

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7081-2AH71-1CH2

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data		Mechanical data			
Rated speed (100 K)	4500 rpm	Motor type	Permanent-magnet synchronous motor		
Number of poles	8	Motor type	Compact		
Rated torque (100 K)	3.8 Nm	Shaft height	80		
Rated current	4.9 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)	10.60 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	13.10 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 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	Plain shaft		
		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	0.92 Nm/A		
		Voltage constant at 20° C	59.0 V/1000*min <sup>-1</sup>		
		Winding resistance at 20° C	0.19 Ω		
Rotating field inductance	3.4 mH				
Electrical time constant	17.90 ms				
Mechanical time constant	1.36 ms				
Thermal time constant	45 min				
Shaft torsional stiffness	76000 Nm/rad				
Net weight of the motor	15.9 kg				



Figure similar

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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	45.0 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	18 A
Maximum inverter current	54 A
Maximum torque	37.00 Nm