

Synchronous motors

Linear motors for SIMODRIVE 611

1FN3 standard type linear motors Version for peak load – water cooling

Selection and ordering data

Feedrate force		Maximum velocity ³⁾		1FN3 linear motors – Version for peak load Water cooling		Weight, approx.	
$F_{rated}^{1)2)}$	F_{MAX}	v_{MAX} at F_{MAX}	v_{MAX} at F_{rated}	Primary section	Secondary section	Primary section without/with precision cooling	Secondary section without/with heatsink profiles
N (lb _f)	N (lb _f)	m/min (ft/min)	m/min (ft/min)	Order No.	Order No.	kg (lb)	kg (lb)
200 (45)	550 (124)	146 (479)	373 (1 224)	1FN3050-2WC00-0EA1	1FN3050-4SA00-0AA0	2.4/2.9 (5.3/6.4)	0.4/0.5 (0.9/1.1)
200 (45)	550 (124)	146 (479)	373 (1 224)	1FN3050-2WC00-0FA1		2.4/2.9 (5.3/6.4)	0.4/0.5 (0.9/1.1)
200 (45)	490 (110)	138 (453)	322 (1 056)	1FN3100-1WC00-0BA1	1FN3100-4SA00-0AA0	2.2/- (4.9/-) ⁴⁾	0.7/0.8 (1.5/1.8)
450 (101)	1 100 (247)	131 (430)	297 (974)	1FN3100-2WC00-0BA1		3.8/4.4 (8.4/9.7)	
450 (101)	1 100 (247)	237 (778)	497 (1 631)	1FN3100-2WE00-0BA1		3.8/4.4 (8.4/9.7)	
675 (152)	1 650 (371)	120 (394)	277 (909)	1FN3100-3WC00-0BA1		5.4/6.2 (11.9/13.7)	
675 (152)	1 650 (371)	237 (778)	497 (1 631)	1FN3100-3WE00-0BA1		5.4/6.2 (11.9/13.7)	
900 (202)	2 200 (495)	131 (430)	297 (974)	1FN3100-4WC00-0BA1		7.4/8.5 (16.3/18.7)	
900 (202)	2 200 (495)	237 (778)	497 (1 631)	1FN3100-4WE00-0BA1		7.4/8.5 (16.3/18.7)	
1 125 (253)	2 750 (618)	109 (358)	255 (837)	1FN3100-5WC00-0BA1		9.1/10.4 (20.1/22.9)	
340 (76)	820 (184)	126 (413)	282 (925)	1FN3150-1WC00-0BA1	1FN3150-4SA00-0AA0	3.0/- (6.6/-) ⁴⁾	1.2/1.3 (2.7/2.9)
675 (152)	1 650 (371)	126 (413)	282 (925)	1FN3150-2WC00-0BA1		5.3/6 (11.7/13.2)	
1 015 (228)	2 470 (555)	126 (413)	282 (925)	1FN3150-3WC00-0BA1		7.8/8.7 (17.2/19.2)	
1 350 (304)	3 300 (742)	126 (413)	282 (925)	1FN3150-4WC00-0BA1		10.2/11.4 (22.5/25.1)	
1 690 (380)	4 120 (926)	126 (413)	282 (925)	1FN3150-5WC00-0BA1		12.8/14.2 (28.2/31.3)	
615 (138)	1 720 (387)	128 (420)	309 (1 014)	1FN3300-1WC00-0BA1	1FN3300-4SA00-0AA0	6.2/- (13.7/-) ⁴⁾	2.4/2.6 (5.3/5.7)
1 225 (275)	3 450 (776)	63 (207)	176 (577)	1FN3300-2WB00-0BA1		11.4/12.4 (25.1/27.3)	
1 225 (275)	3 450 (776)	125 (410)	297 (974)	1FN3300-2WC00-0BA1		11.4/12.4 (25.1/27.3)	
1 225 (275)	3 450 (776)	369 (1 211)	805 (2 641)	1FN3300-2WG00-0BA1		11.4/12.4 (25.1/27.3)	
1 840 (414)	5 170 (1 162)	125 (410)	297 (974)	1FN3300-3WC00-0BA1		17.0/18.4 (37.5/40.6)	
1 840 (414)	5 170 (1 162)	383 (1 257)	836 (2 743)	1FN3300-3WG00-0BA1		17.0/18.4 (37.5/40.6)	
2 450 (551)	6 900 (1 551)	63 (207)	176 (577)	1FN3300-4WB00-0BA1		22.2/24 (48.9/52.9)	
2 450 (551)	6 900 (1 551)	125 (410)	297 (974)	1FN3300-4WC00-0BA1		22.2/24 (48.9/52.9)	

