

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7083-2AF71-1BB0

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)	16.0 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	IP64
<b>Physical constants</b>		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Temperature monitoring	Pt1000 temperature sensor
Torque constant	1.58 Nm/A	Electrical connectors	Connectors for signals and power rotatable
Voltage constant at 20° C	102.5 V/1000*min <sup>-1</sup>	Color of the housing	Standard (Anthracite RAL 7016)
Winding resistance at 20° C	0.38 Ω	Holding brake	with holding brake
Rotating field inductance	7.0 mH	Shaft extension	Feather key
Electrical time constant	18.60 ms	Encoder system	Encoder AS24DQI: absolute encoder single-turn 24 bits
Mechanical time constant	1.18 ms		
Thermal time constant	50 min		
Shaft torsional stiffness	72000 Nm/rad		
Net weight of the motor	18.6 kg		



Figure similar

MLFB-Ordering data

1FK7083-2AF71-1BB0

### 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