

SIMOTICS servomotors

SIMOTICS S synchronous motors for SINAMICS S120

SIMOTICS S-1FK7 geared servomotors 1FK7-DYA compact geared motors

Selection and ordering data

Rated speed	Rated power	Speed, max.	Torque, max.	Static torque	Rated torque ¹⁾	Available gear ratio	1FK7-DYA compact geared motor		Number of pole pairs	Moment of inertia of rotor ²⁾ without brake	with brake
$n_{2 \text{ rated}}$	P_2	$n_{2\text{max}}$	$M_{2\text{max}}$	M_{20}	$M_{2 \text{ rated}}$	i			p	J	J
rpm	kW (HP)	rpm	Nm (lb _f -ft)	Nm (lb _f -ft)	Nm (lb _f -ft)		Order No.	Order code		10 ⁻⁴ kgm ² (10 ⁻³ lb _f -in-s ²)	10 ⁻⁴ kgm ² (10 ⁻³ lb _f -in-s ²)
1FK7-DYA – Natural cooling											
370	0.37 (0.50)	600	32 (23.6)	11 (8.1)	9.5 (7.0)	10	1FK7032-5AK71-1 ■ ■ 3-Z A03		3	0.75 (0.66)	0.83 (0.73)
740	0.5 (0.67)	1200	32 (23.6)	7.5 (5.5)	6.5 (4.8)	5	1FK7034-5AK71-1 ■ ■ 3-Z A00		3	1.04 (0.92)	1.12 (0.99)
340	0.45 (0.60)	600	49 (36.1)	15 (11.1)	12.5 (9.2)	10	1FK7040-5AK71-1 ■ ■ 3-Z A13		4	2.3 (2.04)	3 (2.66)
680	0.71 (0.95)	1200	51 (37.6)	13 (9.6)	10 (7.4)	5	1FK7042-5AK71-1 ■ ■ 3-Z A10		4	3.6 (3.19)	4.3 (3.81)
260	1.25 (1.68)	480	175 (129)	57 (42)	46 (33.9)	10	1FK7060-5AH71-1 ■ ■ 3-Z A73		4	10.3 (9.12)	12.5 (11.1)
520	1.74 (2.33)	960	170 (125)	51 (37.6)	32 (23.6)	5	1FK7063-5AH71-1 ■ ■ 3-Z A70		4	17.4 (15.4)	19.6 (17.4)
200	1.47 (1.97)	360	242 (179)	76 (56.1)	70 (51.6)	10	1FK7080-5AH71-1 ■ ■ 3-Z A83		4	28.7 (25.4)	31.8 (28.2)
400	1.88 (2.52)	720	233 (172)	68 (50.2)	45 (33.2)	5	1FK7083-5AH71-1 ■ ■ 3-Z A80		4	41 (36.3)	49.6 (43.9)
Encoder systems for motors without DRIVE-CLiQ interface:				IC2048S/R encoder AM2048S/R encoder (not for 1FK703) AM512S/R encoder (only for 1FK703) AM32S/R encoder (not for 1FK703) AM16S/R encoder (only for 1FK703) Multi-pole resolver 2-pole resolver				A E H G J S T			
Encoder systems for motors with DRIVE-CLiQ interface:				IC22DQ encoder AM22DQ encoder AM20DQ encoder AM16DQ encoder AM15DQ encoder R15DQ resolver R14DQ resolver				D F L K V U P			
Shaft extension: Feather key and keyway Feather key and keyway				Shaft and flange accuracy: Tolerance N Tolerance N				Holding brake: Without With		U V	
Degree of protection:				IP64, anthracite paint finish				3			

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Motor type (repeated)	Weight without brake	with brake	Stall current	Maxi- mum current	SINAMICS S120 Motor Module		Power cable with complete shield Motor connection (and brake connection) via power connector		
	<i>m</i>	<i>m</i>	<i>I</i> ₀ at <i>M</i> ₀ $\Delta T=100$ K	<i>I</i> _{max}	Rated output current ³⁾	Booksized format For additional versions and components see SINAMICS S120 drive system	Power connec- tor	Cable cross- section ⁴⁾	Pre-assembled cable
	kg (lb)	kg (lb)	A	A	A	Order No.	Size	mm ²	Order No.
1FK7032-5AK71-...	4.11 (9.06)	4.47 (9.86)	1.7	5	3	6SL312-1-TE13-0AA3	1	4 × 1.5	6FX 002-5 S01-....
1FK7034-5AK71-...	5.01 (11.1)	5.37 (11.8)	1.9	7.9	3	6SL312-1-TE13-0AA3	1	4 × 1.5	6FX 002-5 S01-....
1FK7040-5AK71-...	6.60 (14.6)	7.61 (16.8)	2.3	7.4	3	6SL312-1-TE13-0AA3	1	4 × 1.5	6FX 002-5 S01-....
1FK7042-5AK71-...	7.91 (17.4)	8.62 (19.0)	4.4	14.9	5	6SL312-1-TE15-0AA3	1	4 × 1.5	6FX 002-5 S01-....
1FK7060-5AH71-...	13.9 (30.7)	15 (33.1)	6.2	19	9	6SL312-1-TE21-0AA3	1	4 × 1.5	6FX 002-5 S01-....
1FK7063-5AH71-...	17.6 (38.8)	19 (41.9)	12	41	18	6SL312-1-TE21-8AA3	1	4 × 1.5	6FX 002-5 S01-....
1FK7080-5AH71-...	23.4 (51.6)	24.6 (54.2)	7.4	24	9	6SL312-1-TE21-0AA3	1	4 × 1.5	6FX 002-5 S01-....
1FK7083-5AH71-...	28.6 (63.1)	31.2 (68.8)	15	48	18	6SL312-1-TE21-8AA3	1	4 × 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

Power cable:	
MOTION-CONNECT 800	8
MOTION-CONNECT 500	5
Without brake cores	C
With brake cores	D
Length code	

Information about the cables
can be found under
MOTION-CONNECT connection systems

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¹⁾ If the absolute encoder is used, *M*_{2 rated} is reduced by 10 %.

²⁾ In reference to the internal motor shaft.

³⁾ With default setting of the pulse frequency.

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).