TRM-360 Technical Information

Motor Parameters	Symbols	Units	TML-360-035		TML-360-070		TML-360-140	
PERFORMANCE								
DC Bus Voltage	V_{DC}	V	24	48	24	48	24	48
Rated Torque	T_r	Nm	94.3		171.8		301.5	
Peak Torque	T_p	Nm	150.5		297.8		600.5	
Rated Speed	N_r	rpm	75	180	45	110	30	75
No-Load Speed	$N_{no-load}$	rpm	110	225	65	135	45	90
Torque Constant	K_t	Nm/A	2.2		3.53		5.29	
Voltage Constant	K_v	V/rpm	0.185		0.302		0.452	
Max. Cogging Torque	T_{cog}	%	<1					
Torque Ripple	T_{ripple}	%	<1					
ELECTRICAL								
Number of Pole	2p	--	64					
Rated Current	I_r	Arms	42.8		48.7		57	
Peak Current	I_p	Arms	68.6		84.8		114	
Line Resistance	R_{LL}@25°C	Ohm	0.11 (±20%)		0.1 (±20%)		0.09 (±20%)	
Line Inductance	L_{LL}@60Hz	mH	0.44 (±30%)		0.56 (±30%)		0.59 (±30%)	
MECHANICAL & THERMAL								
Stator Weight	W_s	kg	7.22		12.77		23.8	
Rotor Weight	W_r	kg	4.40		8.81		17.64	
Total Weight	W_{total}	kg	11.62		21.58		41.44	
Mech. Time Constant	K_{mech}	ms	2.57		1.88		1.51	
Thermal Resistance [2]	R_{th}	°C/W	0.189		0.146		0.115	
Inertia	J	kg.m²	0.09193		0.18450		0.36966	
Motor Constant	K_m	Nm/√W	5.45		8.93		14.15	
Rotor ID		mm	270					
Stator OD		mm	360					

