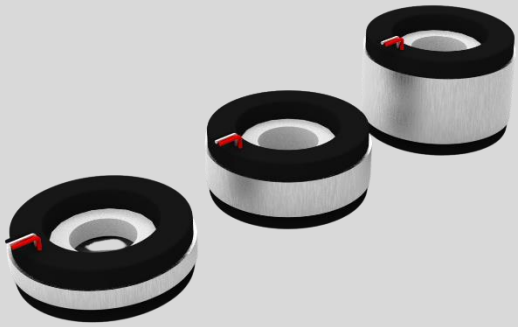
LFTM Catalog

LFTM Series Frameless Torque Motors



50-110 OD Frame Size

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

Table of Content

LFTM Series Frameless Torque Motors

MDS has several new frameless motor series for direct drive applications.

MDS torque motor series are engineered to deliver the high-performance, high efficiency direct drive torque motors that today's applications demand. There exist 3 main torque motor series offered: Frameless and framed torque motor with and without liquid cooling. Optional digital Hall Effect Sensors are pre-aligned and installed with added axial rotor length to achieve accurate control. Choice of insulation allows operation from 24V up to 310V peak line input voltage. Detailed motor datasheets and variety of motor options and configurations provide the best selection for your needs.

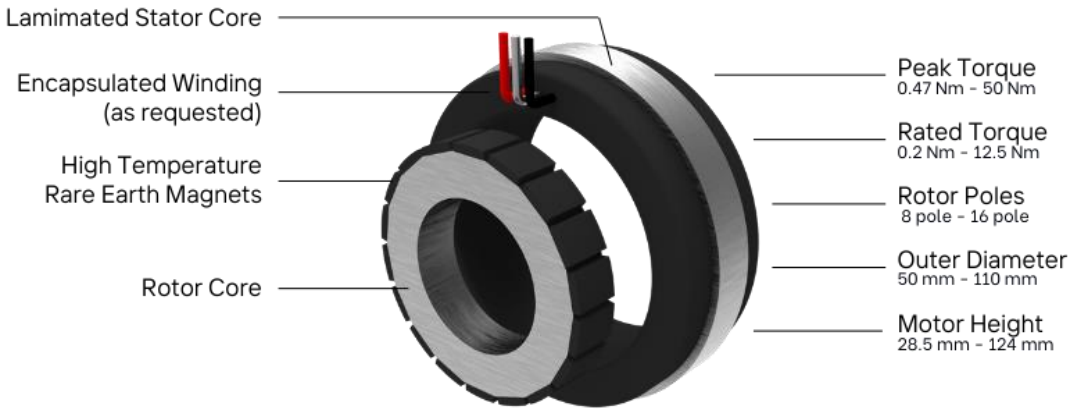
For customized motor selections or new custom motor specifications, contact MDS Motor to help us understand exactly what you need and how we can further optimize any MDS torque motor series. MDS Motor is expert in providing optimized custom solutions for your applications with utilizing different materials, special winding structures, tailored mounting features, height and diameter adjustments and etc.

LFTM series frameless torque motor product family includes two different sub series according to DC bus voltage levels: low voltage (24/48V) and high voltage (310V) motors.

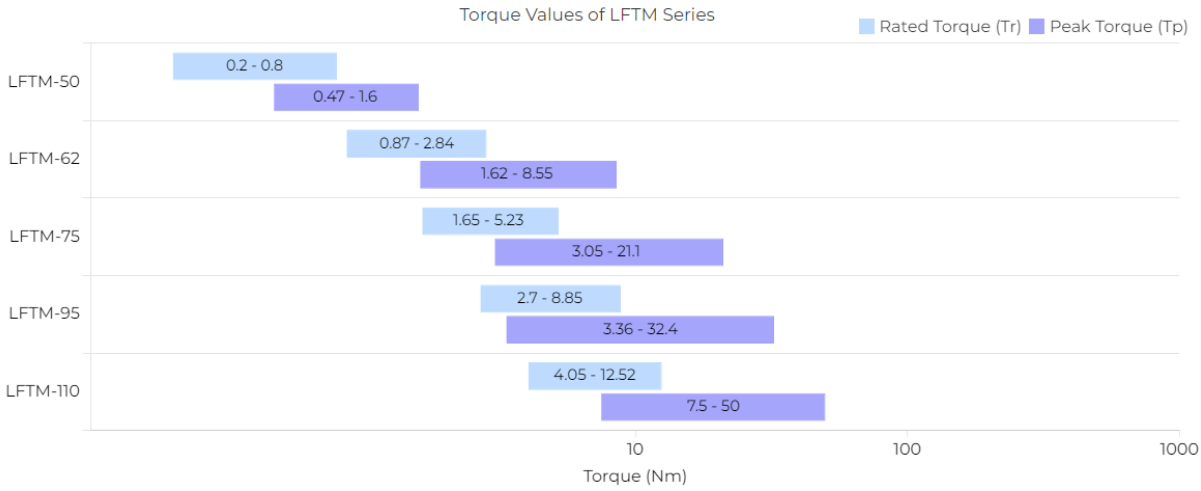
Main Features and Benefits

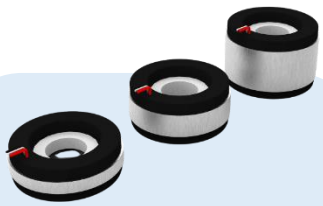
- Low Cogging Torque and Torque Ripple
- Low Total Harmonic Distortion (THD)
- Low Stator and Rotor Active Mass
- Wide Range of Outer Diameter 50mm up to 110mm
- Low Thermal Resistance
- Shielded Cable
- NdFeB and SmCo magnetic material
- 100% Quality Inspection
- Wide Torque-Speed Range
- High Dynamics
- High Accuracy
- Easy Integration
- Optimal Speed Control
- Very Compact Design
- Low Maintenance
- High Reliability and Lifetime

Description of LFTM Frameless Torque Motor Series



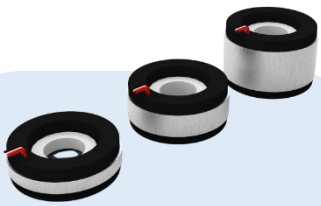
Overview of LFTM Series Frameless Torque Motors Range





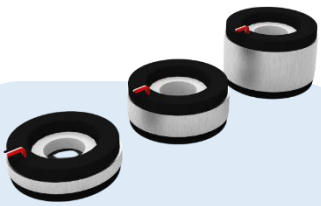
LFTM-50

Inner diameter is 9.6mm and the outer diameter is 50mm on the motor. LFTM-50 is avaible in three stack 12.5mm, 25mm and 50mm.



