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**	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	Order No. **Core type**		J	m
rpm		kW (HP)	Nm (lb_f-in)	Nm (lb_f-in)	A			10^{-4} kgm^2 (10^{-3} x lb_f-in-s^2)	kg (lb)
2000	100	5.03 (6.75)	30 (266)	24 (212)	10	**1FT7102 - 1AC7■ - 1■ ■ 1**	5	91.4 (80.9)	26.1 (57.6)
		7.96 (10.7)	50 (443)	38 (336)	15	**1FT7105 - 1AC7■ - 1■ ■ 1**	5	178 (158)	44.2 (97.5)
3000	48	1.35 (1.81)	5 (44.3)	4.3 (38.1)	2.6	**1FT7044 - 1AF7■ - 1■ ■ 1**	3	5.43 (4.81)	7.2 (15.9)
	63	1.7 (2.28)	6 (53.1)	5.4 (47.8)	3.9	**1FT7062 - 1AF7■ - 1■ ■ 1**	5	7.36 (6.51)	7.1 (15.7)
		2.39 (3.20)	9 (79.7)	7.6 (67.3)	5.1	**1FT7064 - 1AF7■ - 1■ ■ 1**	5	11.9 (10.5)	9.7 (21.4)
	80	3.24 (4.34)	13 (115)	10.5 (92.9)	6.6	**1FT7082 - 1AF7■ - 1■ ■ 1**	5	26.5 (23.5)	14 (30.9)
		4.55 (6.10)	20 (177)	14.5 (128)	8.5	**1FT7084 - 1AF7■ - 1■ ■ 1**	5	45.1 (39.9)	20.8 (45.9)
		5.65 (7.58)	28 (248)	18 (159)	11	**1FT7086 - 1AF7■ - 1■ ■ 1**	5	63.6 (56.3)	31.6 (69.7)
4500	80	4.82 (6.46)[3]	20 (177)	11.5 (102)[3]	10.1[3]	**1FT7084 - 1AH7■ - 1■ ■ 1**	5	45.1 (39.9)	20.8 (45.9)
6000	36	0.88 (1.18)	2 (17.7)	1.4 (12.4)	2.1	**1FT7034 - 1AK7■ - 1■ ■ 1**	3	0.85 (0.75)	3.8 (8.38)
	63	2.13 (2.86)[1]	6 (53.1)	3.7 (32.7)[1]	5.9[1]	**1FT7062 - 1AK7■ - 1■ ■ 1**	5	7.36 (6.51)	7.1 (15.7)
		2.59 (3.47)[2]	9 (79.7)	5.5 (48.7)[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 for motors without DRIVE-CLiQ interface:	Incremental encoder sin/cos 1 V_{pp} 2048 S/R Absolute encoder EnDat 2048 S/R		**N** **M**
Encoder systems for motors with DRIVE-CLiQ interface:	Absolute encoder 22 bit Absolute encoder, 22 bit single-turn + 12 bit multi-turn		**D** **F**
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 I_0 at M_0 ΔT=100 K	Calculated power P_{calc} [6] P_{calc} for M_0 ΔT=100 K	SINAMICS S120 Motor Module: Rated output current [5] I_{rated}	SINAMICS S120 Motor Module: Booksize format Order No.	Power cable with complete shield (Motor connection (and brake connection) via power connector): Power connector	Motor cable cross-section [4]	Order No. Pre-assembled cable
	A	kW (HP)	A		Size	mm²	
1FT7102-1AC7...	12	6.28 (8.42)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 1.5	**6FX■ 002 - 5■S21 - ....**
1FT7105-1AC7...	18	10.47 (14.0)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 2.5	**6FX■ 002 - 5■S31 - ....**
1FT7044-1AF7...	2.8	1.57 (2.11)	3	**6SL312■ - ■TE13 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7062-1AF7...	3.9	1.88 (2.52)	5	**6SL312■ - ■TE15 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7064-1AF7...	5.6	2.83 (3.80)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7082-1AF7...	7.6	4.08 (5.47)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7084-1AF7...	11	6.28 (8.42)	18	**6SL312■ - ■TE21 - 8AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7086-1AF7...	15.5	8.8 (11.8)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 2.5	**6FX■ 002 - 5■S31 - ....**
1FT7084-1AH7...	15.6	9.42 (12.6)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 2.5	**6FX■ 002 - 5■S31 - ....**
1FT7034-1AK7...	2.7	1.26 (1.69)	3	**6SL312■ - ■TE13 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7062-1AK7...	8.4	3.77 (5.06)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7064-1AK7...	9	5.65 (7.58)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**

Cooling:	
Internal air cooling	**0**
External air cooling	**1**
Motor Module:	
Single Motor Module	**1**
Double Motor Module	**2**
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 = 5500 rpm.