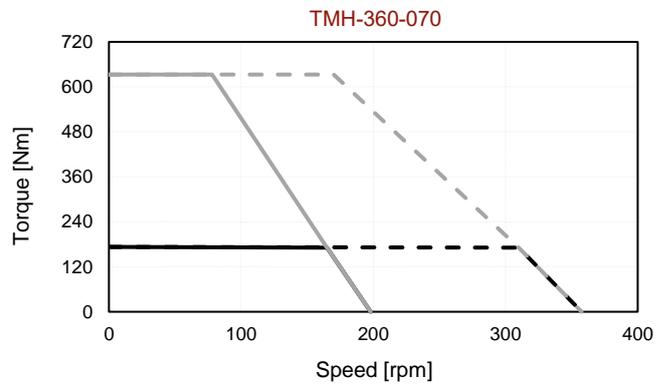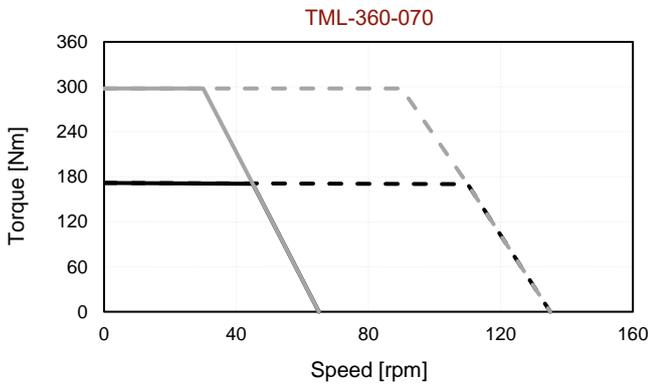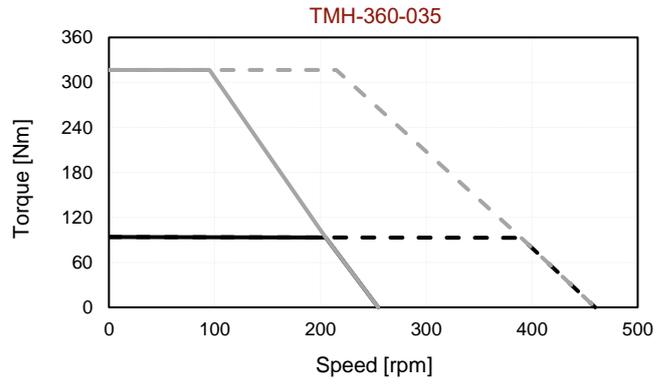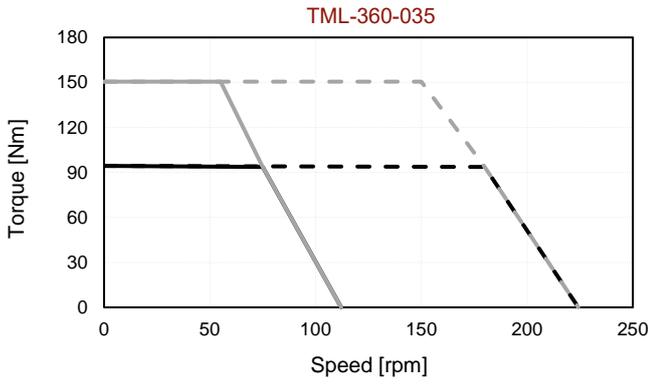| Motor Parameters	Symbols	Units	TMH-360-035		TMH-360-070		TMH-360-140	
PERFORMANCE								
DC Bus Voltage	V_{DC}	V	310	560	310	560	310	560
Rated Torque	T_r	Nm	93.7		172.9		299.6	
Peak Torque	T_p	Nm	316.6		632.8		1262.1	
Rated Speed	N_r	rpm	205	395	165	310	125	240
No-Load Speed	$N_{no-load}$	rpm	255	460	195	355	145	265
Torque Constant	K_t	Nm/A	12.34		15.9		21.1	
Voltage Constant	K_v	V/rpm	1.055		1.356		1.809	
Max. Cogging Torque	T_{cog}	%	<1					
Torque Ripple	T_{ripple}	%	<1					
ELECTRICAL								
Number of Pole	2p	--	64					
Rated Current	I_r	Arms	7.6		10.9		14.2	
Peak Current	I_p	Arms	27.5		42.7		63.9	
Line Resistance	R_{LL}@25°C	Ohm	3.38 (±20%)		2.1 (±20%)		1.54 (±20%)	
Line Inductance	L_{LL}@60Hz	mH	15.1 (±30%)		11.4 (±30%)		9.7 (±30%)	
MECHANICAL & THERMAL								
Stator Weight	W_s	kg	7.39		12.87		24	
Rotor Weight	W_r	kg	4.40		8.81		17.64	
Total Weight	W_{total}	kg	11.79		21.68		41.64	
Mech. Time Constant	K_{mech}	ms	2.50		1.88		1.56	
Thermal Resistance [2]	R_{th}	°C/W	0.189		0.146		0.115	
Inertia	J	kg.m²	0.09193		0.18450		0.36966	
Motor Constant	K_m	Nm/√W	5.48		8.94		13.86	
Rotor ID		mm	270					
Stator OD		mm	360					

1. All performance and electrical specifications are obtained at 25°C ambient and may change ±10%. 2. Housed version of motor mounted to 550 mm sq. x 20 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.

