

Servomotors

Geared servomotors for SINAMICS S120

1FT7 motors with SP+ planetary gearbox

Selection and ordering data

Motor Type	Planetary gearbox single-stage		Available gear ratio $i =$				Motor speed, max. S3-60 % n_{G1} (n_1) rpm	Output torque, max. S3-60 % M_{G2} (T_{2B}) Nm (lb _r -ft)	Radial output shaft loading, max. ¹⁾ F_r (F_{2Rmax}) N (lb _r)	Axial output shaft loading, max. ¹⁾ F_a (F_{2Amax}) N (lb _r)	
	Type	Torsional backlash arcmin	Gearbox weight, approx. kg (lb)	4	5	7					10
1FT7034	SP 060S-MF1	≤ 4	1.9 (4.2)	✓	✓	✓	–	6000	40 (29.5)	2700 (607)	2400 (540)
1FT7034	SP 075S-MF1	≤ 4	3.9 (8.6)	–	–	–	✓	6000	110 (81.1) (90 for $i = 10$)	4000 (899)	3350 (753)
1FT7036				✓	✓	✓	✓				
1FT7042				✓	✓	✓	✓				
1FT7044				✓	✓	✓	✓				
1FT7046				✓	✓	✓	–				
1FT7046	SP 100S-MF1	≤ 3	7.7 (17.0)	–	–	–	✓	4500	300 (221) (225 for $i = 10$)	6300 (1416)	5650 (1270)
1FT7062				✓	✓	✓	✓				
1FT7064				✓	✓	✓	✓				
1FT7065				✓	✓	✓	✓				
1FT7066				✓	✓	✓	✓				
1FT7067				✓	✓	✓	–				
1FT7068				✓	✓	✓	–				
1FT7067	SP 140S-MF1	≤ 3	17.2 (37.9)	–	–	–	✓	4000	600 (443) (480 for $i = 10$)	9450 (2124)	9870 (2219)
1FT7068				–	–	–	✓				
1FT7082				✓	✓	✓	✓				
1FT7084				✓	✓	✓	✓				
1FT7085				✓	✓	✓	–				
1FT7086				✓	✓	✓	–				
1FT7087				✓	✓	–	–				
1FT7085	SP 180S-MF1	≤ 3	34 (75)	–	–	–	✓	3500	1100 (811) (880 for $i = 10$)	14700 (3305)	14150 (3181)
1FT7086				–	–	–	✓				
1FT7087				–	–	✓	✓				
1FT7102				✓	✓	✓	✓				
1FT7105				✓	✓	✓	–				
1FT7108	✓	✓	✓	–							
1FT7105	SP 210S-MF1	≤ 3	56 (123)	–	–	–	✓	2500	2500 (1844) (2400 for $i = 7$ 1900 for $i = 10$)	21000 (4721)	30000 (6744)
1FT7108				–	–	–	✓				
Gear shaft			Order code								
With fitted key			J02	J03	J05	J09					
Without fitted key			J22	J23	J25	J29					

Preconditions:

With the following motor versions, SP+ planetary gearboxes can be mounted:

- Flange 1
- Plain motor shaft extension, shaft and flange accuracy tolerance N, without/with holding brake
- Vibration magnitude grade A/IP65 degree of protection

SP+ planetary gearbox can therefore only be ordered with these 1FT7 motors:

1FT7...-5..71-..G1
1FT7...-5..71-..H1
1FT7...-7..71-..G1
1FT7...-7..71-..H1

When ordering a motor with gearbox, **-Z** should be added to the order number.

Example:

1FT7042 motor without holding brake
with single-stage SP+ planetary gearbox
with $i = 5$ and gear shaft without fitted key.
1FT7042-5AF71-1NG1-Z
J23

✓ Possible

– Not possible

¹⁾ In reference to the output shaft center.

Servomotors

Geared servomotors for SINAMICS S120

1FT7 motors with SP+ planetary gearbox

Selection and ordering data

Motor Type	Planetary gearbox two-stage		Available gear ratio $i =$					Motor speed, max. S3-60 % n_{G1} (n_1) rpm	Output torque, max. S3-60 % M_{G2} (T_{2B}) Nm (lb _r -ft)	Radial output shaft loading, max. ¹⁾ F_r (F_{2Rmax}) N (lb _f)	Axial output shaft loading, max. ¹⁾ F_a (F_{2Amax}) N (lb _f)								
			16	20	28	40	50												
1FT7034 1FT7036	SP 075S-MF2	≤ 6	3.6 (7.9)	✓	✓	✓	-	-	6000	110 (81.1)	4000 (899)	3350 (753)							
1FT7042				✓	-	-	-	-											
1FT7034 1FT7036	SP 100S-MF2	≤ 5	7.9 (17.4)	-	-	-	✓	✓	4500	300 (221)	6300 (1416)	5650 (1270)							
1FT7042				-	✓	✓	✓	✓											
1FT7044				✓	✓	✓	-	-											
1FT7046				✓	✓	-	-	-											
1FT7062				✓	-	-	-	-											
1FT7064				✓	-	-	-	-											
1FT7044 1FT7046	SP 140S-MF2	≤ 5	17 (37.5)	-	-	-	✓	✓	4000	600 (443)	9450 (2124)	9870 (2219)							
1FT7062				-	-	✓	✓	✓											
1FT7064				-	✓	✓	-	-											
1FT7065				✓	✓	-	-	-											
1FT7066				✓	✓	-	-	-											
1FT7067				✓	-	-	-	-											
1FT7068				✓	✓	-	-	-											
1FT7082				✓	✓	-	-	-											
1FT7084				✓	-	-	-	-											
1FT7064 1FT7065 1FT7066 1FT7067 1FT7068				SP 180S-MF2	≤ 5	36.4 (80.3)	-	-					-	✓	✓	4000	1100 (811)	14700 (3305)	14150 (3181)
1FT7082	-	-	✓				✓	✓											
1FT7084	-	✓	✓				-	-											
1FT7085	✓	-	-				-	-											
1FT7086	✓	✓	-				-	-											
1FT7102	✓	✓	-				-	-											
1FT7084 1FT7085 1FT7086 1FT7087	SP 210S-MF2	≤ 5	55 (121)				-	-	-	✓	✓	3500	2400 (1770) (2500 for $i = 20$)	21000 (4721)	30000 (6744)				
1FT7102							-	-	✓	-	-								
1FT7105							✓	✓	-	-	-								
1FT7108							✓	-	-	-	-								
1FT7085 1FT7086				SP 240S-MF2	≤ 5	80.6 (178)	-	-	-	✓	✓					3500	4500 (3319) (4000 for $i = 40$ 4300 for $i = 50$)	30000 (6744)	33000 (7419)
1FT7102							-	-	-	✓	✓								
1FT7105 1FT7108	-	✓	✓				-	-											
	Gear shaft			Order code															
	With fitted key			J12	J13	J15	J16	J17											
	Without fitted key			J32	J33	J35	J36	J37											

Preconditions, see page 4/46.

✓ Possible

- Not possible

¹⁾ In reference to the output shaft center.