

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7101-2AF71-1CB2

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)	15.5 Nm	Shaft height	100		
Rated current	11.6 A	Cooling	Natural cooling		
Static torque (60 K)	22.50 Nm	Radial runout tolerance	0.050 mm		
Static torque (100 K)	27.0 Nm	Concentricity tolerance	0.10 mm		
Stall current (60 K)	15.20 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	18.80 A	Vibration severity grade	Grade A		
Moment of inertia	87.000 kgcm <sup>2</sup>	Connector size	1.5		
Efficiency	93.0 %	Degree of protection	IP65 and DE flange IP67		
<b>Physical constants</b>		Design acc. to Code I	IM B5 (IM V1, IM V3)		
		Temperature monitoring	Pt1000 temperature sensor		
		Electrical connectors	Connectors for signals and power rotatable		
		Color of the housing	Standard (Anthracite RAL 7016)		
		Holding brake	with holding brake		
		Shaft extension	Feather key		
		Encoder system	Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)		
		Torque constant	1.44 Nm/A		
		Voltage constant at 20° C	92.5 V/1000*min <sup>-1</sup>		
		Winding resistance at 20° C	0.14 Ω		
Rotating field inductance	3.5 mH				
Electrical time constant	25.00 ms				
Mechanical time constant	1.62 ms				
Thermal time constant	60 min				
Shaft torsional stiffness	116000 Nm/rad				
Net weight of the motor	27.5 kg				



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### Optimum operating point

Optimum speed	3000 rpm
Optimum power	4.8 kW

### Limiting data

Max. permissible speed (mech.)	5000 rpm
Max. permissible speed (inverter)	5000 rpm
Maximum torque	80.0 Nm
Maximum current	63.0 A

### Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	43.0 Nm
Power supply voltage	DC 24 V $\pm$ 10 %
Coil current	1.0 A
Opening time	300 ms
Closing time	70 ms
Highest braking work	3380 J

### Recommended Motor Module

Rated inverter current	18 A
Maximum inverter current	54 A
Maximum torque	72.00 Nm