Current		$I_r$	$A_{rms}$	12.5		14		17.9	
Peak Current		$I_p$	$A_{rms}$	20		25.4		32.6	
Line Resistance		$R_{LL}@25^{\circ}C$	Ohm	0.42 ( $\pm 20\%$ )		0.42 ( $\pm 20\%$ )		0.41 ( $\pm 20\%$ )	
Line Inductance		$L_{LL}@60Hz$	mH	2.30 ( $\pm 30\%$ )		2.4 ( $\pm 30\%$ )		3.44 ( $\pm 30\%$ )	
MECHANICAL & THERMAL	Stator Weight	$W_s$	kg	3.16		5.58		10.34	
	Rotor Weight	$W_r$	kg	1.59		3.19		6.39	
	Total Weight	$W_{total}$	kg	4.75		8.77		16.73	
	Mech. Time Constant	$K_{mech}$	ms	1.61		1.19		0.97	
	Thermal Resistance <sup>(2)</sup>	$R_{th}$	$^{\circ}C/W$	0.608		0.410		0.316	
	Inertia	$J$	kg.m <sup>2</sup>	0.00751		0.01512		0.03034	
	Motor Constant	$K_m$	Nm/ $\sqrt{W}$	1.28	0.83	2.18	1.38	4.09	2.53
	Rotor ID		mm			120			
	Stator OD		mm			200			

Motor Parameters		Symbols	Units	TMH-200-030		TMH-200-060		TMH-200-120	
PERFORMANCE	DC Bus Voltage	$V_{DC}$	V	310	560	310	560	310	560
	Rated Torque	$T_r$	Nm	19.2		35.2		68.2	
	Peak Torque	$T_p$	Nm	59.5		121.9		242.3	
	Rated Speed	$N_r$	rpm	295	570	255	490	215	410
	No-Load Speed	$N_{no-load}$	rpm	370	675	315	575	255	465
	Torque Constant	$K_t$	Nm/A	9.63		11.36		13.93	
	Voltage Constant	$K_v$	V/rpm	0.823		0.965		1.192	
	Max. Cogging Torque	$T_{cog}$	%			<1			
	Torque Ripple	$T_{ripple}$	%			<1			
	ELECTRICAL	Number of Pole	$2p$	--			24		
Rated Current		$I_r$	$A_{rms}$	2		3.1		4.9	
Peak Current		$I_p$	$A_{rms}$	6.4		11.2		18	
Line Resistance		$R_{LL}@25^{\circ}C$	Ohm	16.2 ( $\pm 20\%$ )		10.1 ( $\pm 20\%$ )		5.14 ( $\pm 20\%$ )	
Line Inductance		$L_{LL}@60Hz$	mH	88.6 ( $\pm 30\%$ )		60.4 ( $\pm 30\%$ )		40.6 ( $\pm 30\%$ )	
MECHANICAL & THERMAL	Stator Weight	$W_s$	kg	3.13		5.47		10.17	
	Rotor Weight	$W_r$	kg	1.59		3.19		6.39	
	Total Weight	$W_{total}$	kg	4.72		8.66		16.56	
	Mech. Time Constant	$K_{mech}$	ms	1.60		1.45		0.98	
	Thermal Resistance <sup>(2)</sup>	$R_{th}$	$^{\circ}C/W$	0.608		0.410		0.316	
	Inertia	$J$	kg.m <sup>2</sup>	0.00751		0.01512		0.03034	
	Motor Constant	$K_m$	Nm/ $\sqrt{W}$	0.79	0.57	1.15	0.83	1.74	1.26
	Rotor ID		mm			120			
	Stator OD		mm			200			

