

LSMF6 Series

Iron Core Linear Motor (Natural Cooling)

The LSMU5 series is Han's Motor's ironless linear motor platform, featuring smooth thrust characteristics, low inertia with high acceleration, strong overload capacity, no cogging force or electromagnetic attraction, and a modular design.



Features

- Optional hall sensor
- Water or natural cooling
- Multi-series peak force up to 20000 N
- Iron core technology with low cogging

Applications

- 3C Devices
- Display Panels
- Semiconductors
- PCB Equipment
- Medical Equipment
- Precision Machine Tools
- Suitable for Laser Machine
- Industrial Automation and Other Applications

Parameters

HAN'S MOTOR

LSMF610xxxx-x -H-NC-N-C00.5	Symbol	Unit	701A-S	701B-S	702A-S	702B-S
			Series	Series	Series	Series
Continuous Force (Tmax)	Fc	N	109	109	226	212
Peak Force	Fp	N	259	259	532	500
Motor Constant (25 °C)	Km25	N / Sqrt (W)	15.6	16.1	23.6	23.4
Max.Continuous Power Dissipation	Pc	W	67	63	126	113
Continuous Current (Tmax)	Ic	Arms	6.0	2.8	6.0	4.5
Peak Current (1 S)	Ip	Arms	18.0	8.4	18.0	13.5
Force Constant (25 °C, ± 5 %)	Kf	N / Arms	18.3	38.7	37.5	47.1
Back EMF Constant (25 °C, ± 5 %)	Ke	Vrms / m / s	6.1	12.9	12.5	15.7
Electrical Resistance (25 °C ± 5 %) P-P	R	Ω	0.9	3.9	1.7	2.7
Inductance (25 °C, ± 20 %) P-P	L	mH	11.8	53	23.6	37.4
Max Coil Temperature	Tmax	°C	120	120	120	120
Polar Distance (N-N) (360 °C Electrical Cycle)	2τ	mm	42	42	42	42
Magnetic Attraction	Fa	kN	0.5	0.5	1.0	1.0
Max.DC Bus Voltage	Ubus	V	600	600	600	600
Vmax, Fc @ Vbus = 310 Vdc		m / s	15.1	7.0	7.3	5.9
Vmax, Fp @ Vbus = 310 Vdc		m / s	7.1	3.2	3.4	2.7
Vmax, 0 @ Vbus = 310 Vdc		m / s	20.5	9.7	10.0	7.9
Vmax, Fc @ Vbus = 537 Vdc		m / s	26.6	12.4	12.9	10.5
Vmax, Fp @ Vbus = 537 Vdc		m / s	12.5	5.8	6.1	5.0
Vmax, 0 @ Vbus = 537 Vdc		m / s	35.7	16.9	17.4	13.9
Mover Mass	Mp	Kg	1.3	1.3	2.6	2.6
Stator Mass Within Unit Length	Ms	Kg / m	3.4	3.4	3.4	3.4

* All specifications are typical data and subject to change without notice due to product improvements.

Parameters

HAN'S MOTOR

LSMF610xxxx-x -H-NC-N-C00.5	Symbol	Unit	703A-S	703A-P	704-S	704A-P
			Series	Parallel	Series	Parallel
Continuous Force (Tmax)	Fc	N	468	468	361	362
Peak Force	Fp	N	1090	1090	830	834
Motor Constant (25 °C)	Km25	N / Sqrt (W)	34.5	35.6	25.4	30.2
Max.Continuous Power Dissipation	Pc	W	252	237	276	198
Continuous Current (Tmax)	Ic	Arms	6.0	12.0	3.7	8.0
Peak Current (1 S)	Ip	Arms	18.0	36.0	11.1	24.0
Force Constant (25 °C, ± 5 %)	Kf	N / Arms	78.0	39.0	97.5	45.3
Back EMF Constant (25 °C, ± 5 %)	Ke	Vrms / m / s	26.0	13.0	32.5	15.1
Electrical Resistance (25 °C ± 5 %) P-P	R	Ω	3.4	0.8	9.8	1.5
Inductance (25 °C, ± 20 %) P-P	L	mH	47.2	11.8	85.0	18.2
Max Coil Temperature	Tmax	°C	120	120	120	120
Polar Distance (N-N) (360 °C Electrical Cycle)	2τ	mm	42	42	42	42
Magnetic Attraction	Fa	kN	2.0	2.0	1.5	1.5
Max.DC Bus Voltage	Ubus	V	600	600	600	600
Vmax, Fc @ Vbus = 310 Vdc		m / s	3.4	7.1	2.5	6.3
Vmax, Fp @ Vbus = 310 Vdc		m / s	1.4	3.3	0.9	3.1
Vmax, 0 @ Vbus = 310 Vdc		m / s	4.8	9.6	3.8	8.3
Vmax, Fc @ Vbus = 537 Vdc		m / s	6.1	12.7	4.9	11.3
Vmax, Fp @ Vbus = 537 Vdc		m / s	2.8	6.1	2.2	5.7
Vmax, 0 @ Vbus = 537 Vdc		m / s	8.3	16.7	6.7	14.4
Mover Mass	Mp	Kg	4.9	4.9	3.8	3.8
Stator Mass Within Unit Length	Ms	Kg / m	3.4	3.4	3.4	3.4

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Mover Dimension

Mover Model	Mover Length	M	Mover Mounting Hole A	K
LSMF610701A-S-H-NC-N-C00.5	101	1	4	22.5
LSMF610702A-S-H-NC-N-C00.5	200	3	8	16
LSMF610702B-S-H-NC-N-C00.5	200	3	12	16
LSMF610703A-S-H-NC-N-C00.5	368	6	14	16
LSMF610703A-P-H-NC-N-C00.5	368	6	14	16
LSMF610704A-S-H-NC-N-C00.5	278	4	10	27
LSMF610704A-P-H-NC-N-C00.5	278	4	10	27

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* Remarks:

- Standard cable length is 0.5m (with aviation plug), Continuous current $I_c \leq 10A/10 < I_c \leq 12A/12 < I_c \leq 16A$ maximum outer diameter of used cable is 7.5mm/8.0mm/9.0mm, the fixed laying minimum bending radius is 3*dmm, the moving minimum bending radius of chain is 5*dmm the cable length and terminal can be customized if there are special requirements;
- Optional temperature sensor.

Stator Dimension

Stator Model	Stator Length TL	N	Stator Mounting Hole B
LSMF6201E	168	3	8
LSMF6202E	252	5	12
LSMF6203E	420	9	20

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* Suitable for any mover of this series.

Laser Dimensions (mm)

