

1FK7 Compact motors

Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FK7 Compact synchronous motor Natural cooling	Number 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 _r -ft)	Nm (lb _r -ft)	A			10^{-4} kgm^2 ($10^{-3}\text{ lb}_r\text{-in-s}^2$)	kg (lb)
2 000	100	4.29 (5.75)	27 (19.9)	20.5 (15.1)	9.6	1FK7101-5AC71-1 ■ ■ ■ ■	4	79.9 (70.7)	21 (46.3)
		5.23 (7.01)	36 (26.6)	25 (18.4)	11.5	1FK7103-5AC71-1 ■ ■ ■ ■	4	105 (92.9)	29 (63.9)
		7.75 (10.4)	48 (35.4)	37 (27.3)	16	1FK7105-5AC71-1 ■ ■ ■ ■	4	156 (138)	39 (86.2)
3 000	48	0.82 (1.1)	3.0 (2.2)	2.6 (1.9)	1.95	1FK7042-5AF71-1 ■ ■ ■ ■	4	3.01 (2.66)	4.9 (10.8)
	63	1.48 (2.0)	6.0 (4.4)	4.7 (3.5)	3.7	1FK7060-5AF71-1 ■ ■ ■ ■	4	7.95 (7.04)	7.0 (15.4)
		2.29 (3.1)	11 (8.2)	7.3 (5.4)	5.6	1FK7063-5AF71-1 ■ ■ ■ ■	4	15.1 (13.3)	11.5 (25.4)
	80	2.14 (2.9)	8.0 (5.9)	6.8 (5.0)	4.4	1FK7080-5AF71-1 ■ ■ ■ ■	4	15.0 (13.2)	10 (22.1)
		3.3 (4.4)	16 (11.8)	10.5 (7.7)	7.4	1FK7083-5AF71-1 ■ ■ ■ ■	4	27.3 (24.1)	14 (30.9)
	100	3.77 (5.1)	18 (13.3)	12.0 (8.8)	8.0	1FK7100-5AF71-1 ■ ■ ■ ■	4	55.3 (48.9)	19 (41.9)
		4.87 (6.5)	27 (19.9)	15.5 (11.4)	11.8	1FK7101-5AF71-1 ■ ■ ■ ■	4	79.9 (70.7)	21 (46.3)
		5.37 (7.2) ²⁾	36 (26.6)	20.5 (15.1) ²⁾	16.5 ²⁾	1FK7103-5AF71-1 ■ ■ ■ ■	4	105 (92.9)	29 (63.9)
		8.17 (11.0)	48 (35.4)	26.0 (19.2)	18	1FK7105-5AF71-1 ■ ■ ■ ■	4	156 (138)	39 (86.2)
4 500	63	1.74 (2.3)	6.0 (4.4)	3.7 (2.7)	4.1	1FK7060-5AH71-1 ■ ■ ■ ■	4	7.95 (7.04)	7.0 (15.4)
		2.09 (2.8) ³⁾	11 (8.2)	5.0 (3.7) ³⁾	6.1 ³⁾	1FK7063-5AH71-1 ■ ■ ■ ■	4	15.1 (13.3)	11.5 (25.4)
	80	2.39 (3.2) ³⁾	8.0 (5.9)	5.7 (4.2) ³⁾	5.6 ³⁾	1FK7080-5AH71-1 ■ ■ ■ ■	4	15.0 (13.2)	10 (22.1)
		3.04 (4.1) ⁴⁾	16 (11.8)	8.3 (6.1) ⁴⁾	9 ⁴⁾	1FK7083-5AH71-1 ■ ■ ■ ■	4	27.3 (24.1)	14 (30.9)
6 000	20	0.05 (0.1)	0.18 (0.1)	0.08 (0.1)	0.85	1FK7011-5AK71-1 ■ ■ ■ 3	4	0.064 (0.06)	0.9 (2.0)
		0.10 (0.1)	0.35 (0.3)	0.16 (0.1)	0.85	1FK7015-5AK71-1 ■ ■ ■ 3	4	0.083 (0.08)	1.1 (2.4)
	28	0.43 (0.6)	0.85 (0.6)	0.6 (0.4)	1.4	1FK7022-5AK71-1 ■ ■ ■ ■	3	0.28 (0.25)	1.8 (4.0)
	36	0.50 (0.7)	1.1 (0.8)	0.8 (0.6)	1.3	1FK7032-5AK71-1 ■ ■ ■ ■	3	0.61 (0.54)	2.7 (6.0)
		0.63 (0.8)	1.6 (1.2)	1.0 (0.7)	1.3	1FK7034-5AK71-1 ■ ■ ■ ■	3	0.9 (0.80)	3.7 (8.2)
	48	0.69 (0.9)	1.6 (1.2)	1.1 (0.8)	1.7	1FK7040-5AK71-1 ■ ■ ■ ■	4	1.69 (1.50)	3.5 (7.7)
		1.02 (1.4) ⁵⁾	3.0 (2.2)	1.95 (1.4) ⁵⁾	3.1 ⁵⁾	1FK7042-5AK71-1 ■ ■ ■ ■	4	3.01 (2.66)	4.9 (10.8)

