

# TRM-130 Technical Information

Motor Parameters		Symbols	Units	TML-130-025		TML-130-050		TML-130-100	
PERFORMANCE	DC Bus Voltage	$V_{DC}$	V	24	48	24	48	24	48
	Rated Torque	$T_r$	Nm	6.4		12.4		22.2	
	Peak Torque	$T_p$	Nm	10		20.1		39.4	
	Rated Speed	$N_r$	rpm	125	345	85	240	65	180
	No-Load Speed	$N_{no-load}$	rpm	245	490	170	340	120	245
	Torque Constant	$K_t$	Nm/A	0.99		1.42		1.98	
	Voltage Constant	$K_v$	V/rpm	0.085		0.121		0.170	
	Max. Cogging Torque	$T_{cog}$	%			<1			
	Torque Ripple	$T_{ripple}$	%			<1			
	ELECTRICAL	Number of Pole	$2p$	--			24		
Rated Current		$I_r$	$A_{rms}$	6.5		8.75		11.2	
Peak Current		$I_p$	$A_{rms}$	10.4		14.6		20.4	
Line Resistance		$R_{Ll}@25^{\circ}C$	Ohm	1.12 ( $\pm 20\%$ )		0.92 ( $\pm 20\%$ )		0.7 ( $\pm 20\%$ )	
Line Inductance		$L_{Ll}@60Hz$	mH	4.90 ( $\pm 30\%$ )		4.62 ( $\pm 30\%$ )		4.47 ( $\pm 30\%$ )	
MECHANICAL & THERMAL	Stator Weight	$W_s$	kg	1.89		3.15		5.66	
	Rotor Weight	$W_r$	kg	0.47		0.95		1.90	
	Total Weight	$W_{total}$	kg	2.36		4.1		7.56	
	Mech. Time Constant	$K_{mech}$	ms	0.76		0.62		0.48	
	Thermal Resistance <sup>(2)</sup>	$R_{th}$	$^{\circ}C/W$	0.734		0.556		0.449	
	Inertia	$J$	$kg.m^2$	0.00055		0.00111		0.00221	
	Motor Constant	$K_m$	$Nm/\sqrt{W}$	0.76		1.20		1.93	
	Rotor ID		mm			55			
	Stator OD		mm			130			

Motor Parameters		Symbols	Units	TMH-130-025		TMH-130-050		TMH-130-100	
PERFORMANCE	DC Bus Voltage	$V_{DC}$	V	310	560	310	560	310	560
	Rated Torque	$T_r$	Nm	6.4		12.6		21.9	
	Peak Torque	$T_p$	Nm	16.75		34.1		67	
	Rated Speed	$N_r$	rpm	315	645	310	610	280	535
	No-Load Speed	$N_{no-load}$	rpm	465	845	420	760	355	645
	Torque Constant	$K_t$	Nm/A	6.72		7.43		8.77	
	Voltage Constant	$K_v$	V/rpm	0.574		0.636		0.752	
	Max. Cogging Torque	$T_{cog}$	%			<1			
	Torque Ripple	$T_{ripple}$	%			<1			
	ELECTRICAL	Number of Pole	$2p$	--			24		
Rated Current		$I_r$	$A_{rms}$	0.95		1.7		2.5	
Peak Current		$I_p$	$A_{rms}$	3		5.6		9.2	
Line Resistance		$R_{Ll}@25^{\circ}C$	Ohm	61.4 ( $\pm 20\%$ )		25 ( $\pm 20\%$ )		13.9 ( $\pm 20\%$ )	
Line Inductance		$L_{Ll}@60Hz$	mH	213.9 ( $\pm 30\%$ )		127.3 ( $\pm 30\%$ )		87.6 ( $\pm 30\%$ )	
MECHANICAL & THERMAL	Stator Weight	$W_s$	kg	1.9		3.13		5.69	
	Rotor Weight	$W_r$	kg	0.47		0.95		1.90	
	Total Weight	$W_{total}$	kg	2.35		4.08		7.59	
	Mech. Time Constant	$K_{mech}$	ms	0.91		0.61		0.49	
	Thermal Resistance <sup>(2)</sup>	$R_{th}$	$^{\circ}C/W$	0.734		0.556		0.449	
	Inertia	$J$	$kg.m^2$	0.00055		0.00111		0.00221	
	Motor Constant	$K_m$	$Nm/\sqrt{W}$	0.7		1.21		1.92	
	Rotor ID		mm			55			
	Stator OD		mm			130			

