

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 core type motors

Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FT6 synchronous motors Core type Natural cooling	No. of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_{rated} at $\Delta T=100\text{ K}$	I_{rated} at $\Delta T=100\text{ K}$	Order No.		J	m
rpm		kW (HP)	Nm (lb _f -in)	Nm (lb _f -in)	A			10^{-4} kgm^2 (lb _f -in-s ²)	kg (lb)
2 000	100	4.8 (6.4)	27 (239)	23 (204)	11	1FT6102 - 1AC71 - ■ ■ ■ 1	4	99 (0.0876)	27.5 (60.6)
		8.0 (10.7)	50 (443)	38 (336)	17.6	1FT6105 - 1AC71 - ■ ■ ■ 1	4	168 (0.1487)	39.5 (87.1)
3 000	48	1.4 (1.9)	5 (44)	4.3 (38.1)	2.9	1FT6044 - 1AF71 - ■ ■ ■ 1	2	5.1 (0.0045)	8.3 (18.3)
	63	1.5 (2.0)	6 (53)	4.7 (41.6)	3.4	1FT6062 - 1AF71 - ■ ■ ■ 1	3	8.5 (0.0752)	9.5 (20.9)
		2.2 (3.0)	9.5 (84.1)	7 (62)	4.9	1FT6064 - 1AF71 - ■ ■ ■ 1	3	13 (0.0115)	12.5 (27.6)
	80	3.2 (4.3)	13 (115)	10.3 (91.2)	8.7	1FT6082 - 1AF71 - ■ ■ ■ 1	4	30 (0.0266)	15 (33.1)
		4.6 (6.2)	20 (177)	14.7 (130.1)	11	1FT6084 - 1AF71 - ■ ■ ■ 1	4	48 (0.0425)	20.5 (45.2)
		5.8 (7.8)	27 (239)	18.5 (163.7)	13	1FT6086 - 1AF71 - ■ ■ ■ 1	4	66.5 (0.0589)	25.5 (56.2)
4 500	63	1.7 (2.3)	6 (53)	3.6 (31.9)	3.9	1FT6062 - 1AH71 - ■ ■ ■ 1	3	8.5 (0.0752)	9.5 (20.9)
		2.3 (3.1)	9.5 (84.1)	4.8 (42.5)	5.5	1FT6064 - 1AH71 - ■ ■ ■ 1	3	13 (0.0115)	12.5 (27.6)
	80	4.9 (6.7)	20 (177)	10.5 (92.9)	12.5	1FT6084 - 1AH71 - ■ ■ ■ 1	4	48 (0.0425)	20.5 (45.2)
		5.7 (7.6)	27 (239)	12 (106.2)	12.6	1FT6086 - 1AH71 - ■ ■ ■ 1	4	66.5 (0.0589)	25.5 (56.2)
6 000	36	0.88 (1.2)	2 (18)	1.4 (12.4)	2.1	1FT6034 - 1AK71 - ■ ■ ■ 1	2	1.1 (0.001)	4.4 (9.7)
	80	4.1 (5.5)	20 (177)	6.5 (57.5)	9.2	1FT6084 - 1AK71 - ■ ■ ■ 1	4	48 (0.0425)	20.5 (45.2)

Type of construction:	IM B5	1
Connector outlet direction:	Transverse right (not for 1FT603/1FT604/1FT606) Transverse left (not for 1FT603/1FT604/1FT606) Axial NDE Axial DE	1 2 3 4
Encoder systems:	Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R ¹⁾	A E
Shaft extension: Plain shaft Plain shaft	Shaft and flange accuracy: Tolerance N Tolerance N	Holding brake: Without With
Vibration magnitude: Grade A	Degree of protection: IP65	G H
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Selection and ordering data

Motor type (continued)	Static current	Calculated power ⁴⁾	SIMODRIVE 611 power module		Power cable with complete shield Motor connection and brake connection via power connector		
	I_0 at M_0 $\Delta T=100\text{ K}$ A	P_{calc} for M_0 $\Delta T=100\text{ K}$ kW (HP)	Rated output current ³⁾ I_{rated} A	Order No.	Power connector Size	Cable cross- section ²⁾ mm^2	Pre-assembled cable Order No.
1FT6102-1AC7...	12.1	5.7 (7.6)	18For ordering data, see Converter system	1.5	4 x 1.5	6FX ■ ■ 02 - 5 ■ A21 -	
1FT6105-1AC7...	21.4	10.5 (14.1)	28	1.5	4 x 4	6FX ■ ■ 02 - 5 ■ A41 -	
1FT6044-1AF7...	3	1.6 (2.1)	3	1	4 x 1.5	6FX ■ ■ 02 - 5 ■ A01 -	
1FT6062-1AF7...	4.1	1.9 (2.6)	5	1	4 x 1.5	6FX ■ ■ 02 - 5 ■ A01 -	
1FT6064-1AF7...	6.1	3.0 (4.0)	9	1	4 x 1.5	6FX ■ ■ 02 - 5 ■ A01 -	
1FT6082-1AF7...	9.6	4.1 (5.5)	18	1.5	4 x 1.5	6FX ■ ■ 02 - 5 ■ A21 -	
1FT6084-1AF7...	13.2	6.3 (8.5)	18	1.5	4 x 1.5	6FX ■ ■ 02 - 5 ■ A21 -	
1FT6086-1AF7...	16.4	8.5 (11.4)	18	1.5	4 x 2.5	6FX ■ ■ 02 - 5 ■ A31 -	
1FT6062-1AH7...	5.7	2.8 (3.8)	9	1	4 x 1.5	6FX ■ ■ 02 - 5 ■ A01 -	
1FT6064-1AH7...	9.0	4.5 (6.0)	9	1	4 x 1.5	6FX ■ ■ 02 - 5 ■ A01 -	
1FT6084-1AH7...	19.8	9.4 (12.6)	18	1.5	4 x 4	6FX ■ ■ 02 - 5 ■ A41 -	
1FT6086-1AH7...	23.3	12.7 (17.0)	28	1.5	4 x 4	6FX ■ ■ 02 - 5 ■ A41 -	
1FT6034-1AK7...	2.6	1.3 (1.7)	3	1	4 x 1.5	6FX ■ ■ 02 - 5 ■ A01 -	
1FT6084-1AK7...	24.1	12.6 (16.9)	28	1.5	4 x 4	6FX ■ ■ 02 - 5 ■ A41 -	
Type of power cable:							
MOTION-CONNECT 800							8 0
MOTION-CONNECT 700 (only <u>with</u> brake cores)							7 0
MOTION-CONNECT 500							5 0
MOTION-CONNECT 500 PLUS (only up to a cross-section of 6 mm ²)							5 1
Without brake cores							C
With brake cores							D
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.							

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¹⁾ If the absolute encoder is used, M_{rated} is reduced by 10 %.

²⁾ 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).

³⁾ For the default setting of pulse frequency.

⁴⁾ $P_{\text{calc}} [\text{kW}] = \frac{M_0 [\text{Nm}] \times n_{\text{rated}}}{9550}$ $P_{\text{calc}} [\text{HP}] = \frac{M_0 [\text{lb}_f\text{-in}] \times n_{\text{rated}}}{63000}$

Synchronous motors

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Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FT6 synchronous motors Standard type Natural cooling	No. of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_{rated} at $\Delta T=100\text{ K}$	I_{rated} at $\Delta T=100\text{ K}$			J	m
rpm		kW (HP)	Nm (lb _f -in)	Nm (lb _f -in)	A	Order No.		10 ⁻⁴ kgm ² (lb _f -in-s ²)	kg (lb)
1 500	100	3.8 (5.1)	27 (239)	24.5 (216.8)	8.4	1FT6102 - 8AB7 - ■ ■ ■ ■ ■ ■ ■ ■	4	99 (0.0876)	27.5 (60.6)
		6.4 (8.9)	50 (443)	41 (363)	14.5	1FT6105 - 8AB7 - ■ ■ ■ ■ ■ ■ ■ ■	4	168 (0.1487)	39.5 (87.1)
		9.6 (12.9)	70 (620)	61 (540)	20.5	1FT6108 - 8AB7 - ■ ■ ■ ■ ■ ■ ■ ■	4	260 (0.2301)	55.5 (122.4)
	132	9.7 (13)	75 (664)	62 (549)	19	1FT6132 - 6AB7 1 - ■ ■ ■ ■ ■ ■ ■ ■	3	430 (0.3806)	85 (187.4)
		11.8 (15.8)	95 (841)	75 (664)	24	1FT6134 - 6AB7 1 - ■ ■ ■ ■ ■ ■ ■ ■	3	547 (0.4841)	100 (220.5)
		13.8 (18.5)	115 (1018)	88 (779)	27	1FT6136 - 6AB7 1 - ■ ■ ■ ■ ■ ■ ■ ■	3	664 (0.5876)	117 (258)

