

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data1FK7042-5AF71-1EH3-Z
X53



Client order no. :
Order no. :
Offer no. :
Remarks :
Item no. :
Consignment no. :
Project :

Engineering data		Mechanical data	
Rated speed (100 K)	3000 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Motor type	Compact
Rated torque (100 K)	2.6 Nm	Shaft height	48
Rated current	1.9 A	Cooling	Natural cooling
Static torque (60 K)	2.50 Nm	Radial runout tolerance	0.040 mm
Static torque (100 K)	3.00 Nm	Concentricity tolerance	0.08 mm
Stall current (60 K)	1.80 A	Axial runout tolerance	0.08 mm
Stall current (100 K)	2.20 A	Vibration severity grade	Grade A
Moment of inertia	3.450 kgcm²	Connector size	1
Efficiency	89.0 %	Degree of protection	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.40 Nm/A	Temperature monitoring	KTY84 temperature sensor in the stator winding
Voltage constant at 20° C	89.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	5.15 Ω	Color of the housing	Light gray RAL 7035
Rotating field inductance	29.0 mH	Holding brake	with holding brake
Electrical time constant	5.60 ms	Shaft end	Plain shaft
Mechanical time constant	2.37 ms	Encoder system	Encoder AM2048S/R: absolute encoder 2048 S/R, 4096 revolutions multi-turn, with EnDat interface
Thermal time constant	30 min		
Shaft torsional stiffness	16000 Nm/rad		
Net weight of the motor	5.4 kg		

MLFB-Ordering data 1FK7042-5AF71-1EH3-Z
X53

Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	3 A
Optimum power	0.8 kW	Maximum inverter current	6 A
Limiting data		Maximum torque	8.40 Nm
Max. permissible speed (mech.)	9000 rpm	Special design	
Max. permissible speed (inverter)	6500 rpm	X53	Paint finish: Light gray RAL 7035
Maximum torque	10.5 Nm		
Maximum current	7.4 A		
Holding brake			
Holding brake version	Permanent-magnet brake		
Holding torque	4.0 Nm		
Power supply voltage	DC 24 V ± 10 %		
Coil current	0.5 A		
Opening time	70 ms		
Closing time	30 ms		
Highest braking work	150 J		