Encoder systems for motors without DRIVE-CLiQ interface:

Incremental encoder sin/cos 1 V_{pp} 2 048 S/R
 Absolute encoder EnDat 2 048 S/R ¹⁾ (not for 1FK701 to 1FK703)
 Absolute encoder EnDat 512 S/R ¹⁾ (only for 1FK702 to 1FK703)
 Absolute encoder EnDat 32 S/R ¹⁾ (not for 1FK701 to 1FK703)
 Absolute encoder EnDat 16 S/R ¹⁾ (only for 1FK701 to 1FK703)
 Multi-pole resolver
 2-pole resolver

A
E
H
G
J
S
T

Encoder systems for motors with DRIVE-CLiQ interface ⁶⁾:

22 bit incremental encoder (not for 1FK701)
 22 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (not for 1FK701 to 1FK703)
 20 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (only for 1FK702/1FK703)
 16 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (not for 1FK701 to 1FK703)
 15 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (only for 1FK702/1FK703)
 15 bit resolver (not for 1FK701)
 14 bit resolver (not for 1FK701)

D
F
L
K
V
U
P

Shaft extension:

Fitted key and keyway
 Fitted key and keyway
 Plain shaft
 Plain shaft

Shaft and flange accuracy:

Tolerance N
 Tolerance N
 Tolerance N
 Tolerance N

Holding brake:

without
 with
 without
 with

A
B
G
H

Degree of protection:

IP64 (not for 1FK701)
 IP65 and DE flange IP67 (not for 1FK701)
 IP64 (IP54 for 1FK701) and anthracite paint finish
 IP65 and DE flange IP67, anthracite paint finish (not for 1FK701)
 IP65 and DE flange IP67, anthracite paint finish and metal rating plate on motor (not for 1FK701)

