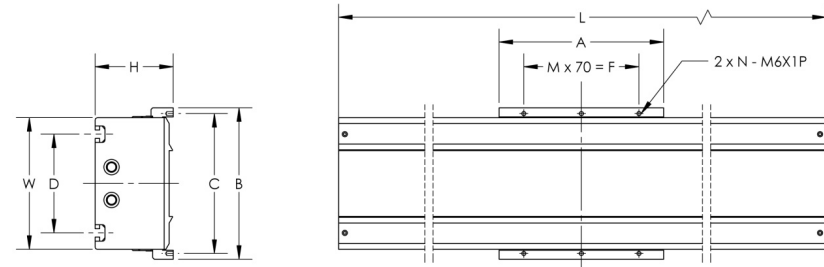


LMXK: Linear Motor Stage



Motor	UNIT	SA11	SA11L	SA12	SA12L	SA13	SA13L
Carriage Length (A)	mm		200		250		350
Carriage Width (B)	mm				184		
Base Width (W)	mm				160		
Mounting Width (D)	mm				120		
Height (H)	mm				95		
Total Length (L)	mm			L = Stroke + A + 130			
Continuous Force (F _c)	N		103		205		308
Peak Force (F _p)	N		289		579		868
Continuous Current (I _c)	A _{rms}	2.1	4.7	4.2	9.4	6.3	14.1
Peak Current (I _p)	A _{rms}	6.3	14.1	12.7	28.3	19.0	42.4
Max Stroke	mm	3700		3600		3500	
Resolution	μm	1 μm Magnetic Encoder (PG System)/1 μm Digital Optical Encoder/1 μm Hall Effect Encoder					
Repeatability *1,2	μm	±5μm/±3μm/±10μm					
Moving Mass	kg	4		5		6.5	
Loading Capacity *3	kg	16.5		36		55	
Force Constant (K _v)	N/A _{rms}	48.6	21.7	48.6	21.7	48.6	21.7
Attraction Force (F _a)	N	481		963		1444	
Back-EMF Constant (K _e)	V _{rms} /(m/s)	28.1	12.6	28.1	12.6	28.1	12.6
Motor Constant (K _m)	N/√W	13.7	13.6	19.6	18.7	23.7	22.9
Thermal Resistance (R _{th})	°C/W	1.23	1.23	0.63	0.63	0.41	0.41
Thermal Time Constant (t _{th})	s	1830	1830	2720	2720	4210	4210
Thermal Switch	-	3 PTC SNM120 In Series					
Resistance (Line to Line, 25° C)	Ω	8.4	1.7	4.1	0.9	2.8	0.6
Resistance (Line to Line, 120° C)	Ω	11.6	2.3	5.7	1.2	3.9	0.8
Inductance (L)	mH	371	7.3	18.5	3.7	12.4	2.4
Max DC Bus Voltage	VDC	600					
Max Velocity *4	m/s	3.1	5	3.1	5	3.1	5
Max Acceleration	m/s ²	40		50			

*1. Values are measured according to HIWIN measuring standard
*2. After error compensation

*3. Loading capacity is based on approximately 0.5G of acceleration
*4. Max velocity varies with stroke, payloads, resolution, and motor thrust

Ordering info

LMX 1 K - SA11 - 1 - XXXX - PG S1 - V1 03 + HS/E2/C/B/D/T

Product ID	Number of Axes	Base Type	Motor	Number of Sliders	Stroke	Encoder Type	Limit Switches	Cable Chain	Cable Length	Additional Options
LMX	Number: 1	Base: K	SA11: LMSA11 SA11L: LMSA11L SA12: LMSA12 SA12L: LMSA12L SA13: LMSA13 SA13L: LMSA13L	1: 1 Slider 2: 2 Sliders	Up to 3700 mm	PG: 1 μm Digital Magnetic Encoder RV: 1 μm Digital Optical Encoder LA: 1 μm LMAHSAE-D CS: Custom Solution	St: Omron EE-671 (NPN) S2: Omron EE-671P (PNP)	Blank: None Vt: Vertical Chain, Internal Space 21 x 38 Ht: Horizontal Chain, Internal Space 21 x 38 VE: Custom Cable Chain	Blank: None 03: 3m 05: 5m 07: 7m	HS: Hall Sensor E2: E2 kits on blocks C: Cover B: Bellows D: Drive T: Top Mounting Brackets

