

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7083-2AF74-1SB2-Z
N16

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)	10.5 Nm	Shaft height	80																				
Rated current	7.2 A	Cooling	Natural cooling																				
Static torque (60 K)	13.30 Nm	Radial runout tolerance	0.050 mm																				
Static torque (100 K)	16.00 Nm	Concentricity tolerance	0.10 mm																				
Stall current (60 K)	8.20 A	Axial runout tolerance	0.10 mm																				
Stall current (100 K)	10.10 A	Vibration severity grade	Grade A																				
Moment of inertia	29.500 kgcm ²	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>1.58 Nm/A</td> </tr> <tr> <td>Voltage constant at 20° C</td> <td>102.5 V/1000*min⁻¹</td> </tr> <tr> <td>Winding resistance at 20° C</td> <td>0.38 Ω</td> </tr> <tr> <td>Rotating field inductance</td> <td>7.0 mH</td> </tr> <tr> <td>Electrical time constant</td> <td>18.60 ms</td> </tr> <tr> <td>Mechanical time constant</td> <td>1.18 ms</td> </tr> <tr> <td>Thermal time constant</td> <td>50 min</td> </tr> <tr> <td>Shaft torsional stiffness</td> <td>72000 Nm/rad</td> </tr> <tr> <td>Net weight of the motor</td> <td>18.6 kg</td> </tr> </tbody> </table>		Physical constants		Torque constant	1.58 Nm/A	Voltage constant at 20° C	102.5 V/1000*min ⁻¹	Winding resistance at 20° C	0.38 Ω	Rotating field inductance	7.0 mH	Electrical time constant	18.60 ms	Mechanical time constant	1.18 ms	Thermal time constant	50 min	Shaft torsional stiffness	72000 Nm/rad	Net weight of the motor	18.6 kg	Design acc. to Code I	IM B5 (IM V1, IM V3)
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Net weight of the motor	18.6 kg																						
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 end	Feather key	Encoder system	Multi-pole resolver (number of pole pairs corresponds to number of pole pairs of the motor)																				



Figure similar

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Optimum operating point

Optimum speed	3000 rpm
Optimum power	3.3 kW

Limiting data

Max. permissible speed (mech.)	6000 rpm
Max. permissible speed (inverter)	5600 rpm
Maximum torque	50.0 Nm
Maximum current	37.0 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	40.00 Nm

Special design

N16 Nickel plated connectors and paint varnish for increased chemical resistance