

	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	0.44		0.90		1.51	
	Rated Speed	N_r	rpm	950	2520	565	1535	325	965
	No-Load Speed	$N_{no-load}$	rpm	1600	3200	980	1960	640	1280
	Torque Constant	K_t	Nm/A	0.148		0.236		0.378	
	Voltage Constant	K_v	V/rpm	0.013		0.021		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		3.8		4	
	Line Resistance	$R_{LL}@25^{\circ}C$	Ohm	4.9 ($\pm 20\%$)		4.1 ($\pm 20\%$)		3.9 ($\pm 20\%$)	
	Line Inductance	$L_{LL}@60Hz$	mH	3.1 ($\pm 30\%$)		3.5 ($\pm 30\%$)		3.84 ($\pm 30\%$)	
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	1.24		0.78		0.6	
	Thermal Resistance ⁽²⁾	R_{th}	$^{\circ}C/W$	3.68		2.66		2.04	
	Inertia	J	$kg.m^2$	4.65E-06		9.14E-06		1.81E-05	
	Motor Constant	K_m	Nm/\sqrt{W}	0.05		0.1		0.16	
	Rotor ID		mm			9.6			
Stator OD		mm			50				

1. All performance and electrical specifications are obtained at 25°C ambient and may change $\pm 5\%$. 2. Housed version of motor mounted to 130 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.

LFTM-50 Outline Drawing



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, 300 mm (optional) length, 1-Red, 1-White, 1-Black.

THERMISTOR LEADS:

#26 AWG Teflon® insulated, 300 mm (optional) length, 2-Brown or Blue

SENSOR LEADS:

#26 AWG Teflon® insulated, 300 mm (optional) length, 1-Blue, 1-Green, 1-Brown, 1-White, 1-Yellow

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

LFTM-50 Torque-Speed Curves

Tr: Rated Torque
Tp: Peak Torque

— @Tr 24V - - - @Tr 48V
— @Tp 24V - - - @Tp 48V

— @Tr 310V - - - @Tr 310V
— @Tp 310V - - - @Tp 310V