*For custom configurations contact HIWIN for details and specifications

HIMC Multi-Axis Motion Controller & E1 Series Servo Drives

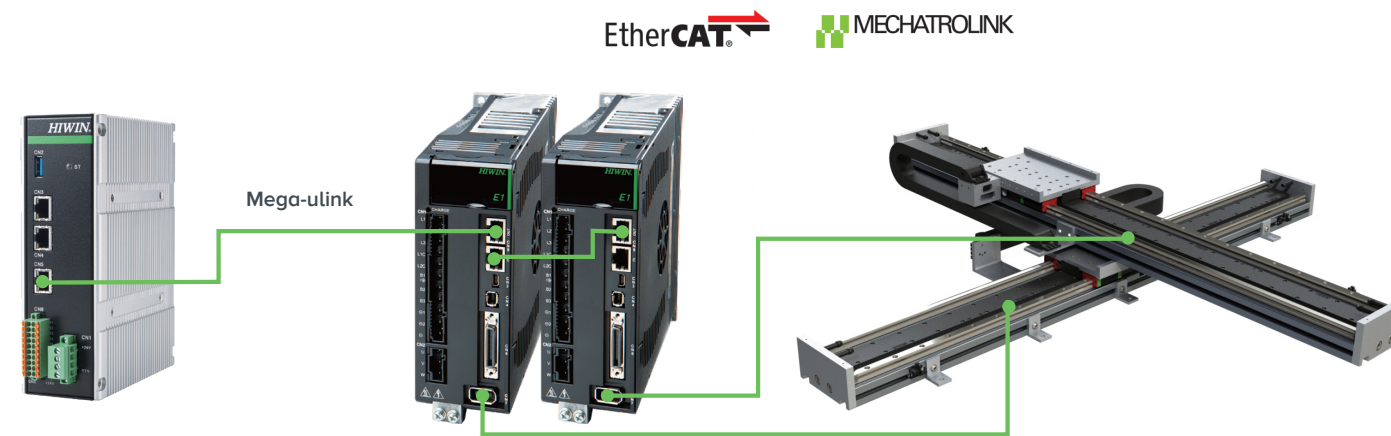


HIMC Motion Controller:

- 16 fully synchronized axes
- Up to 250μs controller cycle time
- 10/100/1000 Mbps Ethernet with TCP/IP host communication
- Multi-tasking HMPL programming language with maximum 64 user tasks
- Programming library for C/C++/C#/LabVIEW/Python
- All mega-ulink 2.0 compatible drives and I/O modules supported

E1 Series Drives:

- 3.2kHz speed response
- Inertia ratio up to 250:1
- Advanced auto-tune function
- Ripple compensation
- Linear and Yaw control for gantry applications (when 2 or more drives used)
- Network connectivity
- Built-in Safe Torque Off (STO)
- Linear motors, direct drive (torque) motors, and servo motors supported
- Digital, Analog, Tamagawa, EnDat and BiSS-C encoders supported



HIMC Motion Controller
Up to 16 fully synchronized slaves

E1 Series Drive
Supports; Linear motors, AC servo motors and direct-drive motors

LMXK Linear Motor
Many configuration styles, gantries, and lengths available



www.hiwin.com | 12455 Jim Dhamer Drive | Huntley, IL 60142 | info@hiwin.com | (877) 804.4946