0
2
3
5
8

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

Selection and ordering data

Motor type (continued)	Static current	Calculated power $P_{\text{calc}}^{10)}$	SINAMICS S120 Motor Module		Power cable with complete shield		
	I_0 at M_0 $\Delta T = 100 \text{ K}$	P_{calc} for M_0 $\Delta T = 100 \text{ K}$	Rated output current ⁹⁾	Booksized format	Motor connection (and brake connection) via power connector		
	A	kW (HP)	A	Order No.	Power connector	Cable cross- section ⁷⁾	Pre-assembled cable
					Size	mm ²	Order No.
1FK7101-5AC71...	12.3	5.7 (7.64)	18	6SL312-1-TE21-8AA3	1.5	4 x 1.5	6FX002-5S21-....
1FK7103-5AC71...	14.7	7.5 (10.0)	18	6SL312-1-TE21-8AA3	1.5	4 x 1.5	6FX002-5S21-....
1FK7105-5AC71...	20	10 (13.4)	30	6SL312-1-TE23-0AA3	1.5	4 x 2.5	6FX002-5S31-....
1FK7042-5AF71...	2.2	0.9 (1.2)	3	6SL312-1-TE13-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7060-5AF71...	4.5	1.9 (2.6)	5	6SL312-1-TE15-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7063-5AF71...	8	3.5 (4.7)	9	6SL312-1-TE21-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7080-5AF71...	4.8	2.5 (3.4)	5	6SL312-1-TE15-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7083-5AF71...	10.4	5.0 (6.7)	9 ⁶⁾	6SL312-1-TE21-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7100-5AF71...	11.2	5.7 (7.6)	18	6SL312-1-TE21-8AA3	1	4 x 1.5	6FX002-5S01-....
1FK7101-5AF71...	19	8.5 (11.4)	18 ⁶⁾	6SL312-1-TE21-8AA3	1.5	4 x 2.5	6FX002-5S31-....
1FK7103-5AF71...	27.5	11.3 (15.2)	30	6SL312-1-TE23-0AA3	1.5	4 x 4	6FX002-5S41-....
1FK7105-5AF71...	31	15 (20.1)	30 ⁶⁾	6SL312-1-TE23-0AA3	1.5	4 x 10	6FX002-5S61-....
1FK7060-5AH71...	6.2	2.8 (3.8)	9	6SL312-1-TE21-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7083-5AH71...	12	5.2 (7.0)	18	6SL312-1-TE21-8AA3	1	4 x 1.5	6FX002-5S01-....
1FK7080-5AH71...	7.4	3.8 (5.1)	9	6SL312-1-TE21-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7083-5AH71...	15	7.5 (10.1)	18	6SL312-1-TE21-8AA3	1	4 x 1.5	6FX002-5S01-....
1FK7011-5AK71...	1.5	0.11 (0.2)	3	6SL312-1-TE13-0AA3	0.5	4 x 1.5	6FX5002-5DA20-....
1FK7015-5AK71...	1.5	0.22 (0.3)	3	6SL312-1-TE13-0AA3	0.5	4 x 1.5	6FX5002-5DA20-....
1FK7022-5AK71...	1.8	0.5 (0.7)	3	6SL312-1-TE13-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7032-5AK71...	1.7	0.7 (0.9)	3	6SL312-1-TE13-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7034-5AK71...	1.9	1.0 (1.3)	3	6SL312-1-TE13-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7040-5AK71...	2.25	1.0 (1.3)	3	6SL312-1-TE13-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7042-5AK71...	4.4	1.9 (2.6)	5	6SL312-1-TE15-0AA3	1	4 x 1.5	6FX002-5S01-....

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.

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

²⁾ These values refer to $n = 2\,500 \text{ rpm}$.

³⁾ These values refer to $n = 4\,000 \text{ rpm}$.

⁴⁾ These values refer to $n = 3\,500 \text{ rpm}$.

⁵⁾ These values refer to $n = 5\,000 \text{ rpm}$.

⁶⁾ With the specified Motor Module, the motor cannot be fully utilized with M_0 at $\Delta T = 100 \text{ K}$ winding temperature rise. If a Motor 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, for continuous duty at an ambient air temperature of 40 °C (104 °F).

⁸⁾ Motors with shaft height 20 are not available with a DRIVE-CLiQ interface. The encoder systems are connected via the SMC (Sensor Module Cabinet-Mounted).

⁹⁾ With default setting of the pulse frequency.

¹⁰⁾ $P_{\text{calc}} [\text{kW}] = \frac{M_0 [\text{Nm}] \times n_{\text{rated}}}{9550}$ $P_{\text{calc}} [\text{HP}] = \frac{M_0 [\text{lb}_f\text{-in}] \times n_{\text{rated}}}{63000}$

