

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	100	245	65	160	35	95
	No-Load Speed	$N_{no-load}$	rpm	155	305	95	200	60	120
	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	0.45 ($\pm 20\%$)		0.42 ($\pm 20\%$)		0.41 ($\pm 20\%$)	
MECHANICAL & THERMAL	Line Inductance	$L_{LL}@60Hz$	mH	2.1 ($\pm 30\%$)		2.3 ($\pm 30\%$)		3.4 ($\pm 30\%$)	
	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 ⁽²⁾	R_{th}	$^{\circ}C/W$	0.608		0.410		0.316	
	Inertia	J	$kg.m^2$	0.00751		0.01512		0.03034	
	Motor Constant	K_m	Nm/\sqrt{W}	1.9		3.13		5.01	
	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	265	510	230	440	190	365
	No-Load Speed	$N_{no-load}$	rpm	325	600	275	500	225	415
	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	15.8 ($\pm 20\%$)		10.1 ($\pm 20\%$)		5.15 ($\pm 20\%$)	
MECHANICAL & THERMAL	Line Inductance	$L_{LL}@60Hz$	mH	79.2 ($\pm 30\%$)		60.4 ($\pm 30\%$)		40.6 ($\pm 30\%$)	
	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 ⁽²⁾	R_{th}	$^{\circ}C/W$	0.608		0.410		0.316	
	Inertia	J	$kg.m^2$	0.00751		0.01512		0.03034	
	Motor Constant	K_m	Nm/\sqrt{W}	1.98		2.92		5.02	
	Rotor ID		mm			120			
	Stator OD		mm			200			

