

Synchronous motors

Linear motors for SIMODRIVE 611

1FN1 standard type linear motors

Water cooling

Selection and Ordering Data

Feedrate force		Maximum velocity ³⁾		1FN1 linear motors Water cooling		Weight approx.		
F_{rated} ^{1) 2)}	F_{MAX}	V_{MAX} at F_{MAX}	V_{MAX} at F_{rated}	Primary section Order No.	Secondary section Order No.	Primary section	Secondary section	
N (lb _f)	N (lb _f)	m/min (ft/min)	m/min (ft/min)			kg (lb)	-0AA0 kg (lb)	-1AA0 kg (lb)
790 (178)	1720 (387)	97 (318)	203 (666)	1FN1072-3 A F7 ■ -0AA0	1FN1070-0AA00- ■ AA0	10.1 (22.3)	3 (6.6)	7.5 (16.5)
1580 (355)	3450 (776)	96 (315)	202 (663)	1FN1076-3 A F7 ■ -0AA0	1FN1070-0AA00- ■ AA0	17.5 (38.6)	3 (6.6)	7.5 (16.5)
1475 (332)	3250 (731)	72 (236)	163 (535)	1FN1122-5 ■ C7 1 -0AA0	1FN1120-0AA00- ■ AA0	23.2 (51.2)	6.8 (15)	15.9 (35.1)
		105 (345)	214 (702)	1FN1122-5 ■ F7 1 -0AA0		23.2 (51.2)	6.8 (15)	15.9 (35.1)
2200 (495)	4850 (1090)	89 (292)	189 (620)	1FN1124-5 ■ C7 1 -0AA0	1FN1120-0AA00- ■ AA0	31.9 (70.3)	6.8 (15)	15.9 (35.1)
		101 (331)	208 (683)	1FN1124-5 ■ F7 1 -0AA0		31.9 (70.3)	6.8 (15)	15.9 (35.1)
2950 (663)	6500 (1461)	71 (233)	162 (532)	1FN1126-5 ■ C7 1 -0AA0	1FN1120-0AA00- ■ AA0	40.7 (89.7)	6.8 (15)	15.9 (35.1)
		104 (341)	213 (699)	1FN1126-5 ■ F7 1 -0AA0		40.7 (89.7)	6.8 (15)	15.9 (35.1)
3600 (809)	7920 (1780)	74 (243)	162 (532)	1FN1184-5 A C7 1 -0AA0	1FN1180-0AA00- ■ AA0	44.5 (98.1)	10 (22)	23.3 (51.4)
		100 (328)	204 (669)	1FN1184-5 A F7 1 -0AA0		44.5 (98.1)	10 (22)	23.3 (51.4)
4800 (1079)	10600 (2383)	68 (223)	152 (499)	1FN1186-5 A C7 1 -0AA0	1FN1180-0AA00- ■ AA0	57.7 (127.2)	10 (22)	23.3 (51.4)
		89 (292)	185 (607)	1FN1186-5 A D7 1 -0AA0		57.7 (127.2)	10 (22)	23.3 (51.4)
		100 (328)	204 (669)	1FN1186-5 A F7 1 -0AA0		57.7 (127.2)	10 (22)	23.3 (51.4)
4950 (1113)	10900 (2450)	65 (213)	149 (489)	1FN1244-5 A C7 1 -0AA0	1FN1240-0AA00- ■ AA0	60.1 (132.5)	11.9 (26.2)	27.7 (61.1)
		100 (328)	203 (666)	1FN1244-5 A F7 1 -0AA0		60.1 (132.5)	11.9 (26.2)	27.7 (61.1)
6600 (1484)	14500 (3260)	67 (220)	151 (496)	1FN1246-5 A C7 1 -0AA0	1FN1240-0AA00- ■ AA0	76 (167.6)	11.9 (26.2)	27.7 (61.1)
		90 (295)	187 (614)	1FN1246-5 A D7 1 -0AA0		76 (167.6)	11.9 (26.2)	27.7 (61.1)
		98 (322)	201 (659)	1FN1246-5 A F7 1 -0AA0		76 (167.6)	11.9 (26.2)	27.7 (61.1)
Power connector for pre-assembled cables				A				
Fixed cable outlet, not pre-assembled Length: 3 m (9.84 ft)				K				
Standard winding for single-sided version					1			
Complementary winding for double-sided version (special secondary section for double-sided motors available on request)					2			
Length:		215.4 mm (8.48 in) (for 1FN1070: 225 mm (8.86 in)) 503.4 mm (19.82 in) (for 1FN1070: 563.4 mm (22.18 in))				0		
						1		

