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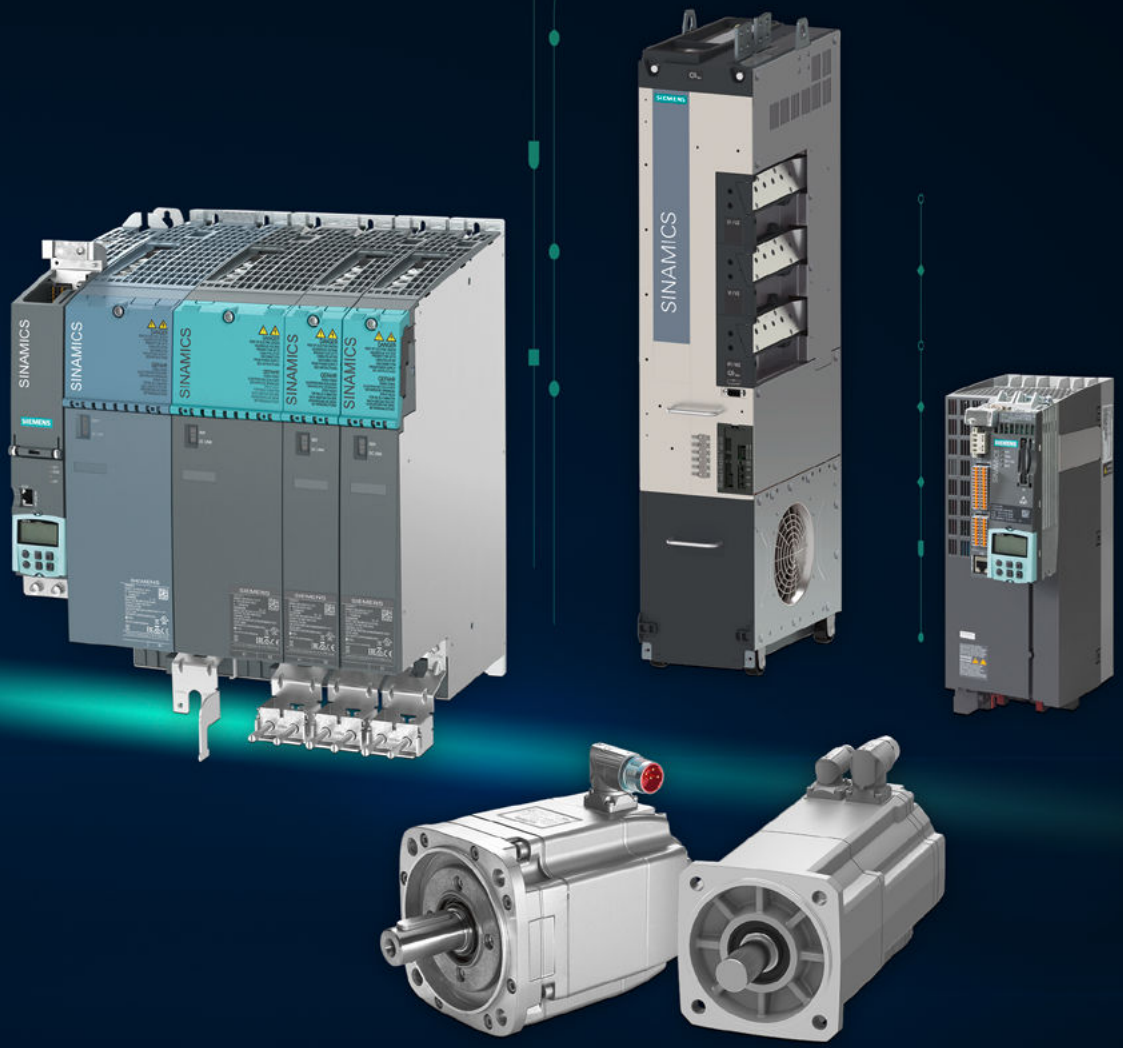

Catalog

Edition
2023

MOTION CONTROL DRIVES

SIMOTICS

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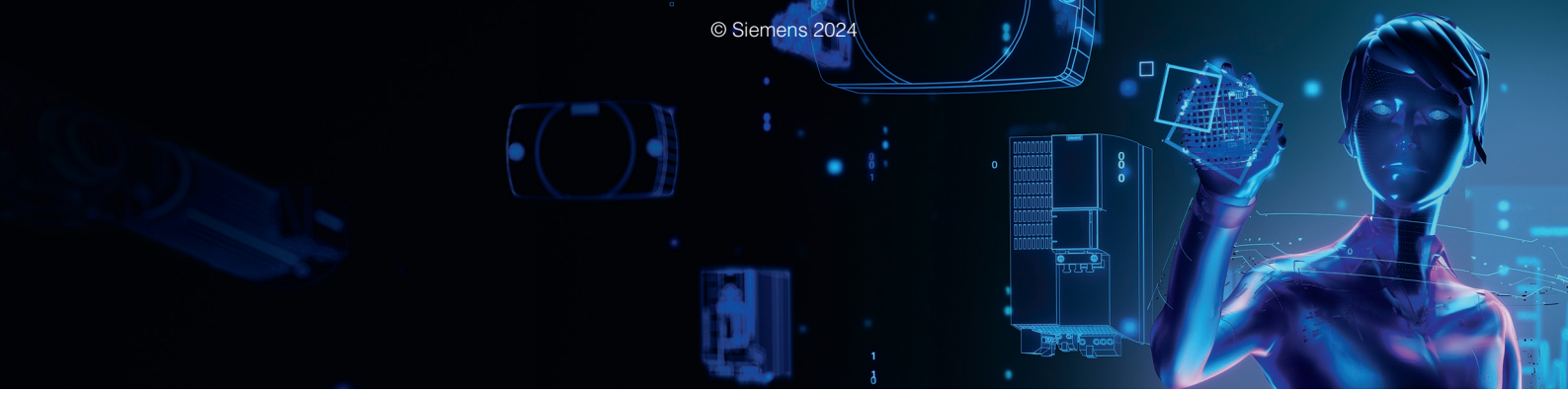


Digitalization in drive technology

From the digital world to the real world

siemens.com/digital-drives

Increase your transparency and productivity by digitalizing your drive technology

Many drives are used in the manufacturing and process industries. They produce lots of data anyway – why not use them to increase the availability and productivity of machines and plants?

Drive technology offers the ideal entry point into the world of digitalization – for plant and machine builders as well as for users.

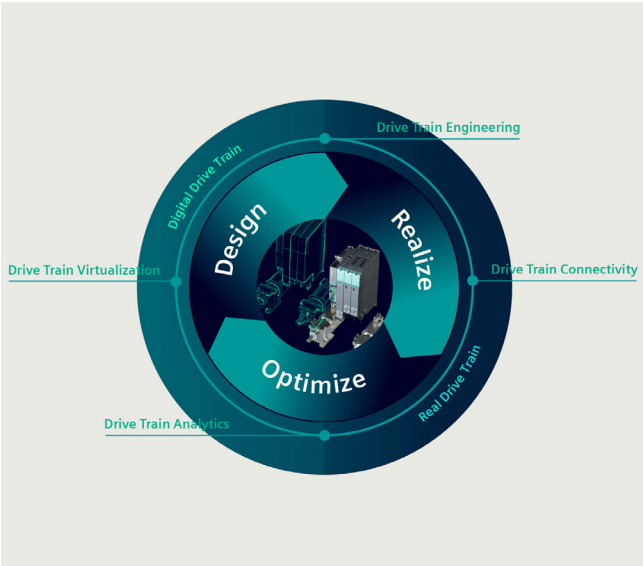
The digitalization portfolio for the drive train spans over the complete life cycle – from the design phase to realization and optimization – in the digital and the real world.

Our portfolio contains drive simulation solutions and efficient engineering tools, comprehensive connectivity that allows drives to be easily linked to the relevant platforms as well as smart analytics (e.g. cloud and edge apps) and drive system services.

These solutions enable you to gain a better understanding of processes, states and utilization. The health status of the drive train can be monitored and analyzing drive data enables an early detection of anomalies and reduces downtimes.

This way, availability and productivity of machines and plants can be increased and the actual maintenance demand can be identified. Furthermore, data-based business models and service offerings are facilitated.

Our digitalization portfolio covers all phases of the life cycle: from the design phase to realization and optimization. It covers the digital and the real drive train.



Design: By creating a digital twin of the drives, machine builders can shorten their time-to-market since they can design, simulate and optimize their machine before ordering any material or products. Together with other tools from the engineering box, simulation can also speed up the engineering phase of drives and entire machines, for example by virtual commissioning of the PLC.

Realize: Once the machine is in operation, the drives can be connected to other platforms, for example to the cloud and Industrial Edge. This creates transparency in terms of what is going on inside the drive train, e.g. with regard to the actual current, torque and speed.

Optimize: To understand the collected data, our drive train analytics portfolio provides algorithms and analysis tools to unlock the potential of the data and turn the gained transparency into insights and valuable knowledge. These insights can then again be used in the design phase of the next life cycle, thus closing the loop.

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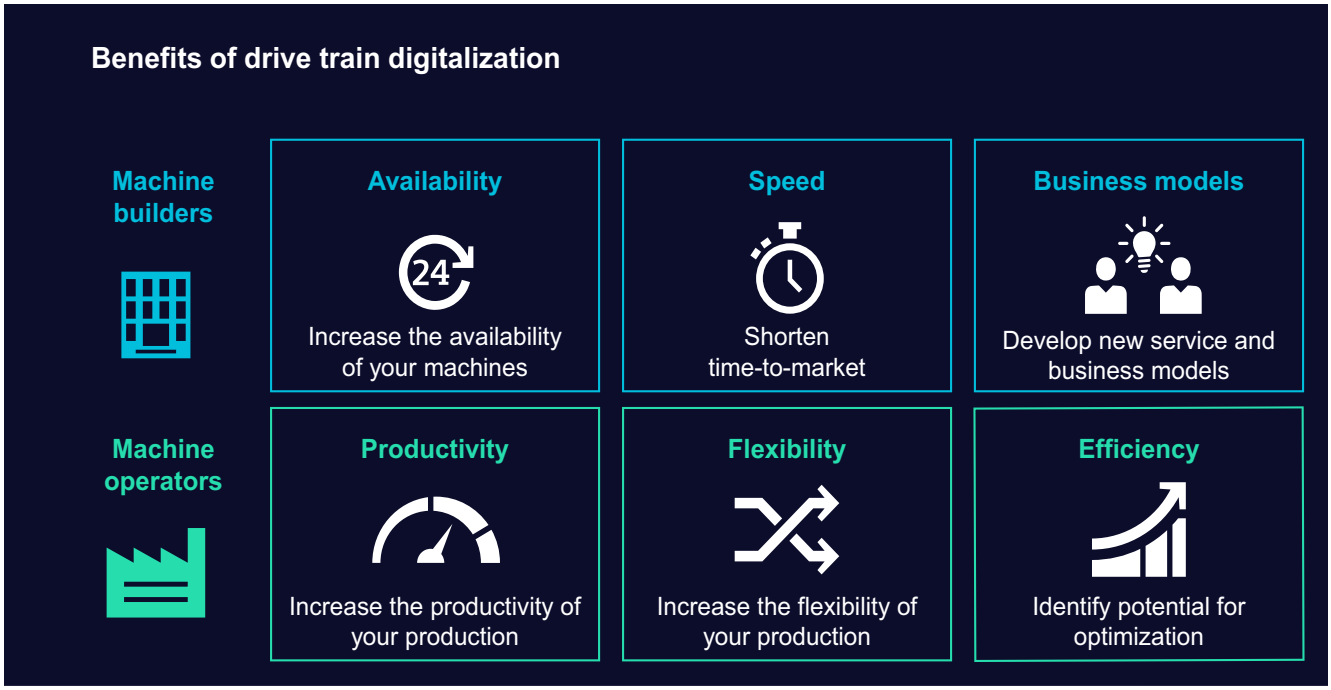

Benefits for machine and plant builders

- Increased availability of machines and plants – thanks to digital options for checking and implementing design improvements and comprehensive monitoring of drive systems
- Shorter time-to-market and faster development times – thanks to practical software tools and a continuous database for concurrent development processes as well as virtual simulations, tests, and commissioning of machines and plants
- New options for future service and business models – ranging from customized application solutions and digital services to contractually guaranteed availabilities of machines and plants

