

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7043-4CH71-1CH1

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

Item no. :
Consignment no. :
Project :

Engineering data		Mechanical data	
Rated speed (100 K)	4500 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	6	Motor type	High Dynamic
Rated torque (100 K)	2.6 Nm	Shaft height	48
Rated current	3.3 A	Cooling	Natural cooling
Static torque (60 K)	2.90 Nm	Radial runout tolerance	0.040 mm
Static torque (100 K)	3.50 Nm	Concentricity tolerance	0.08 mm
Stall current (60 K)	3.30 A	Axial runout tolerance	0.08 mm
Stall current (100 K)	4.10 A	Vibration severity grade	Grade A
Moment of inertia	1.360 kgcm²	Connector size	1
Efficiency	90.0 %	Degree of protection	IP65
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	0.85 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	54.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	1.20 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	13.6 mH	Holding brake	with holding brake
Electrical time constant	11.30 ms	Shaft end	Plain shaft
Mechanical time constant	0.49 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	40 min		
Shaft torsional stiffness	9000 Nm/rad		
Net weight of the motor	6.6 kg		



MLFB-Ordering data 1FK7043-4CH71-1CH1

Optimum operating point		Recommended Motor Module	
Optimum speed	4500 rpm	Rated inverter current	5 A
Optimum power	1.2 kW	Maximum inverter current	15 A
Limiting data		Maximum torque	10.00 Nm
Max. permissible speed (mech.)	9000 rpm		
Max. permissible speed (inverter)	9000 rpm		
Maximum torque	10.0 Nm		
Maximum current	12.5 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		