TECNOTION THE LINEAR MOTOR COMPANY | UC Series Ironless

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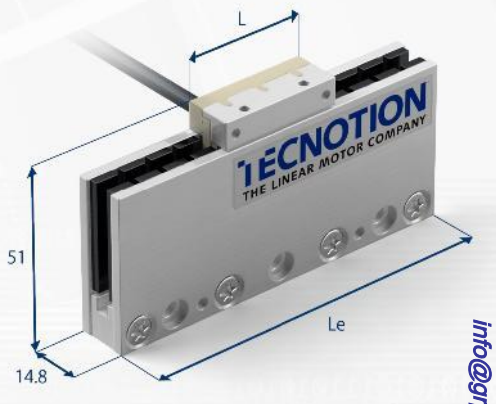
	Parameter	Remarks	Symbol	Unit	UC3	UC6
Performance	Motortype, max voltage ph-ph				3-phase synchronous Ironless, 60V_{dc}	
	Peak Force @ 20°C/s	magnet @ 25°C	F_p	N	36	72
	Continuous Force*	coils @ 80°C	F_c	N	10	20
	Maximum Speed**	@ 60 V	v_{max}	m/s	5	5
	Motor Force Constant	coils @ 25°C	K	N/A_{rms}	11.4	11.4
	Motor Constant	coils @ 25°C	S	N^2/W	9.2	18.3
Electrical	Peak Current	magnet @ 25°C	I_p	A_{rms}	3.1	6.2
	Maximum Continous Current	coils @ 80°C	I_c	A_{rms}	0.87	1.75
	Back EMF Phase-Phase		B_{emf}	V_{rms} / m/s	9.3	9.3
	Resistance per Phase	coils @ 25°C ex. cable	R_f	Ω	4.7	2.4
	Induction per Phase	I < 0.6 Ip	L_f	mH	0.75	0.38
	Electrical Time Constant	coils @ 25°C	τ_e	ms	0.16	0.16
Thermal	Maximum Continuous Power Loss	all coils	P_c	W	13	26
	Thermal Resistance		R_{th}	°C/W	3.6	1.8
	Thermal Time Constant	minimum	τ_{th}	s	25	25
	Temperature Sensors				none	none
Mechanical	Coil Unit Weight	ex. cables	M	kg	0.031	0.062
	Coil Unit Length	ex. cables	L	mm	34	67
	Motor Attraction Force		F_a	N	0	0
	Magnet Pitch NN		τ	mm	16.5	16.5
	Cable Weight		m	gr/m	7.0	7.0
	Cable Type (Power)	length 1 m	d	mm (AWG)	4.3 (24)	
	Cable Type (Sensor)				N/A	
	Cable Life (Power FLEX)	minimum			15,000,000 cycles	
	Bending Radius Static	minimum			5x cable diameter	
	Bending Radius Dynamic	minimum			8x cable diameter	



UC3 in 99mm magnet yoke shown

All specifications ±10%

Magnet yoke dimensions			
Le (mm)	66	99	264
M4 bolts	2	3	8
Mass (kg/m)	3.2		
Magnet yokes can be butted together.			

*Max. continuous force depends on the thermal resistance, cooling surface and ambient temperature of your application. Download our simulation tool to check the motor's thermal behavior in the application.

** Actual values depend on bus voltage. Please check the F/V diagram in our simulation tool.

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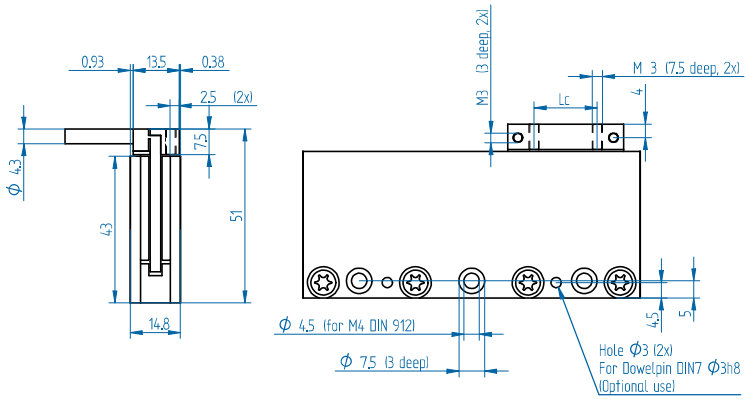
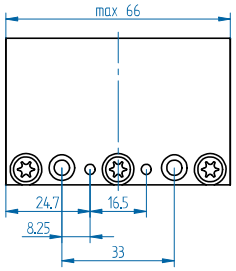
Mounting instructions and flatness or parallelism requirements can be found in the Ironless installation manual. CAD files and 3D models can be downloaded from our website.

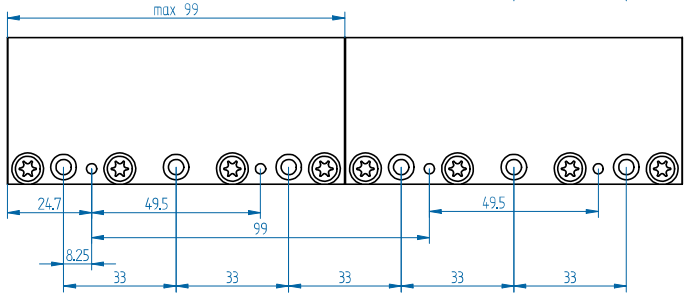
MAGNET YOKES



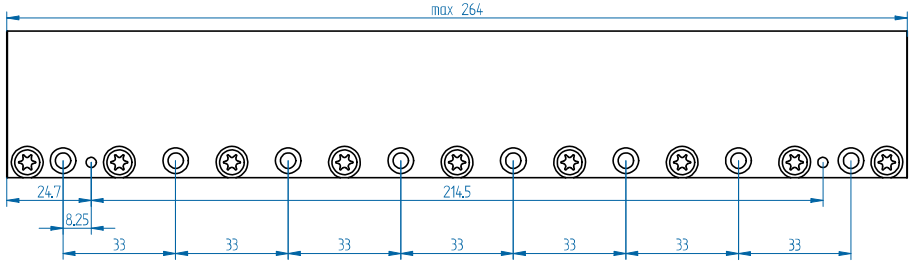
UC 66mm



2x UC 99mm

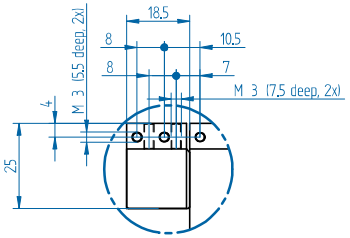


UC 264mm

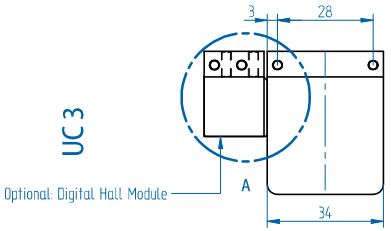


COIL UNITS

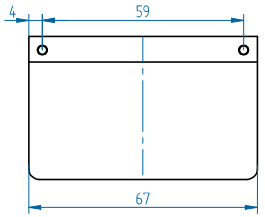
	Dig. Hall cable (mm)	Lc (mm)
UC3	Ø3.2	18.5
UC6	Ø3.2	51.5



UC 3



UC 6



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