Benefits for machine and plant operators

- Increased availability and productivity of production, fewer unscheduled downtimes – through the early detection of deviations and emerging risks thanks to digital drive monitoring
- More flexible production down to batch size 1 – through more effective use of knowledge from existing production lines thanks to transparent utilization, states, locations, and capacities down to the drive level
- Identification of potential for optimization to make production faster, better, and more efficient thanks to data-based transparency – for example, for faster modifications, simpler quality control, and the early prediction of maintenance demand as well as demand-oriented maintenance

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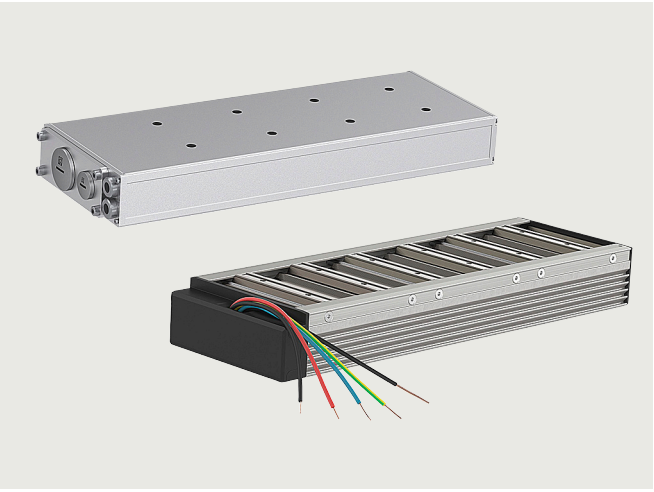

In addition, the Siemens Product Configurator can be used on the internet at the following address:
www.siemens.com/spc
See under:
Motors →
Motors for Motion Control →
SIMOTICS L linear motors

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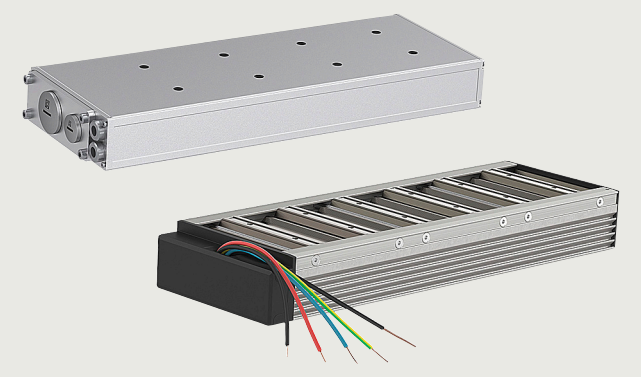
SIMOTICS L-1FN3 linear motors with water cooling/natural cooling

Overview



SIMOTICS L-1FN3 linear motor, primary section, water cooling/natural cooling (from left to right)

In combination with the SINAMICS S120 drive system, SIMOTICS L-1FN3 linear motors provide an optimally tuned linear direct drive system for the requirements of modern mechanical engineering.

The motors comprise a primary section and a secondary section track with magnets made of rare-earth material. The primary section has fixed dimensions, while the secondary section track is made up of individual elements (secondary sections) to correspond with the required traversing range. Through parallel operation of the motors, feedrate force and length can be scaled beyond the available spectrum.

Benefits

- Outstanding dynamic response and very high traversing velocity
- Excellent precision
- Easy installation
- Drive components are free of wear thanks to contactless drive force transmission

The main advantage of linear direct drive technology is the extensive avoidance of the effects of elasticity, play, and friction, as well as natural oscillation in the drive train. This results in a higher dynamic response and increased precision. When suitable measuring systems are used and the temperature conditions are appropriate, the motors can be positioned in the nanometer range.

Configuration

You can find the Configuration Manual for SIMOTICS L-1FN3 for SINAMICS S120 at:

https://support.industry.siemens.com/cs/ww/en/view/109475768

Application

Linear motors with water cooling

Version for peak load

Used in machine axes that are temporarily accelerated (e.g. S3 duty), or when large forces are required for a short time.

Typical applications:

- Highly dynamic, flexible machine tool and production machine construction
- Laser machining
- Handling

Version for continuous load

Used in machine axes with constant acceleration changes (e.g. S1 duty), with high process/weight forces or for operation without water cooling.

Typical applications:

- Grinding
- Non-circular machining, e.g. oscillating applications
- Z axes without weight compensation, quills
- Handling, Cartesian robots

Linear motors with natural cooling

The degree of protection depends on the design of the machine and must therefore be implemented by the machine manufacturer.

Typical applications:

- Handling axes
- Feed axes
- Woodworking machines
- 3D printing
- 2D/3D handling portals
- Laser cutting/water jet cutting machines
- Pick-and-place machines

Design

Linear motors with water cooling/natural cooling

The simple mechanical design without transmission elements such as ballscrew, coupling or belt, enhances the reliability of the drive components.

The stainless steel encapsulation of the primary section ensures the high mechanical ruggedness and resistance to dirt and pollution required for use in machine tools and production machines, as well as high resistance to corrosive liquids. In addition, the motor places minimal demands on the preparation of mounting surfaces thanks to the generous installation dimensions. The tolerance of the installation height for motor installation is + 0.3 mm.

Linear motors with water cooling

Heat loss occurs almost exclusively in the primary section and is dissipated via an integrated liquid cooling system. The Thermo-Sandwich dual-circuit cooling system allows the motor to be thermally decoupled from the machine, and is also an inexpensive cooling design.

Design variants (water/natural cooling)

SIMOTICS L-1FN3 linear motors are available as single-sided or double-sided motors.

- Single-sided motors
  The single-sided version consists of a primary section that is mounted in parallel to the associated secondary section.
- Double-sided motors
  The special secondary section of the double-sided version lies between two primary sections (one primary section with standard winding and one with complementary winding).
  The design as a double-sided motor is particularly suitable for applications where the secondary section is moved and small traversing paths with high acceleration levels, e.g. out-of-center machining.

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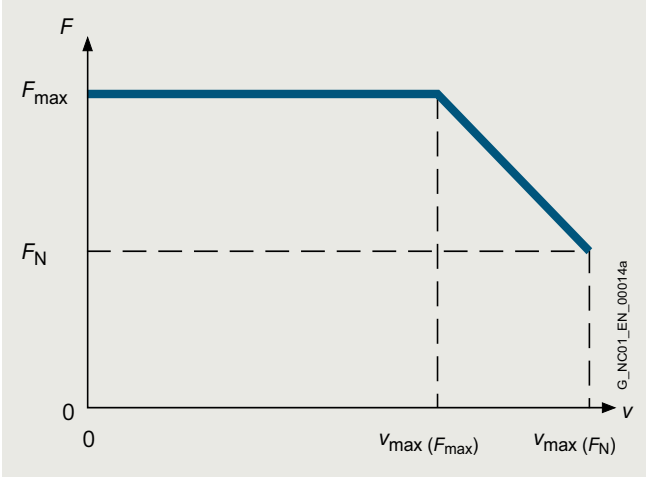
Technical specifications

Product name	SIMOTICS L-1FN3 linear motor
Motor type	Permanent-magnet linear motor
Magnet material	Rare-earth permanent magnets
Overload ratio (F_{max}:F_N) up to max. • Version for peak load • Version for continuous load	 2.75 1.7
Cooling	Water/natural cooling
Water cooler connections	G 1/8" internal thread on all primary and secondary section coolers
Temperature influence on the surrounding construction with precision cooling, max.	+4 K
Coolant inlet temperature, permissible	35 °C (95 °F) (avoid condensation) > 35 °C (95 °F) if rated motor power is reduced
Temperature monitoring installed in the primary section winding for water cooling [1]	2 monitoring circuits: Temp-S with PTC thermistor and Temp-F with Pt1000 temperature sensor
Thermal motor protection Temperature sensors for natural cooling installed in the primary section [1]	1 PTC thermistor triplet with response threshold +120 °C (248 °F) acc. to DIN 44081/44082
Insulation according to EN 60034-1 (IEC 60034-1)	Temperature class 155 (F) for a winding temperature of 120 °C (248 °F)
Degree of protection according to EN 60034-5 (IEC 60034-5) • Water cooling • Natural cooling	 IP65 IP23 The achievable degree of protection depends on the machine design and must be implemented by the machine manufacturer.
Design options	Different graduations due to the modular design
Secondary section cover	Exchangeable through the entire secondary section track or segment by segment
2nd rating plate	Enclosed separately
Encoder system [2] (Not included in scope of supply)	Select according to the constraints specific to the application and the drive.
Connection (water cooling)	
• 1FN3050	Permanently connected signal and power cable pre-assembled with connectors or with bare wire ends
• 1FN3100 ... 1FN3900	Connection cover prepared for separate power and signal cable
• 1FN3100 ... 1FN3900	Connection cover prepared for a heavy-gauge threaded joint Version for peak load
Connection (natural cooling)	
• 1FN3050 ... 1FN3150	Permanently connected signal and power cable as single cores with bare wire ends
Certificate of suitability	cURus UR for 1FN3900-4WC00-...

[1] Evaluation via SME120/SME125 Sensor Module External or TM120 Terminal Module, see SINAMICS S120 drive system.

[2] See recommended linear measuring systems.

Characteristic curves



Velocity/force characteristic curve

The SIMOTICS L-1FN3 linear motors have an overload range available for acceleration processes.
The maximum force F_{max} can only be utilized up to a maximum velocity $v_{max(Fmax)}$;
up to velocity $v_{max(FN)}$ only the feedrate force F_N is available.

Characteristics for the SIMOTICS motors are available via selectors through to the exact article number with the Siemens Product Configurator.

Access to the Siemens Product Configurator

The Siemens Product Configurator can be accessed without having to register or log in:

www.siemens.com/spc

→ SIMOTICS L-1FN3 in the SPC

Dimensional drawings

Dimensional drawings for the SIMOTICS motors are available via selectors through to the exact article number with the Siemens Product Configurator.

Access to the Siemens Product Configurator

The Siemens Product Configurator can be accessed without having to register or log in:

www.siemens.com/spc

→ SIMOTICS L-1FN3 in the SPC

More information

Some motor types can be express delivered as replacement motors in the event of plant outages and offer the advantage of a quicker spare parts supply.

Siemens provides comprehensive support when selecting the optimum motor solution.
Any questions regarding SIMOTICS L-1FN3 linear motors can be emailed to:

motor.support.motioncontrol@siemens.com

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Selection and ordering data

Feedrate force		Maximum velocity [3]		SIMOTICS L-1FN3 linear motors Version for peak load			Weight, approx.	
				Primary section	**Secondary section** Standard – matching the motor of the relevant component size	**Secondary section** Standard extended – matching the motor of the relevant component size	Primary section without/with precision cooling	Secondary section without/with heatsink profiles
F_N [1) 2)]	F_{max}	v_{max} at F_{max}	v_{max} at F_N					
N (lb$_f$)	N (lb$_f$)	m/min (ft/min)	m/min (ft/min)	Article No.	Article No.	Article No.	kg (lb)	kg (lb)
Water cooling								
200 (45.0)	550 (124)	170 (558)	408 (1339)	**1FN3050-2WC00-0 E A3**	**1FN3050-4SA00-0AA0**		3.0/3.5 (6.6/7.7)	0.4/0.5 (0.9/1.1)
				1FN3050-2WC00-0 F A3				
200 (45.0)	490 (110)	147 (482)	335 (1099)	**1FN3100-1WC00-0 ■ A3**	**1FN3100-4SA00-0AA0**		2.0/– (4.4/–) [4]	0.7/0.8 (1.5/1.8)
450 (101)	1100 (247)	148 (486)	323 (1060)	**1FN3100-2WC00-0 ■ A3**			4.0/4.6 (8.8/10.1)	
		258 (846)	535 (1755)	**1FN3100-2WE00-0 ■ A3**				
		488 (1601)	984 (3229)	**1FN3100-2WJ20-0 ■ A3**				
675 (152)	1650 (371)	137 (449)	303 (994)	**1FN3100-3WC00-0 ■ A3**			5.6/6.4 (12.3/14.1)	
		258 (846)	534 (1752)	**1FN3100-3WE00-0 ■ A3**				
900 (202)	2200 (495)	148 (486)	324 (1063)	**1FN3100-4WC00-0 ■ A3**			7.4/8.5 (16.3/18.7)	
		258 (846)	535 (1755)	**1FN3100-4WE00-0 ■ A3**				
1120 (252)	2750 (618)	125 (410)	278 (912)	**1FN3100-5WC00-0 ■ A3**			9.1/10.4 (20.1/22.9)	
340 (76.4)	820 (184)	140 (459)	303 (994)	**1FN3150-1WC00-0 ■ A3**	**1FN3150-4SA00-0AA0**		2.9/– (6.4/–) [4]	1.2/1.3 (2.6/2.9)
		278 (912)	569 (1867)	**1FN3150-1WE00-0 ■ A3**			3.0/– (6.61/–) [4]	
675 (152)	1650 (371)	141 (463)	306 (1004)	**1FN3150-2WC00-0 ■ A3**			5.3/6.0 (11.7/13.2)	
1010 (227)	2470 (555)	138 (453)	302 (991)	**1FN3150-3WC00-0 ■ A3**			7.7/8.6 (17.0/19.0)	
1350 (303)	3300 (742)	141 (463)	306 (1004)	**1FN3150-4WC00-0 ■ A3**			10.4/11.6 (22.9/25.6)	
1690 (380)	4120 (926)	141 (463)	306 (1004)	**1FN3150-5WC00-0 ■ A3**			12.5/13.9 (27.6/30.6)	
610 (137)	1720 (387)	138 (453)	325 (1066)	**1FN3300-1WC00-0 ■ A3**	**1FN3300-4SA00-0AA0**	**1FN3300-4SA12-0AA0**	6.6/– (14.6/–) [4]	2.4/2.6 (5.3/5.7)
1220 (274)	3450 (776)	77 (253)	194 (637)	**1FN3300-2WB00-0 ■ A3**			11.5/12.5 (25.4/27.6)	
1230 (277)	3450 (776)	140 (459)	322 (1056)	**1FN3300-2WC00-0 ■ A3**				
		399 (1309)	868 (2848)	**1FN3300-2WG00-0 ■ A3**				
1840 (414)	5170 (1162)	142 (466)	327 (1073)	**1FN3300-3WC00-0 ■ A3**			17.0/18.4 (37.5/40.6)	
		405 (1329)	881 (2891)	**1FN3300-3WG00-0 ■ A3**				
2450 (551)	6900 (1551)	77 (253)	194 (637)	**1FN3300-4WB00-0 ■ A3**			22.2/24 (49.0/52.9)	
		140 (459)	323 (1060)	**1FN3300-4WC00-0 ■ A3**				

Type of connection:

1FN3100 to 1FN3900 motors

Power and signals connected using one cable Terminal box cover prepared for a heavy-gauge cable gland	**A**
Separate power and signal connections Terminal box cover prepared for metric cable gland	**B**

1FN3050 motors

Separate power and signal connections, permanently connected with bare wire ends, length: 2 m (6.56 ft)	**E**
Separate power and signal connections, permanently connected, pre-assembled with connectors, length: 0.5 m (1.64 ft)	**F**

Description	Article No.
Signal cable, pre-assembled with M17 connector	
For SIMOTICS L-1FN3 linear motors	
• 1FN3100/1FN3150	**6FX8002-2SL01-....**
• 1FN3300 ... 1FN3900	**6FX8002-2SL02-....**

For more information about cables, see MOTION-CONNECT connection systems

For footnotes, see next page.

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Motor type Primary section (repeated)	Rated current	Maximum current	Calculated power	**SINAMICS S120 Motor Module [5] Booksize format** Internal air cooling		**Power cable with complete shield** Motor connection via adapter cable with power connector for increased velocity/acceleration			
				Required rated current	For further components, see SINAMICS S120 drive system	Pre-assembled adapter cable for motor [6]	Power connectors	Cable cross-section [7]	Pre-assembled basic cable to the drive system
	I_N [1]	I_{max}	$P_{el, max.}$	I_N / I_{max}					
	A	A	kW (hp)	A	Article No.	Article No.	Size	mm^2	Article No.
1FN3050-2WC00-...	2.7	8.2	4.0 (5.4)	3/9	**6SL3120-■TE13-0AD0**	Permanent cable connection	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3050-2WC00-...	2.7	8.2	4.0 (5.4)	3/9	**6SL3120-■TE13-0AD0**	Permanent cable connection	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-1WC00-...	2.4	6.5	3.1 (4.2)	3/9	**6SL3120-■TE13-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-2WC00-...	5.1	13.5	6.3 (8.4)	5/15	**6SL3120-■TE15-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-2WE00-...	8.0	21.4	8.3 (11.1)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-2WJ20-...	14.4	38.3	12.5 (16.8)	18/54	**6SL3120-■TE21-8AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-3WC00-...	7.2	19.1	9.1 (12.2)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-3WE00-...	12.1	32.1	12.4 (16.6)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-4WC00-...	10.2	27.1	12.5 (16.8)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-4WE00-...	16.1	42.9	16.6 (22.3)	18/54	**6SL3120-1TE21-8AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-5WC00-...	11.0	29.5	14.3 (19.2)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3150-1WC00-...	3.6	9.5	4.3 (5.8)	5/15	**6SL3120-■TE15-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3150-1WE00-...	6.4	17.1	6.2 (8.3)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM42-....**	1	4 x 2.5	**6FX8002-5CS16 ....**
1FN3150-2WC00-...	7.2	19.1	8.7 (11.7)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3150-3WC00-...	10.7	28.6	12.8 (17.2)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3150-4WC00-...	14.3	38.2	17.3 (23.2)	18/54	**6SL3120-1TE21-8AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3150-5WC00-...	17.9	47.7	21.6 (29.0)	18/54	**6SL3120-1TE21-8AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3300-1WC00-...	6.5	20.0	8.3 (11.1)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3300-2WB00-...	8.0	24.7	12.6 (16.9)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3300-2WC00-...	12.6	39.0	16.2 (21.7)	18/54	**6SL3120-1TE21-8AD0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3300-2WG00-...	32.4	100.0	30.8 (41.3)	60/120	**6SL3120-1TE26-0AC0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS54-....**
1FN3300-3WC00-...	19.2	59.5	24.9 (33.4)	24/72	**6SL3120-1TE22-4AD0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3300-3WG00-...	49.4	153.0	47.0 (63.0)	132/210	**6SL3120-1TE31-3AA3**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS46-....**
1FN3300-4WB00-...	16.0	49.4	25.2 (33.8)	18/54	**6SL3120-1TE21-8AD0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3300-4WC00-...	25.3	78.3	32.6 (43.7)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46-....**

Motor Module:	
Single Motor Module	**1**
Double Motor Module	**2**

....	Length code	**....**

For more information about cables, see MOTION-CONNECT connection systems

[1] For water cooling with inlet temperature 35 °C (95 °F).
[2] A reduction of up to 30 % must be expected in case of motor standstill, for very low velocities or very short traversing paths.
[3] Velocity values refer to a drive system DC link voltage of 600 V DC.
[4] No precision cooler available.
[5] Optimized selection for full performance of linear motors.
[6] Pre-assembled adapter cable for motor with connection type B/E/F.
[7] The current-carrying capacity of the power cables complies with EN 60204-1 for installation type C, under continuous operating conditions at an ambient air temperature of 40 °C (104 °F).

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Selection and ordering data

Feedrate force		Maximum velocity [3]		SIMOTICS L-1FN3 linear motors Version for peak load			Weight, approx.	
				Primary section	**Secondary section** Standard – matching the motor of the relevant component size	**Secondary section** Standard extended – matching the motor of the relevant component size	Primary section without/with precision cooling	Secondary section without/with heatsink profiles
F_N [1) 2)]	F_{max}	v_{max} at F_{max}	v_{max} at F_N					
N (lb$_f$)	N (lb$_f$)	m/min (ft/min)	m/min (ft/min)	Article No.	Article No.	Article No.	kg (lb)	kg (lb)
Water cooling								
1920 (432)	5180 (1165)	264 (866)	569 (1867)	**1FN3450-2WE00-0 ■ A3**	**1FN3450-4SA00-0AA0**	**1FN3450-4SA12-0AA0**	16.5/17.7 (36.4/39.0)	3.8/4 (8.4/8.82)
1930 (434)		41 (135)	112 (367)	**1FN3450-2WA50-0 ■ A3**				
		103 (338)	235 (771)	**1FN3450-2WB70-0 ■ A3**				
		135 (443)	275 (902)	**1FN3450-2WC00-0 ■ A3**				
		177 (581)	385 (1263)	**1FN3450-2WD00-0 ■ A3**				
2900 (652)	7760 (1745)	41 (135)	121 (397)	**1FN3450-3WA50-0 ■ A3**			24.0/25.7 (52.9/56.7)	3.8/4 (8.4/8.82)
		72.7 (238.5)	179 (587)	**1FN3450-3WB00-0 ■ A3**				
		102 (335)	236 (774)	**1FN3450-3WB50-0 ■ A3**				
		133 (436)	298 (978)	**1FN3450-3WC00-0 ■ A3**				
		260 (853)	561 (1841)	**1FN3450-3WE00-0 ■ A3**				
3860 (868)	10300 (2316)	72.9 (239.2)	179 (587)	**1FN3450-4WB00-0 ■ A3**			31.7/33.9 (69.9/74.7)	
		102 (335)	236 (774)	**1FN3450-4WB50-0 ■ A3**				
		133 (436)	298 (978)	**1FN3450-4WC00-0 ■ A3**				
		261 (856)	560 (1837)	**1FN3450-4WE00-0 ■ A3**				
2610 (587)	6900 (1551)	45.4 (149.0)	128 (420)	**1FN3600-2WA50-0 ■ A3**	**1FN3600-4SA00-0AA0**		22.5/23.9 (49.6/52.7)	4.6/5 (10.1/11.0)
		69.6 (228.4)	172 (564)	**1FN3600-2WB00-0 ■ A3**				
		105 (345)	238 (781)	**1FN3600-2WB50-0 ■ A3**				
		125 (410)	283 (929)	**1FN3600-2WC00-0 ■ A3**				
3920 (881)	10300 (2316)	69.4 (227.7)	171 (561)	**1FN3600-3WB00-0 ■ A3**			33.5/35.4 (73.9/78.1)	
		69.4 (227.7)	171 (561)	**1FN3600-3WB50-0 ■ A3**				
		128 (420)	282 (925)	**1FN3600-3WC00-0 ■ A3**				
5220 (1174)	13800 (3102)	35.5 (116.5)	112 (367)	**1FN3600-4WA30-0 ■ A3**			43.0/45.5 (94.8/100.3)	
		68.1 (223.4)	170 (558)	**1FN3600-4WB00-0 ■ A3**				
		102 (335)	234 (768)	**1FN3600-4WB50-0 ■ A3**				
		125 (410)	279 (915)	**1FN3600-4WC00-0 ■ A3**				
6530 (1468)	17200 (3867)	69.6 (228.4)	171 (561)	**1FN3600-5WB00-0 ■ A3**			56.0/59.1 (123.5/130.3)	
4050 (910)	10300 (2316)	78 (256)	179 (587)	**1FN3900-2WB00-0 ■ A3**	**1FN3900-4SA00-0AA0**		32.2/33.7 (71.0/74.3)	7.5/7.9 (16.5/17.4)
		123 (404)	269 (883)	**1FN3900-2WC00-0 ■ A3**				
6080 (1367)	15500 (3485)	78.7 (258.2)	188 (617)	**1FN3900-3WB00-0 ■ A3**			47.0/47.8 (103.6/105.4)	
8100 (1821)	20700 (4654)	31.1 (102.0)	98.9 (324.5)	**1FN3900-4WA50-0 ■ A3**			62.7/65.4 (138.3/144.2)	
		77.2 (253.3)	178 (584)	**1FN3900-4WB00-0 ■ A3**				
		98.6 (323.5)	222 (728)	**1FN3900-4WB50-0 ■ A3**				
		122 (400)	266 (873)	**1FN3900-4WC00-0 ■ A3**				

Type of connection:	
1FN3100 to 1FN3900 motors	
Power and signals connected using one cable Terminal box cover prepared for a heavy-gauge cable gland	**A**
Separate power and signal connections Terminal box cover prepared for metric cable gland	**B**

Description	Article No.
Signal cable, pre-assembled with M17 connector	
For SIMOTICS L-1FN3 linear motors	
• 1FN3100/1FN3150	**6FX8002-2SL01-....**
• 1FN3300 ... 1FN3900	**6FX8002-2SL02-....**

For more information about cables, see MOTION-CONNECT connection systems

For footnotes, see next page.