Type of connection:

Frame sizes 1FN3100 to 1FN3900

Connection cover prepared for separate power and signal cables

Frame size 1FN3050

Permanently connected power and signal cables with open core ends
Length: 2 m (6.56 ft)

Frame size 1FN3050

Permanently connected power and signal cables pre-assembled,
with connectors
Length: 0.5 m (1.64 ft)

B

E

F

Synchronous motors

Linear motors for SIMODRIVE 611

1FN3 standard type linear motors
Version for peak load – water cooling

Selection and ordering data

Motor type Primary section (continued)	Rated current $I_{rated}^{1)}$	Maxi- mum cur- rent I_{MAX}	Calculated power P_{calc}	SIMODRIVE 611 power module		Power cable with complete shield Motor connection via adapter cable with power connector for increased velocity/acceleration			
				Required rated current I_{rated}/I_{MAX}	Order No.	Pre-assembled adapter cable for motor Order No.	Power con- nector Size	Cable cross- section ⁵⁾ mm ²	Pre-assembled basic cable to converter Order No.
	A	A	kW (HP)	A					
1FN3050-2WC00-...	2.7	8.2	4.1 (5.5)	5/10	For ordering data, see Converter system	_6)	1	4 x 2.5	6FX8002-5CA11-
1FN3050-2WC00-...	2.7	8.2	4.1 (5.5)	5/10		_7)	1	4 x 2.5	6FX8002-5CA11-
1FN3100-1WC00-...	2.4	6.5	3.1 (4.2)	5/10		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3100-2WC00-...	5.1	13.5	6.3 (8.5)	9/18		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3100-2WE00-...	8.1	21.5	8.3 (11.1)	18/36		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3100-3WC00-...	7.2	19.1	9.2 (12.3)	18/36		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3100-3WE00-...	12.1	32.2	12.4 (16.6)	18/36		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3100-4WC00-...	10.1	27.0	12.6 (16.9)	18/36		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3100-4WE00-...	16.1	43.0	16.5 (22.1)	28/56		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3100-5WC00-...	11.0	29.5	14.4 (19.3)	18/36		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3150-1WC00-...	3.6	9.5	4.3 (5.8)	5/10		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3150-2WC00-...	7.2	19.1	8.7 (11.7)	18/36		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3150-3WC00-...	10.7	28.6	13.0 (17.4)	18/36	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-	
1FN3150-4WC00-...	14.3	38.2	17.4 (23.3)	28/56	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-	
1FN3150-5WC00-...	17.9	47.7	21.7 (29.1)	28/56	6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-	
1FN3300-1WC00-...	6.5	20.0	8.7 (11.7)	18/36	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-	
1FN3300-2WB00-...	8.0	24.7	13.2 (17.7)	18/36	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-	
1FN3300-2WC00-...	12.6	39.2	16.8 (22.5)	28/56	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-	
1FN3300-2WG00-...	32.2	99.7	30.1 (40.4)	56/112	6FX7002-5LM82-	1.5	4 x 6	6FX8002-5CA51-	
1FN3300-3WC00-...	19.0	58.7	25.1 (33.7)	28/56 ⁸⁾	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-	
1FN3300-3WG00-...	50.0	154.9	46.2 (61.9)	70/140 ⁸⁾	6FX7002-5LM02-	1.5	4 x 16	6FX8002-5CA71-	
1FN3300-4WB00-...	16.0	49.4	26.3 (35.3)	28/56	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-	
1FN3300-4WC00-...	25.3	78.3	33.5 (44.9)	56/112	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-	
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.					

Designation	Order No.
Signal cable, pre-assembled with M17 connector	
• For 1FN3100/1FN3150 motors	6FX7002-2SL01-....
• For 1FN3300 to 1FN3900 motors	6FX7002-2SL02-....

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, at very low speeds, or with very short traverse paths.

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

⁴⁾ No precision cooler available.

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⁾ Permanently connected power and signal cables, length 2 m (6.56 ft), with open core ends:

⁷⁾ Permanently connected power and signal cables, length 0.5 m (1.64 ft), with power connector size 1 and M17 signal connector.