Type of construction:		IM B5 IM B14 ²⁾ (not for 1FT613)	1 2				
Connector outlet direction:		Transverse right Transverse left Axial NDE (not for 1FT613) Axial DE	1 2 3 4				
Terminal box/ Cable entry:		Transverse/from right Transverse/from left Axial/from NDE Axial/from DE	5 6 7 8				
Encoder systems:		Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R ¹⁾ Multipole resolver 2-pole resolver		A E S T			
Shaft extension:		Fitted key and keyway Fitted key and keyway Fitted key and keyway Fitted key and keyway Plain shaft Plain shaft Plain shaft Plain shaft					
Shaft and flange accuracy:		Tolerance N Tolerance N Tolerance R Tolerance R Tolerance N Tolerance N Tolerance R Tolerance R					
Holding brake:		Without With Without With Without With Without With		A B D E G H K L			
Vibration magnitude:		Grade A Grade A Grade A Grade A Grade R Grade R Grade R Grade R					
Degree of protection:		IP64 IP65 IP67 IP68 IP64 IP65 IP67 IP68					
							0 1 2 6 3 4 5 7

To select the type of construction and degree of protection, see Selection guides.

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Selection and ordering data

Motor type (continued)	Static current	Calculated power ⁵⁾	SIMODRIVE 611 power module		Power cable with complete shield Motor connection and brake connection via power connector		
	I_0 at M_0 $\Delta T=100\text{ K}$	P_{calc} for M_0 $\Delta T=100\text{ K}$	Rated output current ³⁾	Order No.	Power connector	Cable cross- section ⁴⁾	Pre-assembled cable
	A	kW (HP)	A		Size	mm ²	Order No.
1FT6102-8AB7...	8.7	4.2 (5.63)	9	For ordering data, see Converter system	1.5	4 x 1.5	6FX ■ ■ 02 - 5 ■ A21 -
1FT6105-8AB7...	16.0	7.9 (10.59)	18		1.5	4 x 2.5	6FX ■ ■ 02 - 5 ■ A31 -
1FT6108-8AB7...	22.3	11.0 (14.75)	28		1.5	4 x 4	6FX ■ ■ 02 - 5 ■ A41 -
1FT6132-6AB7 ...	21.6	11.8 (15.82)	28		1.5	4 x 4	6FX ■ ■ 02 - 5 ■ A41 -
1FT6134-6AB7 ...	27.0	14.9 (19.97)	28		1.5	4 x 4	6FX ■ ■ 02 - 5 ■ A41 -
1FT6136-6AB7 ...	34	18.1 (24.26)	56		1.5	4 x 10	6FX ■ 002 - 5 ■ A61 -
Type of power cable:							
MOTION-CONNECT 800							8 0
MOTION-CONNECT 700 (only <u>with</u> brake cores)							7 0
MOTION-CONNECT 500							5 0
MOTION-CONNECT 500 PLUS (only up to a cross-section of 6 mm ²)							5 1
Without brake cores							C
With brake cores							D
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.							

¹⁾ If the absolute encoder is used, M_{rated} is reduced by 10 %.

²⁾ Same flange as for IM B5 type of construction, but with metric threaded insert in the four fixing holes.

³⁾ For the default setting of pulse frequency.

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⁾ $P_{\text{calc}} [\text{kW}] = \frac{M_0 [\text{Nm}] \times \eta_{\text{rated}}}{9550}$ $P_{\text{calc}} [\text{HP}] = \frac{M_0 [\text{lb}_f\text{-in}] \times \eta_{\text{rated}}}{63000}$

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Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FT6 synchronous motors Standard type Natural cooling	No. of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_{rated} at $\Delta T=100\text{ K}$	I_{rated} at $\Delta T=100\text{ K}$			J	m
rpm		kW (HP)	Nm (lb _F -in)	Nm (lb _F -in)	A	Order No.		10 ⁻⁴ kgm ² (lb _F -in-s ²)	kg (lb)
2 000	63	0.8 (1.1)	4 (35)	3.7 (32.7)	1.9	1FT6061 - 6AC7■ - ■ ■ ■ ■ ■	3	6 (0.0053)	8 (17.6)
		1.1 (1.5)	6 (53)	5.2 (46)	2.6	1FT6062 - 6AC7■ - ■ ■ ■ ■ ■	3	8.5 (0.0075)	9.5 (20.9)
		1.7 (2.3)	9.5 (84.1)	8 (71)	3.8	1FT6064 - 6AC7■ - ■ ■ ■ ■ ■	3	13 (0.0115)	12.5 (27.6)
	80	1.6 (5.1)	8 (71)	7.5 (66.4)	4.1	1FT6081 - 8AC7■ - ■ ■ ■ ■ ■	4	21 (0.0186)	12.5 (27.6)
		2.4 (3.2)	13 (115)	11.4 (101)	6.6	1FT6082 - 8AC7■ - ■ ■ ■ ■ ■	4	30 (0.0266)	15 (33.1)
		3.5 (4.7)	20 (177)	16.9 (149.6)	8.3	1FT6084 - 8AC7■ - ■ ■ ■ ■ ■	4	48 (0.0425)	20.5 (45.2)
		4.7 (6.3)	27 (239)	22.5 (199)	10.9	1FT6086 - 8AC7■ - ■ ■ ■ ■ ■	4	66.5 (0.0589)	25.5 (56.2)
	100	4.8 (6.4)	27 (239)	23 (204)	11	1FT6102 - 8AC7■ - ■ ■ ■ ■ ■	4	99 (0.0876)	27.5 (60.6)
		8.0 (10.7)	50 (443)	38 (336)	17.6	1FT6105 - 8AC7■ - ■ ■ ■ ■ ■	4	168 (0.1478)	39.5 (87.1)
		11.5 (15.4)	70 (620)	55 (487)	24.5	1FT6108 - 8AC7■ - ■ ■ ■ ■ ■	4	260 (0.2301)	55.5 (122.4)
	132	11.5 (15.4)	75 (664)	55 (487)	23	1FT6132 - 6AC7 1 - ■ ■ ■ ■ ■	3	430 (0.3806)	85 (188)
		13.6 (18.2)	95 (841)	65 (575)	27	1FT6134 - 6AC7 1 - ■ ■ ■ ■ ■	3	547 (0.4841)	100 (221)
		15.5 (20.8)	115 (1018)	74 (665)	30	1FT6136 - 6AC7 1 - ■ ■ ■ ■ ■	3	664 (0.5876)	117 (258)

Type of construction:		IM B5 IM B14 ²⁾ (not for 1FT613)	1 2			
Connector outlet direction:		Transverse right (not for 1FT606) Transverse left (not for 1FT606) Axial NDE (not for 1FT613) Axial DE	1 2 3 4			
Terminal box/ Cable entry: (only for 1FT61)		Transverse/from right Transverse/from left Axial/from NDE Axial/from DE	5 6 7 8			
Encoder systems:		Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R ¹⁾ Multipole resolver 2-pole resolver		A E S T		
Shaft extension:	Shaft and flange accuracy:	Holding brake:		A B D E G H K L		
Fitted key and keyway	Tolerance N	Without				
Fitted key and keyway	Tolerance N	With				
Fitted key and keyway	Tolerance R	Without				
Fitted key and keyway	Tolerance R	With				
Plain shaft	Tolerance N	Without				
Plain shaft	Tolerance N	With				
Plain shaft	Tolerance R	Without				
Plain shaft	Tolerance R	With				
Vibration magnitude:	Degree of protection:					
Grade A	IP64		0			
Grade A	IP65		1			
Grade A	IP67		2			
Grade A	IP68		6			
Grade R	IP64		3			
Grade R	IP65		4			
Grade R	IP67		5			
Grade R	IP68		7			

To select the type of construction and degree of protection, see Selection guides.

