1FT7 Compact core type motors
Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque	Rated current	1FT7 Compact synchronous motors Natural cooling Core type	Number of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at ΔT=100 K	M_0 at ΔT=100 K	M_{rated} at ΔT=100 K	I_{rated} at ΔT=100 K			J	m
rpm		kW (HP)	Nm (lb_f-ft)	Nm (lb_f-ft)	A	Order No.		10^{-4} kgm^2 (10^{-3} lb_f-in-s^2)	kg (lb)
2 000	100	5.03 (6.75)	30 (22.1)	24 (17.7)	10	**1FT7102 - 1AC7■ - 1■ ■ 1**	5	91.4 (80.9)	26.1 (57.5)
		7.96 (10.7)	50 (36.9)	38 (28)	15	**1FT7105 - 1AC7■ - 1■ ■ 1**	5	178 (157)	44.2 (97.5)
3 000	48	1.35 (1.81)	5.0 (3.7)	4.3 (3.2)	2.6	**1FT7044 - 1AF7■ - 1■ ■ 1**	3	5.43 (4.81)	7.2 (15.9)
	63	1.7 (2.28)	6.0 (4.4)	5.4 (4.0)	3.9	**1FT7062 - 1AF7■ - 1■ ■ 1**	5	7.36 (6.51)	7.1 (15.7)
		2.39 (3.20)	9.0 (6.6)	7.6 (5.6)	5.2	**1FT7064 - 1AF7■ - 1■ ■ 1**	5	11.9 (10.5)	9.7 (21.4)
	80	3.24 (4.34)	13 (9.6)	10.5 (7.7)	6.6	**1FT7082 - 1AF7■ - 1■ ■ 1**	5	26.5 (23.4)	14 (30.9)
		4.55 (6.10)	20 (14.8)	14.5 (10.7)	8.5	**1FT7084 - 1AF7■ - 1■ ■ 1**	5	45.1 (39.9)	20.8 (45.9)
		5.65 (7.58)	28 (20.7)	18 (13.3)	11	**1FT7086 - 1AF7■ - 1■ ■ 1**	5	63.6 (56.2)	27.5 (60.6)
4 500	80	4.82 (6.46)[3]	20 (14.8)	11.5 (8.5)[3]	10.1[3]	**1FT7084 - 1AH7■ - 1■ ■ 1**	5	45.1 (39.9)	20.8 (45.9)
		4.71 (6.32)	28 (20.7)	10 (7.4)	10	**1FT7086 - 1AH7■ - 1■ ■ 1**	5	63.6 (56.2)	27.5 (60.6)
6 000	36	0.88 (1.18)	2.0 (1.5)	1.4 (1.0)	2.1	**1FT7034 - 1AK7■ - 1■ ■ 1**	3	0.85 (0.75)	3.8 (8.38)
	63	2.13 (2.86)[1]	6.0 (4.4)	3.7 (2.7)[1]	5.9[1]	**1FT7062 - 1AK7■ - 1■ ■ 1**	5	7.36 (6.51)	7.1 (15.7)
		2.59 (3.47)[2]	9.0 (6.6)	5.5 (4.1)[2]	6.1[2]	**1FT7064 - 1AK7■ - 1■ ■ 1**	5	11.9 (10.5)	9.7 (21.4)

Type IM B5:	Flange 0 Flange 1 (compatible with 1FT6)		**0** **1**
Encoder systems:	Incremental encoder sin/cos 1 V_{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R		**N** **M**
Shaft extension: Plain shaft Plain shaft	**Shaft and flange accuracy:** Tolerance N Tolerance N	**Holding brake:** without with	**G** **H**
Vibration magnitude: Grade A	**Degree of protection:** IP65		**1**