1FK7 High Dynamic motors

Natural cooling

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque ¹⁾	Rated current	1FK7 High Dynamic synchronous motor Natural cooling	Number 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 -ft)	Nm (lb _f -ft)	A	Order No.		10 ⁻⁴ kgm ² (10 ⁻³ lb _f -in-s ²)	kg (lb)	
3 000	48	1.1 (1.48)	4.0 (2.9)	3.5 (2.6)	4	1FK7044-7AF71-1 ■ ■ ■	3	1.28 (1.13)	7.7 (17)	
	63	1.7 (2.28)	6.4 (4.7)	5.4 (4.0)	5.3	1FK7061-7AF71-1 ■ ■ ■	3	3.4 (3.01)	10 (22.1)	
		2.51 (3.37)	12 (8.8)	8.0 (5.9)	7.5	1FK7064-7AF71-1 ■ ■ ■	3	6.5 (5.75)	15.5 (34.2)	
	80	3.14 (4.21) ²⁾ 3.77 (5.06) ³⁾	22 (16.2) 28 (20.6)	12 (8.8) ²⁾ 18 (13.3) ³⁾	12.5 ²⁾ 14.5 ³⁾	1FK7085-7AF71-1 ■ ■ ■ 1FK7086-7AF71-1 ■ ■ ■	4 4	23 (20.3) 23 (20.3)	23.5 (51.8) 23.5 (51.8)	
4 500	48	1.23 (1.65) 1.41 (1.89)	3.1 (2.3) 4.0 (2.9)	2.6 (1.9) 3.0 (2.2)	4 4.9	1FK7043-7AH71-1 ■ ■ ■ 1FK7044-7AH71-1 ■ ■ ■	3 3	1.0 (0.89) 1.28 (1.13)	6.3 (13.9) 7.7 (17)	
		63	2.03 (2.72) 2.36 (3.16)	6.4 (4.7) 12 (8.8)	4.3 (3.2) 5.0 (3.7)	5.9 7	1FK7061-7AH71-1 ■ ■ ■ 1FK7064-7AH71-1 ■ ■ ■	3 3	3.4 (3.01) 6.5 (5.75)	10 (22.1) 15.5 (34.2)
	6 000	36	0.57 (0.76)	1.3 (1.0)	0.9 (0.7)	1.5	1FK7033-7AK71-1 ■ ■ ■	3	0.27 (0.24)	3.1 (6.8)
		48	1.26 (1.69)	3.1 (2.3)	2.0 (1.5)	4.4	1FK7043-7AK71-1 ■ ■ ■	3	1.0 (0.89)	6.3 (13.9)
Encoder systems for motors without DRIVE-CLiQ interface:			Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R ¹⁾ (not for 1FK703) Absolute encoder EnDat 512 S/R ¹⁾ (only for 1FK703) Absolute encoder EnDat 32 S/R ¹⁾ (not for 1FK703) Absolute encoder EnDat 16 S/R ¹⁾ (only for 1FK703) Multi-pole resolver 2-pole resolver				A E H G J S T			
Encoder systems for motors with DRIVE-CLiQ interface:			22 bit incremental encoder 22 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (not for 1FK703) 20 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (only for 1FK703) 16 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (not for 1FK703) 15 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (only for 1FK703) 15 bit resolver 14 bit resolver				D F L K V U P			
Shaft extension: Fitted key and keyway Fitted key and keyway Plain shaft Plain shaft		Shaft and flange accuracy: Tolerance N Tolerance N Tolerance N Tolerance N		Holding brake: without with without with		A B G H				
Degree of protection:		IP64 IP65 and DE flange IP67 IP64 and anthracite paint finish IP64 and DE flange IP67, anthracite paint finish IP65 and DE flange IP67, anthracite paint finish and metal rating plate on motor				0 2 3 5 8				

