

Servo Motors for SIMOVERT MASTERDRIVES

Synchronous Servo Motors

1FS6 Motors, Explosion-Protected, Core Type
Natural cooling



Selection and Ordering Data

Rated Rotational Speed	Shaft Height	Rated Output	Rated Torque ¹⁾	Rated Current	Standstill Torque	1FS6 Synchronous Motors Explosion-Protected Natural cooling	Pole Pair Number	Rotor Moment of Inertia (w/o Brake)	Weight (w/o Brake)
n_{rated}		P_{rated} at $\Delta T=100$ K	M_{rated} at $\Delta T=100$ K	I_{rated} at $\Delta T=100$ K	M_0 at $\Delta T=100$ K	Order No. Core Type		J	
rpm	SH	kW (HP)	Nm (lb _f -in)	A	Nm (lb _f -in)			10^{-4} kgm ² (lb _f -in-s ²)	kg (lb)
1500	112	5.8 (7.77)	37 (327.5)	13	40 (354)	1FS6 115 – 8AB7 3 – ■■■■	4	168 (0.1487)	87 (191.8)
	132	10.7 (14.34)	68 (601.9)	22	76 (672.7)	1FS6 134 – 6AB7 3 – ■■■■	3	547 (0.4841)	149 (328.5)
2000	71	1.5 (2.01)	7.2 (63.7)	3.4	7.6 (67.3)	1FS6 074 – 6AC7 1 – ■■■■	3	13 (0.0115)	29 (63.9)
	90	4.2 (5.63)	20 (177)	9.8	22 (194.7)	1FS6 096 – 8AC7 1 – ■■■■	4	66.5 (0.0589)	55 (121.3)
	112	7.1 (9.52)	34 (300.9)	16	40 (354)	1FS6 115 – 8AC7 3 – ■■■■	4	168 (0.1487)	87 (191.8)
	132	12.4 (16.62)	59 (522.2)	24	76 (672.7)	1FS6 134 – 6AC7 3 – ■■■■	3	547 (0.4841)	149 (328.5)
3000	71	2 (2.68)	6.3 (55.8)	4.4	7.6 (67.3)	1FS6 074 – 6AF7 1 – ■■■■	3	13 (0.0115)	29 (63.9)
	90	5.3 (7.1)	17 (150.5)	12	22 (194.7)	1FS6 096 – 8AF7 1 – ■■■■	4	66.5 (0.0589)	55 (121.3)
	112	8.8 (11.8)	28 (247.8)	20	40 (354)	1FS6 115 – 8AF7 3 – ■■■■	4	168 (0.1487)	87 (191.8)
4500	71	2.1 (2.86)	4.5 (39.8)	5	7.6 (67.3)	1FS6 074 – 6AH7 1 – ■■■■	3	13 (0.0115)	29 (63.9)
	90	5.2 (6.97)	11 (97.4)	11.5	22 (194.7)	1FS6 096 – 8AH7 1 – ■■■■	4	66.5 (0.0589)	55 (121.3)
6000	71	1.2 (1.61)	1.9 (16.8)	3.2	7.6 (67.3)	1FS6 074 – 6AK7 1 – ■■■■	3	13 (0.0115)	29 (63.9)

• Construction type:	IM B5 (only for 1FS607 and 1FS609) IM B35 (only for 1FS611 and 1FS613)	1 3	5 6 7 8
• Terminal box for power and encoder connection:	Cable entry transverse right Cable entry transverse left Cable entry axial non-drive end Cable entry axial drive end		
• Encoder systems:	Incremental encoder sin/cos 1 V _{pp} Absolute encoder EnDat, 2,048 pulses/revolution ¹⁾	A E	
• Shaft end: Keyless shaft With key and keyway Keyless shaft With key and keyway	• Radial eccentricity tolerance: N N R R	G A K D	
• Vibration severity grade: N N	• Degree of protection: IP64 IP65 with radial shaft seal	0 1	

