

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7081-2AF71-1AH1

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)	12.0 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	23.500 kgcm <sup>2</sup>	Connector size	1
Efficiency	93.0 %	Degree of protection	IP65
<b>Physical constants</b>		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Temperature monitoring	KTY84 temperature sensor in the stator winding
Torque constant	1.38 Nm/A	Electrical connectors	Connectors for signals and power rotatable
Voltage constant at 20° C	88.5 V/1000*min <sup>-1</sup>	Color of the housing	Standard (Anthracite RAL 7016)
Winding resistance at 20° C	0.42 Ω	Holding brake	with holding brake
Rotating field inductance	7.7 mH	Shaft extension	Plain shaft
Electrical time constant	18.20 ms	Encoder system	Encoder IC2048S/R: incremental encoder sin/cos 1 Vpp 2048 S/R with C and D track
Mechanical time constant	1.35 ms		
Thermal time constant	45 min		
Shaft torsional stiffness	76000 Nm/rad		
Net weight of the motor	15.9 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

### 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