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Motor type Primary section (repeated)	Rated current	Maximum current	Calculated power	**SINAMICS S120 Motor Module [4] Booksize format** Internal air cooling		**Power cable with complete shield** Motor connection via adapter cable with power connector for increased velocity/acceleration			
				Required rated current	For further components, see SINAMICS S120 drive system	Pre-assembled adapter cable for motor [8]	Power connectors	Cable cross-section [5]	Pre-assembled basic cable to the drive system
	I_N [1]	I_{max}	$P_{el, max.}$	I_N/I_{max}					
	A	A	kW (hp)	A	Article No.	Article No.	Size	mm^2	Article No.
1FN3450-2WE00-...	36.3	102.0	33.8 (45.3)	60/120	**6SL3120-1TE26-0AC0**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3450-2WA50-...	8.9	25.0	15.1 (20.2)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM62-....**	1	4 x 2.5	**6FX8002-5CS16-....**
1FN3450-2WB70-...	16.2	45.4	20.6 (27.6)	18/54	**6SL3120-■TE21- 8AD0**	**6FX7002-5LM42-....**	1	4 x 2.5	**6FX8002-5CS16 ....**
1FN3450-2WC00-...	20.0	56.2	23.3 (31.2)	24/72	**6SL3120-1TE22-4AD0**	**6FX7002-5LM62-....**	1	4 x 2.5	**6FX8002-5CS16-....**
1FN3450-2WD00-...	25.0	70.2	25.8 (34.6)	24/72	**6SL3120-1TE22-4AD0**	**6FX7002-5LM72-....**	1.5	4 x 4	**6FX8002-5CS46 ....**
1FN3450-3WA50-...	12.9	38.0	22.6 (30.3)	18/54	**6SL3120-■TE21-8AD0**	**6FX7002-5LM42-....**	1	4 x 2.5	**6FX8002-5CS16 ....**
1FN3450-3WB00-...	17.9	52.7	26.7 (35.8)	18/54	**6SL3120-1TE21-8AD0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3450-3WB50-...	22.9	67.4	30.4 (40.8)	24/72	**6SL3120-1TE22-4AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46-....**
1FN3450-3WC00-...	28.3	83.5	34.3 (46.0)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS56-....**
1FN3450-3WE00-...	51.3	151.0	49.8 (66.8)	132/210	**6SL3120-1TE31-3AA3**	**6FX7002-5LM02-....**	1.5	4 × 16	**6FX8002-5CS24-....**
1FN3450-4WB00-...	23.8	70.1	35.5 (47.6)	24/72	**6SL3120-1TE22-4AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46-....**
1FN3450-4WB50-...	30.3	89.5	40.4 (54.2)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS56-....**
1FN3450-4WC00-...	37.6	111.0	45.6 (61.1)	60/120	**6SL3120-1TE26-0AC0**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3450-4WE00-...	68.0	201.0	66.3 (88.9)	132/210	**6SL3120-1TE31-3AA3**	**6FX7008-1BB61-....** [6]	–	4 × 25	**6FX8008-1BA25-....** [7]
1FN3600-2WA50-...	13.2	35.9	21.4 (28.7)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3600-2WB00-...	16.8	45.8	24.1 (32.3)	18/54	**6SL3120-■TE21-8AD0**	**6FX7002-5LM42-....**	1	4 x 2.5	**6FX8002-5CS16 ....**
1FN3600-2WB50-...	22.3	60.7	27.5 (36.9)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46-....**
1FN3600-2WC00-...	26.1	70.9	29.2 (39.2)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46-....**
1FN3600-3WB00-...	24.8	68.2	35.8 (48.0)	24/72	**6SL3120-1TE22-4AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46-....**
1FN3600-3WB50-...	24.8	68.2	35.8 (48.0)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46-....**
1FN3600-3WC00-...	38.4	106.0	43.4 (58.2)	60/120	**6SL3120-1TE26-0AC0**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3600-4WA30-...	22.3	63.7	39.7 (53.2)	24/72	**6SL3120-1TE22-4AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46-....**
1FN3600-4WB00-...	31.5	90.1	46.8 (62.8)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS56-....**
1FN3600-4WB50-...	41.8	120.0	53.4 (71.6)	85/141	**6SL3120-1TE28-5AA3**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CG61-....**
1FN3600-4WC00-...	48.8	139.0	56.8 (76.2)	85/141	**6SL3120-1TE28-5AA3**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CG61-....**
1FN3600-5WB00-...	42.7	114	60.2 (80.7)	85/141	**6SL3120-1TE28-5AA3**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3900-2WB00-...	25.5	70.5	33.5 (44.9)	24/72	**6SL3120-1TE22-4AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46-....**
1FN3900-2WC00-...	37.0	102.0	42.2 (56.6)	60/120	**6SL3120-1TE26-0AC0**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3900-3WB00-...	40.6	114.0	55.3 (74.2)	60/120	**6SL3120-1TE26-0AC0**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3900-4WA50-...	30.7	86.3	54.4 (73.0)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS56-....**
1FN3900-4WB00-...	49.7	140.0	66.0 (88.5)	85/141	**6SL3120-1TE28-5AA3**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CG61-....**
1FN3900-4WB50-...	61.4	173.6	77.7 (104)	132/210	**6SL3120-1TE31-3AA3**	**6FX7002-5LM02-....**	1.5	4 × 16	**6FX8002-5CG24-....**
1FN3900-4WC00-...	72.0	202.0	83.0 (111)	132/210	**6SL3120-1TE31-3AA3**	**6FX8008-1BB61-....** [6]	–	4 × 25	**6FX8008-1BB25-....** [7]

Motor Module:	
Single Motor Module	**1**
Double Motor Module	**2**

....	Length code	**....**

For more information about cables, see MOTION-CONNECT connection systems

1) For water cooling with inlet temperature 35 °C (95 °F).
2) A reduction of up to 30 % must be expected in case of motor standstill, for very low velocities or very short traversing paths.
3) Velocity values refer to a drive system DC link voltage of 600 V DC.
4) Optimized selection for full performance of linear motors.
5) The current-carrying capacity of the power cables complies with EN 60204-1 for installation type C, under continuous operating conditions at an ambient air temperature of 40 °C (104 °F).
6) Sold by the meter only (4 × 16 mm^2). Connected to primary section with 16 mm^2 (< 1.5 m (4.92 ft)), then routed onwards via the terminal box with 25 mm^2.
7) Sold by the meter only (4 × 25 mm^2).
8) Pre-assembled adapter cable for motor with connection type B.

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Selection and ordering data

Feedrate force		Maximum velocity [3]		SIMOTICS L-1FN3 linear motors Version for continuous load		Weight, approx.	
				Primary section	**Secondary section** Standard – matching the motor of the relevant component size	Primary section without/with precision cooling	Secondary section without/with heatsink profiles
F_N [1] [2]	F_{max}	v_{max} at F_{max}	v_{max} at F_N				
N (lb$_f$)	N (lb$_f$)	m/min (ft/min)	m/min (ft/min)	Article No.	Article No.	kg (lb)	kg (lb)
Water cooling							
151 (33.9)	255 (57.3)	236 (774)	429 (1408)	**1FN3050-1ND00-0■A3**	**1FN3050-4SA00-0AA0**	2.2/2.7 (4.9/6.0)	0.4/0.5 (0.9/1.1)
302 (67.9)	510 (115)	104 (341)	199 (653)	**1FN3050-2NB80-0■A3**		3.2/4.0 (7.1/8.8)	
		229 (751)	419 (1375)	**1FN3050-2NE00-0■A3**		3.9/4.6 (8.6/10.1)	
302 (67.9)	510 (115)	115 (377)	212 (696)	**1FN3100-1NC00-0BA3**	**1FN3100-4SA00-0AA0**	3.0/3.5 (6.6/7.7)	0.7/0.8 (1.5/1.8)
604 (136)	1020 (229)	164 (538)	300 (984)	**1FN3100-2NC80-0BA3**		5.4/6.2 (11.9/13.7)	
905 (203)	1530 (344)	491 (1611)	101 (331)	**1FN3100-3NA80-0■A3**		7.5/8.6 (16.5/19.0)	
905 (203)	1530 (344)	111 (364)	206 (676)	**1FN3100-3NC00-0BA3**		7.5/8.5 (16.5/18.7)	
1210 (272)	2040 (459)	162 (532)	296 (971)	**1FN3100-4NC80-0BA3**		9.9/11.2 (21.8/24.7)	
453 (102)	766 (172)	127 (417)	230 (755)	**1FN3150-1NC20-0BA3**	**1FN3150-4SA00-0AA0**	4.1/4.6 (9.0/10.1)	1.2/1.3 (2.6/2.9)
905 (203)	1530 (344)	106 (348)	197 (646)	**1FN3150-2NB80-0BA3**		7.3/8.2 (16.1/18.1)	
1360 (306)	2300 (517)	105 (345)	195 (640)	**1FN3150-3NB80-0BA3**		10.5/11.7 (23.2/25.8)	
		156 (512)	284 (932)	**1FN3150-3NC70-0BA3**			
1810 (407)	3060 (688)	105 (345)	195 (640)	**1FN3150-4NB80-0BA3**		13.9/15.3 (30.6/33.7)	

Type of connection:	
1FN3100 to 1FN3900 motors	
Separate power and signal connections Terminal box cover prepared for metric cable gland	**B**
1FN3050 motor	
Separate power and signal connections, permanently connected with bare wire ends, length: 2 m (6.56 ft)	**E**
Separate power and signal connections, permanently connected, pre-assembled with connectors, length: 0.5 m (1.64 ft)	**F**

Description	Article No.
Signal cable, pre-assembled with M17 connector	
For SIMOTICS L-1FN3 linear motors	
• 1FN3100/1FN3150	**6FX8002-2SL01-....**
• 1FN3300 ... 1FN3900	**6FX8002-2SL02-....**

For more information about cables, see MOTION-CONNECT connection systems

For footnotes, see next page.

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Motor type Primary section (repeated)	Rated current	Maximum current	Calculated power	**SINAMICS S120 Motor Module [4] Booksize format** Internal air cooling		**Power cable with complete shield** Motor connection via adapter cable with power connector for increased velocity/acceleration			
				Required rated current	For further components, see SINAMICS S120 drive system	Pre-assembled adapter cable for motor [6]	Power connectors	Cable cross-section [5]	Pre-assembled basic cable to the drive system
	I_N [1]	I_{max}	$P_{el, max.}$	I_N/I_{max}					
	A	A	kW (hp)	A	Article No.	Article No.	Size	mm^2	Article No.
1FN3050-1ND00-....	2.8	5.9	1.7 (2.3)	3/9	**6SL3120-■TE13-0AD0**	Permanent cable connection	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3050-2NB80-....	2.8	5.9	2.3 (3.1)	3/9	**6SL3120-1TE13-0AD0**	Permanent cable connection	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3050-2NE00-....	5.65	11.7	3.32 (4.45)	5/15	**6SL3120-■TE15-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-1NC00-....	2.8	5.9	2.1 (2.8)	3/9	**6SL3120-■TE13-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-2NC80-....	8	16.5	5.1 (6.8)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-3NA80-....	4.52	9.39	4.51 (6.05)	5/15	**6SL3120-■TE15-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-3NC00-....	8.5	17.6	6.3 (8.4)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3100-4NC80-....	15.9	33.1	10.2 (13.7)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3150-1NC20-....	4.5	9.4	3.2 (4.3)	5/15	**6SL3120-■TE15-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3150-2NB80-....	8	16.5	5.8 (7.8)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3150-3NB80-....	11.9	24.8	8.44 (11.32)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM42-....**	1	4 x 2.5	**6FX8002-5CS16 ....**
1FN3150-3NC70-....	16.9	35.2	10.8 (14.5)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3150-4NB80-....	15.9	33.1	11.6 (15.6)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM42-....**	1	4 × 2.5	**6FX8002-5CS16-....**

Motor Module:	
Single Motor Module	**1**
Double Motor Module	**2**

....	Length code	**....**

For more information about cables, see MOTION-CONNECT connection systems

1) For water cooling with inlet temperature 35 °C (95 °F).

2) A reduction of up to 30 % must be expected in case of motor standstill, for very low velocities or very short traversing paths.

3) Velocity values refer to a drive system DC link voltage of 600 V DC.

4) Optimized selection for full performance of linear motors.

5) The current-carrying capacity of the power cables complies with EN 60204-1 for installation type C, under continuous operating conditions at an ambient air temperature of 40 °C (104 °F).

6) Pre-assembled adapter cable for motor with connection type B/E/F.