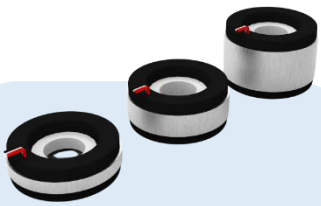
LFTM-62

Inner diameter is 20mm and the outer diameter is 62mm on the motor. LFTM-62 is avaible in three stack 25mm, 50mm and 100mm.



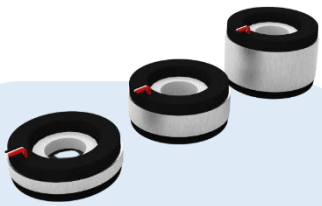
LFTM-75

Inner diameter is 30mm and the outer diameter is 75mm on the motor. LFTM-75 is avaible in three stack 25mm, 50mm and 100mm.



LFTM-95

Inner diameter is 40mm and the outer diameter is 95mm on the motor. LFTM-95 is avaible in three stack 25mm, 50mm and 100mm.



LFTM-110

Inner diameter is 40mm and the outer diameter is 110mm on the motor. LFTM-110 is avaible in three stack 25mm, 50mm and 100mm.

Definition of Motor Parameters

Rated Torque	T_r	Torque value at rated speed when continuous power is the output
Peak Torque	T_p	Maximum torque that the motor delivers when maximum current (I_p) is provided. Peak torque is available for a maximum of 2 seconds
Rated Speed	N_r	Speed at continuous power is the output
No-Load Speed	$N_{no-load}$	Maximum possible speed of motor that it can be electrically excited
Torque Constant	Kt	Ratio of the developed torque to input current
Voltage Constant	Kv	Ratio of voltage generated in the winding to rotor speed
Max. Cogging Torque	T_{cog}	Undesirable torque component arising from attractions between magnets and teeth. Cogging torque is minimized for each MDS's torque motor is less than 0.5 % of the rated torque
Torque Ripple	T_{ripple}	Undesirable torque component arising from attractions between stator MMF and magnets
Num. of Pole	$2p$	Number of poles
Rated Current	I_r	Current required to obtain the rated continuous torque
Peak Current	I_p	Current required to obtain peak torque from the motor
Line Resistance	R_{LL}	Cold (25°C) resistance measured between two leads of the winding
Line Inductance	L_{LL}	Inductance measured between two leads of the AC winding (@60Hz)
Stator Weight	W_s	Total weight of stator laminations including windings
Rotor Weight	W_r	Total weight of rotor laminations and magnets
Total Weight	W_{total}	Total weight of stator and rotor weigth
Mech. Time Constant	K_{mech}	Motor mechanical dynamic capability level
Thermal Resistance	R_{th}	Ratio of winding temperature rise to average stator power loss at rated motor operation
Inertia	J	Inertia of the rotor including rotor core and magnets
Motor Constant	K_m	Ratio of peak torque to square root of input power: Km = $T_{peak}/(P_{peak})$^.5. It shows the ability of a motor to convert electrical power to torque
Rotor ID		Rotor inner diameter of the motor
Stator OD		Stator outer diameter of the motor

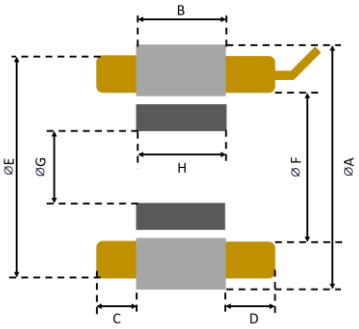
NOTE: All performance data is obtained at 25°C ambient

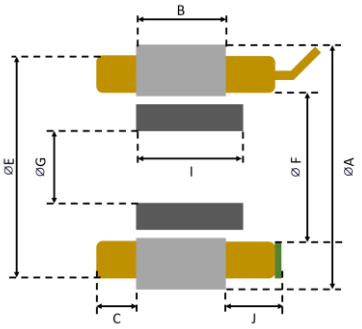
LFTM-50 Technical Information

	Motor Parameters	Symbols	Units	LFTM-50-12p5		LFTM-50-025		LFTM-50-050	
PERFORMANCE	DC Bus Voltage	V_{DC}	V	24	48	24	48	24	48
	Rated Torque	T_r	Nm	0.20		0.41		0.80	
	Peak Torque	T_p	Nm	0.47		0.95		1.60	
	Rated Speed	N_r	rpm	1190	2970	725	1850	400	1100
	No-Load Speed	$N_{no\text{-}load}$	rpm	1890	3780	1190	2375	740	1480
	Torque Constant	K_t	Nm/A	0.148		0.236		0.378	
	Voltage Constant	K_v	V/rpm	0.013		0.020		0.032	
	Max. Cogging Torque	T_{cog}	%	<1					
	Torque Ripple	T_{ripple}	%	<1					
	Number of Pole	2p	--	8					
ELECTRICAL	Rated Current	I_r	A_{rms}	1.38		1.72		2.12	
	Peak Current	I_p	A_{rms}	3.22		4.02		4.24	
	Line Resistance	R_{LL}@25°C	Ohm	4.5 (±20%)		3.84 (±20%)		3.78 (±20%)	
	Line Inductance	L_{LL}@60Hz	mH	3.34 (±30%)		3.14 (±30%)		3.84 (±30%)	
MECHANICAL & THERMAL	Stator Weight	W_s	kg	0.13		0.23		0.43	
	Rotor Weight	W_r	kg	0.05		0.09		0.18	
	Total Weight	W_{total}	kg	0.18		0.32		0.61	
	Mech. Time Constant	K_{mech}	ms	1.17		0.77		0.58	
	Thermal Resistance (2)	R_{th}	°C/W	3.98		2.83		2.10	
	Inertia	J	$kg.m^2$	4.7E-06		9.1E-06		1.8E-05	
	Motor Constant	K_m	Nm/√W	0.04	0.03	0.07	0.05	0.14	0.08
	Rotor ID		mm	9.6					
	Stator OD		mm	50					

1. All performance and electrical specifications are obtained at 25°C ambient and may change ±5%. 2. Housed version of motor mounted to 130 mm sq. x 10 mm aluminum heat sink (maximum winding temperature is 110°C). 3. Higher torque and speed values as well as dimensions on request.

