

## Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7081-2AF71-1QB0-Z  
N05+X01



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)	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)	12.00 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	23.500 kgcm <sup>2</sup>	Connector size	1		
Efficiency	93.0 %	Degree of protection	IP64		
<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	Jet black, matt RAL 9005
		Rotating field inductance	7.7 mH	Holding brake	with holding brake
		Electrical time constant	18.20 ms	Shaft end	Feather key
		Mechanical time constant	1.35 ms	Encoder system	Encoder AS20DQI: absolute encoder single-turn 20 bits
		Thermal time constant	45 min		
		Shaft torsional stiffness	76000 Nm/rad		
		Net weight of the motor	15.9 kg		



Figure similar

MLFB-Ordering data

1FK7081-2AF71-1QB0-Z  
N05+X01

### 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

### 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	34.10 Nm

### Special design

N05	Non-standard shaft end (dimensions as for 1FT5 motors)
X01	Paint finish: Jet black, matt RAL 9005