⁸⁾ Power modules are designed for feedrate force F_{rated} . If feedrate force F_{MAX} is utilized, the next largest power module must be used. If a power module with a higher rating is used, you must check whether the specified power cable can be connected to it.

Synchronous motors

Linear motors for SIMODRIVE 611

1FN3 standard type linear motors Version for peak load – water cooling

Selection and ordering data

Feedrate force		Maximum velocity ³⁾		1FN3 linear motors – Version for peak load Water cooling		Weight, approx.		
F_{rated} ¹⁾²⁾	F_{MAX}	v_{MAX} at F_{MAX}	v_{MAX} at F_{rated}	Primary section	Secondary section	Primary section without/with precision cooling	Secondary section without/with heatsink profiles	
N (lb _f)	N (lb _f)	m/min (ft/min)	m/min (ft/min)	Order No.	Order No.	kg (lb)	kg (lb)	
1 930 (434)	5 180 (1 165)	30 (98)	112 (368)	1FN3450-2WA50-0BA1	1FN3450-4SA00-0AA0	15.9/17.1 (35.1/37.7)	3.8/4 (8.4/8.8)	
1 930 (434)	5 180 (1 165)	120 (394)	275 (902)	1FN3450-2WC00-0BA1		15.9/17.1 (35.1/37.7)		
1 930 (434)	5 180 (1 165)	240 (787)	519 (1 703)	1FN3450-2WE00-0BA1		15.9/17.1 (35.1/37.7)		
2 895 (651)	7 760 (1 745)	62 (203)	164 (538)	1FN3450-3WB00-0BA1		22.6/24.3 (49.8/53.6)		
2 895 (651)	7 760 (1 745)	90 (295)	217 (712)	1FN3450-3WB50-0BA1		22.6/24.3 (49.8/53.6)		
2 895 (651)	7 760 (1 745)	120 (394)	275 (902)	1FN3450-3WC00-0BA1		22.6/24.3 (49.8/53.6)		
2 895 (651)	7 760 (1 745)	240 (787)	519 (1 703)	1FN3450-3WE00-0BA1		22.6/24.3 (49.8/53.6)		
3 860 (868)	10 350 (2 327)	62 (203)	164 (538)	1FN3450-4WB00-0BA1		30.9/33.1 (68.1/73)		
3 860 (868)	10 350 (2 327)	90 (295)	217 (712)	1FN3450-4WB50-0BA1		30.9/33.1 (68.1/73)		
3 860 (868)	10 350 (2 327)	120 (394)	275 (902)	1FN3450-4WC00-0BA1		30.9/33.1 (68.1/73)		
3 860 (868)	10 350 (2 327)	240 (787)	519 (1 703)	1FN3450-4WE00-0BA1		30.9/33.1 (68.1/73)		
2 610 (587)	6 900 (1 551)	36 (118)	120 (394)	1FN3600-2WA50-0BA1		1FN3600-4SA00-0AA0	22.2/24.7 (49/54.5)	4.6/5 (10.1/11)
3 915 (880)	10 350 (2 327)	58 (190)	155 (509)	1FN3600-3WB00-0BA1			31.5/33.4 (69.5/73.7)	
3 915 (880)	10 350 (2 327)	112 (368)	254 (833)	1FN3600-3WC00-0BA1	31.5/33.4 (69.5/73.7)			
5 220 (1 174)	13 800 (3 102)	26 (85)	105 (345)	1FN3600-4WA30-0BA1	40.8/43.3 (90/95.5)			
5 220 (1 174)	13 800 (3 102)	58 (190)	155 (509)	1FN3600-4WB00-0BA1	40.8/43.3 (90/95.5)			
5 220 (1 174)	13 800 (3 102)	91 (299)	215 (705)	1FN3600-4WB50-0BA1	40.8/43.3 (90/95.5)			
5 220 (1 174)	13 800 (3 102)	112 (368)	254 (833)	1FN3600-4WC00-0BA1	40.8/43.3 (90/95.5)			
4 050 (910)	10 350 (2 327)	65 (213)	160 (525)	1FN3900-2WB00-0BA1	1FN3900-4SA00-0AA0	28.2/29.7 (62.2/65.4)	7.5/7.9 (16.5/17.4)	
4 050 (910)	10 350 (2 327)	115 (377)	253 (830)	1FN3900-2WC00-0BA1		28.2/29.7 (62.2/65.4)		
6 075 (1 366)	15 530 (3 491)	75 (246)	181 (594)	1FN3900-3WB00-0BA1		42.2/44.3 (93.1/97.6)		
8 100 (1 821)	20 700 (4 653)	65 (213)	160 (525)	1FN3900-4WB00-0BA1		56.2/58.9 (124/130)		
8 100 (1 821)	20 700 (4 653)	88 (290)	203 (666)	1FN3900-4WB50-0BA1		56.2/58.9 (124/130)		
8 100 (1 821)	20 700 (4 653)	115 (377)	253 (830)	1FN3900-4WC00-0BA1		56.2/58.9 (124/130)		