MDS Motor
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Vatan Cad. No:83 | 41275 |
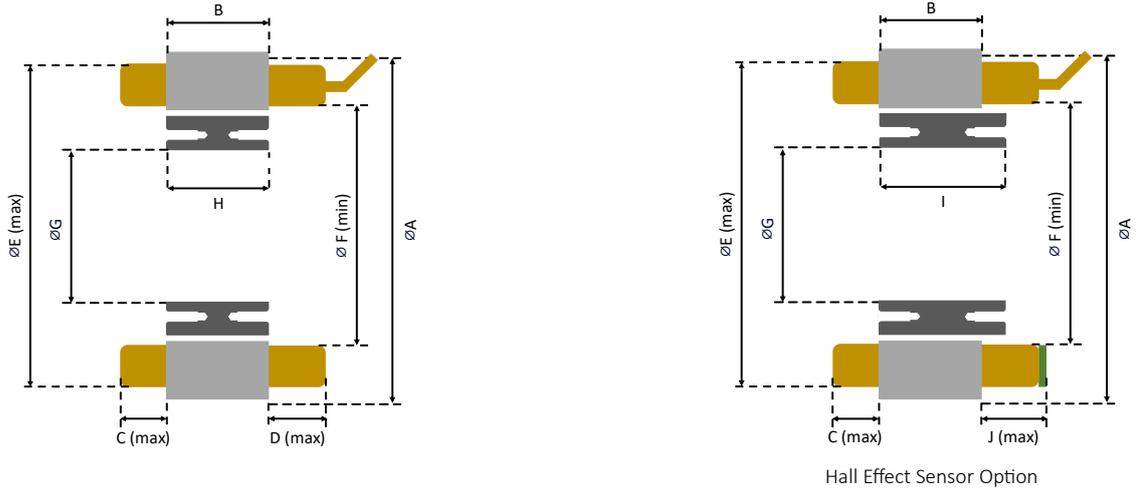Başiskele, Kocaeli, Türkiye |

TM(L/H)-360 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

TML-360-035

TMH-360-035

TML-360-070

TMH-360-070

TML-360-140

TMH-360-140

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TM(L/H)-360 Outline Drawing
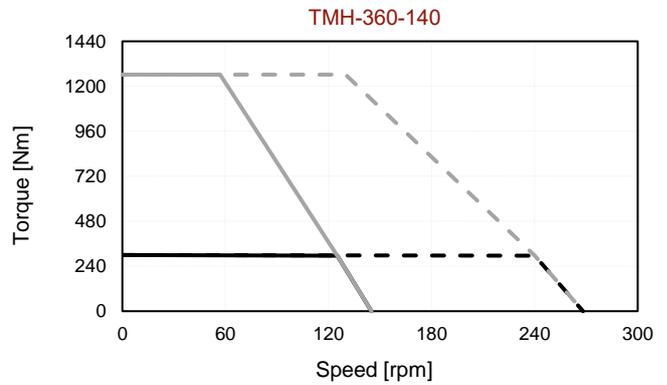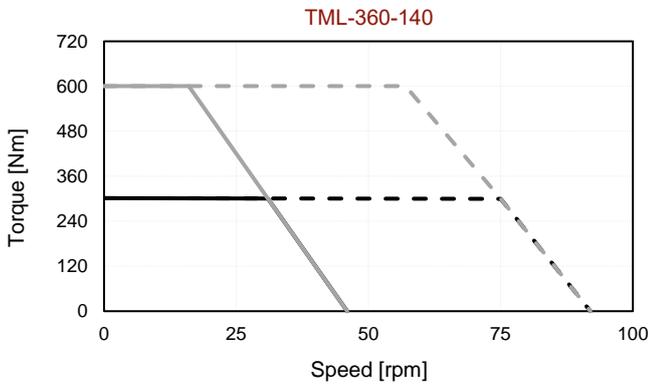
Hall Effect Sensor Option

Model	A	B	C	D	E	F	G	H	I	J
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
TM(L/H)-360-035	360	35	16	18	352	312.4	270	35.1	40.1	21
TM(L/H)-360-070	360	70	16	18	352	312.4	270	70.2	75.2	21
TM(L/H)-360-140	360	140	16	18	352	312.4	270	140.4	145.4	21

Notes:

MOTOR LEADS:
360-TML: #6 AWG Teflon® insulated, 500 mm (optional) length, 1-Red, 1-White, 1-Black.
360-TMH: #10 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: (16X on each side) M6 Bolt Hole
(For detailed mounting information, including tolerances, please contact MDS Motor or refer to the MDS Motor mounting document)