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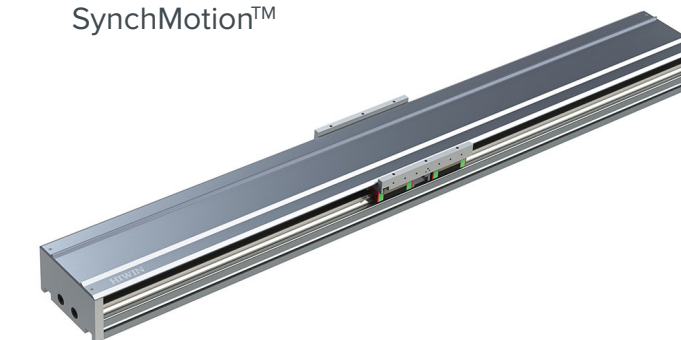
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Motion Control and System Technology

LMXK: Linear Motor Stage

- Powerful motor with high force, acceleration and velocity
- μm accuracy with magnetic and optical encoder options
- Stroke length up to 3700mm with many sizes and configurations
- Assembled in USA from parts imported from Taiwan and elsewhere
- Proven HIWIN components including the Q series linear guideway with SynchMotion™

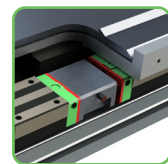


LMXK: Linear Motor Stage

ENCODER OPTIONS

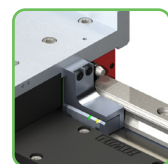
Magnetic Encoder – PG System

The PG system integrates a linear guideway with a magnetic encoder. This solution offers rigidity while obtaining high precision. The encoder is a non-contact measuring sensor with the magnetic strip embedded into the guideway to prevent possible damage caused from external materials.



Optical Encoder

An optical encoder gives LMXK the highest accuracy possible. The standard offering is a 1µm digital incremental encoder. Other resolutions available upon request.



Hall Effect Encoder

The Hall Effect Encoder utilizes the permanent magnets of the stators as a positioning scale. The Hall Effect Encoder reads the pitch of the magnets and interpolates the signal into an accurate position measurement. Having the stators double as a positioning scale reduces complexity and cost.

LOW MAINTENANCE OPERATION

Driven by electromagnetic force, the LMXK linear motor has low maintenance mechanical wear components. This leads to lower cost of ownership by eliminating downtime and MRO expenses replacing belts, screws, gearboxes, or other mechanical drive components.

E2 LUBRICATION KIT

The optional E2 self-lubricating linear guideway kit with replaceable/refillable oil cartridge extends time between maintenance cycles and ensures long service life. Lubrication flows from the oil cartridge to the lubricator and coats the grooves of the rail and raceway with an effective capillary action process.



CABLE CHAIN

Optional horizontal and vertical orientations of the cable chain are available in multiple sizes. Custom options available.

ALUMINUM COVER

An optional lightweight aluminum cover helps prevent unwanted debris from falling in the path of the slider. The cover also reduces the ingress of large pieces of ferromagnetic material which may be attracted to the stator magnets.

ANODIZED ALUMINUM

Standard anodizing of the aluminum components offers additional resistance to corrosion and a high quality finished product.

ALUMINUM CARRIAGE PLATE

The high strength aluminum carriage plate is lightweight, allowing higher payloads for each motor size.

Q SERIES LINEAR GUIDEWAY

The Q Series linear guideway with SynchMotion™ Technology has four-row circular-arc contact, smooth movement, superior lubrication, quieter operation, and longer running life. This allows for a broad industrial application and is perfect for linear motors, where high speed, low noise, and reduced dust generation is required.

IRONCORE LINEAR MOTOR

The LMXK is powered by a high force synchronous ironcore motor providing high thrust density and low cogging force. Three motor sizes are available to fit a variety of demands and duty cycles.

LIMIT SWITCHES

Optional optical limit switches with either PNP or NPN transistors. These limit switches can be used for homing or to prevent overtravel. Two limit switches provided per stage.

HIWIN linear motors are direct drive, plug and play solutions that are capable of fast accelerations and high speeds, while providing unmatched precision and accuracy. The LMXK linear motor system is a high quality, quick delivery solution with features, lengths and power options to fit any need. Multiple single axis linear motors can be combined to form cross tables, cantilever or gantry systems built to your requirements. HIWIN offers a variety of linear motor products with standardized or custom designs, contact us to find out how a linear motor system can help your business.

