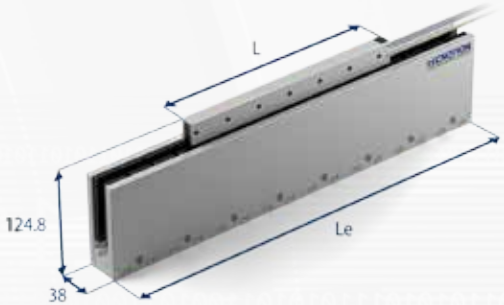
	Parameter	Remarks	Symbol	Unit	UXA3		UXA6		UXA9		UXA12		UXA18
Performance	Winding type				N	S	N	S	N	S	N	S	N
	Motortype, max voltage ph-ph				3-phase synchronous Ironless, $230V_{ac\ rms}$ ($300V_{dc}$)								
	Peak Force @ 20°C/s increase	magnet @ 25°C	F_p	N	615		1230		1845		2460		3690
	Continuous Force*	coils @ 110°C	F_c	N	120		240		360		480		720
	Maximum Speed**	@ 300 V	v_{max}	m/s	2.9	7.2	2.9	7.2	2.9	7.2	2.9	7.2	2.9
	Motor Force Constant	mount. sfc. @ 20°C	K	N/A_{rms}	107	43.4	107	43.4	107	43.4	107	43.4	107
	Motor Constant	coils @ 25°C	S	N^2/W	244		488		732		976		1464
Electrical	Peak Current	magnet @ 25°C	I_p	A_{rms}	5.6	13.9	11.3	28	16.9	42	22.6	56	34
	Maximum Continuous Current	coils @ 110°C	I_c	A_{rms}	1.14	2.80	2.27	5.6	3.4	8.4	4.5	11.2	6.8
	Back EMF Phase-Phase Peak		B_{emf}	V/m/s	87	35	87	35	87	35	87	35	87
	Resistance per Phase*	coils @ 25°C ex. cable	R_{ph}	Ω	15.8	2.6	7.9	1.29	5.3	0.86	4.0	0.65	2.6
	Induction per Phase	I < 0.6 Ip	L_{ph}	mH	28	4.6	14	2.3	9	1.5	7	1.2	4.7
	Electrical Time Constant*	coils @ 25°C	τ_e	ms	1.8		1.8		1.8		1.8		1.8
Thermal	Maximum Continuous Power Loss	all coils	P_c	W	82		165		247		330		494
	Thermal Resistance	coils to mount. sfc.	R_{th}	°C/W	1.04		0.52		0.35		0.26		0.17
	Thermal Time Constant	up to 63% max. coiltemp.	τ_{th}	s	156		156		156		156		156
	Temperature Cut-off / Sensor*				PTC 1kΩ / NTC								
Mechanical	Coil Unit Weight	ex. cables	W	kg	0.55		0.95		1.35		1.75		2.55
	Coil Unit Length	ex. cables	L	mm	134		248		362		476		704
	Motor Attraction Force		F_a	N	0		0		0		0		0
	Magnet Pitch NN		τ	mm	57		57		57		57		57
	Cable Mass		m	kg/m	0.18		0.18		0.18		0.18		0.18
	Cable Type (Power)	length 1 m	d	mm (AWG)	6.4 (18) except UXA3S***								
	Cable Type (Sensor)	length 1 m	d	mm (AWG)	4.3 (26)								

All specifications ±10%



UXA6 in 456mm magnet yoke shown

Approvals

CE RoHS

UXA3S Power Cable (FLEX cable of 3m)	
Cable Type	9.0 (21) mm (AWG)
Cable Life****	5,000,000 cycles
Bending Radius Static	4x cable diameter
Bending Radius Dynamic	10x cable diameter

***** Depending on Bending Radius, Velocity and Acceleration.*

Magnet yoke dimensions			
Le (mm)	114	171	456
M6 bolts	2	3	8
Mass (kg/m)	19		
Magnet yokes can be butted together.			