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

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		
			Rated output current[5]		Power connector	Cable cross-section[4]	Pre-assembled cable
	I_0 at M_0 ΔT=100 K	P_{calc} for M_0 ΔT=100 K	I_{rated}				
	A	kW (HP)	A	Order No.	Size	mm²	Order No.
1FT7102-1AC7...	12	6.28 (8.42)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 1.5	**6FX■ 002 - 5■A21 - ....**
1FT7105-1AC7...	18	10.47 (14.0)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 2.5	**6FX■ 002 - 5■A31 - ....**
1FT7044-1AF7...	2.8	1.57 (2.11)	3	**6SN112■ - 1A ■00 - 0HA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7062-1AF7...	3.9	1.88 (2.52)	5	**6SN112■ - 1A ■00 - 0AA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7064-1AF7...	5.7	2.83 (3.80)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7082-1AF7...	7.6	4.08 (5.47)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7084-1AF7...	11	6.28 (8.42)	18	**6SN112■ - 1A ■00 - 0CA2**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7086-1AF7...	15.5	8.80 (11.8)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 2.5	**6FX■ 002 - 5■A31 - ....**
1FT7084-1AH7...	15.6	9.42 (12.6)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 2.5	**6FX■ 002 - 5■A31 - ....**
1FT7086-1AH7...	22.4	13.19 (17.7)	28	**6SN112■ - 1A A 00 - 0DA2**	1.5	4 x 4	**6FX■ 002 - 5■A41 - ....**
1FT7034-1AK7...	2.7	1.26 (1.69)	3	**6SN112■ - 1A ■00 - 0HA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7062-1AK7...	8.4	3.77 (5.06)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7064-1AK7...	9	5.65 (7.58)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**

Heat dissipation:									
Internal heat dissipation	**3**								
External heat dissipation	**4**								
Power module:									
Single-axis design		**A**							
Two-axis design		**B**							
Type of power cable:									
MOTION-CONNECT 800							**8**		
MOTION-CONNECT 500							**5**		
Without brake cores								**C**	
With brake cores								**D**	
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.									**....**

[1] These values refer to n = 5 500 rpm.

[2] These values refer to n = 4 500 rpm.

[3] These values refer to n = 4 000 rpm.

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

[5] With default setting of the pulse frequency.

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

1FT7 Compact standard type motors
Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque	Rated current	1FT7 Compact synchronous motors Natural cooling Standard type	Number of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at ΔT=100 K	M_0 at ΔT=100 K	M_{rated} at ΔT=100 K	I_{rated} at ΔT=100 K			J	m
rpm		kW (HP)	Nm (lb_f-ft)	Nm (lb_f-ft)	A	Order No.		10^{-4} kgm^2 (10^{-3} lb_f-in-s^2)	kg (lb)
1 500	100	4.08 (5.47)	30 (22.1)	26 (19.2)	8	**1FT7102 - 5AB7■ - 1■■■**	5	91.4 (80.9)	26.1 (57.5)
		6.60 (8.85)	50 (36.9)	42 (31.0)	13	**1FT7105 - 5AB7■ - 1■■■**	5	178 (157)	44.2 (97.5)
		9.58 (12.8)	70 (51.6)	61 (45.0)	16	**1FT7108 - 5AB7■ - 1■■■**	5	248 (219)	59.0 (130)

Type IM B5:	Flange 0 Flange 1 (compatible with 1FT6)	**0** **1**
Encoder systems:	Incremental encoder sin/cos 1 V_{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R	**N** **M**

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 R	IP64	**3**
Grade R	IP65	**4**
Grade R	IP67	**5**

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

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		
			Rated output current[2]		Power connector	Cable cross-section[1]	Pre-assembled cable
	I_0 at M_0 ΔT=100 K	P_{calc} for M_0 ΔT=100 K	I_{rated}				
	A	kW (HP)	A	Order No.	Size	mm²	Order No.
1FT7102-5AB7...	9	4.71 (6.32)	9	**6SN112■ - 1A ■00 - 0BA1**	1.5	4 x 1.5	**6FX■ 002 - 5■A21 - ....**
1FT7105-5AB7...	15	7.85 (10.5)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 1.5	**6FX■ 002 - 5■A21 - ....**
1FT7108-5AB7...	18	10.99 (14.7)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 2.5	**6FX■ 002 - 5■A31 - ....**

Heat dissipation:	
Internal heat dissipation	**3**
External heat dissipation	**4**
Power module:	
Single-axis design	**A**
Two-axis design	**B**
Type of power cable:	
MOTION-CONNECT 800	**8**
MOTION-CONNECT 500	**5**
Without brake cores	**C**
With brake cores	**D**
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.	**....**

6

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

2) With default setting of the pulse frequency.