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors
Natural cooling

Selection and ordering data

Motor type (continued)	Static current	Calculated power ⁶⁾	SIMODRIVE 611 power module		Power cable with complete shield Motor connection and brake connection via power connector		
	I_0 at M_0 $\Delta T=100$ K	P_{calc} for M_0 $\Delta T=100$ K	Rated output current ³⁾	Order No.	Power connector	Cable cross- section ⁵⁾	Pre-assembled cable
	A	kW (HP)	A		Size	mm ²	Order No.
1FT6061-6AC7...	1.9	0.84 (1.13)	3	For ordering data, see Converter system	1	4 x 1.5	6FX ■ 02 - 5 ■ A01 -
1FT6062-6AC7...	2.7	1.3 (1.74)	3		1	4 x 1.5	6FX ■ 02 - 5 ■ A01 -
1FT6064-6AC7...	4.2	2.0 (2.68)	5		1	4 x 1.5	6FX ■ 02 - 5 ■ A01 -
1FT6081-8AC7...	3.9	1.7 (2.28)	5		1.5	4 x 1.5	6FX ■ 02 - 5 ■ A21 -
1FT6082-8AC7...	6.6	2.7 (3.62)	9		1.5	4 x 1.5	6FX ■ 02 - 5 ■ A21 -
1FT6084-8AC7...	8.8	4.2 (5.63)	9		1.5	4 x 1.5	6FX ■ 02 - 5 ■ A21 -
1FT6086-8AC7...	11.3	5.7 (7.64)	18		1.5	4 x 1.5	6FX ■ 02 - 5 ■ A21 -
1FT6102-8AC7...	12.1	5.7 (7.64)	18		1.5	4 x 1.5	6FX ■ 02 - 5 ■ A21 -
1FT6105-8AC7...	21.4	10.5 (14.07)	28		1.5	4 x 4	6FX ■ 02 - 5 ■ A41 -
1FT6108-8AC7...	29	14.7 (19.71)	28 ⁴⁾		1.5	4 x 6	6FX ■ 02 - 5 ■ A51 -
1FT6132-6AC7...	29	15.7 (21.05)	28 ⁴⁾		1.5	4 x 6	6FX ■ 02 - 5 ■ A51 -
1FT6134-6AC7...	36	19.9 (26.68)	56		1.5	4 x 10	6FX ■ 002 - 5 ■ A61 -
1FT6136-6AC7...	42	24.1 (32.31)	56		3	4 x 10	6FX 5 002 - 5 ■ A13 -
Type of power cable:							
MOTION-CONNECT 800							
MOTION-CONNECT 700 (only <u>with</u> brake cores)							
MOTION-CONNECT 500							
MOTION-CONNECT 500 PLUS (only up to a cross-section of 6 mm ²)							
Without brake cores							
With brake cores							
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.							

¹⁾ If the absolute encoder is used, M_{rated} is reduced by 10 %.

²⁾ Same flange as for IM B5 type of construction, but with metric threaded insert in the four fixing holes.

³⁾ For the default setting of pulse frequency.

⁴⁾ With the specified power module, the motor cannot be fully utilized at M_0 at $\Delta T=100$ K winding temperature rise. 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⁾ $P_{calc} [kW] = \frac{M_0 [Nm] \times n_{rated}}{9550}$ $P_{calc} [HP] = \frac{M_0 [lb_f-in] \times n_{rated}}{63000}$

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Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FT6 synchronous motors Standard type Natural cooling	No. of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_{rated} at $\Delta T=100\text{ K}$	I_{rated} at $\Delta T=100\text{ K}$			J	m
rpm		kW (HP)	Nm (lb _f -in)	Nm (lb _f -in)	A	Order No.		10^{-4} kgm^2 (lb _f -in-s ²)	kg (lb)
3 000	48	0.7 (0.99)	2.6 (23)	2.15 (19)	1.7	1FT6041 - 4AF7 1 - ■ ■ ■ ■ ■	2	2.9 (0.0025)	6.6 (14.6)
		1.4 (1.9)	5 (44)	4.3 (38.1)	2.9	1FT6044 - 4AF7 1 - ■ ■ ■ ■ ■	2	5.1 (0.0045)	8.3 (18.3)
	63	1.1 (1.5)	4 (35)	3.5 (31)	2.6	1FT6061 - 6AF7 ■ - ■ ■ ■ ■ ■	3	6 (0.0053)	8 (17.6)
		1.5 (2.0)	6 (53)	4.7 (41.6)	3.4	1FT6062 - 6AF7 ■ - ■ ■ ■ ■ ■	3	8.5 (0.0075)	9.5 (20.9)
		2.2 (2.95)	9.5 (84.1)	7 (62)	4.9	1FT6064 - 6AF7 ■ - ■ ■ ■ ■ ■	3	13 (0.0115)	12.5 (27.6)
	80	2.2 (2.95)	8 (71)	6.9 (61.1)	5.6	1FT6081 - 8AF7 ■ - ■ ■ ■ ■ ■	4	21 (0.0186)	12.5 (27.6)
		3.2 (4.3)	13 (115)	10.3 (91.2)	8.7	1FT6082 - 8AF7 ■ - ■ ■ ■ ■ ■	4	30 (0.0266)	15 (33.1)
		4.6 (6.2)	20 (177)	14.7 (130.1)	11	1FT6084 - 8AF7 ■ - ■ ■ ■ ■ ■	4	48 (0.0425)	20.5 (45.2)
		5.8 (7.8)	27 (239)	18.5 (163.7)	13	1FT6086 - 8AF7 ■ - ■ ■ ■ ■ ■	4	66.5 (0.0589)	25.5 (56.2)
	100	6.1 (8.2)	27 (239)	19.5 (172.6)	13.2	1FT6102 - 8AF7 ■ - ■ ■ ■ ■ ■	4	99 (0.0876)	27.5 (60.6)
		9.7 (13)	50 (443)	31 (274)	22.5	1FT6105 - 8AF7 ■ - ■ ■ ■ ■ ■	4	168 (0.1487)	39.5 (87.1)
		11.6 (15.2)	70 (620)	37 (328)	25	1FT6108 - 8AF7 ■ - ■ ■ ■ ■ ■	4	260 (0.2301)	55.5 (122.4)
	132	11.3 (15.2)	75 (664)	36 (319)	23	1FT6132 - 6AF7 1 - ■ ■ ■ ■ ■	3	430 (0.3806)	85 (187.4)

Type of construction:		IM B5 IM B14 ²⁾ (not for 1FT604/1FT613)	1 2			
Connector outlet direction:		Transverse right (not for 1FT604/1FT606) Transverse left (not for 1FT604/1FT606) Axial NDE (not with power connector size 3 and not with 1FT613) Axial DE	1 2 3 4			
Terminal box/ Cable entry: (only for 1FT61)		Transverse/from right Transverse/from left Axial/from NDE Axial/from DE	5 6 7 8			
Encoder systems:		Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R ¹⁾ Multipole resolver 2-pole resolver		A E S T		
Shaft extension:	Shaft and flange accuracy:	Holding brake:		A B D E G H K L		
Fitted key and keyway	Tolerance N	Without				
Fitted key and keyway	Tolerance N	With				
Fitted key and keyway	Tolerance R	Without				
Fitted key and keyway	Tolerance R	With				
Plain shaft	Tolerance N	Without				
Plain shaft	Tolerance N	With				
Plain shaft	Tolerance R	Without				
Plain shaft	Tolerance R	With				
Vibration magnitude:	Degree of protection:					
Grade A	IP64		0			
Grade A	IP65		1			
Grade A	IP67		2			
Grade A	IP68		6			
Grade R	IP64		3			
Grade R	IP65		4			
Grade R	IP67		5			
Grade R	IP68		7			

To select the type of construction and degree of protection, see Selection guides.

