

## Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7084-2AF71-1CB1-Z  
N16+N24



Figure similar

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)	10.0 Nm	Shaft height	80		
Rated current	6.5 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)	9.80 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	12.10 A	Vibration severity grade	Grade A		
Moment of inertia	47.900 kgcm <sup>2</sup>	Connector size	1		
Efficiency	93.0 %	Degree of protection	IP65		
<th colspan="2">Physical constants</th>		Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Torque constant	1.66 Nm/A	Temperature monitoring	Pt1000 temperature sensor
		Voltage constant at 20° C	106.5 V/1000*min <sup>-1</sup>	Electrical connectors	Connectors for signals and power rotatable
		Winding resistance at 20° C	0.28 Ω	Color of the housing	Standard (Anthracite RAL 7016)
		Rotating field inductance	5.9 mH	Holding brake	Option: reinforced brake
		Electrical time constant	21.00 ms	Shaft extension	Feather key
		Mechanical time constant	1.01 ms	Encoder system	Encoder AM24DQI with nickel-plated M17 round connector: 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	68000 Nm/rad		
		Net weight of the motor	21.5 kg		



Figure similar

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### Optimum operating point

Optimum speed	2500 rpm
Optimum power	3.2 kW

### Limiting data

Max. permissible speed (mech.)	6000 rpm
Max. permissible speed (inverter)	5400 rpm
Maximum torque	61.0 Nm
Maximum current	41.0 A

### Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	48.0 Nm
Power supply voltage	DC 24 V $\pm$ 10 %
Coil current	1.0 A
Opening time	220 ms
Closing time	65 ms
Highest braking work	1900 J

### Recommended Motor Module

Rated inverter current	18 A
Maximum inverter current	54 A
Maximum torque	61.00 Nm

### Special design

N16	Nickel plated connectors and paint varnish for increased chemical resistance
N24	Reinforced brake