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

1FT7 Compact standard type motors
Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque	Rated current	1FT7 Compact synchronous motors Natural cooling Standard type	Number of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at ΔT=100 K	M_0 at ΔT=100 K	M_{rated} at ΔT=100 K	I_{rated} at ΔT=100 K			J	m
rpm		kW (HP)	Nm (lb_f-ft)	Nm (lb_f-ft)	A	Order No.		10^{-4} kgm^2 (10^{-3} lb_f-in-s^2)	kg (lb)
2 000	80	2.39 (3.20)	13 (9.6)	11.4 (8.4)	4.9	**1FT7082 - 5AC7■ - 1■■■**	5	26.5 (23.5)	14 (30.9)
		3.54 (4.75)	20 (14.8)	16.9 (12.5)	8.4	**1FT7084 - 5AC7■ - 1■■■**	5	45.1 (39.9)	20.8 (45.9)
		4.71 (6.32)	28 (20.7)	22.5 (16.6)	9.2	**1FT7086 - 5AC7■ - 1■■■**	5	63.6 (56.3)	27.5 (60.6)
	100	5.03 (6.75)	30 (22.1)	24.0 (17.7)	10	**1FT7102 - 5AC7■ - 1■■■**	5	91.4 (80.9)	26.1 (57.5)
		7.96 (10.7)	50 (36.9)	38.0 (28.0)	15	**1FT7105 - 5AC7■ - 1■■■**	5	178 (157)	44.2 (97.5)
		10.5 (14.1)	70 (51.6)	50.0 (36.9)	18	**1FT7108 - 5AC7■ - 1■■■**	5	248 (219)	59 (130)

Type IM B5:	Flange 0 Flange 1 (compatible with 1FT6)	**0** **1**
Encoder systems:	Incremental encoder sin/cos 1 V_{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R	**N** **M**

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 R	IP64	**3**
Grade R	IP65	**4**
Grade R	IP67	**5**

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

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		
			Rated output current[2]		Power connector	Cable cross-section[1]	Pre-assembled cable
	I_0 at M_0 ΔT=100 K	P_{calc} for M_0 ΔT=100 K	I_{rated}				
	A	kW (HP)	A	Order No.	Size	mm^2	Order No.
1FT7082-5AC7...	5	2.72 (3.65)	5	**6SN112■ - 1A ■00 - 0AA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7084-5AC7...	9	4.19 (5.62)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7086-5AC7...	10.6	5.86 (7.86)	18	**6SN112■ - 1A ■00 - 0CA2**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7102-5AC7...	12.5	6.28 (8.42)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 1.5	**6FX■ 002 - 5■A21 - ....**
1FT7105-5AC7...	18	10.47 (14.0)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 2.5	**6FX■ 002 - 5■A31 - ....**
1FT7108-5AC7...	25	14.66 (19.7)	28	**6SN112■ - 1A A00 - 0DA2**	1.5	4 x 4	**6FX■ 002 - 5■A41 - ....**

Heat dissipation:		
Internal heat dissipation	**3**	
External heat dissipation	**4**	
Power module:		
Single-axis design		**A**
Two-axis design		**B**
Type of power cable:		
MOTION-CONNECT 800	**8**	
MOTION-CONNECT 500	**5**	
Without brake cores		**C**
With brake cores		**D**
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.		**....**

6

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

2) With default setting of the pulse frequency.