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

1FK7 High Dynamic motors
Natural cooling

Selection and ordering data

Motor type (continued)	Static current	Calculated power P_{calc} ⁶⁾	SINAMICS S120 Motor Module		Power cable with complete shield		
	I_0 at M_0 $\Delta T = 100$ K	P_{calc} for M_0 $\Delta T = 100$ K	Rated output current ⁵⁾	Booksize format	Motor connection (and brake connection) via power connector		
	A	kW (HP)	A	Order No.	Power connector	Cable cross- section ⁴⁾	Pre-assembled cable
					Size	mm ²	Order No.
1FK7044-7AF71...	4.5	1.3 (1.7)	5	6SL312-TE15-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7061-7AF71...	6.1	2.0 (2.7)	9	6SL312-TE21-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7064-7AF71...	11	3.8 (5.1)	18	6SL312-TE21-8AA3	1	4 x 1.5	6FX002-5S01-....
1FK7085-7AF71...	22.5	6.9 (9.3)	30	6SL312-1TE23-0AA3	1.5	4 x 4	6FX002-5S41-....
1FK7086-7AF71...	21	8.8 (11.8)	30	6SL312-1TE23-0AA3	1.5	4 x 4	6FX002-5S41-....
1FK7043-7AH71...	4.5	1.5 (2.0)	5	6SL312-TE15-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7044-7AH71...	6.3	1.9 (2.6)	9	6SL312-TE21-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7061-7AH71...	8	3.0 (4.0)	9	6SL312-TE21-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7064-7AH71...	15	5.7 (7.6)	18	6SL312-TE21-8AA3	1	4 x 1.5	6FX002-5S01-....
1FK7033-7AK71...	2.2	0.8 (1.1)	3	6SL312-TE13-0AA3	1	4 x 1.5	6FX002-5S01-....
1FK7043-7AK71...	6.4	1.9 (2.6)	9	6SL312-TE21-0AA3	1	4 x 1.5	6FX002-5S01-....
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) If the absolute encoder is used, M_{rated} is reduced by 10 %.2) These values refer to $n = 2\,500$ rpm.3) These values refer to $n = 2\,000$ 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.

5) With default setting of the pulse frequency.

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

1FK7 Compact/1FK7 High Dynamic motors

Natural cooling for Power Modules

Selection and ordering data

Rated speed	Shaft height	Rated power	Static torque	Rated torque	Rated current	1FK7 Compact/High Dynamic synchronous motor Natural cooling Connection to SINAMICS 230 V 1 AC	Number 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 -ft)	Nm (lb _f -ft)	A	Order No.		10 ⁻⁴ kgm ² (10 ⁻³ lb _f -in-s ²)	kg (lb)
3 000	36	0.31 (0.42)	1.15 (0.8)	1.0 (0.7)	1.6	1FK7032-5AF21-1 ■ ■ ■	3	0.61 (0.54)	2.7 (5.9)
		0.38 (0.51)	1.3 (1.0)	1.2 (0.9)	2.0	1FK7033-7AF21-1 ■ ■ ■	3	0.27 (0.24)	3.1 (6.8)
		0.46 (0.62)	1.6 (1.2)	1.45 (1.1)	1.8	1FK7034-5AF21-1 ■ ■ ■	3	0.9 (0.8)	3.7 (8.2)
	48	0.82 (1.1)	3.0 (2.2)	2.6 (1.9)	3.5	1FK7042-5AF21-1 ■ ■ ■	4	3.01 (2.66)	4.9 (10.8)
		0.79 (1.06)	2.7 (2.0)	2.5 (1.8)	3.8	1FK7043-7AF21-1 ■ ■ ■	3	1.0 (0.89)	6.3 (13.9)
6 000	20	0.05 (0.1)	0.18 (0.1)	0.08 (0.1)	0.5	1FK7011-5AK21-1 ■ ■ ■ 3	4	0.064 (0.06)	0.9 (2.0)
		0.10 (0.1)	0.35 (0.3)	0.16 (0.1)	0.5	1FK7015-5AK21-1 ■ ■ ■ 3	4	0.083 (0.08)	1.1 (2.4)
	28	0.38 (0.51)	0.85 (0.6)	0.6 (0.4)	1.4	1FK7022-5AK21-1 ■ ■ ■	3	0.28 (0.25)	1.8 (4.0)
Synchronous motor:			1FK7 Compact 1FK7 High Dynamic			5 7			
Encoder systems for motors without DRIVE-CLiQ interface:			Incremental encoder sin/cos 1 V _{pp} 2 048 S/R Absolute encoder EnDat 2 048 S/R ¹⁾ (only for 1FK704) Absolute encoder EnDat 512 S/R ¹⁾ (not for 1FK704) Absolute encoder EnDat 32 S/R ¹⁾ (only for 1FK704) Absolute encoder EnDat 16 S/R ¹⁾ (not for 1FK704) Multi-pole resolver 2-pole resolver			A E H G J S T			
Encoder systems for motors with DRIVE-CLiQ interface: ⁴⁾			22 bit incremental encoder (not for 1FK701) 22 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (only for 1FK704) 20 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (only for 1FK702/1FK703) 16 bit absolute encoder, single-turn + 12 bit multi-turn ¹⁾ (only for 1FK704) 15 bit single-turn absolute encoder + 12 bit multi-turn ¹⁾ (only for 1FK702/1FK703) 15 bit resolver (not for 1FK701) 14 bit resolver (not for 1FK701)			D F L K V U P			
Shaft extension: Fitted key and keyway Fitted key and keyway Plain shaft Plain shaft			Shaft and flange accuracy: Tolerance N Tolerance N Tolerance N Tolerance N		Holding brake: without with without with	A B G H			
Degree of protection:			IP64 (not for 1FK701) IP65 and DE flange IP67 (not for 1FK701) IP64 (IP54 for 1FK701) and anthracite paint finish IP65 and DE flange IP67, anthracite paint finish (not for 1FK701) IP65 and DE flange IP67, anthracite paint finish and metal rating plate on motor (not for 1FK701)			0 2 3 5 8			

