

iLMA30

General technical data

			iLMA 30												
			Version S				Version M				Version L				
			Classic Plate		High Performance		Classic Plate		High Performance		Classic Plate		High Performance		
PARAMETER	SYM	UNIT	Low Speed	High Speed	Low Speed	High Speed	Low Speed	High Speed	Low Speed	High Speed	Low Speed	High Speed	Low Speed	High Speed	
PERFORMANCE	Supply voltage	V _{DC}	600												
	Continuous Force*	F _C	148		165		292		326		436		487		
	Peak Force (1s)*	F _P	325		374		643		740		961		1106		
	Ultimate Force (0,5s)*	F _U	410		482		810		952		1210		1422		
	Attraction force of magnets**	F _A	678		958		1245		1759		1812		2560		
	Cogging (Detent) force	F _G	5		6		0		0		0		0		
	Force constant	K _F	$\frac{N}{A_{RMS}}$	49,3	21,5	55,0	24,0	48,7	21,3	54,3	23,8	48,4	21,2	54,1	23,6
	Motor constant	K _M	$\frac{N}{\sqrt{W}}$	17,6	17,6	19,7	19,6	24,6	24,6	27,5	27,5	30,0	30,1	33,5	33,6
	Back EMF Phase-Phase Constant	K _{BEMF}	$\frac{V}{(m/s)}$	28,4	12,4	32,9	14,4	28,1	12,3	32,5	14,2	28,0	12,2	32,3	14,1
ELECTRICAL	Maximum Continuous Current	I _C	A _{RMS}	3,0	6,9	3,0	6,9	6,0	13,7	6,0	13,7	9,0	20,6	9,0	20,6
	Peak Current	I _P	A _{RMS}	9,0	20,6	9,0	20,6	18,0	41,2	18,0	41,2	27,0	61,8	27,0	61,8
	Ultimate Current	I _U	A _{RMS}	15,0	34,3	15,0	34,3	30,0	68,7	30,0	68,7	45,0	103,0	45,0	103,0
	Resistance at 20 °C Phase - Phase	R ₂₅	Ω	5,2	1,0	5,2	1,0	2,6	0,5	2,6	0,5	1,7	0,3	1,7	0,3
	Resistance at 125 °C Phase - Phase	R ₁₂₀		7,4	1,4	7,4	1,4	3,7	0,7	3,7	0,7	2,5	0,5	2,5	0,5
	Induction Phase - Phase	L _P	mH	31,0	5,9	31,0	5,9	15,5	2,9	15,5	2,9	10,3	2,0	10,3	2,0
	Electrical time constant***	t _C	mS	5,9	5,9	5,9	5,9	5,9	5,8	5,9	5,8	5,9	6,0	5,9	6,0
	Max. Winding temperature****	T _{max}	°C	125											
THERMAL	Thermal Resistance	R _{th}	$\frac{K}{W}$	1,055				0,527				0,352			
	Thermal Resistance to heatsink	R _{th_HS}	$\frac{K}{W}$	0,250				0,125				0,063			
MECHANICAL	Motor overall length	ML	mm	128				233				338			
	Motor overall width	MW	mm	56											
	Motor overall height	MH	mm	23,5											
	Motor mass	mm	kg	0,8				1,4				2,4			
	Motor wires cross-section	SC	mm ²	1,5											
	Sensor wires cross-section	SSC	mm ²	0,25											
	Motor cable length	LM	mm	400											
	Sensor cable length	LS	mm	400											
Magnet Pitch	τ	mm	30												