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors
Natural cooling

Selection and ordering data

Motor type (continued)	Static current	Calculated power ⁶⁾	SIMODRIVE 611 power module		Power cable with complete shield Motor connection and brake connection via power connector		
	I_0 at M_0 $\Delta T=100$ K A	P_{calc} for M_0 $\Delta T=100$ K kW (HP)	Rated output current ³⁾ I_{rated} A	Order No.	Power connector Size	Cable cross- section ⁴⁾ mm ²	Pre-assembled cable Order No.
1FT6041-4AF7 ...	1.9	0.8 (1.07)	3	For ordering data, see Converter system	1	4 x 1.5	6FX 002-5 A01 -
1FT6044-4AF7 ...	3	1.6 (2.14)	3		1	4 x 1.5	6FX 002-5 A01 -
1FT6061-6AF7 ...	2.7	1.3 (1.74)	3		1	4 x 1.5	6FX 002-5 A01 -
1FT6062-6AF7 ...	4.1	1.9 (2.55)	5		1	4 x 1.5	6FX 002-5 A01 -
1FT6064-6AF7 ...	6.1	3.0 (4.02)	9		1	4 x 1.5	6FX 002-5 A01 -
1FT6081-8AF7 ...	5.8	2.5 (3.35)	9		1.5	4 x 1.5	6FX 002-5 A21 -
1FT6082-8AF7 ...	9.6	4.1 (5.5)	18		1.5	4 x 1.5	6FX 002-5 A21 -
1FT6084-8AF7 ...	13.2	6.3 (8.45)	18		1.5	4 x 1.5	6FX 002-5 A21 -
1FT6086-8AF7 ...	16.4	8.5 (11.39)	18		1.5	4 x 2.5	6FX 002-5 A31 -
1FT6102-8AF7 ...	16.9	8.5 (11.39)	18		1.5	4 x 2.5	6FX 002-5 A31 -
1FT6105-8AF7 ...	32	15.7 (21.05)	28 ⁵⁾		1.5	4 x 6	6FX 002-5 A51 -
1FT6108-8AF7 ...	41	22.0 (29.49)	56		3	4 x 10	6FX 5 002-5 A13 -
1FT6132-6AF7 ...	43	23.6 (31.64)	56		3	4 x 10	6FX 5 002-5 A13 -

Type of power cable:

MOTION-CONNECT 800

MOTION-CONNECT 700 (only with brake cores)

MOTION-CONNECT 500

MOTION-CONNECT 500 PLUS (only up to a cross-section of 6 mm²)

8 0
7 0
5 0
5 1

Without brake cores

With brake cores

C
D

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

....

¹⁾ If the absolute encoder is used, M_{rated} is reduced by 10 %.

²⁾ Same flange as for IM B5 type of construction, but with metric threaded insert in the four fixing holes.

³⁾ For the default setting of pulse frequency.

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⁾ With the specified power module, the motor cannot be fully utilized at M_0 at $\Delta T=100$ K winding temperature rise. If a power module with a higher rating is used, you must check whether the specified power cable can be connected to it.

⁶⁾ $P_{calc} [kW] = \frac{M_0 [Nm] \times n_{rated}}{9550}$ $P_{calc} [HP] = \frac{M_0 [lb_f-in] \times n_{rated}}{63000}$

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FT6 synchronous motors Standard type Natural cooling	No. of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)	
n_{rated}	SH	P_{rated} at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_{rated} at $\Delta T=100\text{ K}$	I_{rated} at $\Delta T=100\text{ K}$			J	m	
rpm		kW (HP)	Nm (lb _f -in)	Nm (lb _f -in)	A	Order No.		10 ⁻⁴ kgm ² (lb _f -in-s ²)	kg (lb)	
4 500	63	1.4 (1.9)	4 (35)	2.9 (25.7)	3.4	1FT6061 - 6AH7■ - ■ ■ ■ ■ ■	3	6 (0.0053)	8 (17.6)	
		1.7 (2.3)	6 (53)	3.6 (31.9)	3.9	1FT6062 - 6AH7■ - ■ ■ ■ ■ ■	3	8.5 (0.0075)	9.5 (20.9)	
		2.3 (3.1)	9.5 (84.1)	4.8 (42.5)	5.5	1FT6064 - 6AH7■ - ■ ■ ■ ■ ■	3	13 (0.0115)	12.5 (27.6)	
	80	2.7 (3.6)	8 (71)	5.8 (51.3)	7.3	1FT6081 - 8AH7■ - ■ ■ ■ ■ ■	4	21 (0.0186)	12.5 (27.6)	
		4 (5.4)	13 (115)	8.5 (75.2)	11	1FT6082 - 8AH7■ - ■ ■ ■ ■ ■	4	30 (0.0266)	15 (33.1)	
		4.9 (6.6)	20 (177)	10.5 (92.9)	12.5	1FT6084 - 8AH7■ - ■ ■ ■ ■ ■	4	48 (0.0425)	20.5 (45.2)	
		5.7 (7.6)	27 (239)	12 (106.2)	12.6	1FT6086 - 8AH7■ - ■ ■ ■ ■ ■	4	66.5 (0.0589)	25.5 (56.2)	
	100	5.7 (7.6)	27 (239)	12 (106.2)	12	1FT6102 - 8AH7■ - ■ ■ ■ ■ ■	4	99 (0.0876)	27.5 (60.6)	
	Type of construction:			IM B5 IM B14 ²⁾			1 2			
	Connector outlet direction:			Transverse right (not for 1FT606) Transverse left (not for 1FT606) Axial NDE Axial DE			1 2 3 4			
Terminal box/ Cable entry: (only for 1FT61)			Transverse/from right Transverse/from left Axial/from NDE Axial/from DE			5 6 7 8				
Encoder systems:			Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R ¹⁾ Multipole resolver 2-pole resolver			A E S T				
Shaft extension:			Shaft and flange accuracy:			Holding brake:				
Fitted key and keyway			Tolerance N			Without		A		
Fitted key and keyway			Tolerance N			With		B		
Fitted key and keyway			Tolerance R			Without		D		
Fitted key and keyway			Tolerance R			With		E		
Plain shaft			Tolerance N			Without		G		
Plain shaft			Tolerance N			With		H		
Plain shaft			Tolerance R			Without		K		
Plain shaft			Tolerance R			With		L		
Vibration magnitude:			Degree of protection:							
Grade A			IP64			0				
Grade A			IP65			1				
Grade A			IP67			2				
Grade A			IP68			6				
Grade R			IP64			3				
Grade R			IP65			4				
Grade R			IP67			5				
Grade R			IP68			7				

To select the type of construction and degree of protection, see Selection guides.

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors
Natural cooling

Selection and ordering data

Motor type (continued)	Static current	Calculated power ⁶⁾	SIMODRIVE 611 power module		Power cable with complete shield Motor connection and brake connection via power connector				
	I_0 at M_0 $\Delta T=100$ K	P_{calc} for M_0 $\Delta T=100$ K	Rated output current ³⁾	Order No.	Power connector	Cable cross- section ⁵⁾	Pre-assembled cable		
	A	kW (HP)	A		Size	mm ²	Order No.		
1FT6061-6AH7...	4	1.9 (2.6)	5	For ordering data, see Converter system	1	4 x 1.5	6FX ■ ■ 02 - 5 ■ A01 -		
1FT6062-6AH7...	5.7	2.8 (3.8)	9		1	4 x 1.5	6FX ■ ■ 02 - 5 ■ A01 -		
1FT6064-6AH7...	9.0	4.5 (6.0)	9		1	4 x 1.5	6FX ■ ■ 02 - 5 ■ A01 -		
1FT6081-8AH7...	8.6	3.8 (5.1)	9		1.5	4 x 1.5	6FX ■ ■ 02 - 5 ■ A21 -		
1FT6082-8AH7...	14.8	6.1 (8.2)	18		1.5	4 x 1.5	6FX ■ ■ 02 - 5 ■ A21 -		
1FT6084-8AH7...	19.8	9.4 (12.6)	18 ⁴⁾		1.5	4 x 4	6FX ■ ■ 02 - 5 ■ A41 -		
1FT6086-8AH7...	23.3	12.7 (17.0)	28		1.5	4 x 4	6FX ■ ■ 02 - 5 ■ A41 -		
1FT6102-8AH7...	24.1	12.7 (17.0)	28		1.5	4 x 4	6FX ■ ■ 02 - 5 ■ A41 -		
Type of power cable: MOTION-CONNECT 800 MOTION-CONNECT 700 (only <u>with</u> brake cores) MOTION-CONNECT 500 MOTION-CONNECT 500 PLUS (only up to a cross-section of 6 mm ²)							8 0 7 0 5 0 5 1		
Without brake cores								C	
With brake cores								D	
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.									

¹⁾ If the absolute encoder is used, M_{rated} is reduced by 10 %.

²⁾ Same flange as for IM B5 type of construction, but with metric threaded insert in the four fixing holes.

³⁾ For the default setting of pulse frequency.

