

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7100-2AF71-1RG1

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)	12.0 Nm	Shaft height	100		
Rated current	8.0 A	Cooling	Natural cooling		
Static torque (60 K)	14.90 Nm	Radial runout tolerance	0.050 mm		
Static torque (100 K)	18.00 Nm	Concentricity tolerance	0.10 mm		
Stall current (60 K)	9.00 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	11.10 A	Vibration severity grade	Grade A		
Moment of inertia	54.000 kgcm ²	Connector size	1		
Efficiency	92.0 %	Degree of protection	IP65		
<th colspan="2">Physical constants</th>		Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Torque constant	1.62 Nm/A	Temperature monitoring	Pt1000 temperature sensor
		Voltage constant at 20° C	104.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
		Winding resistance at 20° C	0.32 Ω	Color of the housing	Standard (Anthracite RAL 7016)
		Rotating field inductance	7.3 mH	Holding brake	without holding brake
		Electrical time constant	22.50 ms	Shaft end	Plain shaft
		Mechanical time constant	2.00 ms	Encoder system	Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
		Thermal time constant	55 min		
		Shaft torsional stiffness	183000 Nm/rad		
		Net weight of the motor	17.6 kg		



Figure similar

MLFB-Ordering data

1FK7100-2AF71-1RG1

Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	18 A
Optimum power	3.8 kW	Maximum inverter current	54 A
Limiting data		Maximum torque	55.00 Nm
Max. permissible speed (mech.)	5000 rpm		
Max. permissible speed (inverter)	5000 rpm		
Maximum torque	55.0 Nm		
Maximum current	37.0 A		



Figure similar

Article No. : 1FK7100-2AF71-1RG1

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

Engineering data

Rated speed (100 K)	3,000 rpm
Number of poles	8
Rated torque (100 K)	12.0 Nm
Rated current	8.0 A
Static torque (60 K)	14.90 Nm
Static torque (100 K)	18.00 Nm
Stall current (60 K)	9.00 A
Stall current (100 K)	11.10 A
Moment of inertia	54.000 kgcm ²
Efficiency	92.0 %

Physical constants

Torque constant	1.62 Nm/A
Voltage constant at 20° C	104.5 V/1000*min ⁻¹
Winding resistance at 20° C	0.32 Ω
Rotating field inductance	7.3 mH
Electrical time constant	22.50 ms
Mechanical time constant	2.00 ms
Thermal time constant	55 min
Shaft torsional stiffness	183,000 Nm/rad
Net weight of the motor	17.6 kg

Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	100
Cooling	Natural cooling
Radial runout tolerance	0.050 mm
Concentricity tolerance	0.10 mm
Axial runout tolerance	0.10 mm
Vibration severity grade	Grade A
Connector size	1
Degree of protection	IP65
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	without holding brake
Shaft end	Plain shaft
Encoder system	Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)

Optimum operating point

Optimum speed	3,000 rpm
Optimum power	3.8 kW

Limiting data

Max. permissible speed (mech.)	5,000 rpm
Max. permissible speed (inverter)	5,000 rpm
Maximum torque	55.0 Nm
Maximum current	37.0 A

Recommended Motor Module

Rated inverter current	18 A
Maximum inverter current	54 A
Maximum torque	55.00 Nm