

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7084-3BC71-1CG1

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

Engineering data		Mechanical data	
Rated speed (100 K)	2000 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Motor type	High Inertia
Rated torque (100 K)	15.0 Nm	Shaft height	80
Rated current	6.7 A	Cooling	Natural cooling
Static torque (60 K)	16.60 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	20.0 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	6.90 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	8.50 A	Vibration severity grade	Grade A
Moment of inertia	99.000 kgcm ²	Connector size	1
Efficiency	93.0 %	Degree of protection	IP65
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	2.36 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	152.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.58 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	12.0 mH	Holding brake	without holding brake
Electrical time constant	20.50 ms	Shaft extension	Plain shaft
Mechanical time constant	3.10 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	55 min		
Shaft torsional stiffness	82000 Nm/rad		
Net weight of the motor	23.0 kg		



MLFB-Ordering data 1FK7084-3BC71-1CG1

Optimum operating point		Recommended Motor Module	
Optimum speed	2000 rpm	Rated inverter current	9 A
Optimum power	3.1 kW	Maximum inverter current	27 A
Limiting data		Maximum torque	58.40 Nm
Max. permissible speed (mech.)	6000 rpm		
Max. permissible speed (inverter)	3800 rpm		
Maximum torque	61.0 Nm		
Maximum current	28.5 A		