⁴⁾ With the specified power module, the motor cannot be fully utilized at M_0 at $\Delta T=100$ K winding temperature rise. 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⁾ $P_{calc} [kW] = \frac{M_0 [Nm] \times n_{rated}}{9550}$ $P_{calc} [HP] = \frac{M_0 [lb_f-in] \times n_{rated}}{63000}$

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors

Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FT6 synchronous motors Standard type Natural cooling	No. of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_{rated} at $\Delta T=100\text{ K}$	I_{rated} at $\Delta T=100\text{ K}$			J	m
rpm		kW (HP)	Nm (lb _f -in)	Nm (lb _f -in)	A	Order No.		10 ⁻⁴ kgm ² (lb _f -in-s ²)	kg (lb)
6 000	28	0.19 (0.25)	0.4 (3.5)	0.3 (2.7)	1.1	1FT6021 - 6AK71 - ■ ■ ■ ■ ■	3	0.21 (0.0002)	1.2 (2.6)
		0.31 (0.42)	0.8 (7.1)	0.5 (4.4)	0.9	1FT6024 - 6AK71 - ■ ■ ■ ■ ■	3	0.34 (0.0003)	2.1 (4.6)
	36	0.47 (0.63)	1 (9)	0.75 (6.6)	1.2	1FT6031 - 4AK71 - ■ ■ ■ ■ ■	2	0.65 (0.0006)	3.1 (6.8)
		0.88 (1.18)	2 (18)	1.4 (12.4)	2.1	1FT6034 - 4AK71 - ■ ■ ■ ■ ■	2	1.1 (0.0010)	4.4 (9.7)
	48	1.1 (1.5)	2.6 (23)	1.7 (15)	2.4	1FT6041 - 4AK71 - ■ ■ ■ ■ ■	2	2.9 (0.0025)	6.6 (14.6)
		1.9 (2.6)	5 (44)	3 (26.6)	4.1	1FT6044 - 4AK71 - ■ ■ ■ ■ ■	2	5.1 (0.0045)	8.3 (18.3)
	63	1.3 (1.7)	4 (35)	2.1 (18.6)	3.1	1FT6061 - 6AK71 - ■ ■ ■ ■ ■	3	6 (0.0053)	8 (17.6)
		1.3 (1.7)	6 (53)	2.1 (18.6)	3.2	1FT6062 - 6AK71 - ■ ■ ■ ■ ■	3	8.5 (0.0075)	9.5 (20.9)
		1.3 (1.7)	9.5 (84.1)	2.1 (18.6)	3.5	1FT6064 - 6AK71 - ■ ■ ■ ■ ■	3	13 (0.0115)	12.5 (27.6)
	80	2.9 (13.9)	8 (70.8)	4.6 (40.7)	7.7	1FT6081 - 8AK71 - ■ ■ ■ ■ ■	4	21 (0.0186)	12.5 (27.6)
		3.5 (4.7)	13 (115)	5.5 (48.7)	9.1	1FT6082 - 8AK71 - ■ ■ ■ ■ ■	4	30 (0.0266)	15 (33.1)
		4.1 (5.6)	20 (177)	6.5 (57.5)	9.2	1FT6084 - 8AK71 - ■ ■ ■ ■ ■	4	48 (0.0425)	20.5 (45.2)

Type of construction:		IM B5 IM B14 ²⁾ (not for 1FT602/1FT603/1FT604)	1 2
Connector outlet direction:		Transverse right (not for 1FT603/1FT604/1FT606) Transverse left (not for 1FT603/1FT604/1FT606) Axial NDE Axial DE	1 2 3 4
Encoder systems:		Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R ¹⁾ (not for 1FT602) Absolute encoder EnDat 512 S/R ¹⁾ (not for 1FT602) Multipole resolver 2-pole resolver	A E H S T
Shaft extension:	Shaft and flange accuracy:	Holding brake:	A B D E G H K L
Fitted key and keyway	Tolerance N	Without	
Fitted key and keyway	Tolerance N	With	
Fitted key and keyway	Tolerance R	Without	
Fitted key and keyway	Tolerance R	With	
Plain shaft	Tolerance N	Without	
Plain shaft	Tolerance N	With	
Plain shaft	Tolerance R	Without	
Plain shaft	Tolerance R	With	
Vibration magnitude:	Degree of protection:		0 1 2 6 3 4 5 7
Grade A	IP64		
Grade A	IP65 (not for 1FT602)		
Grade A	IP67		
Grade A	IP68 (not for 1FT602)		
Grade R	IP64		
Grade R	IP65 (not for 1FT602)		
Grade R	IP67		
Grade R	IP68 (not for 1FT602)		

To select the type of construction and degree of protection, see Selection guides.

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors
Natural cooling

Selection and ordering data

Motor type (continued)	Static current	Calculated power ⁵⁾	SIMODRIVE 611 power module		Power cable with complete shield Motor connection and brake connection via power connector		
	I_0 at M_0 $\Delta T=100$ K A	P_{calc} for M_0 $\Delta T=100$ K kW (HP)	Rated output current ³⁾ I_{rated} A	Order No.	Power connector Size	Cable cross- section ⁵⁾ mm ²	Pre-assembled cable Order No.
1FT6021-6AK7 ...	1.25	0.3 (0.4)	3	For ordering data, see Converter system	1	4 x 1.5	6FX ■ ■ 02- 5 ■ A01 -
1FT6024-6AK7 ...	1.25	0.5 (0.7)	3		1	4 x 1.5	6FX ■ ■ 02- 5 ■ A01 -
1FT6031-4AK7 ...	1.4	0.6 (0.8)	3		1	4 x 1.5	6FX ■ ■ 02- 5 ■ A01 -
1FT6034-4AK7 ...	2.6	1.3 (1.7)	3		1	4 x 1.5	6FX ■ ■ 02- 5 ■ A01 -
1FT6041-4AK7 ...	3	1.6 (2.1)	3		1	4 x 1.5	6FX ■ ■ 02- 5 ■ A01 -
1FT6044-4AK7 ...	5.9	3.1 (4.2)	9		1	4 x 1.5	6FX ■ ■ 02- 5 ■ A01 -
1FT6061-6AK7 ...	5	2.5 (3.4)	5		1	4 x 1.5	6FX ■ ■ 02- 5 ■ A01 -
1FT6062-6AK7 ...	7.6	3.8 (5.1)	9		1	4 x 1.5	6FX ■ ■ 02- 5 ■ A01 -
1FT6064-6AK7 ...	12	4.0 (5.4)	18		1	4 x 1.5	6FX ■ ■ 02- 5 ■ A01 -
1FT6081-8AK7 ...	11.1	5.0 (6.7)	18		1.5	4 x 1.5	6FX ■ ■ 02- 5 ■ A21 -
1FT6082-8AK7 ...	17.3	8.2 (10.99)	18		1.5	4 x 2.5	6FX ■ ■ 02- 5 ■ A31 -
1FT6084-8AK7 ...	24.1	12.6 (16.9)	28		1.5	4 x 4	6FX ■ ■ 02- 5 ■ A41 -

Type of power cable:

MOTION-CONNECT 800

MOTION-CONNECT 700 (only with brake cores)

MOTION-CONNECT 500

MOTION-CONNECT 500 PLUS (only up to a cross-section of 6 mm²)

8 0
7 0
5 0
5 1

Without brake cores

With brake cores

C
D

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

....

¹⁾ If the absolute encoder is used, M_{rated} is reduced by 10 %.

²⁾ Same flange as for IM B5 type of construction, but with metric threaded insert in the four fixing holes.

³⁾ For the default setting of pulse frequency.