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Selection and ordering data

Feedrate force		Maximum velocity [3]		SIMOTICS L-1FN3 linear motors Version for continuous load			Weight, approx.	
				Primary section	**Secondary section** Standard – matching the motor of the relevant component size	**Secondary section** Standard extended – matching the motor of the relevant component size	Primary section without/with precision cooling	Secondary section without/with heatsink profiles
F_N [1) 2)]	F_{max}	v_{max} at F_{max}	v_{max} at F_N					
N (lb$_f$)	N (lb$_f$)	m/min (ft/min)	m/min (ft/min)	Article No.	Article No.	Article No.	kg (lb)	kg (lb)
Water cooling								
864 (194)	1470 (330)	127 (417)	228 (748)	**1FN3300-1NC10-0BA3**	**1FN3300-4SA00-0AA0**	**1FN3300-4SA12-0AA0**	8.8/9.5 (19.4/20.9)	2.4/2.6 (5.3/5.7)
1730 (389)	2940 (661)	127 (417)	224 (735)	**1FN3300-2NC10-0BA3**			15.9 (35.1)	17.0 (37.5)
		402 (1319)	715 (2346)	**1FN3300-2NH00-0BA3**			15.9/17.0 (35.1/37.5)	
2595 (583)	4400 (989)	88 (289)	160 (525)	**1FN3300-3NB50-0BA3**			23.0/24.3 (50.7/53.6)	
		144 (472)	257 (843)	**1FN3300-3NC40-0BA3**			23.0/24.4 (50.7/53.8)	
3460 (778)	5870 (1320)	105 (345)	193 (633)	**1FN3300-4NB80-0BA3**			29.9/31.8 (65.9/70.1)	
1300 (292)	2200 (495)	93.5 (306.8)	169 (554)	**1FN3450-1NB50-0BA3**	**1FN3450-4SA00-0AA0**	**1FN3450-4SA12-0AA0**	12/12.8 (26.5/28.2)	3.8/4 (8.4/8.82)
2590 (582)	4400 (989)	80 (262)	147 (482)	**1FN3450-2NB40-0BA3**			22.5/23.7 (49.6/52.3)	
		104 (341)	188 (617)	**1FN3450-2NB80-0BA3**				
		148 (486)	266 (873)	**1FN3450-2NC50-0BA3**				
3890 (875)	6600 (1484)	34.3 (112.5)	69.9 (229.3)	**1FN3450-3NA50-0BA3**			32.7/34.3 (72.1/75.6)	
		91 (299)	165 (541)	**1FN3450-3NB50-0BA3**				
		147 (482)	264 (866)	**1FN3450-3NC50-0BA3**				
5190 (1167)	8810 (1981)	67.5 (221.5)	126 (413)	**1FN3450-4NB20-0BA3**			42.0/44.0 (92.6/97.0)	
		102 (335)	186 (610)	**1FN3450-4NB80-0BA3**			42.0/44.1 (92.6/97.2)	
3460 (778)	5870 (1320)	56.8 (186.4)	107 (351)	**1FN3600-2NB00-0BA3**	**1FN3600-4SA00-0AA0**		30.4/32.0 (67.0/70.6)	4.6/5 (10.1/11.0)
		109 (358)	197 (646)	**1FN3600-2NB80-0BA3**				
		259 (850)	460 (1509)	**1FN3600-2NE50-0BA3**				
5190 (1167)	8810 (1981)	74.3 (243.8)	137 (449)	**1FN3600-3NB00-0BA3**			44.3/46.4 (97.7/102.3)	
		108 (354)	196 (643)	**1FN3600-3NB80-0BA3**				
6920 (1556)	11700 (2630)	43 (141)	86 (282)	**1FN3600-4NA70-0BA3**			58.2/60.8 (128.3/134.1)	
		108 (354)	195 (640)	**1FN3600-4NB80-0BA3**				
5190 (1167)	8810 (1981)	69 (226)	128 (420)	**1FN3900-2NB20-0BA3**	**1FN3900-4SA00-0AA0**		43.5/45.3 (95.9/99.9)	7.5/7.9 (16.5/17.4)
		170 (558)	307 (1007)	**1FN3900-2NC80-0BA3**				
7780 (1749)	13200 (2967)	69 (226)	127 (417)	**1FN3900-3NB20-0BA3**			63.0/65.5 (138.9/144.4)	
10400 (2338)	14600 (3282)	28 (91.9)	59 (194)	**1FN3900-4NA50-0BA3**			82.0/85.1 (180.8/187.6)	
	17600 (3957)	45.6 (149.6)	87.9 (288.4)	**1FN3900-4NA80-0BA3**				
	17610 (3959)	69 (226)	127 (417)	**1FN3900-4NB20-0BA3**				

Type of connection:	
1FN3100 to 1FN3900 motors	
Separate power and signal connections Terminal box cover prepared for metric cable gland	**B**

Description	Article No.
Signal cable, pre-assembled with M17 connector	
For SIMOTICS L-1FN3 linear motors	
• 1FN3100/1FN3150	**6FX8002-2SL01-....**
• 1FN3300 ... 1FN3900	**6FX8002-2SL02-....**

For more information about cables, see MOTION-CONNECT connection systems

For footnotes, see next page.

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Motor type Primary section (repeated)	Rated current	Maximum current	Calculated power	**SINAMICS S120 Motor Module [4] Booksize format** Internal air cooling		**Power cable with complete shield** Motor connection via adapter cable with power connector for increased velocity/acceleration			
				Required rated current	For further components, see SINAMICS S120 drive system	Pre-assembled adapter cable for motor [6]	Power connectors	Cable cross-section [5]	Pre-assembled basic cable to the drive system
	I_N [1]	I_{max}	$P_{el, max.}$	I_N / I_{max}					
	A	A	kW (hp)	A	Article No.	Article No.	Size	mm^2	Article No.
1FN3300-1NC10-....	8.1	17.1	5.4 (7.2)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3300-2NC10-....	16.2	34.1	10.5 (14.1)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3300-2NH00-....	49.9	105	24.5 (32.9)	132/210	**6SL3120-1TE31-3AA3**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3300-3NB50-....	17.6	36.9	13 (17.4)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16 ....**
1FN3300-3NC40-....	27.3	57.4	17.3 (23.2)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46-....**
1FN3300-4NB80-....	28.4	59.6	19.3 (25.9)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS56-....**
1FN3450-1NB50-....	9.1	19.1	6.49 (8.70)	9/27	**6SL3120-■TE21-0AD0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16-....**
1FN3450-2NB40-....	16.2	34.1	12 (16.1)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16 ....**
1FN3450-2NB80-....	20.4	42.9	13.7 (18.4)	24/48	**6SL3120-1TE22-4AC0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16 ....**
1FN3450-2NC50-....	28.4	59.6	17.0 (22.8)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS56-....**
1FN3450-3NA50-....	12.7	26.7	13.0 (17.4)	18/36	**6SL3120-■TE21-8AC0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16 ....**
1FN3450-3NB50-....	27.3	57.4	19.1 (25.6)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46 ....**
1FN3450-3NC50-....	42.5	89.5	25.4 (34.1)	45/90	**6SL3120-1TE24-5AC0**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3450-4NB20-....	28.4	59.6	22.2 (29.8)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46 ....**
1FN3450-4NB80-....	40.8	85.8	27.3 (36.6)	45/90	**6SL3120-1TE24-5AC0**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3600-2NB00-....	16.2	34.1	13.8 (18.5)	18/54	**6SL3120-■TE21-8AD0**	**6FX7002-5LM62-....**	1	4 × 2.5	**6FX8002-5CS16 ....**
1FN3600-2NB80-....	28.4	59.6	18.9 (25.3)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS56-....**
1FN3600-2NE50-....	64.2	135	34.4 (46.1)	85/141	**6SL3120-1TE28-5AA3**	**6FX7002-5LM02-....**	1.5	4 × 16	**6FX8002-5CS24 ....**
1FN3600-3NB00-....	30.6	64.4	23.3 (31.2)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS56-....**
1FN3600-3NB80-....	42.5	89.5	28.2 (37.8)	45/90	**6SL3120-1TE24-5AC0**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3600-4NA70-....	26.3	55.3	24.8 (33.3)	30/56	**6SL3120-1TE23-0AC0**	**6FX7002-5LM72-....**	1.5	4 × 4	**6FX8002-5CS46 ....**
1FN3600-4NB80-....	56.7	119.3	37.6 (50.4)	60/120	**6SL3120-1TE26-0AC0**	**6FX7002-5LM02-....**	1.5	4 × 16	**6FX8002-5CS24-....**
1FN3900-2NB20-....	28.4	59.6	21.9 (29.4)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS56-....**
1FN3900-2NC80-....	64.2	135	37.8 (50.7)	85/141	**6SL3120-1TE28-5AA3**	**6FX7002-5LM02-....**	1.5	4 × 16	**6FX8002-5CS24 ....**
1FN3900-3NB20-....	42.5	89.5	32.7 (43.9)	45/90	**6SL3120-1TE24-5AC0**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3900-4NA50-....	29.3	61.6	31.6 (42.4)	30/90	**6SL3120-1TE23-0AD0**	**6FX7002-5LM82-....**	1.5	4 × 6	**6FX8002-5CS56 ....**
1FN3900-4NA80-....	40.8	85.8	36.8 (49.3)	45/85	**6SL3120-1TE24-5AC0**	**6FX7002-5LM32-....**	1.5	4 × 10	**6FX8002-5CS64-....**
1FN3900-4NB20-....	56.7	119.3	43.5 (58.3)	60/120	**6SL3120-1TE26-0AC0**	**6FX7002-5LM02-....**	1.5	4 × 16	**6FX8002-5CS24-....**

Motor Module:	
Single Motor Module	**1**
Double Motor Module	**2**

....	Length code	**....**

For more information about cables, see MOTION-CONNECT connection systems

[1] For water cooling with inlet temperature 35 °C (95 °F).

[2] A reduction of up to 30 % must be expected in case of motor standstill, for very low velocities or very short traversing paths.

[3] Velocity values refer to a drive system DC link voltage of 600 V DC.

[4] Optimized selection for full performance of linear motors.

[5] The current-carrying capacity of the power cables complies with EN 60204-1 for installation type C, under continuous operating conditions at an ambient air temperature of 40 °C (104 °F).

[6] Pre-assembled adapter cable for motor with connection type B.

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Selection and ordering data

Feedrate force		Maximum velocity [2]		SIMOTICS L-1FN3 linear motors Standard version			Weight, approx.	
				Primary section	**Secondary section** Standard – matching the motor of the relevant component size	**Secondary section** Standard extended – matching the motor of the relevant component size	Primary section	Secondary section
F_N [1]	F_{max}	v_{max} at F_{max}	v_{max} at F_N					
N (lb_f)	N (lb_f)	m/min (ft/min)	m/min (ft/min)	Article No.	Article No.	Article No.	kg (lb)	kg (lb)
Natural cooling								
133 (29.9)	320 (71.9)	175 (574)	477 (1565)	**1FN3050-1KD00-0 S A0**	**1FN3050-4SA00-0AA0**	—	1.42 (3.13)	0.4 (0.9)
266 (59.8)	640 (144)	134 (440)	377 (1237)	**1FN3050-2KC40-0 S A0**			2.5 (5.5)	
242 (54.4)	676 (152)	145 (476)	406 (1332)	**1FN3100-1KC50-0 S A0**	**1FN3100-4SA00-0AA0**	—	2.3 (5.1)	0.7 (1.5)
483 (109)	1350 (303)	141 (463)	401 (1316)	**1FN3100-2KC50-0 S A0**			4.31 (9.50)	
725 (163)	2030 (456)	139 (456)	399 (1309)	**1FN3100-3KC50-0 S A0**			6.25 (13.78)	
331 (74.4)	1030 (232)	156 (512)	449 (1473)	**1FN3150-1KC70-0 S A0**	**1FN3150-4SA00-0AA0**	—	3.32 (7.32)	1.2 (2.6)
663 (149)	2060 (463)	152 (499)	445 (1460)	**1FN3150-2KC70-0 S A0**			6.0 (13.2)	
994 (223)	3100 (697)	150 (492)	443 (1453)	**1FN3150-3KC70-0 S A0**			8.91 (19.65)	

Type of connection:	
1FN3050 to 1FN3150 motors:	
Separate power and signal connections permanently connected with bare wire ends: Power cable: 0.5 m (1.64 ft) Signal cable: 0.26 m (0.82 ft)	**S**

Description	Article No.
Signal cable, pre-assembled with M17 connector For SIMOTICS L-1FN3 linear motors with natural cooling • 1FN3050/1FN3100/1FN3150	**6FX8002-2SL00-....**
Signal cable, sold by the meter For SIMOTICS L-1FN3 linear motors with natural cooling • 1FN3050/1FN3100/1FN3150	**6FX8008-1BD00-....**

For more information about cables, see MOTION-CONNECT connection systems

For footnotes, see next page.