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

1FT7 Compact standard type motors
Natural cooling

Selection and ordering data

Rated speed n_{rated} rpm	Shaft height SH	Rated power P_{rated} at ΔT=100 K kW (HP)	Static torque M_0 at ΔT=100 K Nm (lb_f-ft)	Rated torque M_{rated} at ΔT=100 K Nm (lb_f-ft)	Rated current I_{rated} at ΔT=100 K A	**1FT7 Compact synchronous motors Natural cooling Standard type** Order No.	Number of pole pairs	Rotor moment of inertia (without brake) J 10^{-4} kgm^2 (10^{-3} lb_f-in-s^2)	Weight (without brake) m kg (lb)
3 000	48	0.85 (1.14)	3.0 (2.2)	2.7 (2.0)	2.1	**1FT7042 - 5AF7■ - 1■■■**	3	2.81 (2.49)	4.6 (10.1)
		1.35 (1.81)	5.0 (3.7)	4.3 (3.2)	2.6	**1FT7044 - 5AF7■ - 1■■■**	3	5.43 (4.81)	7.2 (15.9)
		1.76 (2.36)	7.0 (5.2)	5.6 (4.1)	3.5	**1FT7046 - 5AF7■ - 1■■■**	3	7.52 (6.66)	9.3 (20.5)
	63	1.70 (2.28)	6.0 (4.4)	5.4 (4.0)	3.9	**1FT7062 - 5AF7■ - 1■■■**	5	7.36 (6.51)	7.1 (15.7)
		2.39 (3.20)	9.0 (6.6)	7.6 (5.6)	5.2	**1FT7064 - 5AF7■ - 1■■■**	5	11.9 (10.5)	9.7 (21.4)
		2.92 (3.92)	12.0 (8.9)	9.3 (6.9)	7.2	**1FT7066 - 5AF7■ - 1■■■**	5	16.4 (14.5)	12.3 (27.1)
		3.42 (4.59)	15.0 (11.1)	10.9 (8.0)	6.7	**1FT7068 - 5AF7■ - 1■■■**	5	23.2 (20.5)	16.3 (35.9)
	80	3.24 (4.34)	13.0 (9.6)	10.3 (7.6)	6.6	**1FT7082 - 5AF7■ - 1■■■**	5	26.5 (23.5)	14.0 (30.9)
		4.55 (6.10)	20.0 (14.8)	14.5 (10.7)	8.5	**1FT7084 - 5AF7■ - 1■■■**	5	45.1 (39.9)	20.8 (45.9)
		5.62 (7.54)	28.0 (20.7)	18 (13.3)	11	**1FT7086 - 5AF7■ - 1■■■**	5	63.6 (56.3)	31.8 (70.1)
	100	6.28 (8.42)	30.0 (22.1)	20 (14.8)	12	**1FT7102 - 5AF7■ - 1■■■**	5	91.4 (80.9)	26.1 (57.5)
		8.80 (11.8)	50.0 (36.9)	28 (20.7)	15	**1FT7105 - 5AF7■ - 1■■■**	5	178 (157)	44.2 (97.5)
		8.17 (11.0)	70.0 (51.6)	20 (14.8)	12	**1FT7108 - 5AF7■ - 1■■■**	5	248 (220)	59.0 (130)

Type IM B5:	Flange 0 Flange 1 (compatible with 1FT6)	**0** **1**
Encoder systems:	Incremental encoder sin/cos 1 V_{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R	**N** **M**

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 R	IP64	**3**
Grade R	IP65	**4**
Grade R	IP67	**5**

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

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		
			Rated output current[2]		Power connector	Cable cross-section[1]	Pre-assembled cable
	I_0 at M_0 ΔT=100 K	P_{calc} for M_0 ΔT=100 K	I_{rated}				
	A	kW (HP)	A	Order No.	Size	mm²	Order No.
1FT7042-5AF7...	2.1	0.94 (1.26)	3	**6SN112■ - 1A ■00 - 0HA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7044-5AF7...	2.8	1.57 (2.11)	3	**6SN112■ - 1A ■00 - 0HA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7046-5AF7...	4	2.20 (2.95)	5	**6SN112■ - 1A ■00 - 0AA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7062-5AF7...	3.9	1.88 (2.52)	5	**6SN112■ - 1A ■00 - 0AA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7064-5AF7...	5.7	2.83 (3.80)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7066-5AF7...	8.4	3.77 (5.06)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7068-5AF7...	8.3	4.71 (6.32)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7082-5AF7...	7.6	4.08 (5.47)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7084-5AF7...	11	6.28 (8.42)	18	**6SN112■ - 1A ■00 - 0CA2**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7086-5AF7...	15.5	8.80 (11.8)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 2.5	**6FX■ 002 - 5■A31 - ....**
1FT7102-5AF7...	18	9.42 (12.6)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 2.5	**6FX■ 002 - 5■A31 - ....**
1FT7105-5AF7...	26	15.71 (21.0)	28	**6SN112■ - 1AA 00 - 0DA2**	1.5	4 x 4	**6FX■ 002 - 5■A41 - ....**
1FT7108-5AF7...	36	21.99 (29.5)	42	**6SN112■ - 1AA 00 - 0LA3**	1.5	4 x 6	**6FX■ 002 - 5■A51 - ....**