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

1FK7 Compact/High Dynamic motors
Natural cooling for Power Modules
Selection and ordering data

Motor type (continued)	Static current	Calculated power P_{calc} ⁶⁾	SINAMICS S120 Power Module		Power cable with complete shield		
	I_0 at M_0 $\Delta T=100$ K	P_{calc} for M_0 $\Delta T=100$ K	Rated output current ⁵⁾ I_{rated} at M_0 $\Delta T=100$ K	Booksize format without line filter	Motor connection (and brake connection) via power connector		
					Power connector	Cable cross- section ³⁾	Pre-assembled cable
	A	kW (HP)	A	Order No.	Size	mm ²	Order No.
1FK7032-5AF21...	1.7	0.36 (0.5)	2.3	6SL3210 - 1SB12-3UA3	1	4 x 1.5	6FX 002-5 G01-....
1FK7033-7AF21...	2.2	0.41 (0.6)	2.3	6SL3210 - 1SB12-3UA3	1	4 x 1.5	6FX 002-5 G01-....
1FK7034-5AF21...	1.9	0.50 (0.7)	2.3	6SL3210 - 1SB12-3UA3	1	4 x 1.5	6FX 002-5 G01-....
1FK7042-5AF21...	3.9	0.94 (1.3)	3.9	6SL3210 - 1SB14-0UA3	1	4 x 1.5	6FX 002-5 G01-....
1FK7043-7AF21...	3.9	0.85 (1.1)	3.9	6SL3210 - 1SB14-0UA3	1	4 x 1.5	6FX 002-5 G01-....
1FK7011-5AK21...	0.85	0.11 (0.2)	0.9	6SL3210 - 1SB11-0UA3	0.5	4 x 1.5	6FX5002-5 DA30-.... ²⁾
1FK7015-5AK21...	0.85	0.22 (0.3)	0.9	6SL3210 - 1SB11-0UA3	0.5	4 x 1.5	6FX5002-5 DA30-.... ²⁾
1FK7022-5AK21...	1.8	0.53 (0.7)	2.3	6SL3210 - 1SB12-3UA3	1	4 x 1.5	6FX 002-5 G01-....
Cooling:							
Internal air cooling				0			
Motor Module:							
Single Motor Module				1			
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⁾ If the absolute encoder is used, M_{rated} is reduced by 10 %.

²⁾ This power cable is fitted with a connector with M17 thread at the motor end and brake cores as standard (4 x 1.5 mm² + 2 x 1.5 mm²).

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⁾ Motors of shaft height 20 are not available with a DRIVE-CLiQ interface. The encoder systems are connected via the SMC (Sensor Module Cabinet-Mounted).

⁵⁾ With default setting of the pulse frequency.

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