2) These values refer to n = 4500 rpm.

3) These values refer to n = 4000 rpm.

4) 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), designed for I_0 (100 K), PVC/PUR-insulated cable.

5) With default setting of the pulse frequency.

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

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**	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	Order No. **Standard type**		J	m
rpm		kW (HP)	Nm (lb_f-in)	Nm (lb_f-in)	A			10^{-4} kgm^2 (10^{-3} x lb_f-in-s^2)	kg (lb)
1500	100	4.08 (5.47)	30 (266)	26 (230)	8	**1FT7102 - 5AB7■ - 1 ■ ■ ■**	5	91.4 (80.9)	26.1 (57.6)
		6.6 (8.85)	50 (443)	42 (372)	13	**1FT7105 - 5AB7■ - 1 ■ ■ ■**	5	178 (158)	44.2 (97.5)
		9.58 (12.8)	70 (620)	61 (540)	16	**1FT7108 - 5AB7■ - 1 ■ ■ ■**	5	248 (220)	59 (130)

Type IM B5:	Flange 0 Flange 1 (compatible with 1FT6)	**0** **1**
Encoder systems for motors without DRIVE-CLiQ interface:	Incremental encoder sin/cos 1 V_{pp} 2048 S/R Absolute encoder EnDat 2048 S/R	**N** **M**
Encoder systems for motors with DRIVE-CLiQ interface:	Incremental encoder 22 bit Absolute encoder, 22 bit single-turn + 12 bit multi-turn	**D** **F**

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**

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

Selection and Ordering Data

Motor type (continued)	Static current I_0 at T_0 ΔT=100 K A	Calculated power P_{calc} 3) P_{calc} for M_0 ΔT=100 K kW (HP)	SINAMICS S120 Motor Module: Rated output current 2) I_{rated} A	SINAMICS S120 Motor Module: Booksize format Order No.	Power cable with complete shield (Motor connection (and brake connection) via power connector): Power connector Size	Motor cable cross-section 1) mm²	Order No. Pre-assembled cable
1FT7102-5AB7...	9	4.71 (6.32)	9	**6SL312■ - ■TE21 - 0AA3**	1.5	4 x 1.5	**6FX■ 002 - 5■S21 - ....**
1FT7105-5AB7...	15	7.85 (10.5)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 1.5	**6FX■ 002 - 5■S21 - ....**
1FT7108-5AB7...	18	10.99 (14.7)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 2.5	**6FX■ 002 - 5■S31 - ....**

Option	Code
Cooling:	
Internal air cooling	**0**
External air cooling	**1**
Motor Module:	
Single Motor Module	**1**
Double Motor Module	**2**
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 IEC 60204-1 for installation type C under continuous operating conditions at an ambient air temperature of 40 °C (104 °F), designed for I_0 (100 K), PVC/PUR-insulated cable.

2) With default setting of the pulse frequency.

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

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**	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	Order No. **Standard type**		J	m
rpm		kW (HP)	Nm (lb_f-in)	Nm (lb_f-in)	A			10^{-4} kgm^2 (10^{-3} x lb_f-in-s^2)	kg (lb)
2000	80	2.39 (3.20)	13 (115)	11.4 (101)	4.7	**1FT7082 - 5AC7■ - 1 ■ ■ ■**	5	26.5 (23.5)	14 (30.9)
		3.54 (4.75)	20 (177)	16.9 (150)	7.8	**1FT7084 - 5AC7■ - 1 ■ ■ ■**	5	45.1 (39.9)	20.8 (45.9)
		4.71 (6.32)	28 (248)	22.5 (199)	9.2	**1FT7086 - 5AC7■ - 1 ■ ■ ■**	5	63.6 (56.3)	31.8 (70.1)
	100	5.03 (6.75)	30 (266)	24 (212)	10	**1FT7102 - 5AC7■ - 1 ■ ■ ■**	5	91.4 (80.9)	26.1 (57.6)
		7.96 (10.7)	50 (443)	38 (336)	15	**1FT7105 - 5AC7■ - 1 ■ ■ ■**	5	178 (158)	44.1 (97.2)
		10.5 (14.1)	70 (620)	50 (443)	18	**1FT7108 - 5AC7■ - 1 ■ ■ ■**	5	248 (220)	59 (130)