Heat dissipation:	
Internal heat dissipation	**3**
External heat dissipation	**4**
Power module:	
Single-axis design	**A**
Two-axis design	**B**
Type of power cable:	
MOTION-CONNECT 800	**8**
MOTION-CONNECT 500	**5**
Without brake cores	**C**
With brake cores	**D**
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.	**....**

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

[2] With default setting of the pulse frequency.

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

1FT7 Compact standard type motors
Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque	Rated current	**1FT7 Compact synchronous motors Natural cooling Standard type**	Number of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at ΔT=100 K	M_0 at ΔT=100 K	M_{rated} at ΔT=100 K	I_{rated} at ΔT=100 K			J	m
rpm		kW (HP)	Nm (lb_f-ft)	Nm (lb_f-ft)	A	Order No.		10^{-4} kgm^2 (10^{-3} lb_f-in-s^2)	kg (lb)
4 500	48	1.32 (1.77)[1]	7.0 (5.2)	3.6 (2.7)[1]	4.7[1]	**1FT7046 - 5AH7■ - 1■■■**	3	7.52 (6.66)	9.3 (20.5)
	63	2.55 (3.42)[2]	12 (8.9)	6.1 (4.5)[2]	7.5[2]	**1FT7066 - 5AH7■ - 1■■■**	5	16.4 (14.5)	12.3 (27.1)
	80	3.77 (5.06)	13 (9.6)	8.0 (5.9)	8.4	**1FT7082 - 5AH7■ - 1■■■**	5	26.5 (23.5)	14.0 (30.9)
		4.82 (6.46)[2]	20 (14.8)	11.5 (8.5)[2]	10.1[2]	**1FT7084 - 5AH7■ - 1■■■**	5	45.1 (39.9)	20.8 (45.9)
		4.71 (6.32)	28 (20.7)	10 (7.4)	10	**1FT7086 - 5AH7■ - 1■■■**	5	63.6 (56.3)	27.5 (60.6)

Type IM B5:	Flange 0 Flange 1 (compatible with 1FT6)	**0** **1**
Encoder systems:	Incremental encoder sin/cos 1 V_{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R	**N** **M**

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 R	IP64	**3**
Grade R	IP65	**4**
Grade R	IP67	**5**

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

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		
			Rated output current[4]		Power connector	Cable cross-section[3]	Pre-assembled cable
	I_0 at M_0 ΔT=100 K	P_{calc} for M_0 ΔT=100 K	I_{rated}				
	A	kW (HP)	A	Order No.	Size	mm^2	Order No.
1FT7046-5AH7...	8.1	3.30 (4.43)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7066-5AH7...	13.6	5.65 (7.58)	18	**6SN112■ - 1A ■00 - 0CA2**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7082-5AH7...	12.3	6.13 (8.22)	18	**6SN112■ - 1A ■00 - 0CA2**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7084-5AH7...	15.6	9.42 (12.6)	18	**6SN112■ - 1A ■00 - 0CA2**	1.5	4 x 2.5	**6FX■ 002 - 5■A31 - ....**
1FT7086-5AH7...	22.4	13.19 (17.7)	28	**6SN112■ - 1AA 00 - 0DA2**	1.5	4 x 4	**6FX■ 002 - 5■A41 - ....**

Heat dissipation: Internal heat dissipation External heat dissipation	**3** **4**
Power module: Single-axis design Two-axis design	**A** **B**
Type of power cable: MOTION-CONNECT 800 MOTION-CONNECT 500	**8** **5**
Without brake cores With brake cores	**C** **D**
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.	**....**

1) These values refer to n = 3 500 rpm.

