LMSA31G Linear Motor

Electrical specifications

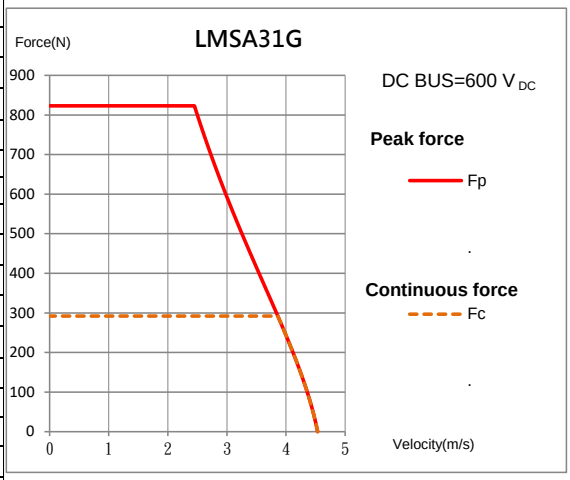
	Symbol	Unit	
Continuous force	F_c	N	292
Continuous current	I_c	A_{rms}	2
Peak force (1s)	F_p	N	823
Peak current (1s)	I_p	A_{rms}	6
Ultimate force (0.5s)	F_u	N	1079
Ultimate current (0.5s)	I_u	A_{rms}	10
Force constant	K_f	N/A_{rms}	145.8
Attraction force	F_a	N	1444
Max. winding tempurature	T_{max}	℃	120
Electrical time constant	K_e	ms	4.9
Resistance (line to line · 25℃)	R_{25}	Ω	19.2
Resistance (line to line · 120℃)	R_{120}	Ω	26.5
Inductance (line to line)	L	mH	94.1
Pole pair pitch	2τ	mm	30
Minimun bending radius of cable	R_{bend}	mm	69
Back emf constant(line to line)	K_v	$V_{rms}/(m/s)$	84.2
Motor constant (25℃)	K_m	$N/\sqrt{W}$	27.2
Thermal resistance	R_{th}	℃/W	0.6
Thermal time constant	t_{th}	s	1440
Thermal switch			1 x Pt1000 + 1 x (3 PTC SNM 120 In Series)
Max. DC bus voltage		V_{DC}	750

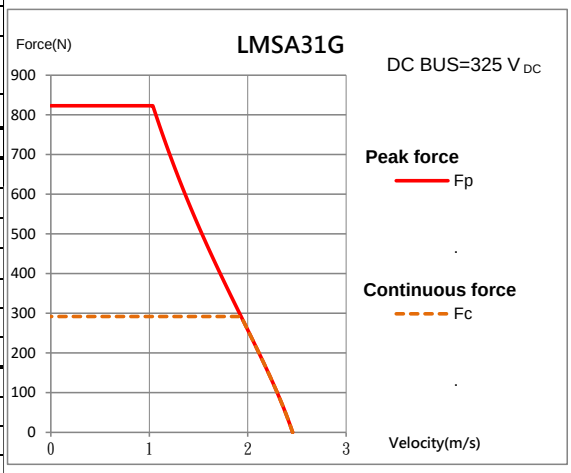
Mechanical specifications

	Symbol	Unit	
Mass of forcer	M_f	kg	1.9
Unit mass of stator	M_S	kg	8.5

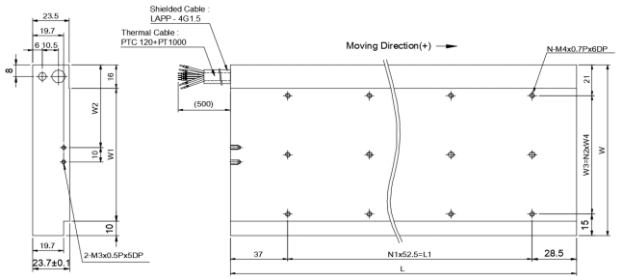
L	mm	118	W3	mm	80
L1	mm	52.5	W4	mm	40
W	mm	116	N	mm	6
W1	mm	90	N1	mm	1
W2	mm	56	N2	mm	2

F-V curve

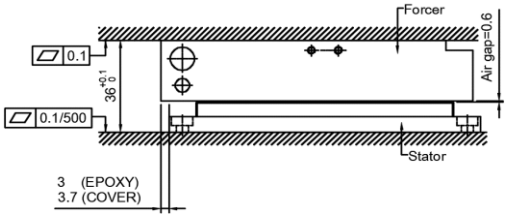




Focer dimensions

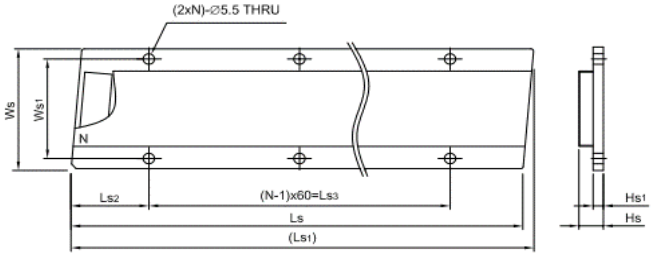


Mounting tolerance

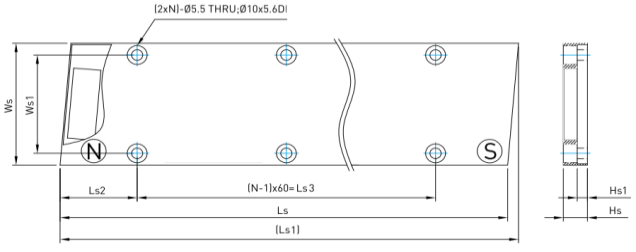


Stator dimensions

Type 1：Cover plate



Type 2：EA (Epoxy)



	Ls	Ls1	Ls2	Ls3	Ws	Ws1	Hs	Hs1	N
LMSA3S1(EA)	120	123.04	30.37	60	114.6(116)	104	11.7	6	2
LMSA3S2(EA)	180	183.04	30.37	120	114.6(116)	104	11.7	6	3
LMSA3S3(EA)	300	303.04	30.37	240	114.6(116)	104	11.7	6	5

Except dimensions, all the specifications in the table are in ±10% of tolerance

Version: 1.00

This drawing is only for reference, detail dimensions please refer to approval drawing.

Date: 2023/3/29