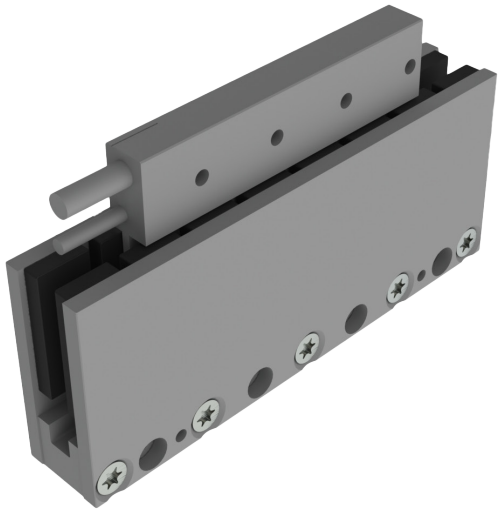
KMC93S SERIES - IRONLESS LINEAR MOTOR
DIMENSIONS AND SPECIFICATIONS

Magnet plate dimensions		
Code	**KMM930090**	**KMM930120**
Le (mm)	90	120
M5 bolts	3	4
Mass (kg/m)	4.8	
Magnet yokes can be butted together.		

Code	**KMM930150**	**KMM930390**
Le (mm)	150	390
M5 bolts	6	13
Mass (kg/m)	4.8	
Magnet yokes can be butted together.		



	Parameter	Remarks	Sym	Unit	KMC93S							
Performance	**Winding type**				IU01N	IU01H	IU02N	IU02H	IU03N	IU03H	IU04N	IU04H
	Motortype, max voltage ph-ph				3-phase synchronous Iron core, 230 $V_{ac\ rms}$ (V_{dc})							
	Ultimate force @ 20°C/s increase	Magnet @ 25°C	F_u	N	100		200		300		400	
	Continuous force*	Coils @ 110°C	F_c	N	29		58		87		116	
	Maximum speed**	@ 300 V	V_{max}	m/s	10	18	10	18	10	17	10	16
	Motor force constant	Mount. sfc. @ 20°C	K	N/A_{rms}	36.3	19.9	36.3	19.9	36.3	19.9	36.3	19.9
	Motor constant	Coils @ 25°C	S	N^2/W	24		48		71		95	
Electrical	**Peak current**	Magnet @ 25°C	i_p	A_{rms}	2.8	5.0	5.5	10.0	8.3	15.0	11.0	20.0
	Maximum continuous current	Coils @ 110°C	I_c	A_{rms}	0.8	1.5	1.6	2.9	2.4	4.4	3.2	5.8
	Back EMF Phase-Phase$_{peak}$		B_{emf}	V/m/s	30	16	30	16	30	16	30	16
	Resistance per phase*	Coils @ 25°C ex. cable	R_{ph}	Ω	18.5	5.5	9.3	2.8	6.2	1.8	4.6	1.4
	Induction per phase		I_{ph}	mH	6	1.8	3	0.9	2	0.6	1.5	0.4
	Electrical time constant*	Coils @ 25°C	T_e	ms	0.35							
Thermal	**Max. continuous power loss**	All coils	P_c	W	47		95		142		190	
	Thermal resistance	Coils to mount. sfc.	R_{th}	°C/W	1.8		0.9		0.6		0.45	
	Thermal time constant*	up to 63% max. coiltemp.	T_{th}	s	36							
	Temperature cut-off / sensor				PTC 1kΩ / NTC							
Mechanical	**Coil unit weight**	ex. cables	W	kg	0.084		0.162		0.240		0.318	
	Coil unit length	ex. cables	L	mm	78		138		198		258	
	Motor attraction force		F_a	N	0		0		0		0	
	Magnet pitch NN		t	mm	30							
	Cable mass		m	kg/m	0.08							
	Cable Type (power)	Length 3 m	d	mm (AWG)	5.3 (22)							
	Cable Type (sensor)	Length 3 m	d	mm (AWG)	3.2 (26)							

** These values are only applicable when the mounting surface is at 20°C and the motor is driven at maximum continuous current. If these values differ in your application, please check our simulation tool.*
*** Actual values depend on bus voltage. Please check the F/v diagram in our simulation tool.*
**** Depending on bending radius, velocity and acceleration.*