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Motor type Primary section (repeated)	Rated current	Maximum current	Calculated power	**SINAMICS S120 Motor Module [3] Booksize format** Internal air cooling		**Power cable with complete shield** Motor connection via basis cable with power connector		
				Required rated current	For further components, see SINAMICS S120 drive system			
	I_N	I_{max}	$P_{el, max.}$	I_N / I_{max}		Power cable at the motor with bare wire ends	Cable cross-section [4]	Sold by the meter (ring) basic cable to the drive system
	A	A	kW (hp)	A	Article No.		mm^2	Article No.
1FN3050-1KD00-...	2.09	7.74	2.04 (2.74)	3/9	**6SL3120-■TE13-0AD0**	Permanent cable connection	4 × 1.5	**6FX8008-1BB11-** ....
1FN3050-2KC40-...	3.39	12.6	3.67 (4.92)	5/15	**6SL3120-■TE15-0AD0**	Permanent cable connection	4 × 1.5	**6FX8008-1BB11-** ....
1FN3100-1KC50-...	2.95	12.5	3.39 (4.55)	5/15	**6SL3120-■TE15-0AD0**	Permanent cable connection	4 × 1.5	**6FX8008-1BB11-** ....
1FN3100-2KC50-...	5.9	25.1	6.67 (8.94)	9/27	**6SL3120-■TE21-0AD0**	Permanent cable connection	4 × 1.5	**6FX8008-1BB11-** ....
1FN3100-3KC50-...	8.85	37.6	9.94 (13.33)	18/54	**6SL3120-■TE21-8AD0**	Permanent cable connection	4 × 1.5	**6FX8008-1BB11-** ....
1FN3150-1KC70-...	4.25	20.2	5.14 (6.89)	9/27	**6SL3120-■TE21-0AD0**	Permanent cable connection	4 × 1.5	**6FX8008-1BB11-** ....
1FN3150-2KC70-...	8.5	40.4	10.1 (13.5)	18/54	**6SL3120-■TE21-8AD0**	Permanent cable connection	4 × 1.5	**6FX8008-1BB11-** ....
1FN3150-3KC70-...	12.8	60.6	15.1 (20.2)	24/72	**6SL3120-1TE22-4AD0**	Permanent cable connection	4 × 1.5	**6FX8008-1BB11-** ....

Motor Module:	
Single Motor Module	**1**
Double Motor Module	**2**

Length code	....

For more information about cables, see MOTION-CONNECT connection systems

1) A reduction of up to 30 % must be expected in case of motor standstill, for very low velocities or very short traversing paths.

2) Velocity values refer to a drive system DC link voltage of 600 V DC.

3) Optimized selection for full performance of linear motors.

4) The current-carrying capacity of the power cables complies with EN 60204-1 for installation type C, under continuous operating conditions at an ambient air temperature of 40 °C (104 °F).

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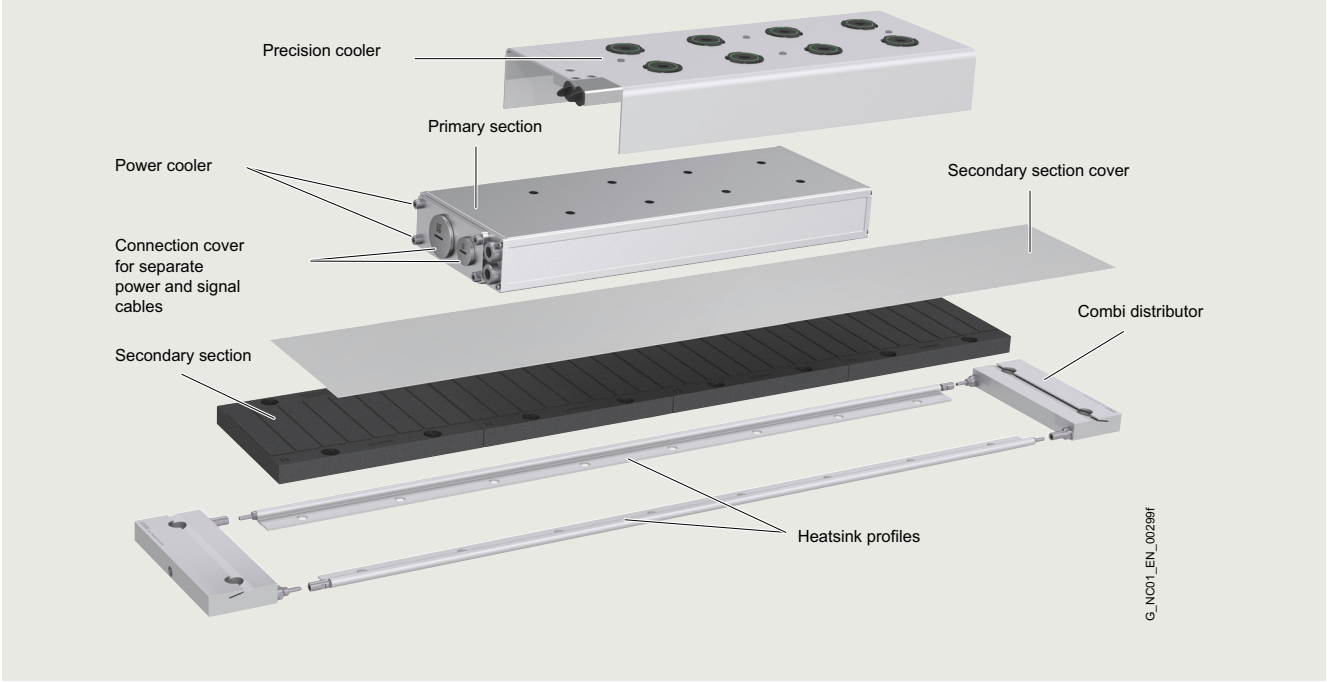
Selection and ordering data



SIMOTICS L-1FN3 linear motors Version for peak load	**Optional components** **Precision cooler**
Type	Article No.
1FN3050-2W...	**1FN3050-2PK00-0AA0**
1FN3100-2W...	**1FN3100-2PK00-0AA0**
1FN3100-3W...	**1FN3100-3PK00-0AA0**
1FN3100-4W...	**1FN3100-4PK00-0AA0**
1FN3100-5W...	**1FN3100-5PK00-0AA0**
1FN3150-2W...	**1FN3150-2PK00-0AA0**
1FN3150-3W...	**1FN3150-3PK00-0AA0**
1FN3150-4W...	**1FN3150-4PK00-0AA0**
1FN3150-5W...	**1FN3150-5PK00-0AA0**
1FN3300-2W...	**1FN3300-2PK00-0AA0**
1FN3300-3W...	**1FN3300-3PK00-0AA0**
1FN3300-4W...	**1FN3300-4PK00-0AA0**
1FN3450-2W...	**1FN3450-2PK00-0AA0**
1FN3450-3W...	**1FN3450-3PK00-0AA0**
1FN3450-4W...	**1FN3450-4PK00-0AA0**
1FN3600-2W...	**1FN3600-2PK00-0AA0**
1FN3600-3W...	**1FN3600-3PK00-0AA0**
1FN3600-4W...	**1FN3600-4PK00-0AA0**
1FN3900-2W...	**1FN3900-2PK00-0AA0**
1FN3900-3W...	**1FN3900-3PK00-0AA0**
1FN3900-4W...	**1FN3900-4PK00-0AA0**
Can be ordered optionally in version with increased ruggedness, incl. O-rings	**1FN3...- ■ PK00-0AA0-Z R01**

SIMOTICS L-1FN3 linear motors Version for continuous load	**Optional components** **Precision cooler**
Type	Article No.
1FN3050-1N...	**1FN3050-1PK10-0AA0**
1FN3050-2N...	**1FN3050-2PK10-0AA0**
1FN3100-1N...	**1FN3100-1PK10-0AA0**
1FN3100-2N...	**1FN3100-2PK10-0AA0**
1FN3100-3N...	**1FN3100-3PK10-0AA0**
1FN3100-4N...	**1FN3100-4PK10-0AA0**
1FN3150-1N...	**1FN3150-1PK10-0AA0**
1FN3150-2N...	**1FN3150-2PK10-0AA0**
1FN3150-3N...	**1FN3150-3PK10-0AA0**
1FN3150-4N...	**1FN3150-4PK10-0AA0**
1FN3300-1N...	**1FN3300-1PK10-0AA0**
1FN3300-2N...	**1FN3300-2PK10-0AA0**
1FN3300-3N...	**1FN3300-3PK10-0AA0**
1FN3300-4N...	**1FN3300-4PK10-0AA0**
1FN3450-2N...	**1FN3450-2PK10-0AA0**
1FN3450-3N...	**1FN3450-3PK10-0AA0**
1FN3450-4N...	**1FN3450-4PK10-0AA0**
1FN3600-2N...	**1FN3600-2PK10-0AA0**
1FN3600-3N...	**1FN3600-3PK10-0AA0**
1FN3600-4N...	**1FN3600-4PK10-0AA0**
1FN3900-2N...	**1FN3900-2PK10-0AA0**
1FN3900-3N...	**1FN3900-3PK10-0AA0**
1FN3900-4N...	**1FN3900-4PK10-0AA0**
Can be ordered optionally in version with increased ruggedness, incl. O-rings	**1FN3...- ■ PK10-0AA0-Z R01**

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Selection and ordering data

SIMOTICS L-1FN3 linear motors	**Optional components**			
	Secondary section cover		**Cover end pieces for secondary section cover** [2]	**Protective mat with yoke function** [3]
Type	Continuous [1]	Segmented	Retains continuous cover without heatsink profile	
	Article No.	Article No.	Article No.	Article No.
1FN3050-...	**1FN3050-0TB00-1 ■ ■ 0**	**1FN3050-4TP00-1A ■ ■**	**1FN3050-0TC00-0AA0**	**–**
1FN3100-...	**1FN3100-0TB00-1 ■ ■ 0**	**1FN3100-4TP00-1A ■ ■**	**1FN3100-0TC00-0AA0**	**–**
1FN3150-...	**1FN3150-0TB00-1 ■ ■ 0**	**1FN3150-4TP00-1A ■ ■**	**1FN3150-0TC00-0AA0**	**–**
1FN3300-...	**1FN3300-0TB00-1 ■ ■ 0**	**1FN3300-4TP00-1A ■ ■**	**1FN3300-0TC00-0AA0**	**1FN3300-4RS00-0AB0**
1FN3450-...	**1FN3450-0TB00-1 ■ ■ 0**	**1FN3450-4TP00-1A ■ ■**	**1FN3450-0TC00-0AA0**	**1FN3450-4RS00-0AB0**
1FN3600-...	**1FN3600-0TB00-1 ■ ■ 0**	**1FN3600-4TP00-1A ■ ■**	**–**	**–**
1FN3900-...	**1FN3900-0TB00-1 ■ ■ 0**	**1FN3900-4TP00-1A ■ ■**	**–**	**–**

Number of secondary sections	0	**A**	**Number of secondary sections for all motors**	2.5	**C**	**5**
	10	**B**		3.0	**D**	**0**
	20	**C**		3.5	**D**	**5**
	30	**D**		4.0	**E**	**0**
	40	**E**		5.0	**F**	**0**
	50	**F**				
Example:	0	**A**	**Number of secondary sections for 1FN3600/ 1FN3900 motors**	5.5	**F**	**5**
Maximum length of the continuous secondary section cover for motors:	1	**B**		6.5	**G**	**5**
- 1FN3050 to 1FN3150	2	**C**				
corresponds to length code xxx-1FA0 50 units.	3	**D**				
- 1FN3100 to 1FN3900	4	**E**				
corresponds to length code xxx-1DC0 32 units.	5	**F**				
	6	**G**				
	7	**H**				
	8	**J**				
	9	**K**				

1) Continuous cover for several secondary sections. The maximum length of the secondary section cover is 6 m (19.69 ft). For the following motors, this corresponds to: 1FN3050 to 1FN3150, a maximum number of 50 secondary sections (AB to FA). 1FN3300 to 1FN3900, a maximum number of 32 secondary sections (AB to DC).