LFTM-50 Outline Drawing





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)
LFTM-50-12p5	50	12.5	7.5	8.5	47	31	9.6	12.6	17.6	11.5
LFTM-50-025	50	25	7.5	8.5	47	31	9.6	25.2	30.2	11.5
LFTM-50-050	50	50	7.5	8.5	47	31	9.6	50.4	55.4	11.5

Notes:

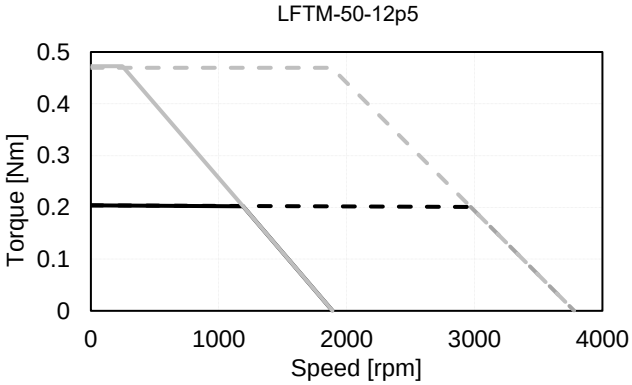
MOTOR LEADS:
#22 AWG Teflon® insulated, 500 mm (optional) length, 1-Red, 1-White, 1-Black.

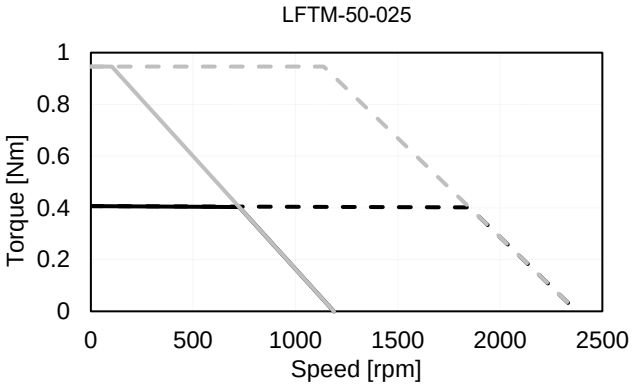
THERMISTOR LEADS:
#26 AWG Teflon® insulated, 500 mm (optional) length, 2-Brown or Blue

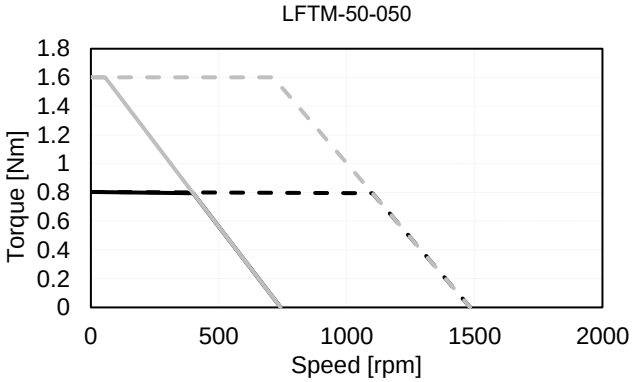
SENSOR LEADS:
#26 AWG Teflon® insulated, 500 mm (optional) length, 1-Blue, 1-Green, 1-Brown, 1-White, 1-Yellow

LFTM-50 Torque-Speed Curves

Tr: Rated Torque
Tp: Peak Torque







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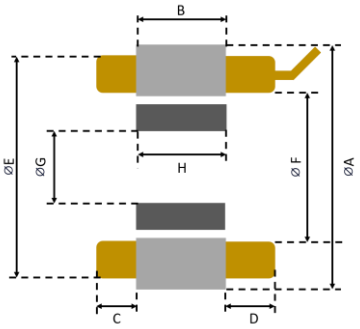
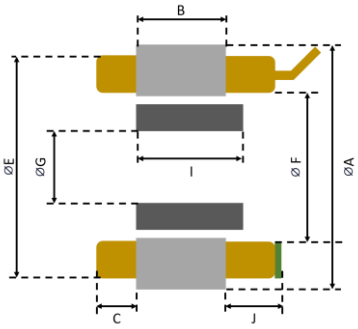
LFTM-62 Technical Information

	Motor Parameters	Symbols	Units	LFTM-62-025			LFTM-62-050			LFTM-62-100		
PERFORMANCE	DC Bus Voltage	V_{DC}	V	24	48	310	24	48	310	24	48	310
	Rated Torque	T_r	Nm	0.87			1.64			2.84		
	Peak Torque	T_p	Nm	1.62		2.12	3.24		4.27	6.48		8.55
	Rated Speed	N_r	rpm	385	1140	3780	435	1095	3000	240	635	2425
	No-Load Speed	$N_{no\text{-}load}$	rpm	805	1610	4370	700	1410	3415	425	845	2730
	Torque Constant	K_t	Nm/A	0.346		0.825	0.396		1.056	0.660		1.321
	Voltage Constant	K_v	V/rpm	0.030		0.071	0.034		0.091	0.057		0.114
	Max. Cogging Torque	T_{cog}	%	<1								
	Torque Ripple	T_{ripple}	%	<1								
ELECTRICAL	Number of Pole	2p	--	8								
	Rated Current	I_r	A_{rms}	2.53		1.05	4.14		1.55	4.30		2.15
	Peak Current	I_p	A_{rms}	4.73		2.63	8.27		4.13	9.93		6.62
	Line Resistance	R_{LL}@25°C	Ohm	3.64 (±20%)		17.75 (±20%)	1.57 (±20%)		10.07 (±20%)	1.74 (±20%)		6.6 (±20%)
	Line Inductance	L_{LL}	mH	4.05 (±30%)		26.25 (±30%)	2.89 (±30%)		20.44 (±30%)	3.9 (±30%)		15.58 (±30%)
MECHANICAL & THERMAL	Stator Weight	W_s	kg	0.37			0.66			1.25		
	Rotor Weight	W_r	kg	0.13			0.26			0.52		
	Total Weight	W_{total}	kg	0.5			0.92			1.77		
	Mech. Time Constant	K_{mech}	ms	1.02		0.87	0.66		0.60	0.53		0.50
	Thermal Resistance (2)	R_{th}	°C/W	1.94			1.56			1.11		
	Inertia	J	kg.m²	2.8E-05			5.5E-05			1.1E-04		
	Motor Constant	K_m	Nm/√W	0.15	0.09	0.05	0.19	0.12	0.07	0.34	0.21	0.11
	Rotor ID		mm	20								
	Stator OD		mm	62								

1. All performance and electrical specifications are obtained at 25°C ambient and may change ±5%. 2. Housed version of motor mounted to 130 mm sq. x 10 mm aluminum heat sink (maximum winding temperature is 110°C). 3. Higher torque and speed values as well as dimensions on request.

