

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7105-2AF71-1CH1

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)	26.0 Nm	Shaft height	100
Rated current	18.0 A	Cooling	Natural cooling
Static torque (60 K)	40.00 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	48.0 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	25.00 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	31.00 A	Vibration severity grade	Grade A
Moment of inertia	162.000 kgcm ²	Connector size	1.5
Efficiency	94.0 %	Degree of protection	IP65
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.55 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	102.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.07 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	1.9 mH	Holding brake	with holding brake
Electrical time constant	26.00 ms	Shaft extension	Plain shaft
Mechanical time constant	1.40 ms	Encoder system	Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Thermal time constant	70 min		
Shaft torsional stiffness	95000 Nm/rad		
Net weight of the motor	43.5 kg		



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Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	30 A
Optimum power	8.2 kW	Maximum inverter current	90 A
Limiting data		Maximum torque	129.70 Nm
Max. permissible speed (mech.)	5000 rpm		
Max. permissible speed (inverter)	5000 rpm		
Maximum torque	150.0 Nm		
Maximum current	109.0 A		
Holding brake			
Holding brake version	Permanent-magnet brake		
Holding torque	43.0 Nm		
Power supply voltage	DC 24 V ± 10 %		
Coil current	1.0 A		
Opening time	300 ms		
Closing time	70 ms		
Highest braking work	3380 J		