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⁾ $P_{calc} [kW] = \frac{M_0 [Nm] \times n_{rated}}{9550}$ $P_{calc} [HP] = \frac{M_0 [lb_f-in] \times n_{rated}}{63000}$

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors Forced ventilation

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FT6 synchronous motors Standard type Forced ventilation ²⁾	No. of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_{rated} at $\Delta T=100\text{ K}$	I_{rated} at $\Delta T=100\text{ K}$			J	m
rpm		kW (HP)	Nm (lb _f -in)	Nm (lb _f -in)	A	Order No.		10 ⁻⁴ kgm ² (lb _f -in-s ²)	kg (lb)
1 500	100	9.3 (12.5)	65 (575)	59 (522)	21.7	1FT6105 - 8SB7■ - ■ ■ ■ ■ ■	4	168 (0.1487)	45.5 (100.3)
		13 (17)	90 (797)	83 (735)	31	1FT6108 - 8SB7■ - ■ ■ ■ ■ ■	4	260 (0.2301)	61.5 (135.6)
	132	16 (21)	110 (974)	102 (903)	36	1FT6132 - 6SB71 - ■ ■ ■ ■ ■	3	430 (0.3806)	91 (201)
		20.4 (27.4)	140 (1239)	130 (1151)	45	1FT6134 - 6SB71 - ■ ■ ■ ■ ■	3	547 (0.4810)	106 (234)
		25.1 (33.7)	175 (1549)	160 (1417)	55	1FT6136 - 6SB71 - ■ ■ ■ ■ ■	3	664 (0.5876)	123 (271)
2 000	100	11.7 (15.7)	65 (575)	56 (496)	28	1FT6105 - 8SC7■ - ■ ■ ■ ■ ■	4	168 (0.1487)	45.5 (100.3)
		16.8 (22.5)	90 (797)	80 (708)	40	1FT6108 - 8SC7■ - ■ ■ ■ ■ ■	4	260 (0.2301)	61.5 (135.6)
	132	20.5 (27.5)	110 (974)	98 (867)	46	1FT6132 - 6SC71 - ■ ■ ■ ■ ■	3	430 (0.3806)	91 (201)
		26.2 (35.1)	140 (1239)	125 (1106)	57	1FT6134 - 6SC71 - ■ ■ ■ ■ ■	3	547 (0.4810)	106 (234)
		32.5 (43.6)	175 (1549)	155 (1372)	72	1FT6136 - 6SC71 - ■ ■ ■ ■ ■	3	664 (0.5876)	123 (271)
Type of construction:			IM B5 IM B14 ³⁾ (not for 1FT613)			1 2			
Connector outlet direction:			Transverse right Transverse left Axial NDE (not with power connector size 3 and not with 1FT613) Axial DE			1 2 3 4			
Terminal box/ Cable entry:			Transverse/from right Transverse/from left Axial/from NDE Axial/from DE			5 6 7 8			
Encoder systems:			Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R ¹⁾ Multipole resolver 2-pole resolver			A E S T			
Shaft extension:			Shaft and flange accuracy:			Holding brake:		A B D E G H K L	
Fitted key and keyway			Tolerance N			Without			
Fitted key and keyway			Tolerance N			With			
Fitted key and keyway			Tolerance R			Without			
Fitted key and keyway			Tolerance R			With			
Plain shaft			Tolerance N			Without			
Plain shaft			Tolerance N			With			
Plain shaft			Tolerance R			Without			
Plain shaft			Tolerance R			With			
Vibration magnitude:			Degree of protection: ⁴⁾					0 1 3 4	
Grade A			IP64						
Grade A			IP65						
Grade R			IP64						
Grade R			IP65						

To select the type of construction and degree of protection, see Selection guides.

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors
Forced ventilation

Selection and ordering data

Motor type (continued)	Static current	Calculated power ³⁾	SIMODRIVE 611 power module		Power cable with complete shield Motor connection and brake connection via power connector		
	I_0 at M_0 $\Delta T=100$ K A	P_{calc} for M_0 $\Delta T=100$ K kW (HP)	Rated output current ⁵⁾ I_{rated} A	Order No.	Power connector Size	Cable cross- section ⁷⁾ mm ²	Pre-assembled cable Order No.
1FT6105-8SB7...	21.9	10.2 (13.7)	28	For ordering data, see Converter system	1.5	4 x 4	6FX ■ ■ 02- 5 ■ A41 -
1FT6108-8SB7...	30	14.1 (18.9)	28 ⁶⁾		1.5	4 x 6	6FX ■ ■ 02- 5 ■ A51 -
1FT6132-6SB7 ...	36	17.3 (23.2)	56		3	4 x 10	6FX 5 002- 5 ■ A13 -
1FT6134-6SB7 ...	44	22.0 (29.5)	56		3	4 x 10	6FX 5 002- 5 ■ A13 -
1FT6136-6SB7 ...	55	27.5 (36.9)	56		3	4 x 16	6FX ■ 002- 5 ■ A23 -
1FT6105-8SC7...	30	13.6 (18.2)	28 ⁶⁾		1.5	4 x 6	6FX ■ ■ 02- 5 ■ A51 -
1FT6108-8SC7...	41	18.8 (25.2)	56		3	4 x 10	6FX 5 002- 5 ■ A13 -
1FT6132-6SC7 ...	47	23.0 (30.6)	56		3	4 x 10	6FX 5 002- 5 ■ A13 -
1FT6134-6SC7 ...	58	29.3 (39.3)	56 ⁶⁾		3	4 x 16	6FX ■ 002- 5 ■ A23 -
1FT6136-6SC7...	77	36.6 (49.1)	140		3	4 x 25	6FX ■ 002- 5DA33 -
Type of power cable: MOTION-CONNECT 800 MOTION-CONNECT 700 (only <u>with</u> brake cores) MOTION-CONNECT 500 MOTION-CONNECT 500 PLUS (only up to a cross-section of 6 mm ²)							8 0 7 0 5 0 5 1
Without brake cores							C
With brake cores							D
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.							

Notes on forced ventilation:

	Shaft heights SH 80 and SH 100	Shaft height SH 132
Direction of air flow	From NDE to DE	From DE to NDE
Connection	Power connector size 1 Cable, pre-assembled 6FX.002-5CA01-....	Terminal box Cable, by the meter 6FX.008-1BB11-....
Pin and terminal assignments	Pin 1: L1, Pin 2: N	U1/L1: V2/L2: W3/L3
Supply voltage	220/260 V 1 AC, 50/60 Hz	400/460 V 3 AC, 50/60 Hz
Max. fan current	0.3 A	0.4 A
Weight of the fan module, approx.	4.8 kg (10.6 lb)	5.6 kg (12.3 lb)
Sound pressure level L_{pA} (1 m)	70 dB	74 dB

¹⁾ If the absolute encoder is used, M_{rated} is reduced by 10 %.

²⁾ Not for use in atmospheres containing conductive dust. Forced ventilation cannot be used if flammable, chemically aggressive, electrically-conductive or explosive dust is present.

³⁾ Same flange as for IM B5 type of construction, but with metric threaded insert in the four fixing holes.

⁴⁾ The degree of protection refers to the motor; the built-on fan meets the requirements of degree of protection IP54.

⁵⁾ For the default setting of pulse frequency.

⁶⁾ With the specified power module, the motor cannot be fully utilized at M_0 at $\Delta T=100$ K winding temperature rise. If a power module with a higher rating is used, you must check whether the specified power cable can be connected to it.

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).

⁸⁾ $P_{calc} [kW] = \frac{M_0 [Nm] \times n_{rated}}{9550}$ $P_{calc} [HP] = \frac{M_0 [lb_f-in] \times n_{rated}}{63000}$

