

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data 1FK7101-5AF71-1FA0

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)	15.5 Nm	Shaft height	100
Rated current	11.8 A	Cooling	Natural cooling
Static torque (60 K)	22.40 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	27.0 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	15.70 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	19.00 A	Vibration severity grade	Grade A
Moment of inertia	79.900 kgcm²	Connector size	1.5
Efficiency	93.0 %	Degree of protection	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.41 Nm/A	Temperature monitoring	KTY84 temperature sensor in the stator winding
Voltage constant at 20° C	90.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.15 Ω	Color of the housing	without
Rotating field inductance	3.0 mH	Holding brake	without holding brake
Electrical time constant	20.00 ms	Shaft end	Feather key
Mechanical time constant	1.80 ms	Encoder system	Encoder AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Thermal time constant	60 min		
Shaft torsional stiffness	165000 Nm/rad		
Net weight of the motor	21.0 kg		

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Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	18 A
Optimum power	4.9 kW	Maximum inverter current	36 A
Limiting data		Maximum torque	51.00 Nm
Max. permissible speed (mech.)	5000 rpm		
Max. permissible speed (inverter)	6400 rpm		
Maximum torque	80.0 Nm		
Maximum current	63.0 A		