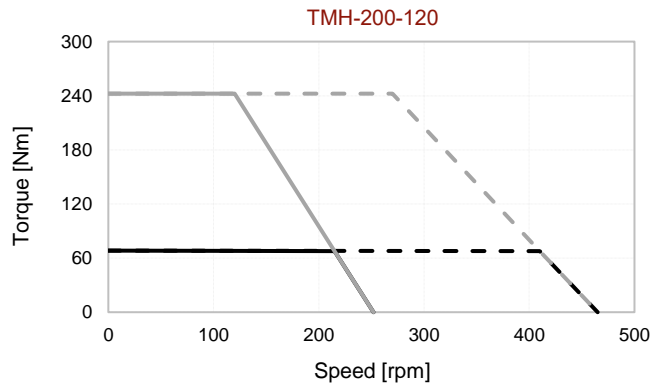
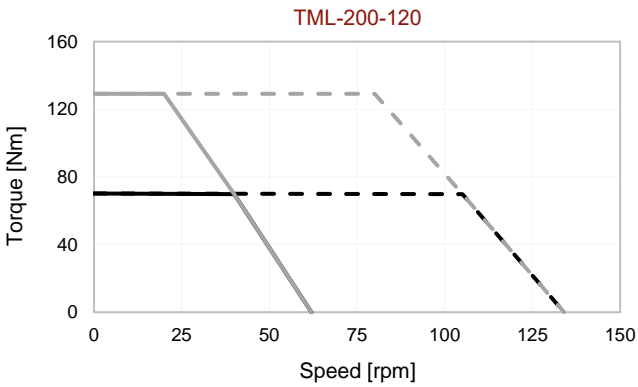
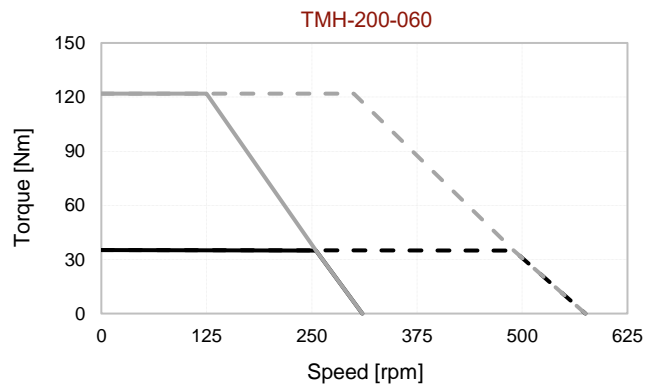
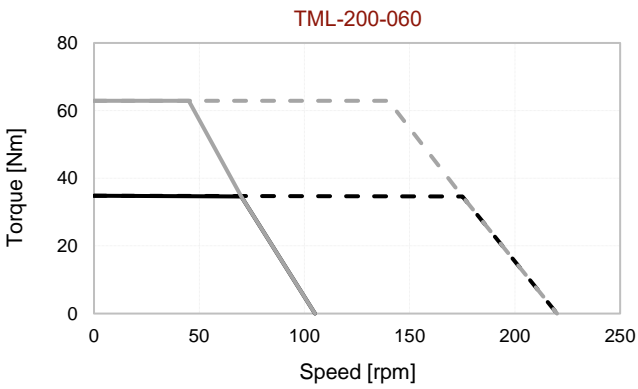
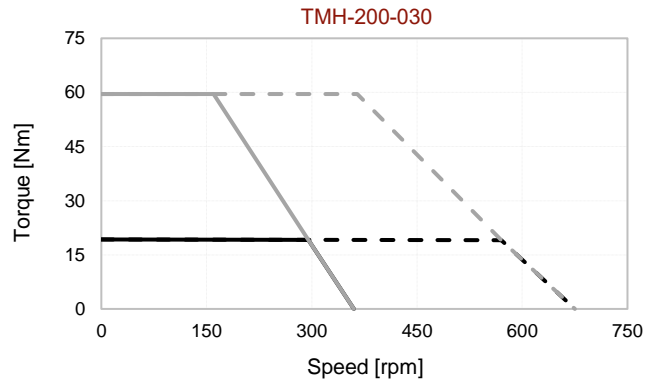
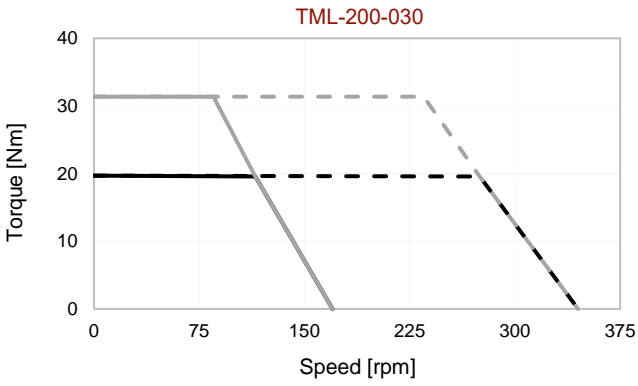
1. All performance and electrical specifications are obtained at 25°C ambient and may change  $\pm 10\%$ . 2. Housed version of motor mounted to 300 mm sq. x 15 mm aluminum heat sink (maximum winding temperature is 120°C). 3. Higher torque and speed values as well as dimensions on request.