Type of connection:

Frame sizes 1FN3100 to 1FN3900

B

Connection cover prepared for separate power and signal cables

Synchronous motors

Linear motors for SIMODRIVE 611

1FN3 standard type linear motors
Version for peak load – water cooling

Selection and ordering data

Motor type Primary section (continued)	Rated current	Maxi- mum current	Calculated power	SIMODRIVE 611 power module		Power cable with complete shield Motor connection via adapter cable with power connector for increased velocity/acceleration			
				Required rated current	Order No.	Pre-assembled adapter cable for motor	Power con- nector	Cable cross- section ⁴⁾	Pre-assembled basic cable to converter
	$I_{rated}^{1)}$	I_{MAX}	P_{calc}	I_{rated}/I_{MAX}		Order No.	Size	mm ²	Order No.
	A	A	kW (HP)	A					
1FN3450-2WA50-...	8.6	25.3	15.9 (21.3)	18/36	For ordering data, see Converter system	6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-
1FN3450-2WC00-...	18.8	55.3	23.1 (31)	28/56		6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-
1FN3450-2WE00-...	33.8	99.7	32.6 (43.7)	56/112		6FX7002-5LM82-	1.5	4 x 6	6FX8002-5CA51-
1FN3450-3WB00-...	17.9	52.7	27.5 (36.9)	28/56		6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-
1FN3450-3WB50-...	22.8	67.3	31.1 (41.7)	56/112		6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-
1FN3450-3WC00-...	28.1	83.0	34.6 (46.4)	56/112		6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-
1FN3450-3WE00-...	50.7	149.6	48.9 (65.6)	70/140 ⁷⁾		6FX7002-5LM02-	1.5	4 x 16	6FX8002-5CA71-
1FN3450-4WB00-...	23.8	70.3	36.7 (49.2)	56/112		6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-
1FN3450-4WB50-...	30.4	89.8	41.4 (55.5)	56/112		6FX7002-5LM82-	1.5	4 x 6	6FX8002-5CA51-
1FN3450-4WC00-...	37.5	110.6	46.2 (61.9)	56/112		6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CA61-
1FN3450-4WE00-...	67.6	199.5	65.3 (87.5)	140/210		6FX7008-1BB61-⁵⁾	–	4 x 25	6FX7008-1BB25-⁶⁾
1FN3600-2WA50-...	12.4	36.0	21.9 (29.4)	18/36		6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-
1FN3600-3WB00-...	23.2	67.3	35.4 (47.5)	56/112		6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-
1FN3600-3WC00-...	35.2	102.4	41.6 (55.8)	56/112		6FX7002-5LM82-	1.5	4 x 6	6FX8002-5CA51-
1FN3600-4WA30-...	22.3	64.9	41.8 (56.1)	42/64 ⁷⁾		6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-
1FN3600-4WB00-...	30.9	89.8	47.2 (63.3)	56/112		6FX7002-5LM82-	1.5	4 x 6	6FX8002-5CA51-
1FN3600-4WB50-...	40.8	118.5	52.2 (70)	70/140		6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CA61-
1FN3600-4WC00-...	46.9	136.5	55.5 (74.4)	70/140	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CA61-	
1FN3900-2WB00-...	24.7	69.5	34.5 (46.3)	56/112	6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-	
1FN3900-2WC00-...	36.7	103.3	41.0 (55)	56/112	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CA61-	
1FN3900-3WB00-...	40.6	114.0	54.5 (73.1)	70/140	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CA61-	
1FN3900-4WB00-...	49.4	138.9	68.9 (92.4)	70/140	6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CA61-	
1FN3900-4WB50-...	60.6	170.3	76.3 (102.3)	140/210	6FX7002-5LM02-	1.5	4 x 16	6FX8002-5CA71-	
1FN3900-4WC00-...	73.5	206.5	81.9 (109.8)	140/210	6FX7008-1BB61-⁵⁾	–	4 x 25	6FX7008-1BB25-⁶⁾	

For length code as well as power and signal cables, see Connection system MOTION-CONNECT.