LFTM-62 Outline Drawing





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)
LFTM-62-025	62	25	9	10	58	41	20	25.1	30.1	13
LFTM-62-050	62	50	9	10	58	41	20	50.2	55.2	13
LFTM-62-100	62	100	9	10	58	41	20	100.4	105.4	13

Notes:

MOTOR LEADS:
#19 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

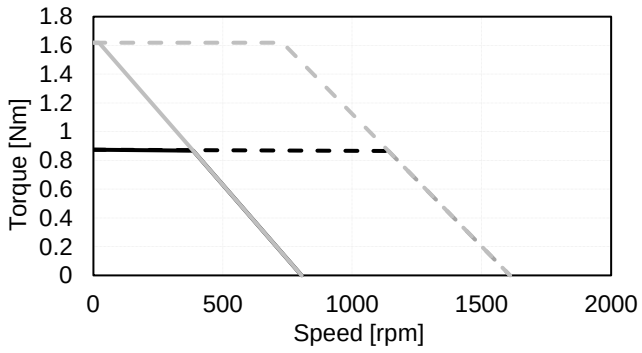
SENSOR LEADS:
#26 AWG Teflon® insulated, 500 mm (optional) length, 1-Blue, 1-Green, 1-Brown, 1-White, 1-Yellow

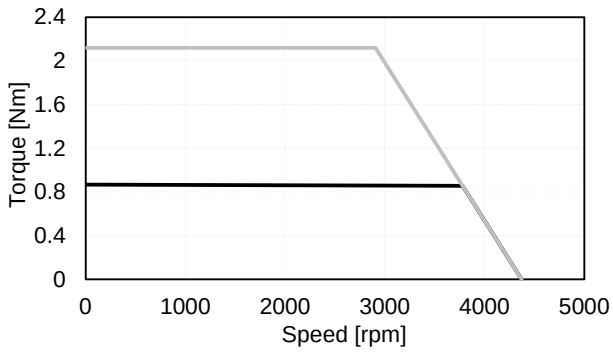
LFTM-62 Torque-Speed Curves

Tr: Rated Torque
Tp: Peak Torque

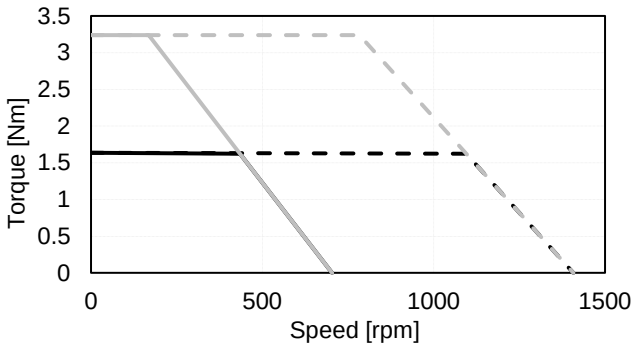
@Tr 24V @Tr 48V @Tr 310V
@Tp 24V @Tp 48V @Tp 310V