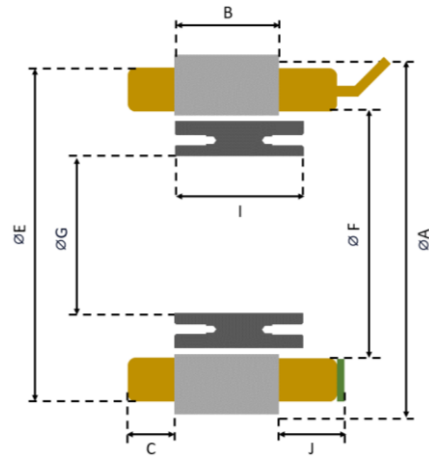
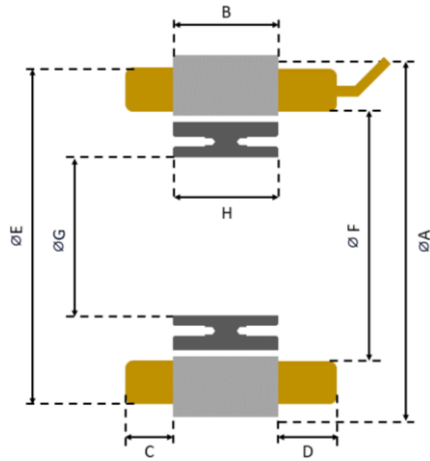
# TM(L/H)-200 Torque-Speed Curves

Tr: Rated Torque  
Tp: Peak Torque

— @Tr 24V    - - - @Tr 48V  
— @Tp 24V    - - - @Tp 48V

— @Tr 310V    - - - @Tr 560V  
— @Tp 310V    - - - @Tp 560V





Hall Effect Sensor Option

Model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)
TM(L/H)-200-030	200	30	15	17	193	156.5	120	30.1	35.1	20
TM(L/H)-200-060	200	60	15	17	193	156.5	120	60.2	65.2	20
TM(L/H)-200-120	200	120	15	17	193	156.5	120	120.4	125.4	20

**Notes:**

**MOTOR LEADS:**

200-TML: #12 AWG Teflon® insulated, 500 mm (optional) length, 1-Red, 1-White, 1-Black.  
 200-TMH: #15 AWG Teflon® insulated, 500 mm (optional) length, 1-Red, 1-White, 1-Black.

**THERMISTOR LEADS:**

#26 AWG Teflon® insulated, 500 mm (optional) length, 2-Brown or Blue.

**SENSOR LEADS:**

#23 AWG Teflon® insulated, 500 mm (optional) length, 1-Blue, 1-Green, 1-Brown, 1-White, 1-Yellow.

**MOUNTING OPTION:**

#Stator: 3x3 Keyway  
 #Rotor: (12X on each side) M5 Bolt Hole (For details refer to MDS Motor mounting documents)