Type IM B5:	Flange 0 Flange 1 (compatible with 1FT6)	**0** **1**
Encoder systems for motors without DRIVE-CLiQ interface:	Incremental encoder sin/cos 1 V_{pp} 2048 S/R Absolute encoder EnDat 2048 S/R	**N** **M**
Encoder systems for motors with DRIVE-CLiQ interface:	Incremental encoder 22 bit Absolute encoder, 22 bit single-turn + 12 bit multi-turn	**D** **F**

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**

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

Selection and Ordering Data

Motor type (continued)	Static current	Calculated power P_{calc} [3]	SINAMICS S120 Motor Module		Power cable with complete shield Motor connection (and brake connection) via power connector		
			Rated output current [2]	Booksize format			
	I_0 at M_0 ΔT=100 K	P_{calc} for M_0 ΔT=100 K	I_{rated}	Order No.	Power connector	Motor cable cross-section [1]	Order No. Pre-assembled cable
	A	kW (HP)	A		Size	mm²	
1FT7082-5AC7...	4.9	2.72 (3.65)	5	**6SL312■ - ■TE15 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7084-5AC7...	8.5	4.19 (5.62)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7086-5AC7...	10.6	5.86 (7.86)	18	**6SL312■ - ■TE21 - 8AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7102-5AC7...	12	6.28 (8.42)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 1.5	**6FX■ 002 - 5■S21 - ....**
1FT7105-5AC7...	18	10.47 (14.0)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 2.5	**6FX■ 002 - 5■S31 - ....**
1FT7108-5AC7...	25	14.66 (19.7)	30	**6SL312■ - ■TE23 - 1AA3**	1.5	4 x 4	**6FX■ 002 - 5■S41 - ....**

Cooling: Internal air cooling External air cooling	**0** **1**
Motor Module: Single Motor Module Double Motor Module	**1** **2**
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] 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), designed for I_0 (100 K), PVC/PUR-insulated cable.

[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**	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	Order No. **Standard type**		J	m
rpm		kW (HP)	Nm (lb_f-in)	Nm (lb_f-in)	A			10^{-4} kgm^2 (10^{-3} x lb_f-in-s^2)	kg (lb)
3000	48	0.85 (1.14)	3 (26.6)	2.7 (23.9)	2.1	**1FT7042 - 5AF7■ - 1■■■**	3	2.81 (2.49)	4.6 (10.1)
		1.35 (1.81)	5 (44.3)	4.3 (38.1)	2.6	**1FT7044 - 5AF7■ - 1■■■**	3	5.43 (4.81)	7.2 (15.9)
		1.76 (2.36)	7 (62.0)	5.6 (49.6)	3.5	**1FT7046 - 5AF7■ - 1■■■**	3	7.52 (6.66)	9.3 (20.5)
	63	1.7 (2.28)	6 (53.1)	5.4 (47.8)	3.9	**1FT7062 - 5AF7■ - 1■■■**	5	7.36 (6.51)	7.1 (15.7)
		2.39 (3.20)	9 (79.7)	7.6 (67.3)	5.1	**1FT7064 - 5AF7■ - 1■■■**	5	11.9 (10.5)	9.7 (21.4)
		2.92 (3.92)	12 (106)	9.3 (82.3)	7.2	**1FT7066 - 5AF7■ - 1■■■**	5	16.4 (14.5)	12.3 (27.1)
		3.42 (4.59)	15 (133)	10.9 (96.5)	6.7	**1FT7068 - 5AF7■ - 1■■■**	5	23.2 (20.5)	16.3 (35.9)
	80	3.24 (4.34)	13 (115)	10.5 (92.9)	6.6	**1FT7082 - 5AF7■ - 1■■■**	5	26.5 (23.5)	14 (30.9)
		4.55 (6.10)	20 (177)	14.5 (128)	8.5	**1FT7084 - 5AF7■ - 1■■■**	5	45.1 (39.1)	20.8 (45.9)
		5.62 (7.54)	28 (248)	18 (159)	11	**1FT7086 - 5AF7■ - 1■■■**	5	63.6 (56.3)	31.8 (70.1)
	100	6.28 (8.42)	30 (266)	20 (177)	12	**1FT7102 - 5AF7■ - 1■■■**	5	91.4 (80.9)	26.1 (57.6)
		8.8 (11.8)	50 (443)	28 (248)	15	**1FT7105 - 5AF7■ - 1■■■**	5	178 (158)	44.2 (97.5)