2) These values refer to n = 4 000 rpm.

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

4) With default setting of the pulse frequency.

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

1FT7 Compact standard type motors
Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque	Rated current	1FT7 Compact synchronous motors Natural cooling Standard type	Number of pole pairs	Rotor moment of inertia (without brake)	Weight (without brake)
n_{rated}	SH	P_{rated} at ΔT=100 K	M_0 at ΔT=100 K	M_{rated} at ΔT=100 K	I_{rated} at ΔT=100 K			J	m
rpm		kW (HP)	Nm (lb_f-ft)	Nm (lb_f-ft)	A	Order No.		10^{-4} kgm^2 (10^{-3} lb_f-in-s^2)	kg (lb)
6 000	36	0.88 (1.18)	2.0 (1.5)	1.4 (1.0)	2.1	**1FT7034 - 5AK7■ - 1■■■**	3	0.85 (0.75)	3.8 (8.38)
		1.07 (1.43)	3.0 (2.2)	1.7 (1.3)	2.4	**1FT7036 - 5AK7■ - 1■■■**	3	1.33 (1.18)	5.0 (11.0)
	48	1.26 (1.69)	3.0 (2.2)	2.0 (1.5)	3	**1FT7042 - 5AK7■ - 1■■■**	3	2.81 (2.49)	4.6 (10.1)
		1.41 (1.89)[1]	5.0 (3.7)	3.0 (2.2)[1]	3.6[1]	**1FT7044 - 5AK7■ - 1■■■**	3	5.43 (4.81)	7.2 (15.9)
	63	2.13 (2.86)[2]	6.0 (4.4)	3.7 (2.7)[2]	5.9[2]	**1FT7062 - 5AK7■ - 1■■■**	5	7.36 (6.51)	7.1 (15.7)
		2.59 (3.47)[1]	9.0 (6.6)	5.5 (4.1)[1]	6.1[1]	**1FT7064 - 5AK7■ - 1■■■**	5	11.9 (10.5)	9.7 (21.4)

Type IM B5:	Flange 0	**0**
	Flange 1 (compatible with 1FT6)	**1**
Encoder systems:	Incremental encoder sin/cos 1 V_{pp} 2 048 S/R	**N**
	Absolute encoder EnDat 2 048 S/R	**M**

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 R	IP64	**3**
Grade R	IP65	**4**
Grade R	IP67	**5**

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

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		
			Rated output current[4]		Power connector	Cable cross-section[3]	Pre-assembled cable
	I_0 at M_0 ΔT=100 K	P_{calc} for M_0 ΔT=100 K	I_{rated}				
	A	kW (HP)	A	Order No.	Size	mm^2	Order No.
1FT7034-5AK7...	2.7	1.26 (1.69)	3	**6SN112■ - 1A ■00 - 0HA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7036-5AK7...	4.0	1.88 (2.52)	5	**6SN112■ - 1A ■00 - 0AA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7042-5AK7...	3.9	1.89 (2.53)	5	**6SN112■ - 1A ■00 - 0AA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7044-5AK7...	5.7	3.15 (4.22)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7062-5AK7...	8.4	3.78 (5.07)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**
1FT7064-5AK7...	9	5.67 (7.60)	9	**6SN112■ - 1A ■00 - 0BA1**	1	4 x 1.5	**6FX■ 002 - 5■A01 - ....**

Heat dissipation:	
Internal heat dissipation	**3**
External heat dissipation	**4**
Power module:	
Single-axis design	**A**
Two-axis design	**B**
Type of power cable:	
MOTION-CONNECT 800	**8**
MOTION-CONNECT 500	**5**
Without brake cores	**C**
With brake cores	**D**
For length code as well as power and signal cables, see Connection system MOTION-CONNECT.	**....**

1) These values refer to n = 4 500 rpm.

2) These values refer to n = 5 500 rpm.

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

4) With default setting of the pulse frequency.

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