Designation	Order No.
Signal cable, pre-assembled with M17 connector	
• For 1FN3100/1FN3150 motors	6FX7002-2SL01-....
• For 1FN3300 to 1FN3900 motors	6FX7002-2SL02-....

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, at very low speeds, or with very short traverse paths.

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

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).

⁵⁾ Sold by the meter only (4 x 16 mm²). Connected to primary section with 16 mm² (< 1.5 m (4.92 ft)) then routed onwards through terminal box with 25 mm².

⁶⁾ Sold by the meter only (4 x 25 mm²).

⁷⁾ Power modules are designed for feedrate force F_{rated} . If feedrate force F_{MAX} is utilized, the next largest power module must be used. If a power module with a higher rating is used, you must check whether the specified power cable can be connected to it.

Synchronous motors

Linear motors for SIMODRIVE 611

1FN3 standard type linear motors Version for continuous load – water cooling

Selection and ordering data

Feedrate force		Maximum velocity ³⁾		1FN3 linear motors – Version for continuous load Water cooling		Weight, approx.	
F_{rated} ¹⁾²⁾	F_{MAX}	v_{MAX} at F_{MAX}	v_{MAX} at F_{rated}	Primary section	Secondary section	Primary section without/with precision cooling	Secondary section without/with heatsink profiles
N (lb _f)	N (lb _f)	m/min (ft/min)	m/min (ft/min)	Order No.	Order No.	kg (lb)	kg (lb)
150 (34)	260 (58)	242 (794)	435 (1 427)	1FN3050-1ND00-0EA1	1FN3050-4SA00-0AA0	1.9/2.3 (4.2/5.1)	0.4/0.5 (0.9/1.1)
150 (34)	260 (58)	242 (794)	435 (1 427)	1FN3050-1ND00-0FA1		1.9/2.3 (4.2/5.1)	
300 (67)	510 (115)	108 (354)	202 (663)	1FN3050-2NB80-0EA1		3.2/3.9 (7.1/8.6)	
300 (67)	510 (115)	108 (354)	202 (663)	1FN3050-2NB80-0FA1		3.2/3.9 (7.1/8.6)	
300 (67)	510 (115)	117 (384)	214 (702)	1FN3100-1NC00-0BA1	1FN3100-4SA00-0AA0	3/3.5 (6.6/7.7)	0.7/0.8 (1.5/1.8)
605 (136)	1 020 (229)	170 (558)	307 (1 007)	1FN3100-2NC80-0BA1		5.1/5.9 (11.3/13.1)	
905 (203)	1 530 (344)	115 (337)	211 (692)	1FN3100-3NC00-0BA1		7.3/8.3 (16.1/18.03)	
1 205 (271)	2 040 (459)	169 (555)	305 (1 001)	1FN3100-4NC80-0BA1		10/11.9 (22.1/26.2)	
455 (102)	770 (173)	129 (423)	234 (768)	1FN3150-1NC20-0BA1	1FN3150-4SA00-0AA0	4.1/4.6 (9.0/10.1)	1.2/1.3 (2.7/2.9)
905 (203)	1 530 (344)	110 (361)	201 (660)	1FN3150-2NB80-0BA1		7.2/8.1 (15.9/17.9)	
1 360 (306)	2 300 (517)	163 (535)	292 (958)	1FN3150-3NC70-0BA1		10.5/11.6 (23.2/25.6)	
1 810 (407)	3 060 (688)	109 (358)	200 (656)	1FN3150-4NB80-0BA1		13.8/15.2 (30.4/33.5)	
865 (195)	1 470 (331)	129 (423)	230 (755)	1FN3300-1NC10-0BA1	1FN3300-4SA00-0AA0	8.8/9.5 (19.4/20.9)	2.4/2.6 (5.3/5.7)
1 730 (389)	2 940 (661)	127 (417)	228 (748)	1FN3300-2NC10-0BA1		16.1/17.2 (35.5/37.9)	
2 595 (583)	4 400 (989)	144 (473)	257 (843)	1FN3300-3NC40-0BA1		22.8/24.3 (50.3/53.6)	
3 460 (778)	5 870 (1 320)	109 (358)	196 (643)	1FN3300-4NB80-0BA1		30.4/32.3 (67.0/71.2)	
2 595 (583)	4 400 (989)	153 (502)	271 (889)	1FN3450-2NC50-0BA1	1FN3450-4SA00-0AA0	22/23.2 (48.5/51.2)	3.8/4 (8.4/8.8)
3 890 (875)	6 600 (1 484)	152 (499)	270 (886)	1FN3450-3NC50-0BA1		32/32.7 (70.6/72.1)	
5 185 (1 166)	8 810 (1 981)	106 (348)	190 (623)	1FN3450-4NB80-0BA1		42.3/44.4 (93.3/97.9)	
3 460 (778)	5 870 (1 320)	112 (368)	200 (656)	1FN3600-2NB80-0BA1	1FN3600-4SA00-0AA0	28.9/30.4 (63.7/67.0)	4.6/5 (10.1/11)
5 185 (1 166)	8 810 (1 981)	111 (364)	199 (653)	1FN3600-3NB80-0BA1		42.9/45.0 (94.6/99.2)	
6 915 (1 555)	11 740 (2 639)	111 (364)	199 (653)	1FN3600-4NB80-0BA1		56.6/59.2 (124.8/130.54)	
5 185 (1 166)	8 810 (1 981)	71 (233)	130 (427)	1FN3900-2NB20-0BA1	1FN3900-4SA00-0AA0	42.4/44.2 (93.5/97.5)	7.5/7.9 (16.5/17.4)
7 780 (1 749)	13 210 (2 970)	71 (233)	129 (423)	1FN3900-3NB20-0BA1		62/64.5 (136.7/142.2)	
10 375 (2 332)	17 610 (3 959)	70 (230)	129 (423)	1FN3900-4NB20-0BA1		82.2/85.4 (181.3/188.3)	