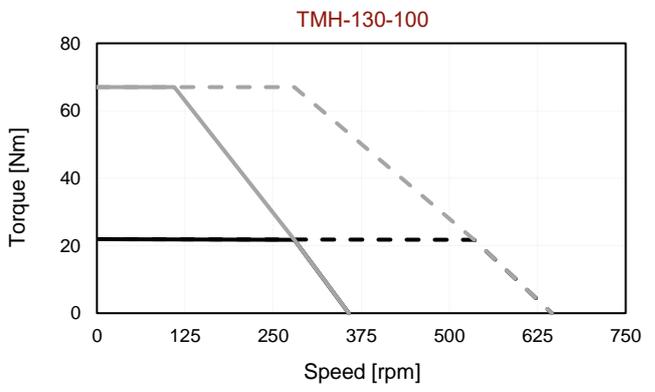
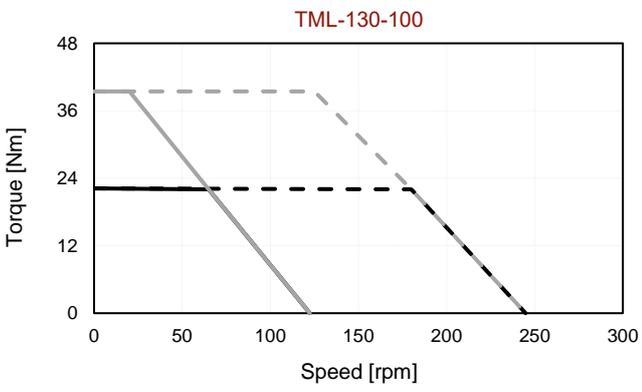
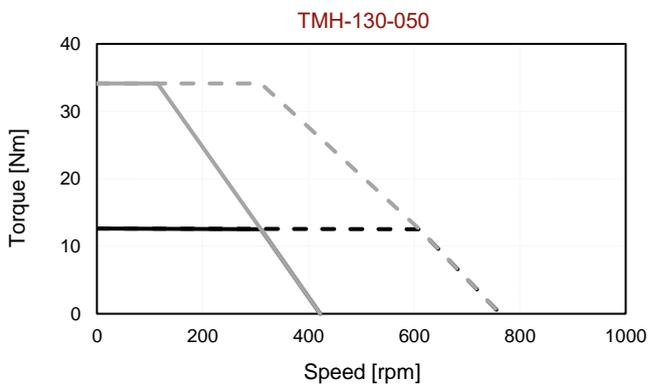
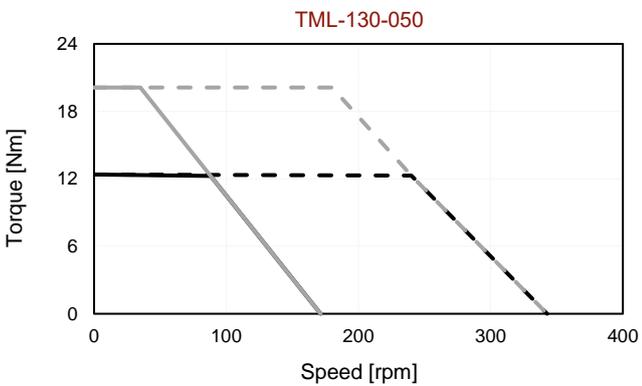
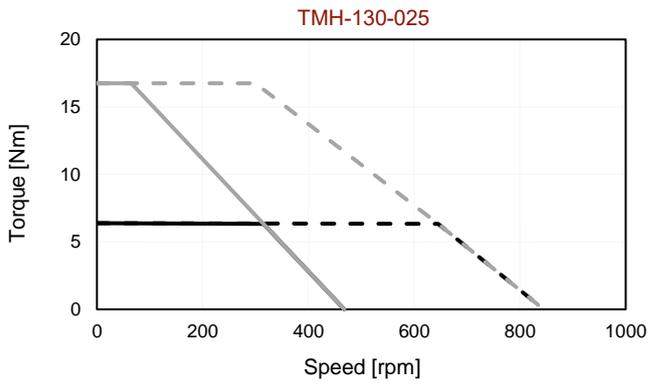
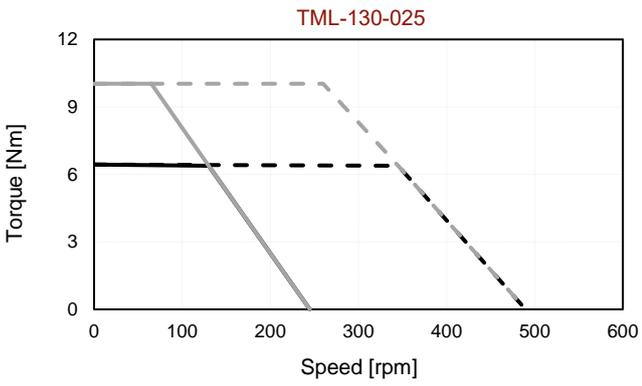
1. All performance and electrical specifications are obtained at 25°C ambient and may change  $\pm 10\%$ . 2. Housed version of motor mounted to 250 mm sq. x 10 mm aluminum heat sink (maximum winding temperature is 120°C). 3. All data referenced to sinusoidal commutation. 4. Higher torque and speed values as well as dimensions on request.