2) The secondary section end pieces are designed to allow clamping of the integrated secondary section cover.

3) Can be ordered with a batch size of 4 units.

SIMOTICS L-1FN3 linear motors	**Optional components**			
	Heatsink profile [4]	**Secondary section end pieces**		
		Combi distributor	**Combi adapter**	**Combi end piece**
		Parallel water connection for all heatsink profiles	Combi adapter and end piece can only be implemented together.	
			Single-sided water connection	Water diversion
Type	Article No.	Article No.	Article No.	Article No.
1FN3050-...	**1FN3002-0TK0 ■ -1 ■ ■ 0**	**1FN3050-0TJ01-0AA0**	**1FN3050-0TG01-0AA0**	**1FN3050-0TF01-0AA0**
1FN3100-...	**1FN3002-0TK0 ■ -1 ■ ■ 0**	**1FN3100-0TJ01-0AA0**	**1FN3100-0TG01-0AA0**	**1FN3100-0TF01-0AA0**
1FN3150-...	**1FN3002-0TK0 ■ -1 ■ ■ 0**	**1FN3150-0TJ01-0AA0**	**1FN3150-0TG01-0AA0**	**1FN3150-0TF01-0AA0**
1FN3300-...	**1FN3003-0TK0 ■ -1 ■ ■ 0**	**1FN3300-0TJ01-0AA0**	**1FN3300-0TG01-0AA0**	**1FN3300-0TF01-0AA0**
1FN3450-...	**1FN3003-0TK0 ■ -1 ■ ■ 0**	**1FN3450-0TJ01-0AA0**	**1FN3450-0TG01-0AA0**	**1FN3450-0TF01-0AA0**
1FN3600-...	**1FN3004-0TK0 ■ -1 ■ ■ 0**	**1FN3600-0TJ01-0AA0**	**–**	**–**
1FN3900-...	**1FN3005-0TK0 ■ -1 ■ ■ 0**	**1FN3900-0TJ01-0AA0**	**–**	**–**

Prepared with plug-in coupling for connection to combi distributor with plug-in coupling, combi adapter with plug-in coupling, combi end piece with plug-in coupling or as intermediate unit for heatsink profile with cable grommet nipple	**4**	**A**	**Number of secondary sections** 0	**A** 0
		B	10	**B** 1
		C	20	**C** 2
1FN3050 to 1FN3450 motors[4]: **Grommet nipple only at the right-hand end** of secondary section track	**6**			**D** 3
				E 4
1FN3600/1FN3900 motors: **Grommet nipple at both ends** of secondary section track	**6**			**F** 5
				G 6
				H 7
1FN3050 to 1FN3450 motors [5]: **Grommet nipple only at the left-hand end** of secondary section track	**7**			**J** 8
				K 9

4) 1FN3050 to 1FN3450 motors:
2 units required per secondary section track.
1FN3600 to 1FN3900:
3 units required per secondary section track.
The maximum available length of a single-part heatsink profile is 3 m (9.84 ft).
For the following motors, this corresponds to:
1FN3050 to 1FN3150, a maximum number of 24 secondary sections (AB to CE)
1FN3300 to 1FN3900, a maximum number of 16 secondary sections (AB to BG).

5) Available only in length AC (corresponds to 2 secondary sections).
The difference in the secondary section track length must be compensated through assembly using the heatsink profile 1FN300.-0TK04-1..0.

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Overview

Recommended linear measuring systems for SIMOTICS L-1FN3 linear motors

Type	Incremental encoder sin/cos 1 V_{pp} encapsulated	
	Heidenhain LS 187	**Heidenhain LS 487**
Signal cycle	20 µm	20 µm
Acceleration in measuring direction, max.	100 m/s^2 (328 ft/s^2)	100 m/s^2 (328 ft/s^2)
Traversing velocity, max.	120 m/min (394 ft/min)	120 m/min (394 ft/min)
Measuring length, max.	3040 mm (120 in)	2040 mm (80.3 in)
Output signal	1 V_{pp}	1 V_{pp}

Type	Incremental encoder sin/cos 1 V_{pp} open	
	Heidenhain LIDA 485	**Renishaw RTLC 20/TONIC**
Signal cycle	20 µm	20 µm
Acceleration in measuring direction, max. [1]	200 m/s^2 (656 ft/s^2)	600 m/s^2 (1969 ft/s^2)
Traversing velocity, max.	480 m/min (1575 ft/min)	600 m/min (1969 ft/min)
Measuring length, max.	30040 mm (1183 in)	25000 mm (984 in)
Output signal	1 V_{pp}	1 V_{pp}

Absolute encoders with DRIVE-CLiQ

Absolute measuring systems with integrated DRIVE-CLiQ interface are available from various manufacturers. The absolute encoders can be used as a motor feedback system.

A current overview of the various manufacturers and available measuring systems is available on the internet at:
http://support.automation.siemens.com/WW/view/en/65402168
It is also possible to use absolute measuring systems with EnDat 2.1.

Overview

Liquid cooling

These are third-party products whose fundamental suitability is familiar to us. It goes without saying that equivalent products from other manufacturers may be used. Our recommendations are to be seen as helpful information, not as requirements or regulations. We do not accept liability for the quality of non-Siemens products.

Please get in touch with the cooler manufacturers listed below for technical information.

ait-deutschland GmbH
www.kkt-chillers.com

BKW Kälte-Wärme-Versorgungstechnik GmbH
www.bkw-kuema.de

Helmut Schimpke und Team Industriekühlanlagen GmbH + Co. KG
www.schimpke.com

Hydac System GmbH
www.hydac.com

Pfannenberg GmbH
www.pfannenberg.com

Rittal GmbH & Co. KG
www.rittal.com

For design information about the coolers, refer to the SIMOTICS L-1FN3 Linear Motors Configuration Manual.

https://support.industry.siemens.com/cs/ww/en/view/109475768

[1] Data refers to the measuring head.

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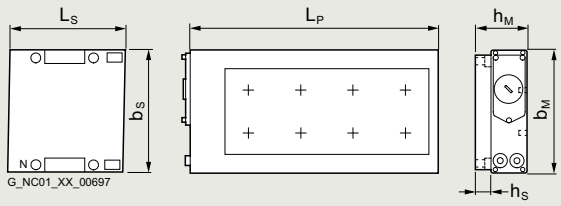
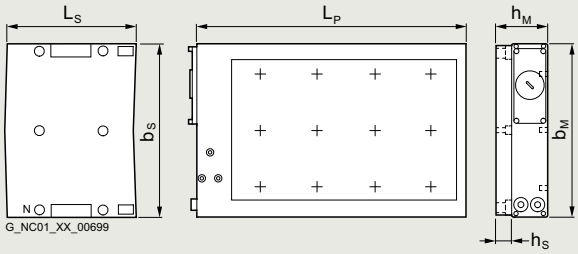
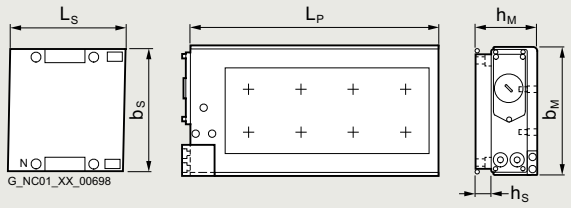
Dimensional drawings



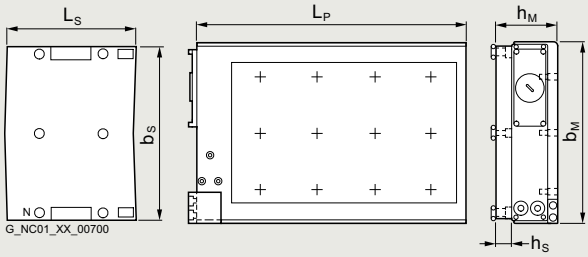
1FN3050 to 1FN3450 without precision cooling



1FN3600 to 1FN3900 without precision cooling
Note: 4-row drilling pattern with 1FN3900 for fixing the primary section



1FN3050 to 1FN3450 with precision cooling



1FN3600 to 1FN3900 with precision cooling
Note: 4-row drilling pattern with 1FN3900 for fixing the primary section

Primary section	Dimensions in mm (inches)					Secondary section	Dimensions in mm (inches)				
	Without precision cooling		With precision cooling		Primary section length		Without cover and without precision cooling		With cover and with precision cooling		Secondary section length
Type	b_M	h_M	b_M	h_M	L_P	Type	b_S	h_S	b_S	h_S	L_S
SIMOTICS L-1FN3 linear motors, version for peak load – water cooling											
1FN3050-2W	67 (2.64)	48.5 (1.91)	76 (2.99)	63.4 (2.50)	255 (10.04)	1FN3050-4SA00-0AA0	58 (2.28)	11.8 (0.46)	75 (2.95)	14.8 (0.58)	120 (4.72)
1FN3100-1W	96 (3.78)	48.5 (1.91)	–	–	150 (5.91)	1FN3100-4SA00-0AA0	88 (3.46)	11.8 (0.46)	105 (4.13)	14.8 (0.58)	120 (4.72)
1FN3100-2W			105 (4.13)	63.4 (2.50)	255 (10.04)						
1FN3100-3W					360 (14.17)						
1FN3100-4W					465 (18.31)						
1FN3100-5W					570 (22.44)						
1FN3150-1W	126 (4.96)	50.5 (1.99)	–	–	150 (5.91)	1FN3150-4SA00-0AA0	118 (4.65)	13.8 (0.54)	135 (5.31)	16.8 (0.66)	120 (4.72)
1FN3150-2W			135 (5.31)	65.4 (2.57)	255 (10.04)						
1FN3150-3W					360 (14.17)						
1FN3150-4W					465 (18.31)						
1FN3150-5W					570 (22.44)						
1FN3300-1W	141 (5.55)	64.1 (2.52)	–	–	221 (8.70)	1FN3300-4SA00-0AA0	134 (5.28)	16.5 (0.65)	151 (5.94)	19.5 (0.77)	184 (7.24)
1FN3300-2W			150 (5.91)	79 (3.11)	382 (15.04)						
1FN3300-3W					543 (21.38)	1FN3300-4SA12-0AA0					276 (10.89)
1FN3300-4W					704 (27.72)						
1FN3450-2W	188 (7.40)	66.1 (2.60)	197 (7.76)	81 (3.19)	382 (15.04)	1FN3450-4SA00-0AA0	180 (7.09)	18.5 (0.73)	197 (7.76)	21.5 (0.85)	184 (7.24)
1FN3450-3W					543 (21.38)	1FN3450-4SA12-0AA0					276 (10.89)
1FN3450-4W					704 (27.72)						
1FN3600-2W	248 (9.76)	64.1 (2.52)	257 (10.12)	86 (3.39)	382 (15.04)	1FN3600-4SA00-0AA0	240 (9.45)	16.5 (0.65)	247 (9.72)	26.5 (1.04)	184 (7.24)
1FN3600-3W					543 (21.38)						
1FN3600-4W					704 (27.72)						
1FN3600-5W					865 (34.06)						
1FN3900-2W	342 (13.46)	66.1 (2.60)	351 (13.82)	88 (3.46)	382 (15.04)	1FN3900-4SA00-0AA0	334 (13.15)	18.5 (0.73)	341 (13.43)	28.5 (1.12)	184 (7.24)
1FN3900-3W					543 (21.38)						
1FN3900-4W					704 (27.72)						

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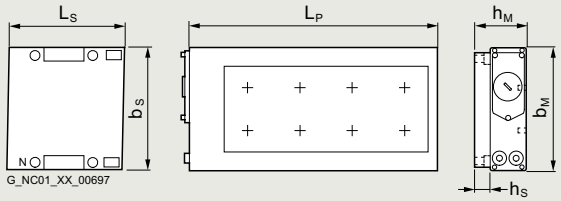
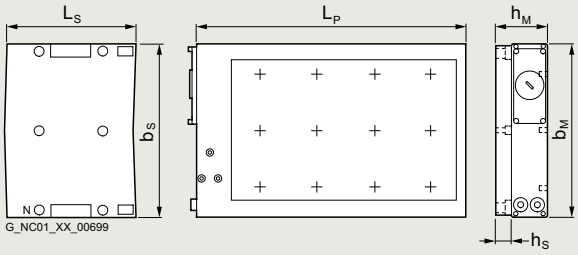
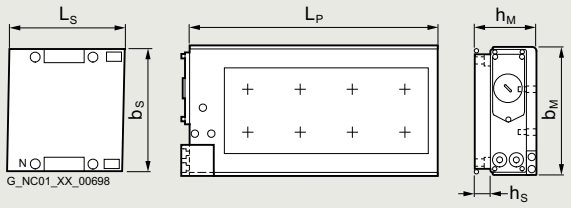
Dimensional drawings