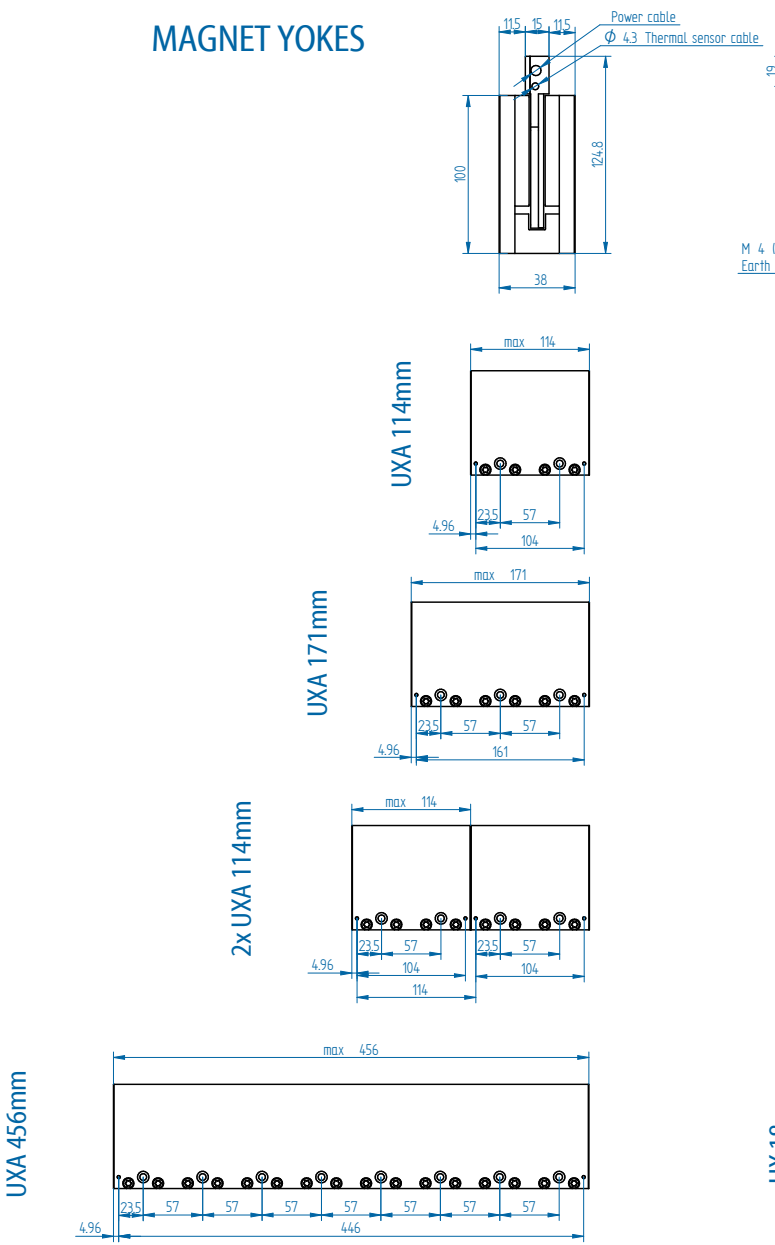
** These values are only applicable when the mounting surface is at 20°C and the motor is driven at maximum continuous current. If these values differ in your application, please check our simulation tool.*

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

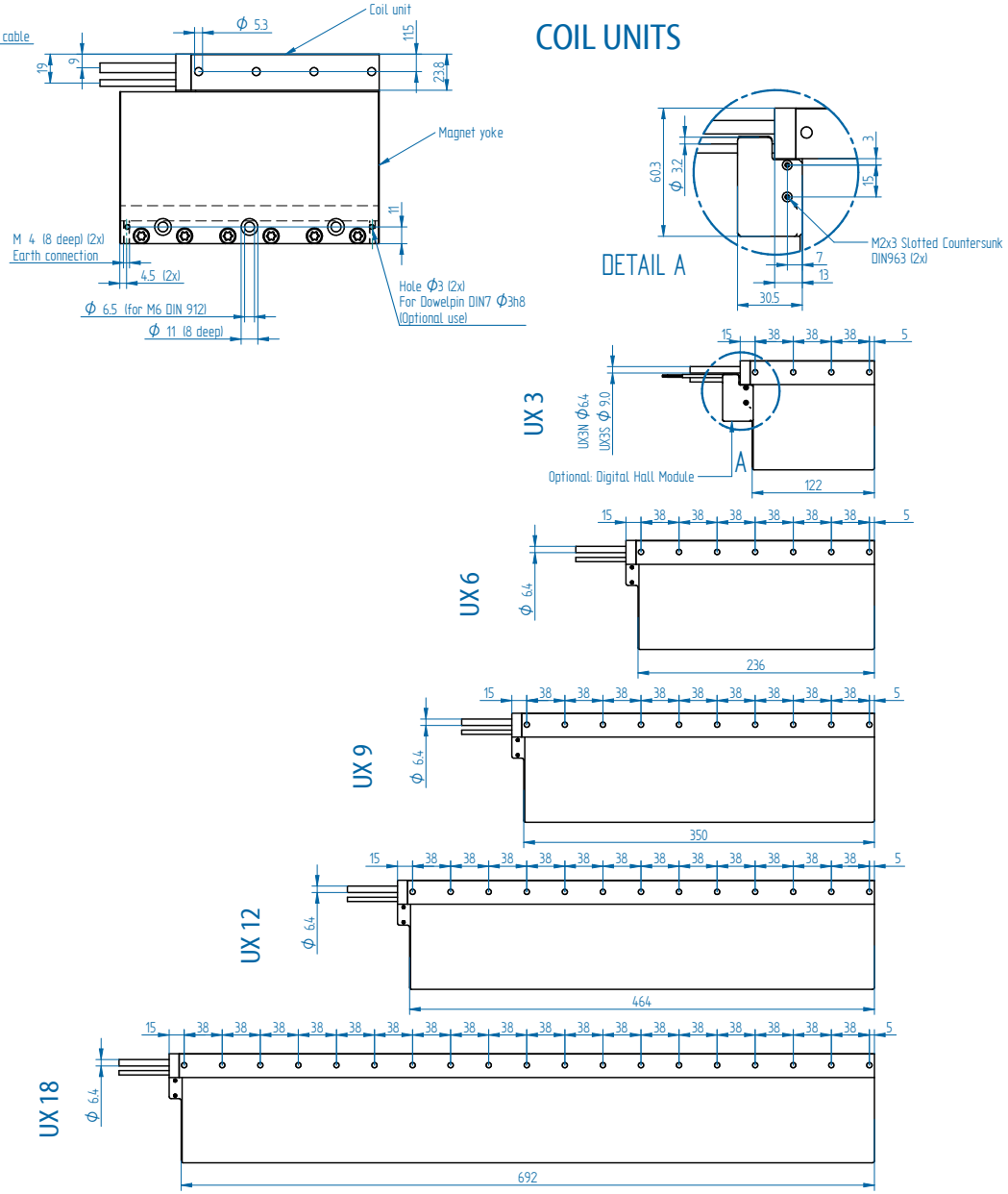
**** The UXA3S is only available with a FLEX power cable. The specifications for this cable can be found in the table on the right side of this page.*