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors Forced ventilation

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FT6 synchronous motors Standard type Forced ventilation ²⁾	No. of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at $\Delta T = 100 \text{ K}$	M_0 at $\Delta T = 100 \text{ K}$	M_{rated} at $\Delta T = 100 \text{ K}$	I_{rated} at $\Delta T = 100 \text{ K}$			J	m
rpm		kW (HP)	Nm (lb _f -in)	Nm (lb _f -in)	A	Order No.		10^{-4} kgm^2 (lb _f -in-s ²)	kg (lb)
3 000	80	6.9 (9.3)	26 (230)	22 (195)	17	1FT6084 - 8SF7 - ■ ■ ■ ■ ■	4	48 (0.0425)	25 (55.1)
		9.7 (13)	35 (310)	31 (274)	24.5	1FT6086 - 8SF7 - ■ ■ ■ ■ ■	4	66.5 (0.0589)	30 (66.2)
	100	15.7 (21.1)	65 (575)	50 (443)	35	1FT6105 - 8SF7 - ■ ■ ■ ■ ■	4	168 (0.1487)	45.5 (100.3)
		22 (30)	90 (797)	70 (620)	53	1FT6108 - 8SF7 - ■ ■ ■ ■ ■	4	260 (0.2301)	61.5 (135.6)
	132	28.3 (37.9)	110 (974)	90 (797)	62	1FT6132 - 6SF7 1 - ■ ■ ■ ■ ■	3	430 (0.3806)	91 (201)
		34.6 (46.4)	140 (1 239)	110 (974)	72	1FT6134 - 6SF7 1 - ■ ■ ■ ■ ■	3	547 (0.4810)	106 (234)
		45.5 (61.0)	175 (1 549)	145 (1 283)	104	1FT6136 - 6SF7 1 - ■ ■ ■ ■ ■	3	664 (0.5877)	123 (271)
4 500	80	9.4 (12.6)	26 (230)	20 (177)	24.5	1FT6084 - 8SH7 - ■ ■ ■ ■ ■	4	48 (0.0425)	25 (55.1)
		12.7 (17)	35 (310)	27 (239)	31.5	1FT6086 - 8SH7 - ■ ■ ■ ■ ■	4	66.5 (0.0589)	30 (66.2)
	100	18.8 (25.2)	65 (575)	40 (354)	41	1FT6105 - 8SH7 - ■ ■ ■ ■ ■	4	168 (0.1487)	45.5 (100.3)
6 000	80	10.7 (14.3)	26 (230)	17 (151)	25.5	1FT6084 - 8SK7 - ■ ■ ■ ■ ■	4	48 (0.0425)	25 (55.1)
		13.8 (18.5)	35 (310)	22 (195)	29	1FT6086 - 8SK7 - ■ ■ ■ ■ ■	4	66.5 (0.0589)	30 (66.2)

Type of construction:		IM B5 IM B14 ³⁾ (not for 1FT613)	1 2
Connector outlet direction: (not for 1FT6136-6SF71)		Transverse right Transverse left Axial NDE (not with power connector size 3 and not with 1FT613) Axial DE	1 2 3 4
Terminal box/ Cable entry: (only for 1FT61)		Transverse/from right Transverse/from left Axial/from NDE Axial/from DE	5 6 7 8
Encoder systems:		Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R ¹⁾ Multipole resolver 2-pole resolver	A E S T
Shaft extension:	Shaft and flange accuracy:	Holding brake:	A B D E G H K L
Fitted key and keyway	Tolerance N	Without	
Fitted key and keyway	Tolerance N	With	
Fitted key and keyway	Tolerance R	Without	
Fitted key and keyway	Tolerance R	With	
Plain shaft	Tolerance N	Without	
Plain shaft	Tolerance N	With	
Plain shaft	Tolerance R	Without	
Plain shaft	Tolerance R	With	
Vibration magnitude:		Degree of protection:⁴⁾	0 1 3 4
Grade A	IP64		
Grade A	IP65		
Grade R	IP64		
Grade R	IP65		

To select the type of construction and degree of protection, see Selection guides.

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors
Forced ventilation

Selection and ordering data

Motor type (continued)	Static current	Calculated power ⁸⁾	SIMODRIVE 611 power module		Power cable with complete shield Motor connection and brake connection via power connector		
	I_0 at M_0 $\Delta T=100$ K A	P_{calc} for M_0 $\Delta T=100$ K kW (HP)	Rated output current ⁵⁾ I_{rated} A	Order No.	Power connector Size	Cable cross- section ⁷⁾ mm ²	Pre-assembled cable Order No.
1FT6084-8SF7...	18.2	8.2 (10.99)	18 ⁶⁾	For ordering data, see Converter system	1.5	4 x 2.5	6FX 002-5 A31 -
1FT6086-8SF7...	25	11.0 (14.75)	28		1.5	4 x 4	6FX 002-5 A41 -
1FT6105-8SF7...	42	20.4 (27.35)	56		3	4 x 10	6FX 5 002-5 A13 -
1FT6108-8SF7...	62	28.3 (37.94)	70		3	4 x 16	6FX 002-5 A23 -
1FT6132-6SF7...	69	34.6 (46.38)	140		3	4 x 25	6FX 002-5 DA33 -
1FT6134-6SF7...	83	44.0 (58.98)	140		3	4 x 25	6FX 002-5 DA33 -
1FT6136-6SF7...	110	55.0 (73.8)	140		Terminal box (max. 4 x 35)		
1FT6084-8SH7...	26	12.3 (16.49)	28		1.5	4 x 4	6FX 002-5 A41 -
1FT6086-8SH7...	38	16.5 (22.12)	56		3	4 x 10	6FX 5 002-5 A13 -
1FT6105-8SH7...	59	30.6 (41.02)	56 ⁶⁾		3	4 x 16	6FX 002-5 A23 -
1FT6084-8SK7...	35	16.3 (21.85)	56		1.5	4 x 10	6FX 002-5 A61 -
1FT6086-8SK7...	44	22.0 (29.49)	56		3	4 x 10	6FX 5 002-5 A13 -

Type of power cable:

MOTION-CONNECT 800

MOTION-CONNECT 700 (only with brake cores)

MOTION-CONNECT 500

MOTION-CONNECT 500 PLUS (only up to a cross-section of 6 mm²)

8 0
7 0
5 0
5 1

C
D

Without brake cores

With brake cores

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

Notes on forced ventilation:

	Shaft heights SH 80 and SH 100	Shaft height SH 132
Direction of air flow	From NDE to DE	From DE to NDE
Connection	Power connector size 1	Terminal box
	Cable, pre-assembled 6FX.002-5CA01-....	Cable, by the meter 6FX.008-1BB11-....
Pin and terminal assignments	Pin 1: L1, Pin 2: N	U1/L1: V2/L2: W3/L3
Supply voltage	220/260 V 1 AC, 50/60 Hz	400/460 V 3 AC, 50/60 Hz
Max. fan current	0.3 A	0.4 A
Weight of the fan module, approx.	4.8 kg (10.6 lb)	5.6 kg (12.3 lb)
Sound pressure level L_{pA} (1 m)	70 dB	74 dB

¹⁾ If the absolute encoder is used, M_{rated} is reduced by 10 %.

²⁾ Not for use in atmospheres containing conductive dust. Forced ventilation cannot be used if flammable, chemically aggressive, electrically-conductive or explosive dust is present.

³⁾ Same flange as for IM B5 type of construction, but with metric threaded insert in the four fixing holes.

⁴⁾ The degree of protection refers to the motor; the built-on fan meets the requirements of degree of protection IP54.

⁵⁾ For the default setting of pulse frequency.

⁶⁾ With the specified power module, the motor cannot be fully utilized at M_0 at $\Delta T=100$ K winding temperature rise. If a power module with a higher rating is used, you must check whether the specified power cable can be connected to it.

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).

⁸⁾ $P_{calc} [kW] = \frac{M_0 [Nm] \times n_{rated}}{9550}$ $P_{calc} [HP] = \frac{M_0 [lb \cdot ft \cdot in] \times n_{rated}}{63000}$

