

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	135	380	100	270	75	200
	No-Load Speed	$N_{no-load}$	rpm	280	560	195	390	140	275
	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	0.90		0.62		0.48	
	Thermal Resistance ⁽²⁾	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}	0.67	0.40	1.09	0.66	1.68	1.03
	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	355	725	350	685	310	605
	No-Load Speed	$N_{no-load}$	rpm	535	970	485	880	410	745
	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 ⁽²⁾	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}	0.41	0.29	0.59	0.42	0.82	0.59
	Rotor ID		mm			55			
	Stator OD		mm			130			

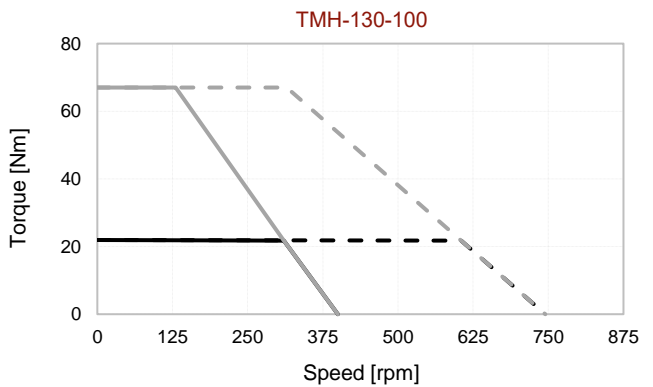
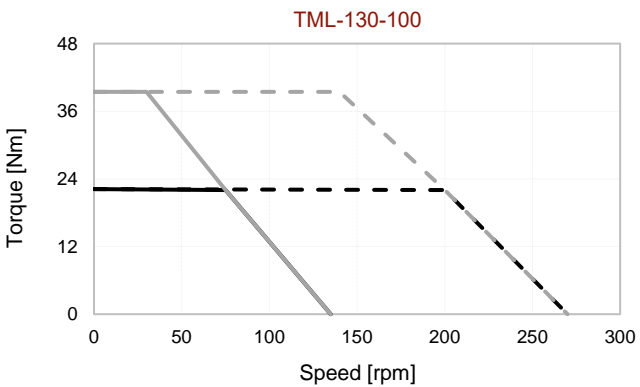
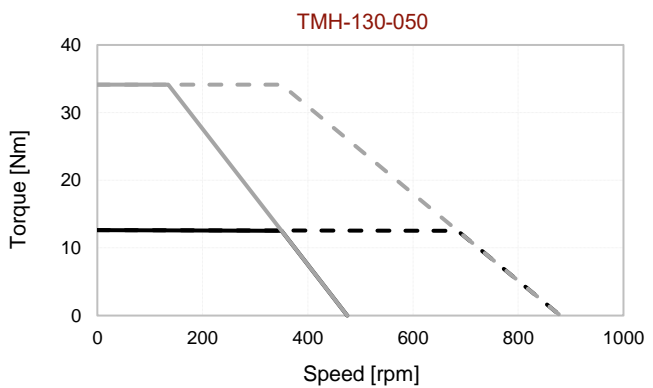
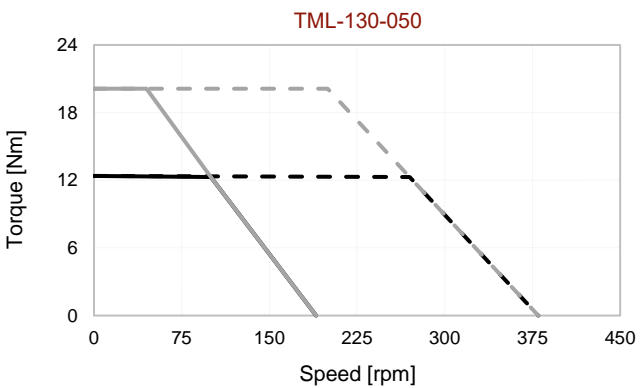
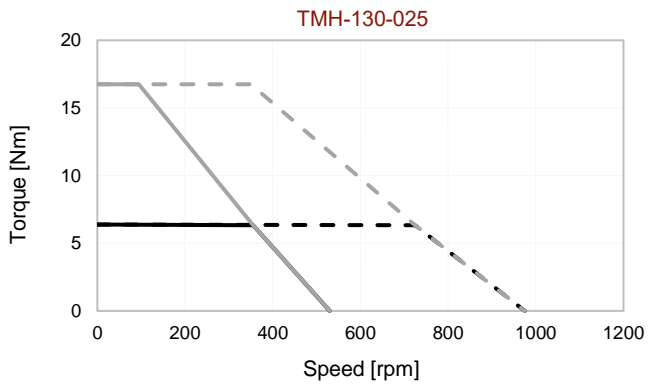
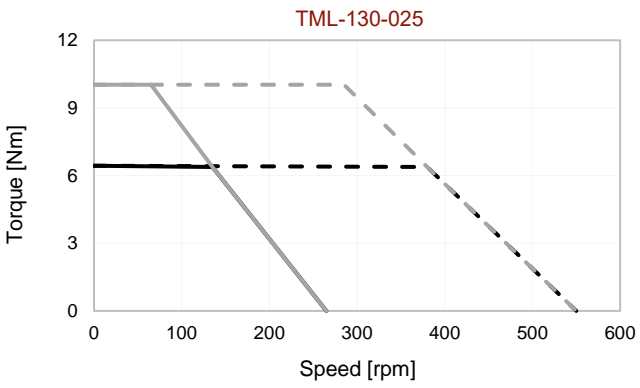
1. All performance and electrical specifications are obtained at 25°C ambient and may change $\pm 10\%$. 2. Housed version of motor mounted to 250 mm sq. x 10 mm aluminum heat sink (maximum winding temperature is 120°C). 3. Higher torque and speed values as well as dimensions on request.

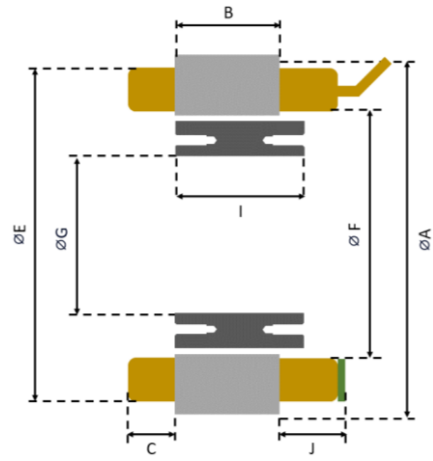
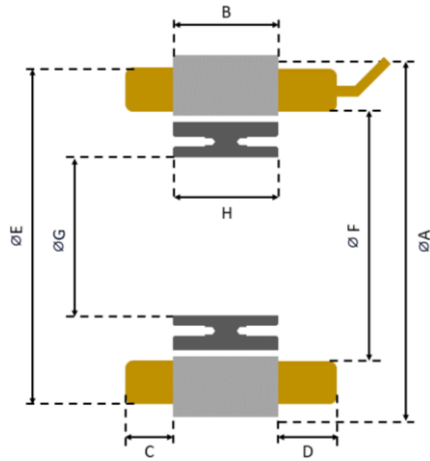
TM(L/H)-130 Torque-Speed Curves

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 details refer to MDS Motor mounting documents)