

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7084-2AF71-1DG2

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)	10.0 Nm	Shaft height	80																				
Rated current	6.5 A	Cooling	Natural cooling																				
Static torque (60 K)	16.60 Nm	Radial runout tolerance	0.050 mm																				
Static torque (100 K)	20.0 Nm	Concentricity tolerance	0.10 mm																				
Stall current (60 K)	9.80 A	Axial runout tolerance	0.10 mm																				
Stall current (100 K)	12.10 A	Vibration severity grade	Grade A																				
Moment of inertia	32.500 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>1.66 Nm/A</td> </tr> <tr> <td>Voltage constant at 20° C</td> <td>106.5 V/1000*min<sup>-1</sup></td> </tr> <tr> <td>Winding resistance at 20° C</td> <td>0.28 Ω</td> </tr> <tr> <td>Rotating field inductance</td> <td>5.9 mH</td> </tr> <tr> <td>Electrical time constant</td> <td>21.00 ms</td> </tr> <tr> <td>Mechanical time constant</td> <td>1.01 ms</td> </tr> <tr> <td>Thermal time constant</td> <td>55 min</td> </tr> <tr> <td>Shaft torsional stiffness</td> <td>93000 Nm/rad</td> </tr> <tr> <td>Net weight of the motor</td> <td>18.3 kg</td> </tr> </tbody> </table>		Physical constants		Torque constant	1.66 Nm/A	Voltage constant at 20° C	106.5 V/1000*min <sup>-1</sup>	Winding resistance at 20° C	0.28 Ω	Rotating field inductance	5.9 mH	Electrical time constant	21.00 ms	Mechanical time constant	1.01 ms	Thermal time constant	55 min	Shaft torsional stiffness	93000 Nm/rad	Net weight of the motor	18.3 kg	Design acc. to Code I	IM B5 (IM V1, IM V3)
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Net weight of the motor	18.3 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 IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits																				



Figure similar

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Optimum operating point		Recommended Motor Module	
Optimum speed	2500 rpm	Rated inverter current	18 A
Optimum power	3.2 kW	Maximum inverter current	54 A
Limiting data		Maximum torque	61.00 Nm
Max. permissible speed (mech.)	6000 rpm		
Max. permissible speed (inverter)	5400 rpm		
Maximum torque	61.0 Nm		
Maximum current	41.0 A		