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Selection and Ordering Data

Motor type (continued) Primary section	Rated current	Maxi- mum current	Calculated power	SIMODRIVE 611 power module		Power cable with complete shield			
				Required rated current	Order No.	Motor connection via power connector		Order No. Pre-assembled cable	
	$I_{\text{rated}}^{1)}$ A	I_{MAX} A	P_{calc} kW (HP)	$I_{\text{rated}}/I_{\text{MAX}}$ A		Power connec- tor	Cable cross- section ⁵⁾		
						Size	Motor mm ²	Sensor mm ²	
1FN1072-3AF7-...	5.6	14	7.9 (10.6)	9/18	For ordering data, see "Converter systems"	1	4 x 1.5	4 x 0.5	6FX7002-5EA02-
1FN1076-3AF7-...	11.1	28	15.7 (21.1)	18/36		1	4 x 1.5	4 x 0.5	6FX7002-5EA02-
1FN1122-5.C71-...	8.9	22.4	12.5 (16.8)	9/18 ⁴⁾		1.5	4 x 2.5	4 x 0.5	6FX7002-5EA31-....
1FN1122-5.F71-...	11.3	28	14.3 (19.2)	18/36		1.5	4 x 2.5	4 x 0.5	6FX7002-5EA31-....
1FN1124-5.C71-...	15	37.5	19.9 (26.7)	18/36 ⁴⁾		1.5	4 x 2.5	4 x 0.5	6FX7002-5EA31-....
1FN1124-5.F71-...	16.2	40.8	21.0 (28.2)	18/36 ⁴⁾		1.5	4 x 2.5	4 x 0.5	6FX7002-5EA31-....
1FN1126-5.C71-...	17.7	44.8	24.9 (33.4)	18/36 ⁴⁾		1.5	4 x 2.5	4 x 0.5	6FX7002-5EA31-....
1FN1126-5.F71-...	22.1	56	28.4 (38.1)	28/56		1.5	4 x 4	4 x 0.5	6FX7002-5EA41-....
1FN1184-5AC71-...	22.6	54.1	29.0 (38.9)	28/56		1.5	4 x 4	4 x 0.5	6FX7002-5EA41-....
1FN1184-5AF71-...	26.1	65.5	32.3 (43.3)	28/56 ⁴⁾		1.5	4 x 4	4 x 0.5	6FX7002-5EA41-....
1FN1186-5AC71-...	27.2	67.9	37.0 (49.6)	28/56 ⁴⁾		1.5	4 x 4	4 x 0.5	6FX7002-5EA41-....
1FN1186-5AD71-...	32	80.1	40.9 (54.9)	56/112		1.5	4 x 6	4 x 0.5	6FX7002-5EA51-
1FN1186-5AF71-...	34.8	86.9	43.1 (57.8)	56/112		1.5	4 x 6	4 x 0.5	6FX7002-5EA51-
1FN1244-5AC71-...	28	69.9	38.0 (50.9)	30/56 ⁴⁾		1.5	4 x 6	4 x 0.5	6FX7002-5EA41-....
1FN1244-5AF71-...	36.3	90.8	43.8 (58.7)	56/112		1.5	4 x 10	4 x 0.5	6FX7002-5EA61-....
1FN1246-5AC71-...	37.7	93.7	50.3 (67.4)	56/112		1.5	4 x 10	4 x 0.5	6FX7002-5EA61-....
1FN1246-5AD71-...	45.1	112.1	55.1 (74.2)	56/112		1.5	4 x 10	4 x 0.5	6FX7002-5EA61-....
1FN1246-5AF71-...	48.3	120	58.2 (78.1)	70/140		1.5	4 x 10	4 x 0.5	6FX7002-5EA61-....

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

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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 IEC 60204-1 for installation type C under continuous operating conditions at an ambient air temperature of 40 °C (104 °F).