

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7086-4CF71-1FG2-Z
Q31

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	High Dynamic
Rated torque (100 K)	6.5 Nm	Shaft height	80
Rated current	5.7 A	Cooling	Natural cooling
Static torque (60 K)	23.00 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	28.00 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	17.40 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	21.50 A	Vibration severity grade	Grade A
Moment of inertia	22.000 kgcm²	Connector size	1.5
Efficiency	93.0 %	Degree of protection	IP65 and DE flange IP67
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.30 Nm/A	Temperature monitoring	Pt1000 temperature sensor
Voltage constant at 20° C	84.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.12 Ω	Color of the housing	Standard (Anthracite RAL 7016)
Rotating field inductance	3.1 mH	Holding brake	without holding brake
Electrical time constant	26.50 ms	Shaft end	Plain shaft
Mechanical time constant	0.46 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	65 min		
Shaft torsional stiffness	84000 Nm/rad		
Net weight of the motor	23.0 kg		



Figure similar

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Optimum operating point		Recommended Motor Module	
Optimum speed	2000 rpm	Rated inverter current	30 A
Optimum power	3.8 kW	Maximum inverter current	72 A
Limiting data		Maximum torque	79.30 Nm
Max. permissible speed (mech.)	6000 rpm	Special design	
Max. permissible speed (inverter)	6000 rpm	Q31	Metal rating plate on the motor
Maximum torque	105.0 Nm		
Maximum current	115.0 A		