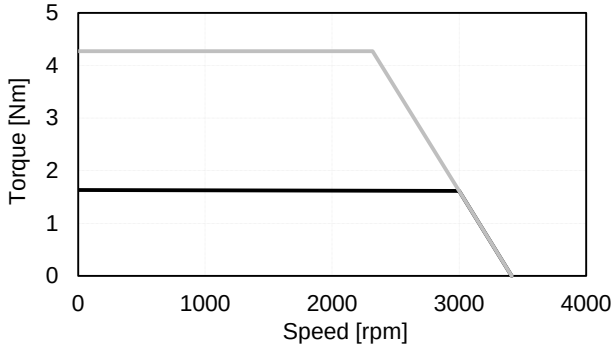
LFTM-62-025



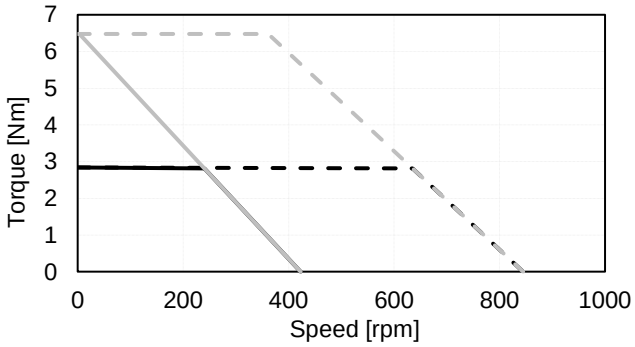


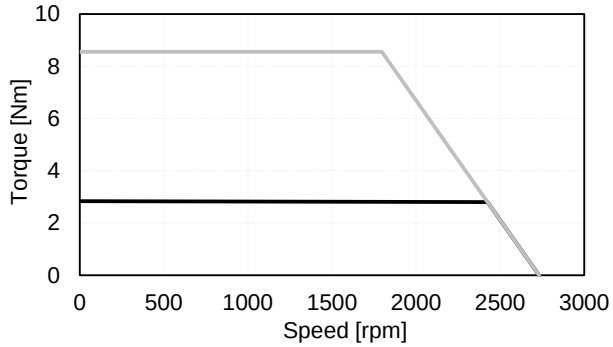
LFTM-62-050





LFTM-62-100



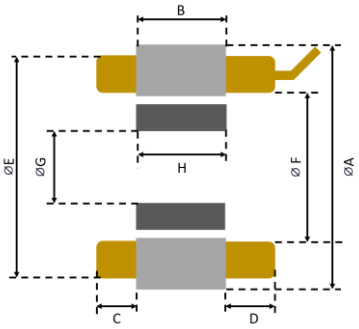


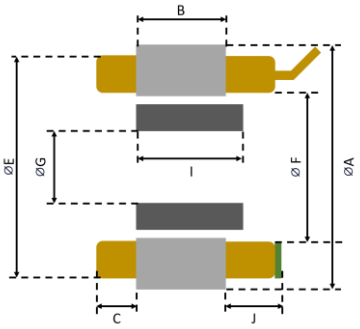
LFTM-75 Technical Information

	Motor Parameters	Symbols	Units	LFTM-75-025			LFTM-75-050			LFTM-75-100		
PERFORMANCE	DC Bus Voltage	V_{DC}	V	24	48	310	24	48	310	24	48	310
	Rated Torque	T_r	Nm	1.65			3.25			5.22		
	Peak Torque	T_p	Nm	3.05		5.10	6.47		10.51	12.98		21.09
	Rated Speed	N_r	rpm	430	1025	2920	310	750	1410	170	430	1150
	No-Load Speed	$N_{no\text{-}load}$	rpm	645	1290	3340	475	950	1670	280	565	1330
	Torque Constant	K_t	Nm/A	0.41		1.03	0.59		2.17	0.99		2.73
	Voltage Constant	K_v	V/rpm	0.035		0.093	0.050		0.186	0.085		0.234
	Max. Cogging Torque	T_{cog}	%	<1								
	Torque Ripple	T_{ripple}	%	<1								
ELECTRICAL	Number of Pole	2p	--	16								
	Rated Current	I_r	A_{rms}	4.0		1.60	5.52		1.50	5.26		1.91
	Peak Current	I_p	A_{rms}	7.53		4.99	11.03		4.99	13.15		7.96
	Line Resistance	R_{LL}@25°C	Ohm	1.35 (±20%)		7.99 (±20%)	1.0 (±20%)		13.2 (±20%)	1.28 (±20%)		9.46 (±20%)
	Line Inductance	L_{LL}	mH	2.40 (±30%)		17.95 (±30%)	2.48 (±30%)		33.67 (±30%)	3.4 (±30%)		25.74 (±30%)
MECHANICAL & THERMAL	Stator Weight	W_s	kg	0.5			0.89			1.71		
	Rotor Weight	W_r	kg	0.17			0.35			0.69		
	Total Weight	W_{total}	kg	0.67			1.24			2.41		
	Mech. Time Constant	K_{mech}	ms	0.6		0.58	0.46		0.45	0.42		0.41
	Thermal Resistance (2)	R_{th}	°C/W	1.47			1.01			0.82		
	Inertia	J	$kg.m^2$	6.6E-05			1.3E-04			2.6E-04		
	Motor Constant	K_m	Nm/√W	0.19	0.12	0.07	0.32	0.20	0.15	0.54	0.34	0.21
	Rotor ID		mm	30								
	Stator OD		mm	75								

1. All performance and electrical specifications are obtained at 25°C ambient and may change ±5%. 2. Housed version of motor mounted to 160 mm sq. x 15 mm aluminum heat sink (maximum winding temperature is 110°C). 3. Higher torque and speed values as well as dimensions on request.

LFTM-75 Outline Drawing





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)
LFTM-75-025	75	25	9	10	71	50	30	25.1	30.1	13
LFTM-75-050	75	50	9	10	71	50	30	50.2	55.2	13
LFTM-75-100	75	100	9	10	71	50	30	100.4	105.4	13

Notes:

MOTOR LEADS:
#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

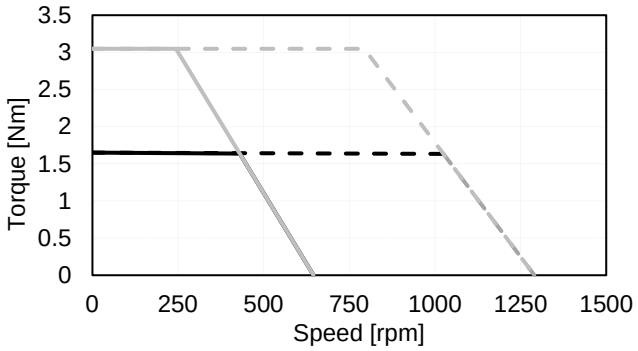
SENSOR LEADS:
#26 AWG Teflon® insulated, 500 mm (optional) length, 1-Blue, 1-Green, 1-Brown, 1-White, 1-Yellow

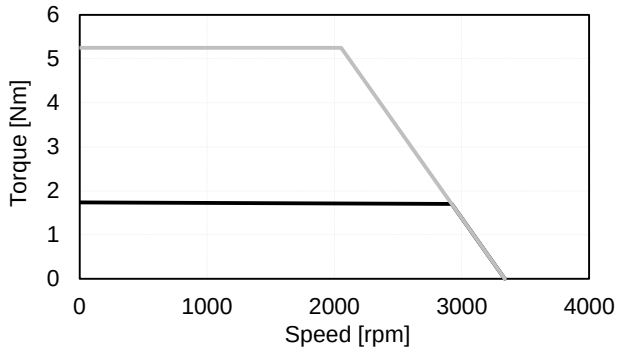
LFTM-75 Torque-Speed Curves

Tr: Rated Torque
Tp: Peak Torque

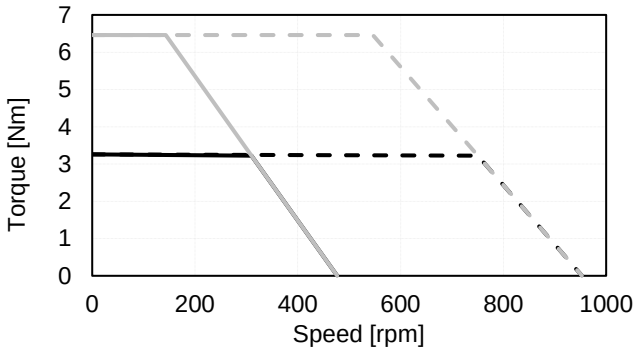
@Tr 24V @Tr 48V @Tr 310V
@Tp 24V @Tp 48V @Tp 310V

