

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7083-2AF71-1RH1

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)	10.5 Nm	Shaft height	80		
Rated current	7.2 A	Cooling	Natural cooling		
Static torque (60 K)	13.30 Nm	Radial runout tolerance	0.050 mm		
Static torque (100 K)	16.00 Nm	Concentricity tolerance	0.10 mm		
Stall current (60 K)	8.20 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	10.10 A	Vibration severity grade	Grade A		
Moment of inertia	29.500 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	1.58 Nm/A	Temperature monitoring	Pt1000 temperature sensor
		Voltage constant at 20° C	102.5 V/1000*min <sup>-1</sup>	Electrical connectors	Connectors for signals and power rotatable
		Winding resistance at 20° C	0.38 Ω	Color of the housing	Standard (Anthracite RAL 7016)
		Rotating field inductance	7.0 mH	Holding brake	with holding brake
		Electrical time constant	18.60 ms	Shaft end	Plain shaft
		Mechanical time constant	1.18 ms	Encoder system	Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
		Thermal time constant	50 min		
		Shaft torsional stiffness	72000 Nm/rad		
		Net weight of the motor	18.6 kg		



Figure similar

MLFB-Ordering data

1FK7083-2AF71-1RH1

### Optimum operating point

Optimum speed	3000 rpm
Optimum power	3.3 kW

### Limiting data

Max. permissible speed (mech.)	6000 rpm
Max. permissible speed (inverter)	5600 rpm
Maximum torque	50.0 Nm
Maximum current	37.0 A

### Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	22.0 Nm
Power supply voltage	DC 24 V $\pm$ 10 %
Coil current	0.9 A
Opening time	200 ms
Closing time	60 ms
Highest braking work	1400 J

### Recommended Motor Module

Rated inverter current	9 A
Maximum inverter current	27 A
Maximum torque	40.00 Nm