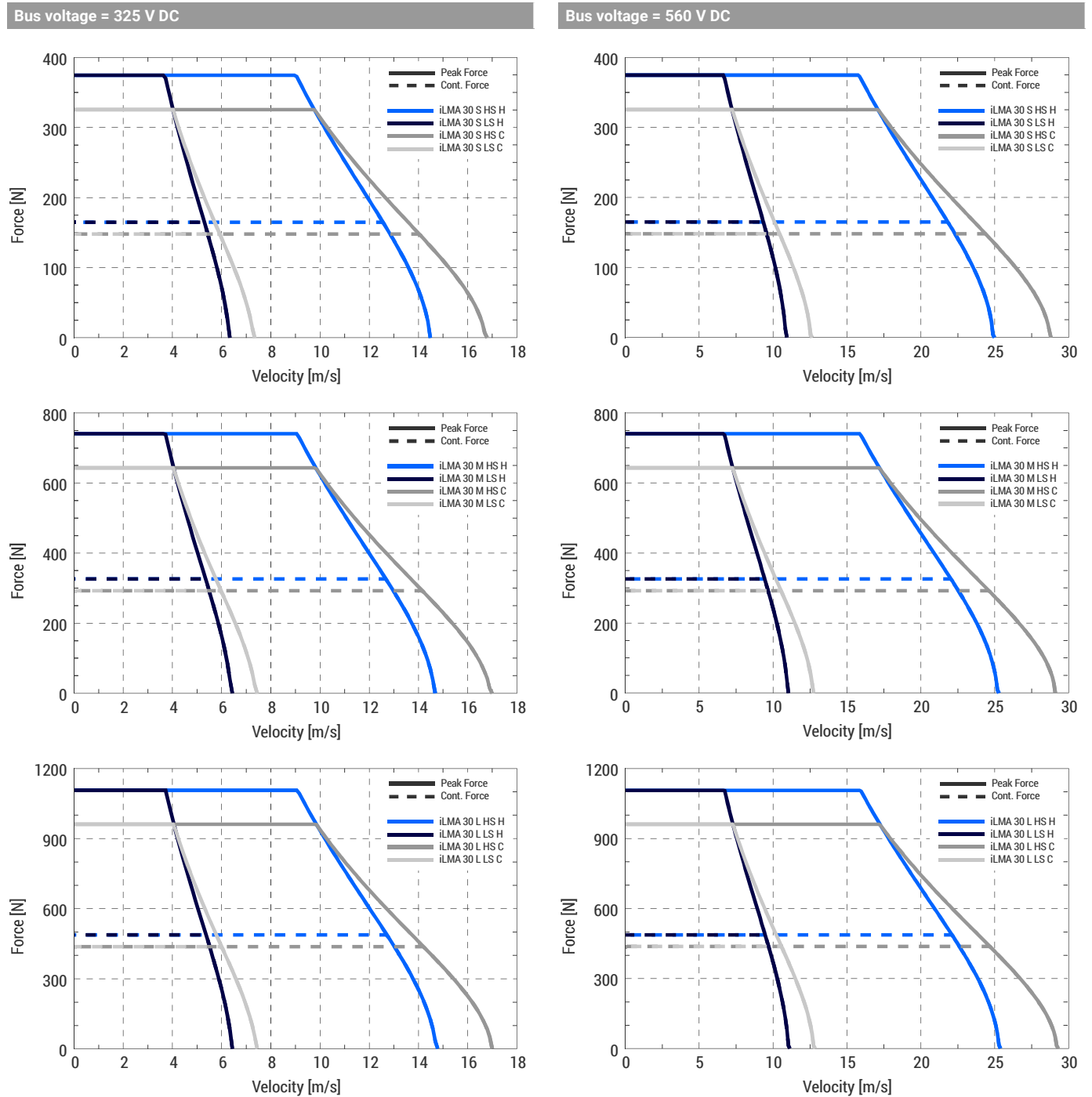
* Magnets at 20 °C

** RMS at 0 A and air gap of 0,6 mm

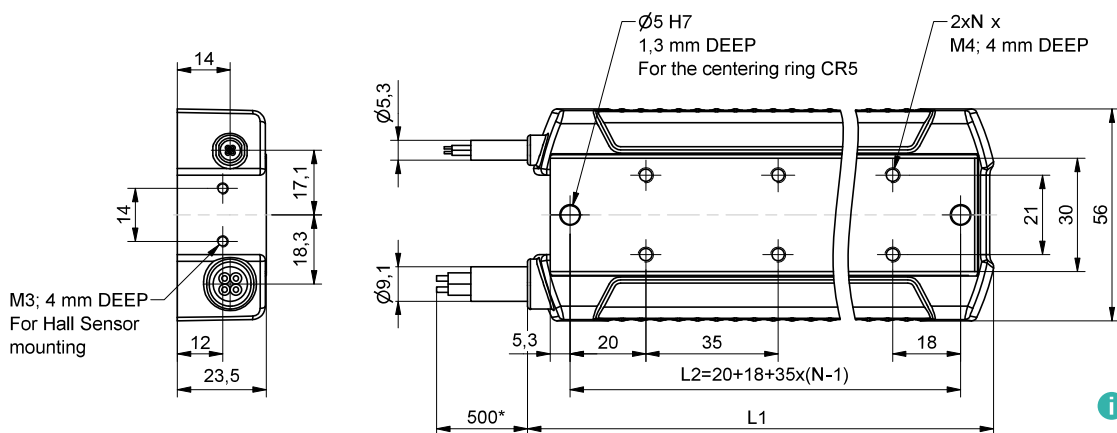
*** Windings at 20 °C

**** Maximum allowed magnet plate temperature is 90 °C

Force as a function of velocity diagrams



Forcer dimensions

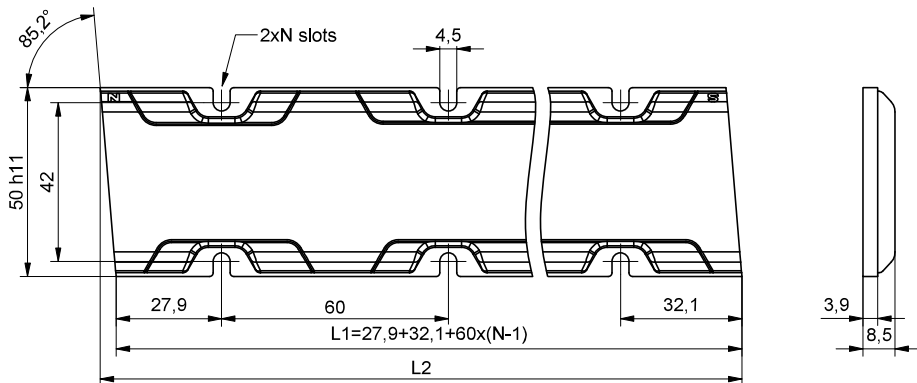


1 All dimensions are in mm.
The scale of the drawings
may not be equal.

* This is a standard cable length.

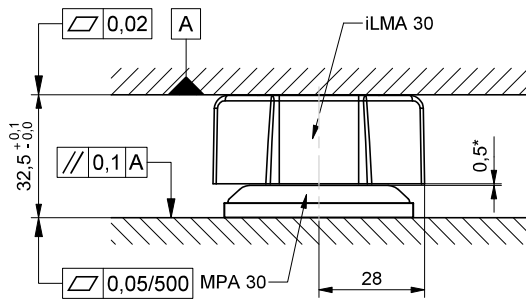
iLMA30	L1	L2	N
iLMA 30 S HS/LS	128	108	3
iLMA 30 M HS/LS	233	213	6
iLMA 30 L HS/LS	338	318	9

Magnet plate dimensions



MPA30	L1	L2	N
MPA 30 120 C/H	120	124,2	2
MPA 30 180 C/H	180	184,2	3
MPA 30 300 C/H	300	304,2	5

Mounting tolerances



*This the recommended air gap between the forcer and the magnet plate.