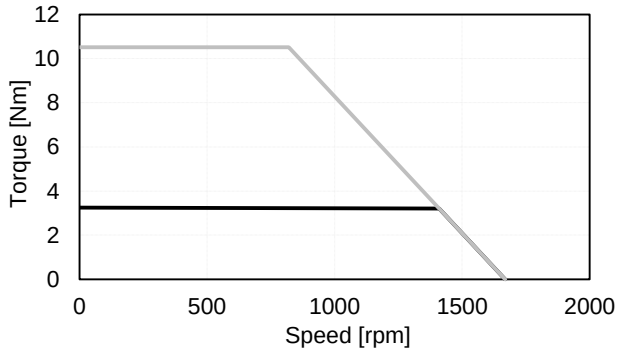
LFTM-75-025



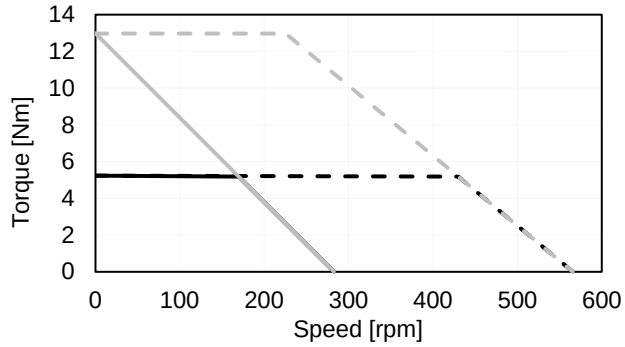


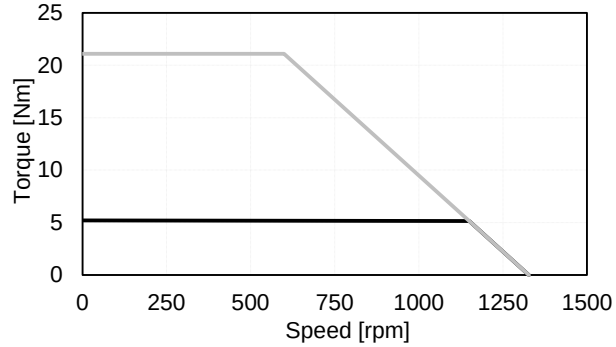
LFTM-75-050





LFTM-75-100



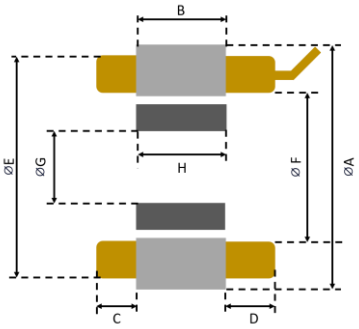


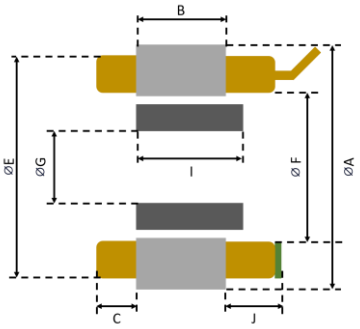
LFTM-95 Technical Information

	Motor Parameters	Symbols	Units	LFTM-95-025			LFTM-95-050			LFTM-95-100		
PERFORMANCE	DC Bus Voltage	V_{DC}	V	24	48	310	24	48	310	24	48	310
	Rated Torque	T_r	Nm	2.70			5.06			8.79		8.85
	Peak Torque	T_p	Nm	3.36		8.05	6.73		16.1	13.48		32.41
	Rated Speed	N_r	rpm	265	675	1400	200	500	870	95	260	770
	No-Load Speed	$N_{no\text{-}load}$	rpm	445	890	1675	325	645	1045	180	355	900
	Torque Constant	K_t	Nm/A	0.63		2.16	0.86		3.46	1.57		4.00
	Voltage Constant	K_v	V/rpm	0.054		0.185	0.074		0.296	0.135		0.344
	Max. Cogging Torque	T_{cog}	%	<1								
	Torque Ripple	T_{ripple}	%	<1								
ELECTRICAL	Number of Pole	2p	--	16								
	Rated Current	I_r	A_{rms}	4.30		1.25	5.85		1.46	5.59		2.21
	Peak Current	I_p	A_{rms}	5.37		3.91	7.8		4.88	8.6		8.49
	Line Resistance	R_{LL}@25°C	Ohm	1.53 (±20%)		17.4 (±20%)	1.06 (±20%)		16.84 (±20%)	1.46 (±20%)		9.3 (±20%)
	Line Inductance	L_{LL}	mH	3.41 (±30%)		40.34 (±30%)	3.1(±30%)		49.71(±30%)	5.03(±30%)		32.75(±30%)
MECHANICAL & THERMAL	Stator Weight	W_s	kg	0.85			1.46			2.7		
	Rotor Weight	W_r	kg	0.32			0.64			1.28		
	Total Weight	W_{total}	kg	1.17			2.1			3.98		
	Mech. Time Constant	K_{mech}	ms	1.03		1.00	0.75			0.62		0.61
	Thermal Resistance (2)	R_{th}	°C/W	1.23			0.92			0.75		
	Inertia	J	$kg.m^2$	2.2E-04			4.3E-04			8.7E-04		
	Motor Constant	K_m	Nm/√W	0.31	0.20	0.14	0.49	0.31	0.24	0.94	0.57	0.33
	Rotor ID		mm	40								
	Stator OD		mm	95								

1. All performance and electrical specifications are obtained at 25°C ambient and may change ±5%. 2. Housed version of motor mounted to 160 mm sq. x 15 mm aluminum heat sink (maximum winding temperature is 110°C). 3. Higher torque and speed values as well as dimensions on request.

LFTM-95 Outline Drawing





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)
LFTM-95-025	95	25	9.5	10.5	90.8	68.8	40	25.1	30.1	13.5
LFTM-95-050	95	50	9.5	10.5	90.8	68.8	40	50.2	55.2	13.5
LFTM-95-100	95	100	9.5	10.5	90.8	68.8	40	100.4	105.4	13.5

Notes:

MOTOR LEADS:
#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

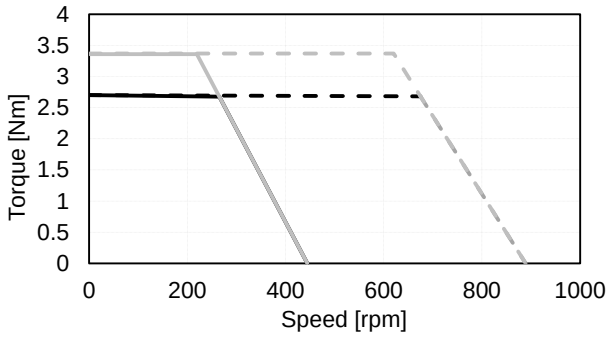
SENSOR LEADS:
#26 AWG Teflon® insulated, 500 mm (optional) length, 1-Blue, 1-Green, 1-Brown, 1-White, 1-Yellow

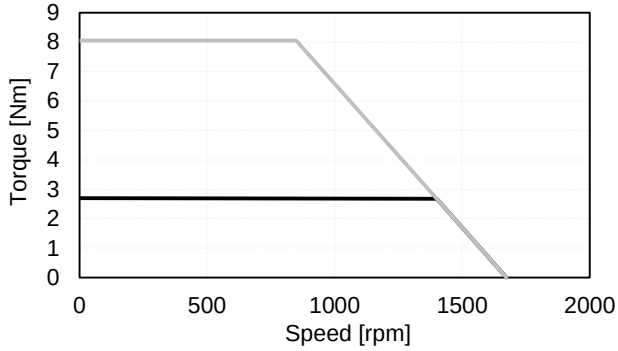
LFTM-95 Torque-Speed Curves

Tr: Rated Torque
Tp: Peak Torque

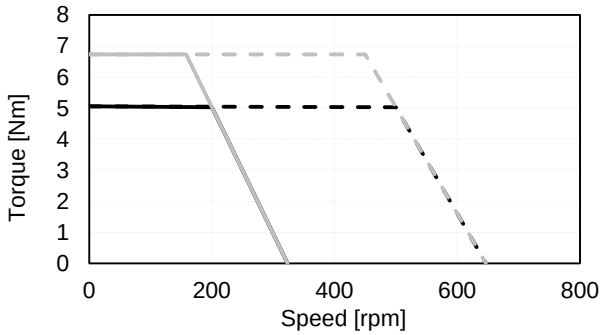
@Tr 24V @Tr 48V @Tr 310V
@Tp 24V @Tp 48V @Tp 310V