Type of connection:

Frame sizes 1FN3100 to 1FN3900

Connection cover prepared for separate power and signal cables

Frame size 1FN3050

Permanently connected power and signal cables with open core ends

Length: 2 m (6.56 ft)

Frame size 1FN3050

Permanently connected power and signal cables pre-assembled, with connectors

Length: 0.5 m (1.64 ft)

B

E

F

Synchronous motors

Linear motors for SIMODRIVE 611

1FN3 standard type linear motors
Version for continuous load – water cooling

Selection and ordering data

Motor type Primary section (continued)	Rated current $I_{rated}^1)$	Maxi- mum current I_{MAX}	Calculated power P_{calc}	SIMODRIVE 611 power module		Power cable with complete shield Motor connection via adapter cable with power connector for increased velocity/acceleration			
				Required rated current I_{rated}/I_{MAX}	Order No.	Pre-assembled adapter cable for motor Order No.	Power con- nector Size	Cable cross- section ⁵⁾ mm ²	Pre-assembled basic cable to converter Order No.
1FN3050-1ND...	2.8	5.9	1.8 (2.4)	3/6	For ordering data, see Converter system	6)	1	4 x 2.5	6FX8002-5CA11-
1FN3050-1ND...	2.8	5.9	1.8 (2.4)	3/6		6)	1	4 x 2.5	6FX8002-5CA11-
1FN3050-2NB...	2.8	5.9	2.4 (3.2)	3/6		6)	1	4 x 2.5	6FX8002-5CA11-
1FN3050-2NB...	2.8	5.9	2.4 (3.2)	3/6		6)	1	4 x 2.5	6FX8002-5CA11-
1FN3100-1NC...	2.8	5.9	2.1 (2.8)	3/6		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3100-2NC...	8	16.5	5.2 (7)	9/18		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3100-3NC...	8.5	17.6	6.3 (8.5)	9/18		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3100-4NC...	15.9	33.1	10.3 (13.8)	18/36		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3150-1NC...	4.5	9.4	3.2 (4.3)	5/10		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3150-2NB...	8	16.5	5.9 (7.9)	9/18		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3150-3NC...	16.9	35.2	10.8 (14.5)	18/36		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3150-4NB...	15.9	33.1	11.7 (15.7)	18/36		6FX7002-5LM42-	1	4 x 2.5	6FX8002-5CA11-
1FN3300-1NC...	8.1	17.1	5.4 (7.2)	9/18		6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-
1FN3300-2NC...	16.2	34.1	10.8 (14.5)	18/36		6FX7002-5LM62-	1	4 x 2.5	6FX8002-5CA11-
1FN3300-3NC...	27.3	57.4	17.4 (23.3)	28/56 ⁴⁾		6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-
1FN3300-4NB...	28.4	59.6	19.8 (26.6)	28/56 ⁴⁾		6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-
1FN3450-2NC...	28.4	59.6	17.5 (23.5)	28/56 ⁴⁾		6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-
1FN3450-3NC...	42.5	89.5	26.2 (35.1)	42/64 ⁴⁾		6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CA61-
1FN3450-4NB...	40.8	85.8	28.1 (37.7)	42/64 ⁴⁾		6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CA61-
1FN3600-2NB...	28.4	59.6	19.1 (25.6)	28/56 ⁴⁾		6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-
1FN3600-3NB...	42.5	89.5	28.5 (38.2)	42/64 ⁴⁾		6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CA61-
1FN3600-4NB...	56.7	119.3	38 (51)	56/112 ⁴⁾		6FX7002-5LM02-	1.5	4 x 16	6FX8002-5YP02-
1FN3900-2NB...	28.4	59.6	22 (29.5)	28/56 ⁴⁾		6FX7002-5LM72-	1.5	4 x 4	6FX8002-5CA41-
1FN3900-3NB...	42.5	89.5	32.9 (44.1)	42/64 ⁴⁾		6FX7002-5LM32-	1.5	4 x 10	6FX8002-5CA61-
1FN3900-4NB...	56.7	119.3	43.8 (58.7)	56/112 ⁴⁾		6FX7002-5LM02-	1.5	4 x 16	6FX8002-5YP02-