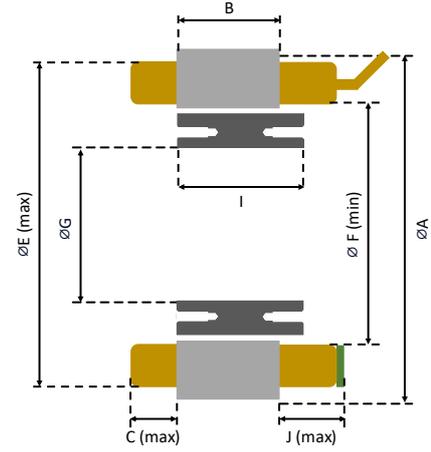
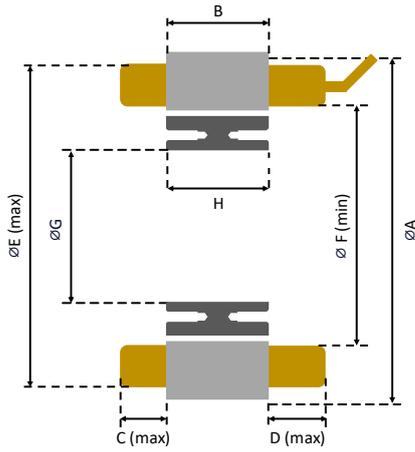
# TM(L/H)-130 Torque-Speed Curves

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)-130-025	130	25	14	16	124	82.4	55	25.1	30.1	19
TM(L/H)-130-050	130	50	14	16	124	82.4	55	50.2	55.2	19
TM(L/H)-130-100	130	100	14	16	124	82.4	55	100.4	105.4	19

**Notes:**

**MOTOR LEADS:**

130-TML: #14 AWG Teflon® insulated, 500 mm (optional) length, 1-Red, 1-White, 1-Black.  
 130-TMH: #18 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: (8X on each side) M4 Bolt Hole

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