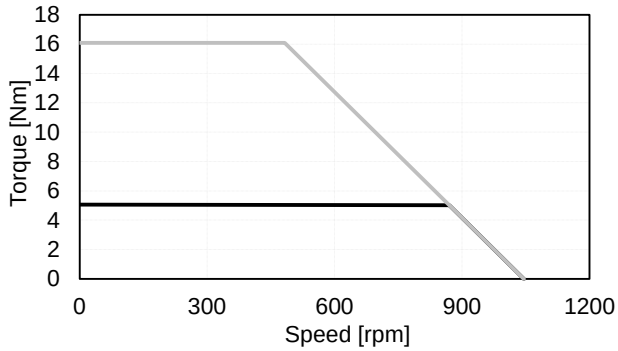
LFTM-95-025



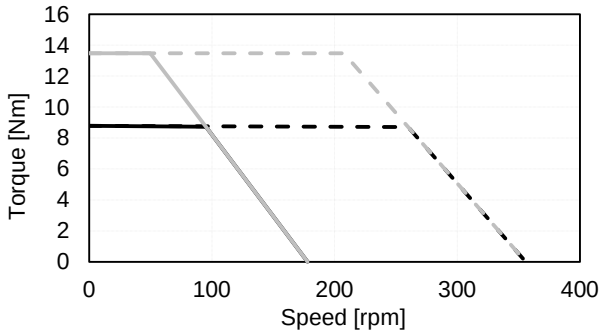


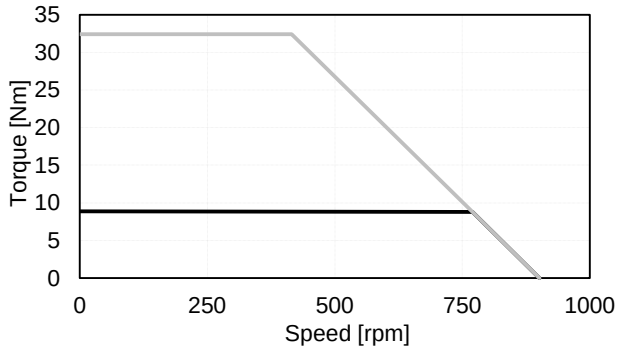
LFTM-95-050





LFTM-95-100



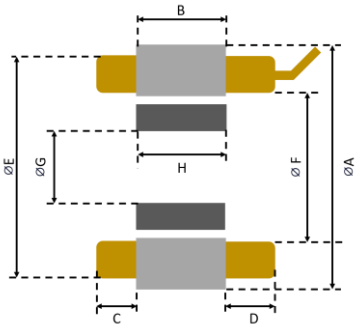


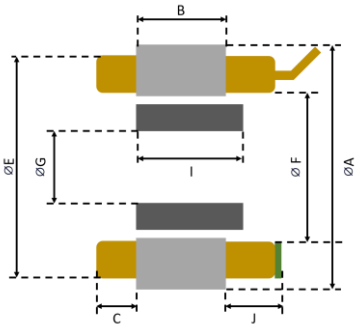
LFTM-110 Technical Information

	Motor Parameters	Symbols	Units	LFTM-110-025			LFTM-110-050			LFTM-110-100		
PERFORMANCE	DC Bus Voltage	V_{DC}	V	24	48	310	24	48	310	24	48	310
	Rated Torque	T_r	Nm	4.05			7.17			12.43		12.52
	Peak Torque	T_p	Nm	7.5		12.5	15		25.0	29.8		50.0
	Rated Speed	N_r	rpm	210	540	985	160	400	885	110	270	695
	No-Load Speed	$N_{no\text{-}load}$	rpm	380	760	1285	265	535	1085	180	360	830
	Torque Constant	K_t	Nm/A	0.73		2.81	1.05		3.33	1.55		4.35
	Voltage Constant	K_v	V/rpm	0.063		0.241	0.09		0.286	0.133		0.373
	Max. Cogging Torque	T_{cog}	%	<1								
	Torque Ripple	T_{ripple}	%	<1								
ELECTRICAL	Number of Pole	2p	--	16								
	Rated Current	I_r	A_{rms}	5.51		1.44	6.87		2.15	8.0		2.88
	Peak Current	I_p	A_{rms}	10.6		5.55	14.93		9.35	20.0		14.4
	Line Resistance	R_{LL}@25°C	Ohm	1.28 (±20%)		16.4 (±20%)	0.92 (±20%)		9.6 (±20%)	0.8 (±20%)		6.48 (±20%)
	Line Inductance	L_{LL}	mH	5.42 (±30%)		95.0 (±30%)	5.3 (±30%)		53.7 (±30%)	5.72 (±30%)		44.8 (±30%)
MECHANICAL & THERMAL	Stator Weight	W_s	kg	1.52			2.49			4.44		
	Rotor Weight	W_r	kg	0.32			0.63			1.26		
	Total Weight	W_{total}	kg	1.84			3.12			5.7		
	Mech. Time Constant	K_{mech}	ms	0.63		0.56	0.44		0.46	0.35		0.36
	Thermal Resistance (2)	R_{th}	°C/W	0.99			0.79			0.63		
	Inertia	J	$kg.m^2$	2.2E-04			4.3E-04			8.6E-04		
	Motor Constant	K_m	Nm/√W	0.43	0.27	0.20	0.65	0.41	0.28	1.04	0.66	0.41
	Rotor ID		mm	40								
	Stator OD		mm	110								

1. All performance and electrical specifications are obtained at 25°C ambient and may change ±5%. 2. Housed version of motor mounted to 180 mm sq. x 15 mm aluminum heat sink (maximum winding temperature is 110°C). 3. Higher torque and speed values as well as dimensions on request.

LFTM-110 Outline Drawing





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)
LFTM-110-025	110	25	11.5	12.5	106.4	68.8	40	25.1	30.1	15.5
LFTM-110-050	110	50	11.5	12.5	106.4	68.8	40	50.2	55.2	15.5
LFTM-110-100	110	100	11.5	12.5	106.4	68.8	40	100.4	105.4	15.5

Notes:

MOTOR LEADS:
#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

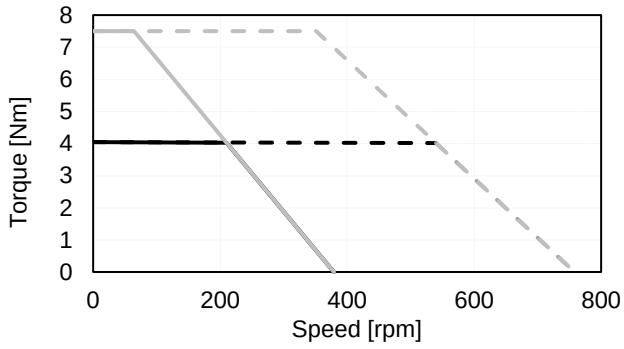
SENSOR LEADS:
#26 AWG Teflon® insulated, 500 mm (optional) length, 1-Blue, 1-Green, 1-Brown, 1-White, 1-Yellow

