

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7081-2AH71-1CG2

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	20.000 kgcm <sup>2</sup>	Connector size	1																				
Efficiency	93.0 %	Degree of protection	IP65 and DE flange IP67																				
<table border="1"> <thead> <tr> <th colspan="2">Physical constants</th> </tr> </thead> <tbody> <tr> <td>Torque constant</td> <td>0.92 Nm/A</td> </tr> <tr> <td>Voltage constant at 20° C</td> <td>59.0 V/1000*min<sup>-1</sup></td> </tr> <tr> <td>Winding resistance at 20° C</td> <td>0.19 Ω</td> </tr> <tr> <td>Rotating field inductance</td> <td>3.4 mH</td> </tr> <tr> <td>Electrical time constant</td> <td>17.90 ms</td> </tr> <tr> <td>Mechanical time constant</td> <td>1.36 ms</td> </tr> <tr> <td>Thermal time constant</td> <td>45 min</td> </tr> <tr> <td>Shaft torsional stiffness</td> <td>109000 Nm/rad</td> </tr> <tr> <td>Net weight of the motor</td> <td>12.9 kg</td> </tr> </tbody> </table>		Physical constants		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	109000 Nm/rad	Net weight of the motor	12.9 kg	Design acc. to Code I	IM B5 (IM V1, IM V3)
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Net weight of the motor	12.9 kg																						
Temperature monitoring	Pt1000 temperature sensor	Electrical connectors	Connectors for signals and power rotatable																				
Color of the housing	Standard (Anthracite RAL 7016)	Holding brake	without 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)																				



Figure similar

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Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	18 A
Optimum power	2.8 kW	Maximum inverter current	54 A
Limiting data		Maximum torque	37.00 Nm
Max. permissible speed (mech.)	6000 rpm		
Max. permissible speed (inverter)	6000 rpm		
Maximum torque	37.0 Nm		
Maximum current	45.0 A		