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors

Water cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque	Rated current	1FT6 synchronous motors Standard type Water cooling ¹⁾²⁾	No. of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at $\Delta T=100\text{ K}$	M_0 at $\Delta T=100\text{ K}$	M_{rated} at $\Delta T=100\text{ K}$	I_{rated} at $\Delta T=100\text{ K}$			J	m
rpm		kW (HP)	Nm (lb _f -in)	Nm (lb _f -in)	A	Order No.		10 ⁻⁴ kgm ² (lb _f -in-s ²)	kg (lb)
1 500	100	18.2 (24.4)	119 (1053)	116 (1027)	43	1FT6108 - 8WB7■ - ■ ■ ■ ■ ■	4	260 (0.2301)	61.5 (135.6)
2 000	100	17.2 (23.1)	85 (752)	82 (725)	60	1FT6105 - 8WC7■ - ■ ■ ■ ■ ■	4	168 (0.1487)	45.5 (100.3)
		24.1 (32.3)	119 (1053)	115 (1018)	57	1FT6108 - 8WC7■ - ■ ■ ■ ■ ■	4	260 (0.2301)	61.5 (135.6)
3 000	63	3.2 (4.3)	10.2 (90.3)	10 (89)	6.9	1FT6062 - 6WF7■ - ■ ■ ■ ■ ■	3	8.5 (0.0075)	9.5 (20.9)
		5.1 (6.8)	16.2 (143.4)	16 (142)	10.3	1FT6064 - 6WF7■ - ■ ■ ■ ■ ■	3	13 (0.0115)	12.5 (27.6)
	80	11.0 (14.8)	35 (310)	35 (310)	27	1FT6084 - 8WF7■ - ■ ■ ■ ■ ■	4	48 (0.0425)	21 (46.3)
		14.5 (19.4)	47 (416)	46 (407)	37	1FT6086 - 8WF7■ - ■ ■ ■ ■ ■	4	66.5 (0.0589)	26 (57.3)
	100	24.5 (32.8)	85 (752)	78 (690)	82	1FT6105 - 8WF7■ - ■ ■ ■ ■ ■	4	168 (0.1487)	45.5 (100.3)
		34.2 (45.8)	119 (1053)	109 (965)	81	1FT6108 - 8WF7■ - ■ ■ ■ ■ ■	4	260 (0.2301)	61.5 (135.6)
4 500	63	4.7 (6.3)	10.2 (90.3)	10 (89)	9.6	1FT6062 - 6WH7■ - ■ ■ ■ ■ ■	3	8.5 (0.0075)	9.5 (20.9)
		7.5 (10.1)	16.2 (143.4)	16 (142)	15.2	1FT6064 - 6WH7■ - ■ ■ ■ ■ ■	3	13 (0.0115)	12.5 (27.6)
	80	16.5 (22.1)	35 (310)	35 (310)	39	1FT6084 - 8WH7■ - ■ ■ ■ ■ ■	4	48 (0.0425)	21 (46.3)
		21.2 (28.4)	47 (416)	45 (398)	53	1FT6086 - 8WH7■ - ■ ■ ■ ■ ■	4	66.5 (0.0589)	26 (57.3)
6 000	63	6.2 (8.3)	10.2 (90.3)	9.8 (87)	12.7	1FT6062 - 6WK7■ - ■ ■ ■ ■ ■	3	8.5 (0.0075)	9.5 (20.9)
		9.9 (13.3)	16.2 (143.4)	15.8 (139.8)	20	1FT6064 - 6WK7■ - ■ ■ ■ ■ ■	3	13 (0.0115)	12.5 (27.6)
	80	21.4 (28.7)	35 (310)	34 (301)	51	1FT6084 - 8WK7■ - ■ ■ ■ ■ ■	4	48 (0.0425)	21 (46.3)
		27.7 (37.1)	47 (416)	44 (389)	58	1FT6086 - 8WK7■ - ■ ■ ■ ■ ■	4	66.5 (0.0589)	26 (57.3)
Type of construction:			IM B5 IM B14 ³⁾			1			
						2			
Connector outlet direction:			Transverse right (not for 1FT606) Transverse left (not for 1FT606) Axial NDE Axial DE (1FT6062 <u>only</u> with water connection on side or below) ²⁾			1			
						2			
						3			
						4			
Terminal box/ Cable entry: (<u>only</u> for 1FT61)			Transverse/from right Transverse/from left Axial/from NDE Axial/from DE			5			
						6			
						7			
						8			
Encoder systems:			Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R Multipole resolver 2-pole resolver			A			
						E			
						S			
						T			
Shaft extension:			Shaft and flange accuracy:			Holding brake:		A	
Fitted key and keyway			Tolerance N			Without		B	
Fitted key and keyway			Tolerance N			With			
Fitted key and keyway			Tolerance R			Without		D	
Fitted key and keyway			Tolerance R			With		E	
Plain shaft			Tolerance N			Without		G	
Plain shaft			Tolerance N			With		H	
Plain shaft			Tolerance R			Without		K	
Plain shaft			Tolerance R			With		L	
Vibration magnitude:						Degree of protection:		0	
Grade A						IP64		1	
Grade A						IP65		2	
Grade A						IP67 ⁴⁾		6	
Grade A						IP68 ⁴⁾			
Grade R						IP64		3	
Grade R						IP65		4	
Grade R						IP67 ⁴⁾		5	
Grade R						IP68 ⁴⁾		7	

To select the type of construction and degree of protection, see Selection guides.

Synchronous motors

Feed motors for SIMODRIVE 611

1FT6 standard type motors
Water cooling

Selection and ordering data

Motor type (continued)	Static current	Calculated power ⁹⁾	SIMODRIVE 611 power module		Power cable with complete shield Motor connection and brake connection via power connector		
	I_0 at M_0 $\Delta T=100$ K A	P_{calc} for M_0 $\Delta T=100$ K kW (HP)	Rated output current ⁵⁾ I_{rated} A	Order No.	Power connector Size	Cable cross- section ⁷⁾ mm ²	Pre-assembled cable Order No.
1FT6108-8WB7...	43	18.7 (25.07)	56	For ordering data, see Converter system	3	4 x 10	6FX 5 002- 5 A13 -
1FT6105-8WC7...	58	17.8 (23.86)	56 ⁶⁾		3	4 x 16	6FX 002- 5 A23 -
1FT6108-8WC7...	57	24.9 (33.38)	56 ⁶⁾		3	4 x 16	6FX 002- 5 A23 -
1FT6062-6WF7...	6.9	3.2 (4.29)	9		1	4 x 1.5	6FX 002- 5 A01 -
1FT6064-6WF7...	10.3	5.1 (6.84)	18		1	4 x 1.5	6FX 002- 5 A01 -
1FT6084-8WF7...	24.5	11.0 (14.75)	28		1.5	4 x 4	6FX 002- 5 A41 -
1FT6086-8WF7...	34	14.8 (19.84)	56		1.5	4 x 10	6FX 002- 5 A61 -
1FT6105-8WF7...	83	26.7 (35.79)	140		3	4 x 25	6FX 002- 5 DA33 -
1FT6108-8WF7...	86	37.4 (50.13)	140		3	4 x 35	6FX 002- 5 DA43 - ⁸⁾
1FT6062-6WH7...	9.7	4.8 (6.43)	18		1	4 x 1.5	6FX 002- 5 A01 -
1FT6064-6WH7...	15.4	7.6 (10.19)	18		1	4 x 2.5	6FX 002- 5 A11 -
1FT6084-8WH7...	37	16.5 (22.12)	56		1.5	4 x 10	6FX 002- 5 A61 -
1FT6086-8WH7...	52	22.1 (29.62)	56		3	4 x 16	6FX 002- 5 A23 -
1FT6062-6WK7...	12.9	6.4 (8.58)	18		1	4 x 1.5	6FX 002- 5 A01 -
1FT6064-6WK7...	20.5	10.2 (13.67)	28		1	4 x 2.5	6FX 002- 5 A11 -
1FT6084-8WK7...	47	22.0 (29.49)	56		3	4 x 10	6FX 5 002- 5 A13 -
1FT6086-8WK7...	59	29.5 (39.54)	70		3	4 x 16	6FX 002- 5 A23 -

Type of power cable:

MOTION-CONNECT 800

MOTION-CONNECT 700 (only with brake cores)

MOTION-CONNECT 500

MOTION-CONNECT 500 PLUS (only up to a cross-section of 6 mm²)

8 0
7 0
5 0
5 1

Without brake cores

With brake cores

C
D

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

....

Notes on water cooling:

- Inlet temperature of cooling water: max. 30 °C (86 °F)
- Cooling water throughput: at least 5 l/min
(5 l = 1.1 British gallons/1.32 US gallons)
- Pressure ahead of motor: $p_{max} = 2.5$ bar
- Cooling water connection: G 3/8"
- Coolant: water with up to 25 % corrosion protection
(recommendation: Tyfocor)
- Loss of pressure between inlet and outlet < 0.1 bar

¹⁾ Delivered as standard with water connection on top.

²⁾ Water connection on right side: Add -Z + order code Q20 to order number
Water connection on left side: Add -Z + order code Q21 to order number
Water connection below: Add -Z + order code Q22 to order number

³⁾ Same flange as for IM B5 type of construction, but with metric threaded insert in the four fixing holes.

⁴⁾ Cannot be ordered for 1FT6105-8WF7.../1FT6108-8WF7... in combination with terminal box.

⁵⁾ For the default setting of pulse frequency.

⁶⁾ With the specified power module, the motor cannot be fully utilized at M_0 at $\Delta T = 100$ K winding temperature rise. If a power module with a higher rating is used, you must check whether the specified power cable can be connected to it.

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).

⁸⁾ MOTION-CONNECT 800 or 500 type of power cable only.

⁹⁾ $P_{calc} [kW] = \frac{M_0 [Nm] \times n_{rated}}{9550}$ $P_{calc} [HP] = \frac{M_0 [lb_f-in] \times n_{rated}}{63000}$