For length code as well as power and signal cables, see Connection system MOTION-CONNECT.

Designation	Order No.
Signal cable, pre-assembled with M17 connector	
• For 1FN3100/1FN3150 motors	6FX7002-2SL01-....
• For 1FN3300 to 1FN3900 motors	6FX7002-2SL02-....

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, at very low speeds, or with very short traverse paths.

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

⁴⁾ Power modules are designed for feedrate force F_{rated} . If feedrate force F_{MAX} is utilized, the next largest power module must be used. If a power module with a higher rating is used, you must check whether the specified power cable can be connected to it.

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⁾ Permanently connected power and signal cables.

Synchronous motors

Linear motors for SIMODRIVE 611

1FN3 standard type linear motors

Water cooling

Selection and ordering data

1FN3 linear motors Type	Optional components Secondary section cover		Cover end pieces for secondary section cover ²⁾ Retaining of the integrated cover without heat sink profiles Order No.
	Integrated ¹⁾ Order No.	Segmented Order 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
1FN3450-...	1FN3450-0TB00-1 ■ ■ 0	1FN3450-4TP00-1A ■ ■	1FN3450-0TC00-0AA0
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 frame sizes	2.5	C 5
	10	B		3	D 0
	20	C		3.5	D 5
	30	D		4	E 0
	40	E		5	F 0
	50	F			
Number of secondary sections for frame sizes 1FN3600/1FN3900	0	A	Number of secondary sections for frame sizes 1FN3600/1FN3900	5.5	F 5
	1	B		6.5	G 5
	2	C			
	3	D			
	4	E			
	5	F			
	6	G			
	7	H			
8	J				
9	K				

1FN3 linear motors Version for peak load Type	Optional components Precision cooler Order 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