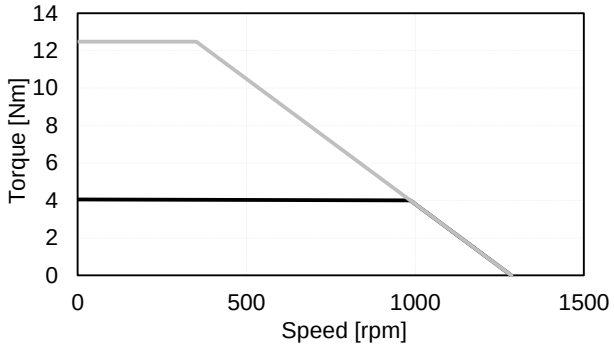
LFTM-110 Torque-Speed Curves

Tr: Rated Torque
Tp: Peak Torque

@Tr 24V @Tr 48V @Tr 310V
@Tp 24V @Tp 48V @Tp 310V

LFTM-110-025





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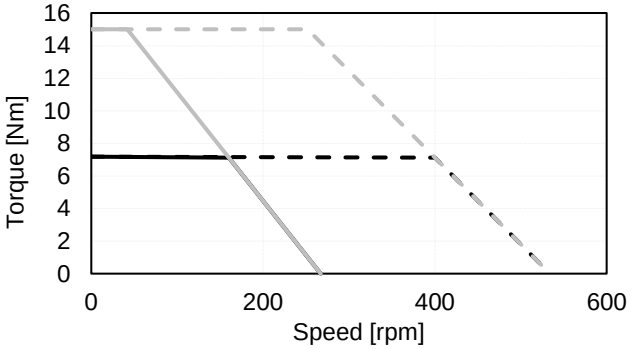

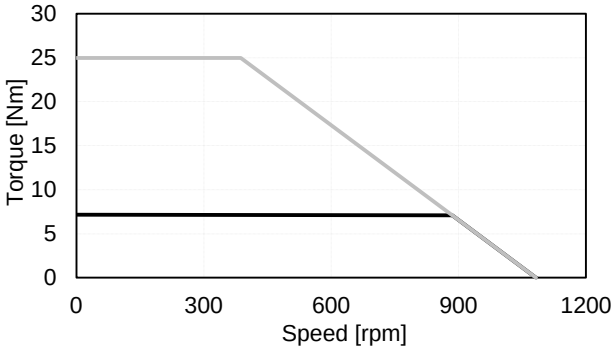

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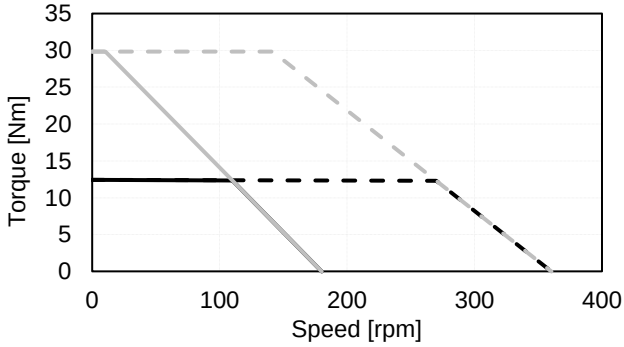
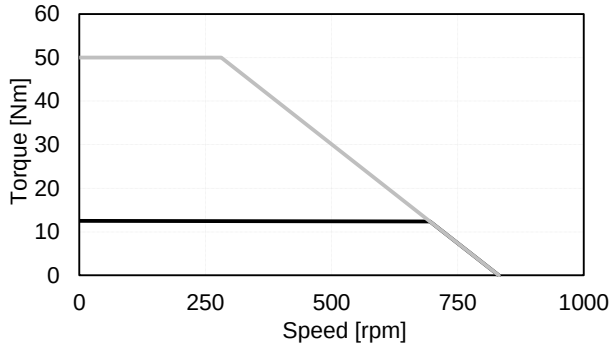
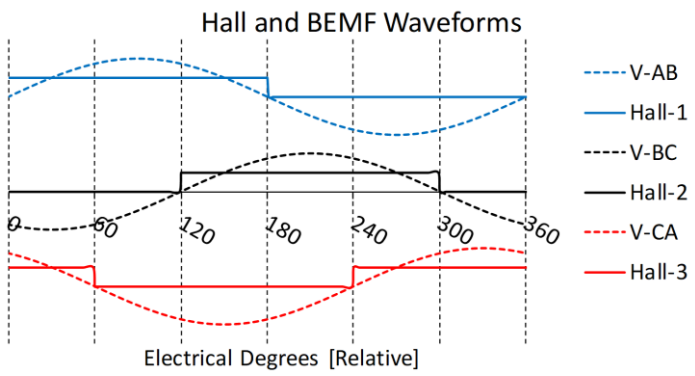




Hall Effect Sensor Information

Motor and Sensor Cable Information	
“A”	Red
“B”	White
“C”	Black
+5V to +24V	Blue
GND	Green
H1	Brown
H2	White
H3	Yellow



Electrical Degree°	Communication Channel Sequence			Motor Phase Excitation Sequence[1]		
	H1	H2	H3	A	B	C
0 – 60	1	0	1		-	+
60 – 120	1	0	0	+	-	
120 – 180	1	1	0	+		-
180 – 240	0	1	0		+	-
240 – 300	0	1	1	-	+	
300 – 360	0	0	1	-		+

Notes: [1]When the values in the table are applied to the phase excitation signals and viewed from the direction of the motor cables, it is observed that the motor rotates clockwise

Motor Design Sheet

Please send your inquiry to
mds@mdsmotor.com or fax: +90 (262) 341 4472

Contact details	
Company:	
Name:	
Tel:	
Email:	
Application/Project:	

Specifications for motor design

Required torques			
Rated torque [Nm]			
Rated speed [rpm]			
Max. torque [Nm]			
Max speed [rpm]			
Electrical specifications			
DC bus voltage [V]			
Rated current [Arms]			
Max current [Arms]			
Current supply	BLDC / BLAC		
Motor size limits			
Max. diameter allowed [mm]			
Max. length allowed [mm]			
Weigth limit if any [kg]			
Inertia req. if any			
Cooling / Construction			
Ambient temp. [oC]			
Housing / cooling type	O None	O Air cooled	O Water cooled
Duty cycle			
Other / Comments			
Rotor type	Surface / IPM / other…		
Torque-speed curve – please draw			
Comments			

Notes

Revision No	Version No	Made By	Date
9	V1	OS	03.10.2024

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