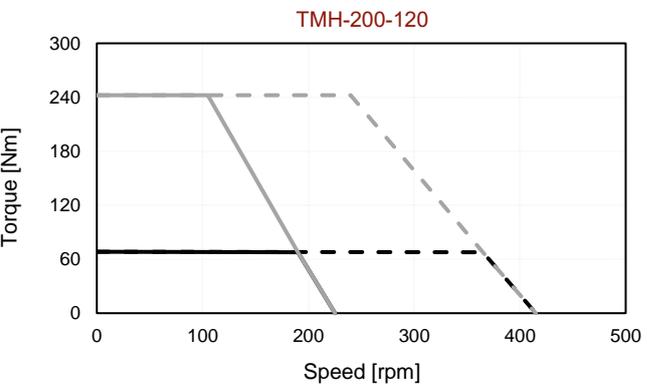
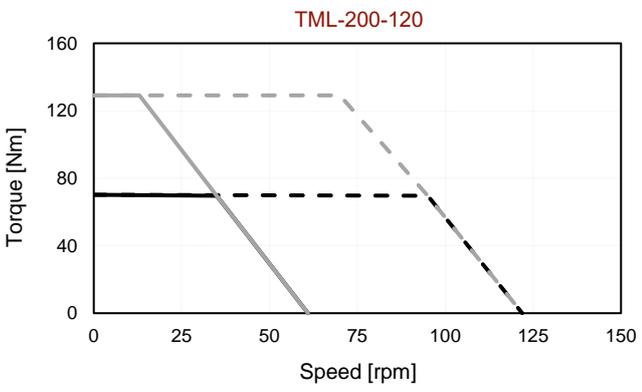
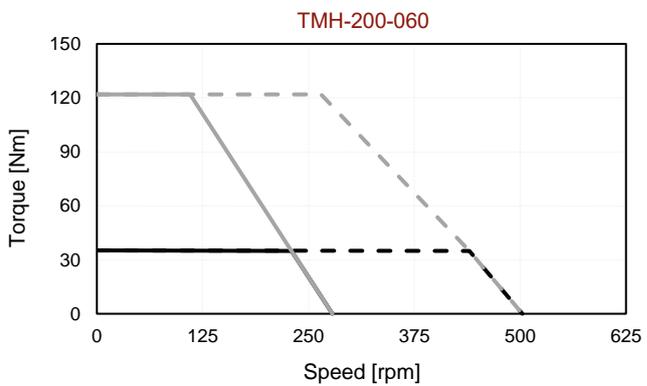
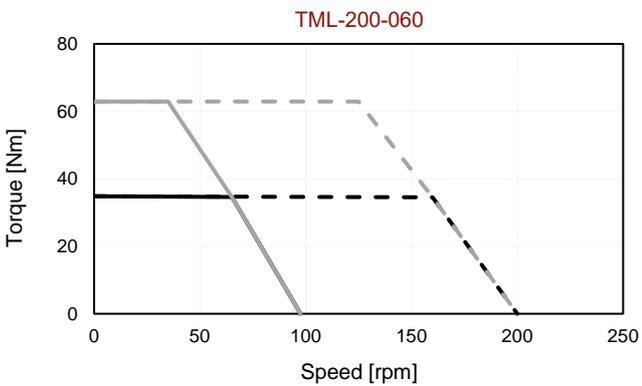
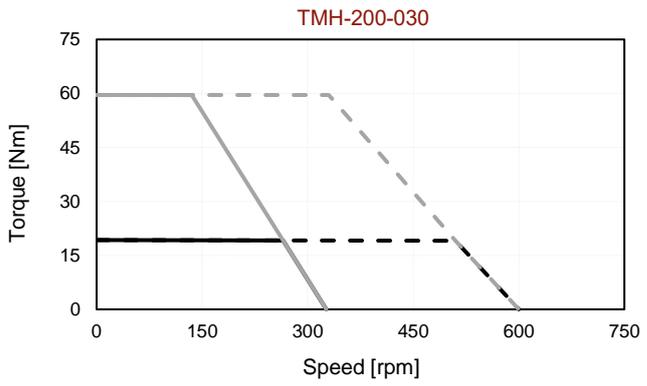
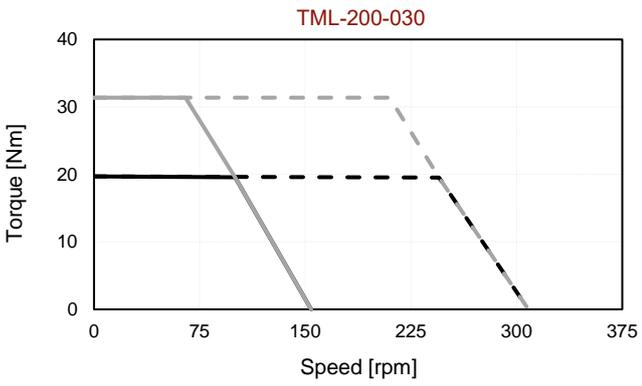
1. All performance and electrical specifications are obtained at 25°C ambient and may change $\pm 10\%$. 2. Housed version of motor mounted to 300 mm sq. x 15 mm aluminum heat sink (maximum winding temperature is 120°C). 3. All data referenced to sinusoidal commutation. 4. Higher torque and speed values as well as dimensions on request.

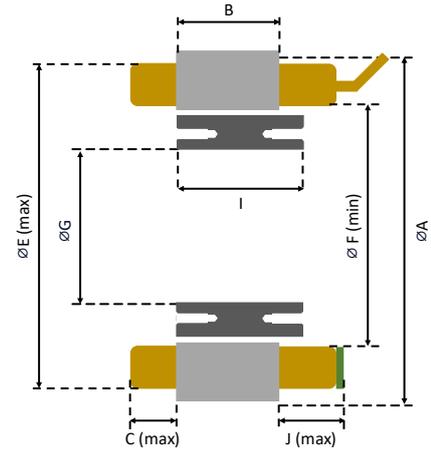
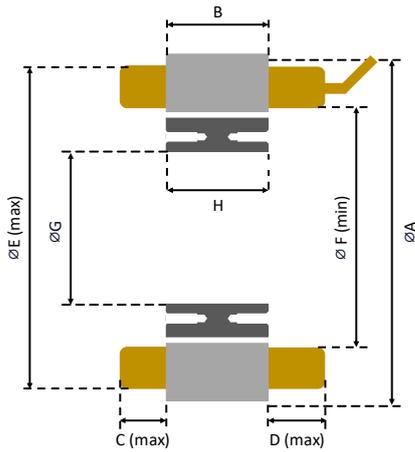
TM(L/H)-200 Torque-Speed Curves

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 detailed mounting information, including tolerances, please contact MDS Motor or refer to the MDS Motor mounting document)