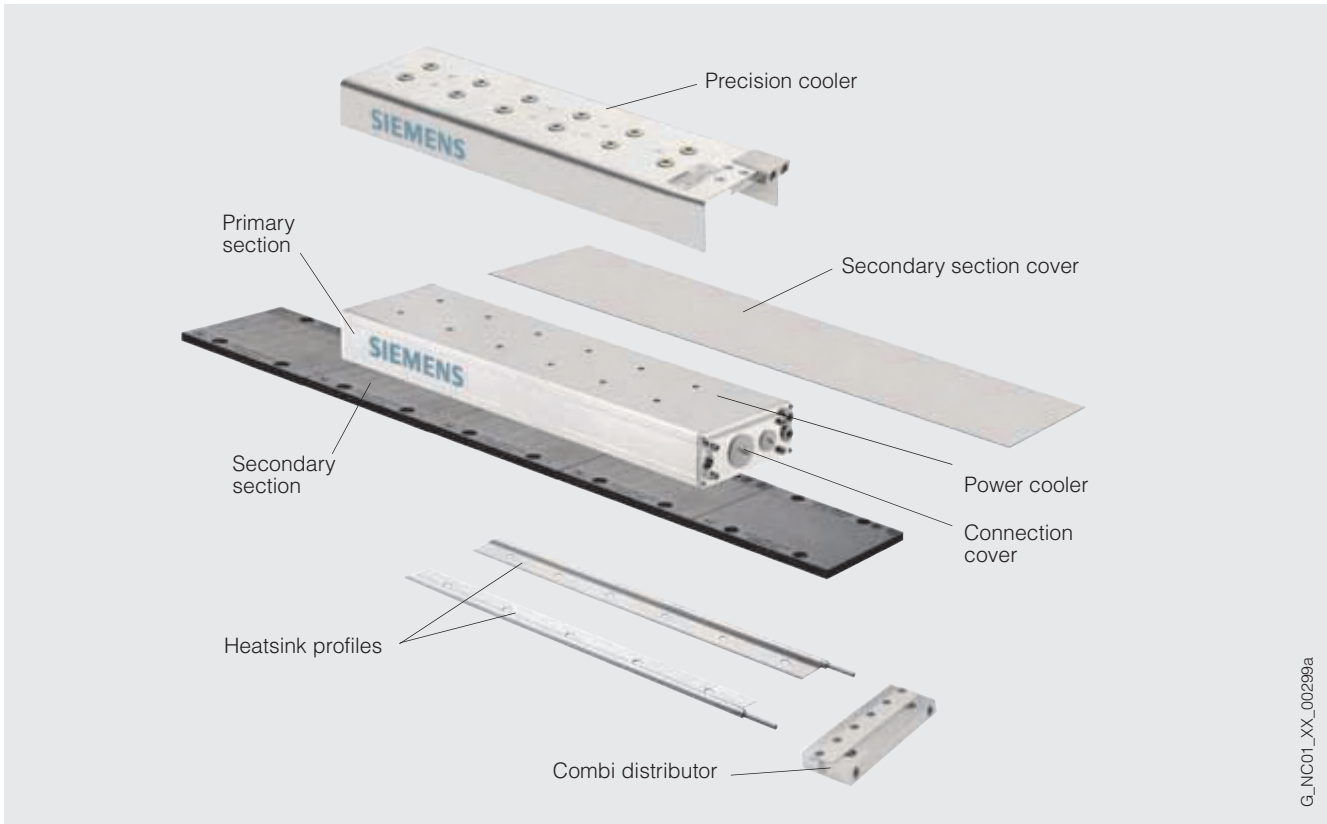
1FN3 linear motors Version for continuous load Type	Optional components Precision cooler Order No.
1FN3050-1N...	1FN3050-1PK10-0AA0
1FN3050-2N...	1FN3050-2PK10-0AA0
1FN3100-1N...	1FN3100-1PK10-0AA0
1FN3100-2N...	1FN3100-2PK10-0AA0
1FN3100-3N...	1FN3100-3PK10-0AA0
1FN3100-4N...	1FN3100-4PK10-0AA0
1FN3150-1N...	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

¹⁾ Integrated cover for several secondary sections. The maximum length of the secondary section cover is 6 m (19.7 ft). For the following frame sizes, 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.

Synchronous motors Linear motors for SIMODRIVE 611

**1FN3 standard type linear motors
Water cooling**



G_NC01_XX_00299a

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Selection and ordering data

Linear motors Type	Optional components			
	Heatsink profile ³⁾	Secondary section end pieces ²⁾		
		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
	Order No.	Order No.	Order No.	Order 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	–	–

With plug-in coupling prepared 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
 Frame sizes 1FN3050 to 1FN3450⁴⁾:
Grommet nipple only on right end of secondary section track
 Frame sizes 1FN3600/1FN3900:
Grommet nipple on both ends of secondary section track
 Frame sizes 1FN3050 to 1FN3450⁴⁾:
Grommet nipple only on left end of secondary section track

	Number of secondary sections
A	0
B	10
C	20
A	0
B	1
C	2
D	3
E	4
F	5
G	6
H	7
J	8
K	9

³⁾ Frame sizes 1FN3050 to 1FN3450:
 2 units required per secondary section track.
 1FN3600 to 1FN3900:
 3 units required per secondary section track.
 The maximal available length of a single-part heatsink profile is 3 m (9.84 ft).
 For the following frame sizes, this corresponds to:
 1FN3050 to 1FN3150, a maximum of 24 secondary sections (AB to CE)
 1FN3300 to 1FN3900, a maximum of 16 secondary sections (AB to BG).
⁴⁾ Available only in length AC (equals 2 secondary sections). The difference in the secondary section track length must be compensated through assembly with the heatsink profile 1FN300.-0TK04-1..0.