

## Data sheet for SIMOTICS S-1FK7



Figure similar

### MLFB-Ordering data

1FK7081-3BF71-1RA1-Z  
N05

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 Inertia		
Rated torque (100 K)	8.7 Nm	Shaft height	80		
Rated current	6.8 A	Cooling	Natural cooling		
Static torque (60 K)	10.00 Nm	Radial runout tolerance	0.050 mm		
Static torque (100 K)	12.0 Nm	Concentricity tolerance	0.10 mm		
Stall current (60 K)	7.10 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	8.70 A	Vibration severity grade	Grade A		
Moment of inertia	49.000 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	1.38 Nm/A	Temperature monitoring	Pt1000 temperature sensor
		Voltage constant at 20° C	88.5 V/1000*min <sup>-1</sup>	Electrical connectors	Connectors for signals and power rotatable
		Winding resistance at 20° C	0.42 Ω	Color of the housing	Standard (Anthracite RAL 7016)
		Rotating field inductance	7.7 mH	Holding brake	without holding brake
		Electrical time constant	18.20 ms	Shaft extension	Feather key
		Mechanical time constant	3.30 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	45 min		
		Shaft torsional stiffness	100000 Nm/rad		
		Net weight of the motor	15.2 kg		



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### Optimum operating point

Optimum speed	3000 rpm
Optimum power	2.8 kW

### Limiting data

Max. permissible speed (mech.)	6000 rpm
Max. permissible speed (inverter)	6000 rpm
Maximum torque	37.0 Nm
Maximum current	30.0 A

### Recommended Motor Module

Rated inverter current	9 A
Maximum inverter current	27 A
Maximum torque	34.10 Nm

### Special design

N05 Non-standard shaft extension (dimensions as for 1FT5 motors)