

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7101-2AF71-1CH2

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
Torque constant	1.44 Nm/A	Electrical connectors	Connectors for signals and power rotatable
Voltage constant at 20° C	92.5 V/1000*min <sup>-1</sup>	Color of the housing	Standard (Anthracite RAL 7016)
Winding resistance at 20° C	0.14 Ω	Holding brake	with holding brake
Rotating field inductance	3.5 mH	Shaft extension	Plain shaft
Electrical time constant	25.00 ms	Encoder system	Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
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