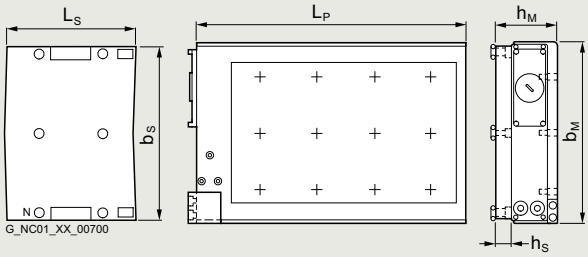
1FN3050 to 1FN3450 without precision cooling



1FN3600 to 1FN3900 without precision cooling
Note: 4-row drilling pattern with 1FN3900 for fixing the primary section



1FN3050 to 1FN3450 with precision cooling



1FN3600 to 1FN3900 with precision cooling
Note: 4-row drilling pattern with 1FN3900 for fixing the primary section

Primary section	Dimensions in mm (inches)					Secondary section	Dimensions in mm (inches)				
	Without precision cooling		With precision cooling		Primary section length		Without cover and without precision cooling		With cover and with precision cooling		Secondary section length
Type	b_M	h_M	b_M	h_M	L_P	Type	b_S	h_S	b_M	h_M	L_S
SIMOTICS L-1FN3 linear motors, version for continuous load – water cooling											
1FN3050-1N	67 (2.64)	59.4 (2.34)	76 (2.99)	74.3 (2.93)	162 (6.38)	1FN3050-4SA00-0AA0	58 (2.28)	11.8 (0.46)	75 (2.95)	14.8 (0.58)	120 (4.72)
1FN3050-2N					267 (10.51)						
1FN3100-1N	96 (3.78)	59.4 (2.34)	105 (4.13)	74.3 (2.93)	162 (6.38)	1FN3100-4SA00-0AA0	88 (3.46)	11.8 (0.46)	105 (4.13)	14.8 (0.58)	120 (4.72)
1FN3100-2N					267 (10.51)						
1FN3100-3N					372 (14.65)						
1FN3100-4N					477 (18.78)						
1FN3150-1N	126 (4.96)	61.4 (2.42)	135 (5.31)	76.3 (3.00)	162 (6.38)	1FN3150-4SA00-0AA0	118 (4.65)	13.8 (0.54)	135 (5.31)	16.8 (0.66)	120 (4.72)
1FN3150-2N					267 (10.51)						
1FN3150-3N					372 (14.65)						
1FN3150-4N					477 (18.78)						
1FN3300-1N	141 (5.55)	78 (3.07)	150 (5.91)	92.9 (3.66)	238 (9.37)	1FN3300-4SA00-0AA0	134 (5.28)	16.5 (0.65)	151 (5.94)	19.5 (0.77)	184 (7.24)
1FN3300-2N					399 (15.71)						
1FN3300-3N					560 (22.05)	1FN3300-4SA12-0AA0					276 (10.89)
1FN3300-4N					721 (28.39)						
1FN3450-1N	188 (7.40)	80 (3.15)	197 (7.76)	94.9 (3.74)	238 (9.37)	1FN3450-4SA00-0AA0	180 (7.09)	18.5 (0.73)	197 (7.76)	21.5 (0.85)	184 (7.24)
1FN3450-2N					399 (15.71)						
1FN3450-3N					560 (22.05)	1FN3450-4SA12-0AA0					276 (10.89)
1FN3450-4N					721 (28.39)						
1FN3600-2N	248 (9.76)	78 (3.07)	257 (10.12)	99.9 (3.93)	399 (15.71)	1FN3600-4SA00-0AA0	240 (9.45)	16.5 (0.65)	247 (9.72)	26.5 (1.04)	184 (7.24)
1FN3600-3N					560 (22.05)						
1FN3600-4N					721 (28.39)						
1FN3900-2N	342 (13.46)	80 (3.15)	351 (13.82)	101.9 (4.01)	399 (15.71)	1FN3900-4SA00-0AA0	334 (13.15)	18.5 (0.73)	341 (13.43)	28.5 (1.12)	184 (7.24)
1FN3900-3N					560 (22.05)						
1FN3900-4N					721 (28.39)						

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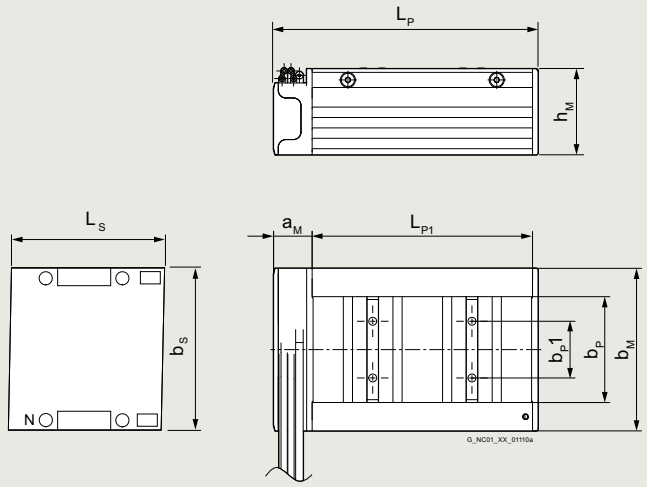
Dimensional drawings



1FN3050 to 1FN3150 with natural cooling

h_S = height/thickness of the secondary section

Primary section	Dimensions in mm (inches)							Secondary section	Dimensions in mm (inches)		
							Primary section length				Secondary section length
Type	a_M	b_M	b_{P1}	b_P	h_M	L_{P1}	L_P	Type	b_S	h_S	L_S
SIMOTICS L-1FN3 linear motors, Standard version – natural cooling											
1FN3050-1K	20.4 (0.80)	58.0 (2.28)	20.0 (0.79)	28.0 (1.10)	45.7 (1.80)	116.6 (4.59)	140 (5.51)	1FN3050-4SA00-0AA0	58 (2.28)	11.8 (0.46)	120 (4.72)
1FN3100-1K	20.4 (0.80)	86.0 (3.39)	30.0 (1.18)	56.0 (2.20)	45.7 (1.80)	116.6 (4.59)	140 (5.51)	1FN3100-4SA00-0AA0	88 (3.46)	11.8 (0.46)	120 (4.72)
1FN3150-1K	20.4 (0.80)	115.5 (4.55)	45.0 (1.77)	85.5 (3.37)	45.7 (1.80)	116.6 (4.59)	140 (5.51)	1FN3150-4SA00-0AA0	118 (4.65)	13.8 (0.54)	120 (4.72)

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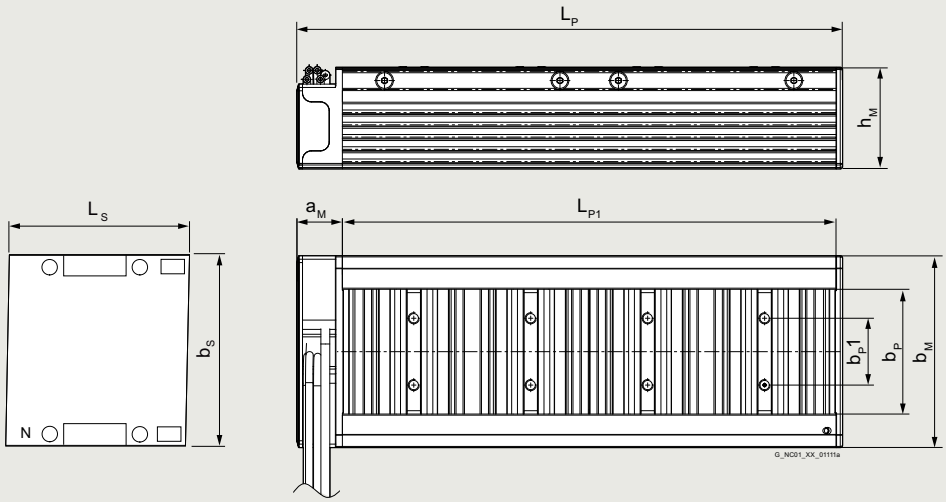
Dimensional drawings



1FN3050 to 1FN3150 with natural cooling

h_S = height/thickness of the secondary section

Primary section	Dimensions in mm (inches)							Secondary section	Dimensions in mm (inches)		
							Primary section length				Secondary section length
Type	a_M	b_M	b_{P1}	b_P	h_M	LP1	L_P	Type	b_S	h_S	L_S
SIMOTICS L-1FN3 linear motors, Standard version – natural cooling											
1FN3050-2K	20.4 (0.80)	58.0 (2.28)	20.0 (0.79)	28.0 (1.10)	45.7 (1.80)	221.6 (8.72)	245 (9.65)	1FN3050-4SA00-0AA0	58 (2.28)	11.8 (0.46)	120 (4.72)
1FN3100-2K	20.4 (0.80)	86.0 (3.39)	30.0 (1.18)	56.0 (2.20)	45.7 (1.80)	221.6 (8.72)	245 (9.65)	1FN3100-4SA00-0AA0	88 (3.46)	11.8 (0.46)	120 (4.72)
1FN3150-2K	20.4 (0.80)	115.5 (4.55)	45.0 (1.77)	85.5 (3.37)	45.7 (1.80)	221.6 (8.72)	245 (9.65)	1FN3150-4SA00-0AA0	118 (4.65)	13.8 (0.54)	120 (4.72)

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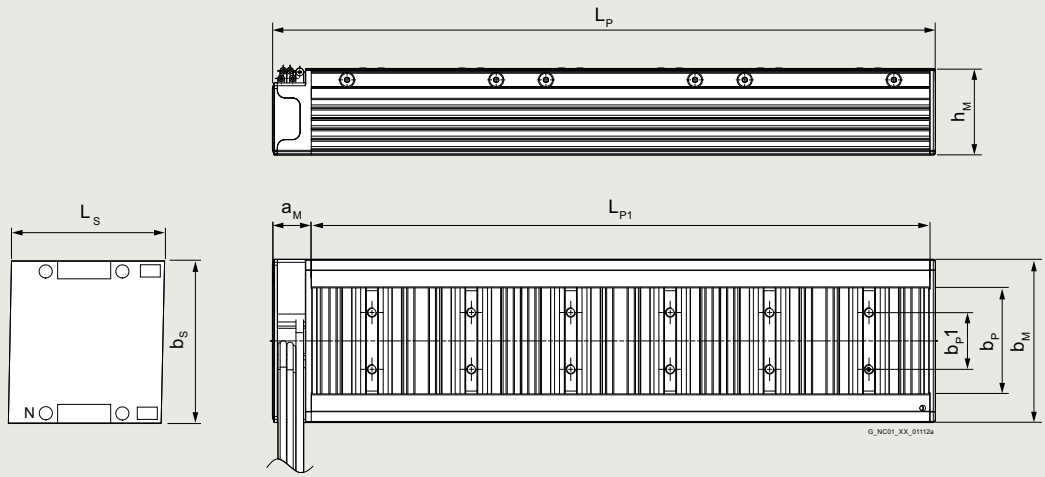
Dimensional drawings



1FN3100 to 1FN3150 with natural cooling

h_S = height/thickness of the secondary section

Primary section	Dimensions in mm (inches)							Secondary section	Dimensions in mm (inches)		
							Primary section length				Secondary section length
Type	a_M	b_M	b_{P1}	b_P	h_M	LP1	L_P	Type	b_S	h_S	L_S
SIMOTICS L-1FN3 linear motors, Standard version – natural cooling											
1FN3100-3K	20.4 (0.80)	86.0 (3.39)	30.0 (1.18)	56.0 (2.20)	45.7 (1.80)	326.6 (12.86)	350 (13.78)	1FN3100-4SA00-0AA0	58 (2.28)	11.8 (0.46)	120 (4.72)
1FN3150-3K	20.4 (0.80)	115.0 (4.53)	45.0 (1.77)	85.5 (3.37)	45.7 (1.80)	326.6 (12.86)	350 (13.78)	1FN3150-4SA00-0AA0	88 (3.46)	13.8 (0.54)	120 (4.72)

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In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

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