Servo Motors for SIMOVERT MASTERDRIVES

Synchronous Servo Motors



**1FS6 Motors, Explosion-Protected, Core Type
Natural cooling**

Selection and Ordering Data

Motor Type (continued)	Standstill Current I_0 at $\Delta T=100\text{ K}$ A	SIMOVERT MASTERDRIVES MC Inverter/Converter Rated Current		Power Cable with Complete Shield Motor connection via terminal box	
		I_{rated} A	Order No. Inverter Converter	Motor Cable Cross-Section ²⁾ mm ²	Order No. Preassembled Cable No Connector, Prepared Wire Ends
1FS6 115 – 8AB73 –	13	13.2 14	6SE7 021 – 3TP ■ 0 6SE7 021 – 4EP ■ 0	4 x 1.5	6FX5 002 – 5XA00 – ■ ■ ■ 0
1FS6 134 – 6AB73 –	22	25.5 27	6SE7 022 – 6TP ■ 0 6SE7 022 – 7EP ■ 0	4 x 4	6FX5 002 – 5XA20 – ■ ■ ■ 0
1FS6 074 – 6AC71 –	3.4	4 5	6SE7 014 – 0TP ■ 0 6SE7 015 – 0EP ■ 0	4 x 1.5	6FX5 002 – 5XA00 – ■ ■ ■ 0
1FS6 096 – 8AC71 –	9.2	10.2 10	6SE7 021 – 0TP ■ 0 6SE7 021 – 0EP ■ 0	4 x 1.5	6FX5 002 – 5XA00 – ■ ■ ■ 0
1FS6 115 – 8AC73 –	18	17.5 20.5	6SE7 021 – 8TP ■ 0 6SE7 022 – 1EP ■ 0	4 x 2.5	6FX5 002 – 5XA10 – ■ ■ ■ 0
1FS6 134 – 6AC73 –	29	25.5 27	6SE7 022 – 6TP ■ 0 6SE7 022 – 7EP ■ 0	4 x 4	6FX5 002 – 5XA20 – ■ ■ ■ 0
1FS6 074 – 6AF71 –	4.8	6.1 5	6SE7 016 – 0TP ■ 0 6SE7 015 – 0EP ■ 0	4 x 1.5	6FX5 002 – 5XA00 – ■ ■ ■ 0
1FS6 096 – 8AF71 –	14	13.2 14	6SE7 021 – 3TP ■ 0 6SE7 021 – 4EP ■ 0	4 x 1.5	6FX5 002 – 5XA00 – ■ ■ ■ 0
1FS6 115 – 8AF73 –	26	25.5 27	6SE7 022 – 6TP ■ 0 6SE7 022 – 7EP ■ 0	4 x 4	6FX5 002 – 5XA20 – ■ ■ ■ 0
1FS6 074 – 6AH71 –	7.2	6.1 5	6SE7 016 – 0TP ■ 0 6SE7 015 – 0EP ■ 0	4 x 1.5	6FX5 002 – 5XA00 – ■ ■ ■ 0
1FS6 096 – 8AH71 –	19	13.2 14	6SE7 021 – 3TP ■ 0 6SE7 021 – 4EP ■ 0	4 x 1.5	6FX5 002 – 5XA00 – ■ ■ ■ 0
1FS6 074 – 6AK71 –	9.6	4 5	6SE7 014 – 0TP ■ 0 6SE7 015 – 0EP ■ 0	4 x 1.5	6FX5 002 – 5XA00 – ■ ■ ■ 0

- SIMOVERT MASTERDRIVES Motion Control
- SIMOVERT MASTERDRIVES Motion Control Performance 2

5
7

For information about length codes and power cables, see “MOTION-CONNECT Connection System”, Part 5.

Ordering Data for Signal Cables

Signal Cables with Complete Shield	Order No.
• Incremental encoder sin/cos 1 V _{pp}	6FX5 002 – 2XA00 – ■ ■ ■ 0
• Absolute encoder EnDat	6FX5 002 – 2XQ10 – ■ ■ ■ 0
• PTC thermistor (for connection to 3RN10 triggering device)	6FX5 002 – 1XA04 – ■ ■ ■ 0

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

2) The current carrying capacity of the power cables corresponds to IEC 60204-1 for Routing Type C under continuous duty conditions at an ambient air temperature of +40 °C (+104 °F), designed for I_{rated} (100 K) PVC/PUR insulated cable.