



UL3 in 210mm magnet yoke shown

UL series ironless

Magnet yoke dimensions

Le (mm)	126	168	210	546
M5 bolts	3	4	5	13
Mass (kg/m)	11.2			

Magnet yokes can be butted together.

Approvals



	Parameter	Remarks	Symbol	Unit	UL3		UL6		UL9		UL12		UL15	
Performance	Winding type				N	S	N	S	N	S	N	S	N	S
	Motor type, max voltage ph-ph	3-phase synchronous	U _{max}	V _{ac,rms} (V _{dc})	230 (325)									
	Peak force @ 20 K/s increase	magnets @ 25°C	F _p	N	240		480		720		960		1200	
	Continuous force ¹	coils @ 110°C	F _c	N	70		140		210		280		350	
	Continuous force ^{1,3}	coils @ 105°C	F _c	N	67		137		201		269		336	
	Maximum speed ²	@ U _{max} @ F _c	v _{max}	m/s	5.0	12	5.0	12	5.0	12	5.0	12	5.0	12
	Motor force constant	I ≤ I _c	K _f	N/A _{rms}	68	27.5	68	27.5	68	27.5	68	27.5	68	27.5
	Motor constant	coils @ 25°C	S	N ² /W	97	97	193	197	291	297	385	394	460	476
Electrical	Peak current	magnets @ 25°C	I _p	A _{rms}	3.5	8.7	7.1	17.5	10.6	26.2	14.1	35	17.8	44
	Continuous current ¹	coils @ 110°C	I _c	A _{rms}	1.0	2.6	2.1	5.1	3.1	7.6	4.2	10.2	5.2	12.9
	Continuous current ^{1,3}	coils @ 105°C	I _c	A _{rms}	1.0	2.5	2.0	4.9	3.0	7.4	4.0	9.9	4.9	12.3
	Back EMF ph-ph _{peak}		K _e	V _{dc} /m/s	55.5	22.5	55.5	22.5	55.5	22.5	55.5	22.5	55.5	22.5
	Resistance per phase	coils @ 25°C ex. cable	R _{ph}	Ω	15.9	2.6	8.0	1.28	5.3	0.85	4.0	0.64	3.3	0.53
	Induction per phase		L _{ph}	mH	13	2.1	6.5	1.02	4.2	0.68	3.2	0.51	2.7	0.42
	Electrical time constant		τ _e	ms	0.8									
Thermal	Continuous power loss ¹	coils @ 110°C	P _c	W	67		134		200		270		335	
	Continuous power loss ^{1,3}	coils @ 105°C	P _c	W	62		123		185		246		308	
	Thermal resistance	coils to mount. sfc.	R _{th}	K/W	1.3		0.65		0.43		0.32		0.26	
	Thermal time constant		τ _{th}	s	72									
	Temperature sensor				PTC 1kΩ / NTC									
Mechanical	Coil unit mass	ex. cables	m	kg	0.27		0.49		0.69		0.91		1.13	
	Coil unit length	ex. cables	L	mm	106		190		274		358		442	
	Motor attraction force	rms @ 0 A	F _a	N	0									
	Magnet pitch NN		τ	mm	42									
	Cable mass	all cables		kg/m	0.09					0.105				
	Cable type (power)	length 1 m	d	mm (AWG)	5.9 (20)					6.5 (18)				
	Cable type (sensor)	length 1 m	d	mm (AWG)	4.7 (26)									

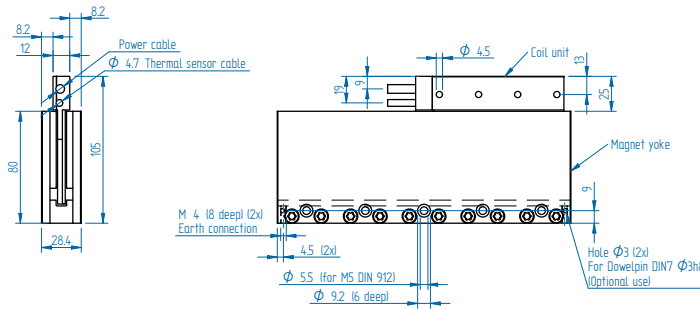
All specifications ±10%

¹ These values are only applicable when the mounting surface is at 20°C and the motor is driven at continuous current. If these values differ in your application, please check our simulation tool.

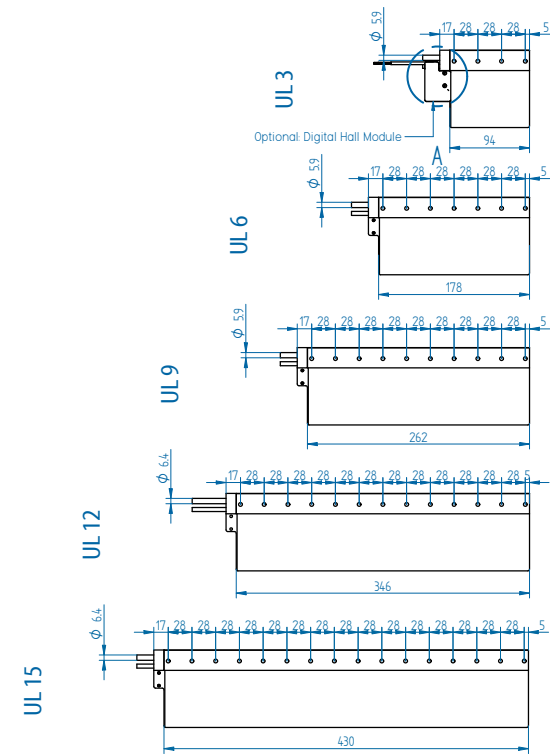
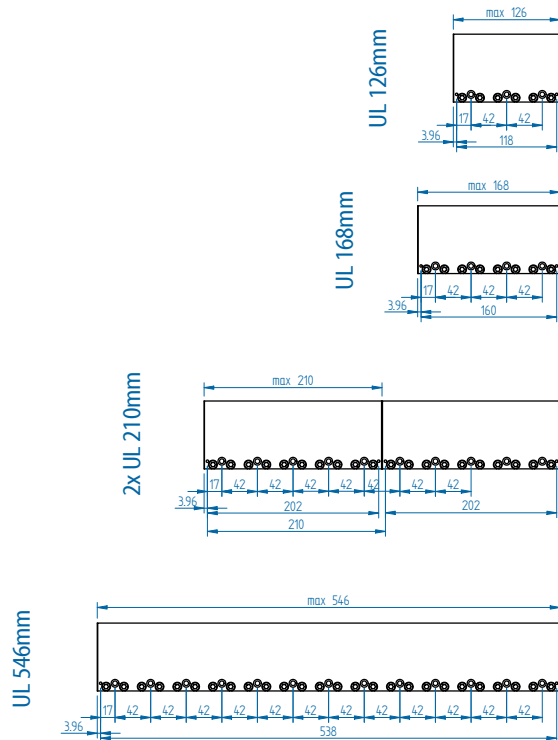
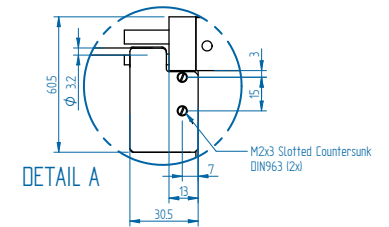
² Actual values depend on bus voltage. Please check the F/v diagram in our simulation tool.

³ The maximum coil temperature for CSA certification is 105°C. The maximum coil temperature without CSA certification is 110°C.

Magnet yokes



Coil units



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

* All sizes are in mm