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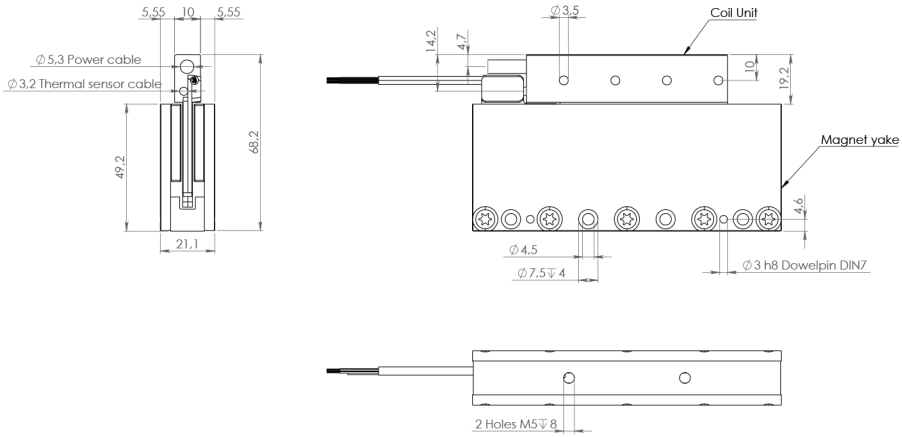
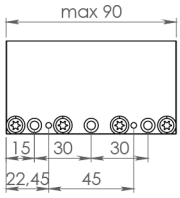
DIMENSIONS AND SPECIFICATIONS

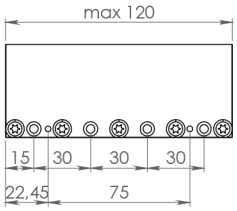
MAGNET PLATES



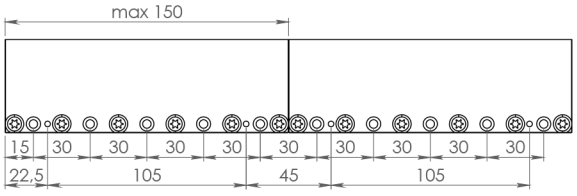
KMM930090



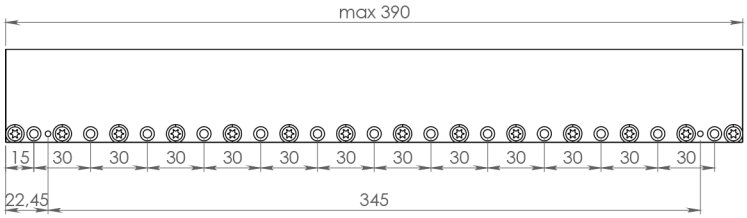
KMM930120



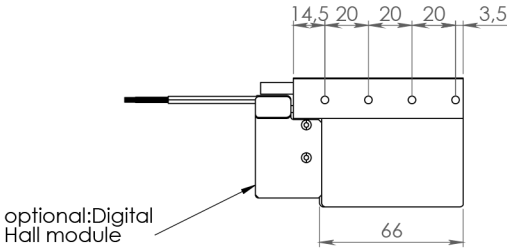
KMM930150



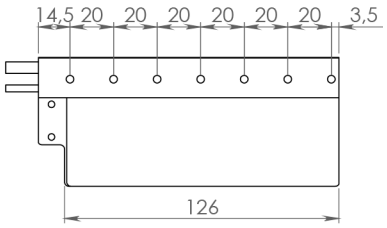
KMM930390



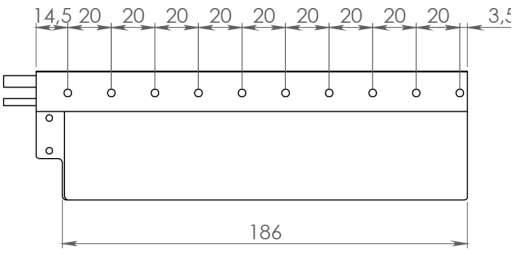
KMC93S-IU01N / IU01H



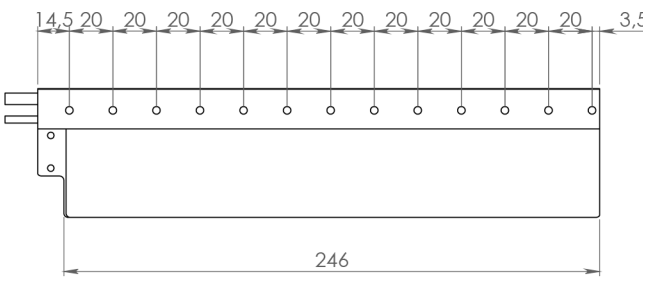
KMC93S-IU02N / IU02H



KMC93S-IU03N / IU03H



KMC93S-IU04N / IU04H



Mounting instructions and flatness or parallelism requirements can be found in the iron core installation manual. CAD files, 3D models and the manual can be downloaded from our website.
** All sizes are in mm*