Type IM B5:	Flange 0 Flange 1 (compatible with 1FT6)		**0** **1**
Encoder systems for motors without DRIVE-CLiQ interface:	Incremental encoder sin/cos 1 V_{pp} 2048 S/R Absolute encoder EnDat 2048 S/R		**N** **M**
Encoder systems for motors with DRIVE-CLiQ interface:	Incremental encoder 22 bit Absolute encoder, 22 bit single-turn + 12 bit multi-turn		**D** **F**
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**

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

Selection and Ordering Data

Motor type (continued)	Static current	Calculated power P_{calc} [3]	SINAMICS S120 Motor Module		Power cable with complete shield Motor connection (and brake connection) via power connector		
			Rated output current [2]	Booksize format			
	I_0 at M_0 ΔT=100 K	P_{calc} for M_0 ΔT=100 K	I_{rated}	Order No.	Power connector	Motor cable cross-section [1]	Order No. Pre-assembled cable
	A	kW (HP)	A		Size	mm²	
1FT7042-5AF7...	2.1	0.94 (1.26)	3	**6SL312■ - ■TE13 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7044-5AF7...	2.8	1.57 (2.11)	3	**6SL312■ - ■TE13 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7046-5AF7...	4	2.2 (2.95)	5	**6SL312■ - ■TE15 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7062-5AF7...	3.9	1.88 (2.52)	5	**6SL312■ - ■TE15 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7064-5AF7...	5.6	2.83 (3.80)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7066-5AF7...	8.4	3.77 (5.06)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7068-5AF7...	8.3	4.71 (6.32)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7082-5AF7...	7.6	4.08 (5.47)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7084-5AF7...	11	6.28 (8.42)	18	**6SL312■ - ■TE21 - 8AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7086-5AF7...	15.5	8.8 (11.8)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 2.5	**6FX■ 002 - 5■S31 - ....**
1FT7102-5AF7...	18	9.42 (12.6)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 2.5	**6FX■ 002 - 5■S31 - ....**
1FT7105-5AF7...	26	15.71 (21.1)	30	**6SL312■ - ■TE23 - 1AA3**	1.5	4 x 4	**6FX■ 002 - 5■S41 - ....**

Cooling:	
Internal air cooling	**0**
External air cooling	**1**
Motor Module:	
Single Motor Module	**1**
Double Motor Module	**2**
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 IEC 60204-1 for installation type C under continuous operating conditions at an ambient air temperature of 40 °C (104 °F), designed for I_0 (100 K), PVC/PUR-insulated cable.

[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	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	Order No. **Standard type**		J	m
rpm		kW (HP)	Nm (lb_f-in)	Nm (lb_f-in)	A			10^{-4} kgm^2 (10^{-3} x lb_f-in-s^2)	kg (lb)
4500	48	1.32 (1.77)[1]	7 (62.0)	3.6 (31.9)[1]	4.7[1]	**1FT7046 - 5AH7■ - 1■■■**	3	7.52 (6.66)	9.3 (20.5)
	63	2.55 (3.42)[2]	12 (106)	6.1 (54.0)[2]	7.5[2]	**1FT7066 - 5AH7■ - 1■■■**	5	16.4 (14.5)	12.3 (27.1)
	80	3.77 (5.06)	13 (115)	8 (70.8)	8.4	**1FT7082 - 5AH7■ - 1■■■**	5	26.5 (23.5)	14 (30.9)
		4.82 (6.46)[2]	20 (177)	11.5 (102)[2]	10.1[2]	**1FT7084 - 5AH7■ - 1■■■**	5	45.1 (39.9)	20.8 (45.9)

Type IM B5:	Flange 0 Flange 1 (compatible with 1FT6)	**0** **1**
Encoder systems for motors without DRIVE-CLiQ interface:	Incremental encoder sin/cos 1 V_{pp} 2048 S/R Absolute encoder EnDat 2048 S/R	**N** **M**
Encoder systems for motors with DRIVE-CLiQ interface:	Incremental encoder 22 bit Absolute encoder, 22 bit single-turn + 12 bit multi-turn	**D** **F**