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



COIL UNITS



Features

Tecnotion's linear motor performances advantages

[DIRECT DRIVE ADVANTAGES]

The direct drive technology of linear motors is a perfect way to enhance productivity, accuracy, and dynamic performance. Linear motors eliminate the need for mechanical transmissions like rack and pinion, belts and speed reducers. Between coil unit and magnets there is no contact, this means no mechanical wear. The technology makes designs slimmer, modular and reduces costs.

Modular system. All motors can be used in various configurations:

1. single moving coil *2. moving magnet* *3. parallel coupled coil* *4. in-line on a single track* *5. crosstable or gantry*

High force density

More force in a smaller packing means lowering footprint and fits better in smal(ler) spaces.

Low cogging

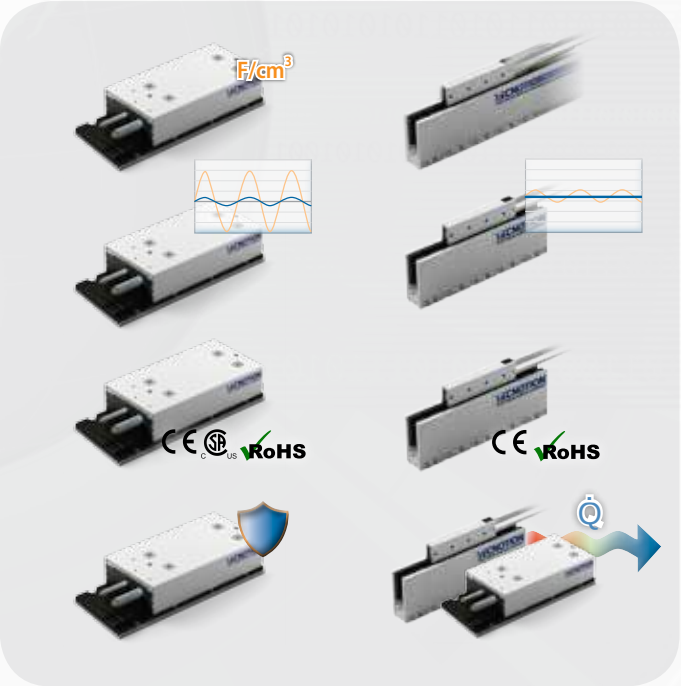
Optimized iron core motor design, for smooth motion and position accuracy in your application.

Approved for CSA and CE, ROHS

Iron core motors are approved for CE, CSA and ROHS.

Aluminium housed design

Housed design with integrated water cooling for TBW- and TL series.



High acceleration and dynamics

The outstanding force to mass ratio of the ironless coils enables unmatched system dynamics.

No cogging, extremely low force ripple

Ironless motors have no cogging effects. Offering smooth motion and position accuracy in your application.

Approved for CE and ROHS

Ironless motors are CE and RoHS approved.

Low thermal resistance

Allowing good heat transfer, achieving an extremely high continuous force for all motors when using a descent size heatsink or active cooling.