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**

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

Selection and Ordering Data

Motor type (continued)	Static current	Calculated power	SINAMICS S120 Motor Module		Power cable with complete shield Motor connection (and brake connection) via power connector		
			Rated output current[4]	Booksize format			
	I_0 at M_0 ΔT=100 K	P_{calc}[5] for M_0 ΔT=100 K	I_{rated}	Order No.	Power connector	Motor cable cross-section[3]	Order No. Pre-assembled cable
	A	kW (HP)	A		Size	mm²	
1FT7046-5AH7...	8.1	3.3 (4.43)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7066-5AH7...	13.6	5.65 (7.58)	18	**6SL312■ - ■TE21 - 8AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7082-5AH7...	12.3	6.13 (8.22)	18	**6SL312■ - ■TE21 - 8AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7084-5AH7...	15.6	9.42 (12.6)	18	**6SL312■ - ■TE21 - 8AA3**	1.5	4 x 2.5	**6FX■ 002 - 5■S31 - ....**

Cooling:	
Internal air cooling	**0**
External air cooling	**1**
Motor Module:	
Single Motor Module	**1**
Double Motor Module	**2**
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 = 3500 rpm.

[2] These values refer to n = 4000 rpm.

[3] 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), designed for I_0 (100 K), PVC/PUR-insulated cable.

[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	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	Order No. **Standard type**		J	m
rpm		kW (HP)	Nm (lb_f-in)	Nm (lb_f-in)	A			10^{-4} kgm^2 (10^{-3} x lb_f-in-s^2)	kg (lb)
6000	36	0.88 (1.18)	2 (17.7)	1.4 (12.4)	2.1	**1FT7034 - 5AK7■ - 1■■■**	3	0.85 (0.75)	3.8 (8.38)
		1.07 (1.43)	3 (26.6)	1.7 (15.0)	2.4	**1FT7036 - 5AK7■ - 1■■■**	3	1.33 (1.18)	5 (11.0)
	48	1.26 (1.69)	3 (26.6)	2 (17.7)	3	**1FT7042 - 5AK7■ - 1■■■**	3	2.81 (2.49)	4.6 (10.1)
		1.41 (1.89)[1]	5 (44.3)	3 (26.6)[1]	3.6[1]	**1FT7044 - 5AK7■ - 1■■■**	3	5.43 (4.81)	7.2 (15.9)
	63	2.13 (2.86)[2]	6 (53.1)	3.7 (32.7)[2]	5.9[2]	**1FT7062 - 5AK7■ - 1■■■**	5	7.36 (6.51)	7.1 (15.7)
		2.59 (2.59)[1]	9 (79.7)	5.5 (48.7)[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 for motors without DRIVE-CLiQ interface:	Incremental encoder sin/cos 1 V_{pp} 2048 S/R	**N**
	Absolute encoder EnDat 2048 S/R	**M**
Encoder systems for motors with DRIVE-CLiQ interface:	Incremental encoder 22 bit	**D**
	Absolute encoder, 22 bit single-turn + 12 bit multi-turn	**F**

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**

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

Selection and Ordering Data

Motor type (continued)	Static current	Calculated power P_{calc} [5]	SINAMICS S120 Motor Module		Power cable with complete shield Motor connection (and brake connection) via power connector		
			Rated output current [4]	Booksize format			
	I_0 at M_0 ΔT=100 K	P_{calc} for M_0 ΔT=100 K	I_{rated}	Order No.	Power connector	Motor cable cross-section [3]	Order No. Pre-assembled cable
	A	kW (HP)	A		Size	mm^2	
1FT7034-5AK7...	2.9	1.26 (1.69)	3	**6SL312■ - ■TE13 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7036-5AK7...	4.0	1.88 (2.52)	5	**6SL312■ - ■TE15 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7042-5AK7...	3.9	1.89 (2.53)	5	**6SL312■ - ■TE15 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7044-5AK7...	5.7	3.15 (4.22)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7062-5AK7...	8.4	3.78 (5.07)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**
1FT7064-5AK7...	9	5.67 (7.60)	9	**6SL312■ - ■TE21 - 0AA3**	1	4 x 1.5	**6FX■ 002 - 5■S01 - ....**

Cooling: Internal air cooling External air cooling	**0** **1**
Motor Module: Single Motor Module Double Motor Module	**1** **2**
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 = 4500 rpm.

[2] These values refer to n = 5500 rpm.

[3] 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), designed for I_0 (100 K), PVC/PUR-insulated cable.

[4] With default setting of the pulse frequency.

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