

## Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7103-3BF71-1RA2



Figure similar

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	High Inertia		
Rated torque (100 K)	14.0 Nm	Shaft height	100		
Rated current	11.5 A	Cooling	Natural cooling		
Static torque (60 K)	30.00 Nm	Radial runout tolerance	0.050 mm		
Static torque (100 K)	30.0 Nm	Concentricity tolerance	0.10 mm		
Stall current (60 K)	21.00 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	26.00 A	Vibration severity grade	Grade A		
Moment of inertia	168.000 kgcm <sup>2</sup>	Connector size	1.5		
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	without holding brake		
		Shaft extension	Feather key		
		Encoder system	Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)		
		Torque constant	1.39 Nm/A		
		Voltage constant at 20° C	89.5 V/1000*min <sup>-1</sup>		
		Winding resistance at 20° C	0.09 Ω		
Rotating field inductance	2.4 mH				
Electrical time constant	27.00 ms				
Mechanical time constant	2.35 ms				
Thermal time constant	65 min				
Shaft torsional stiffness	148000 Nm/rad				
Net weight of the motor	32.1 kg				



Figure similar

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Optimum operating point		Recommended Motor Module	
Optimum speed	2500 rpm	Rated inverter current	30 A
Optimum power	5.4 kW	Maximum inverter current	90 A
Limiting data		Maximum torque	108.00 Nm
Max. permissible speed (mech.)	5000 rpm		
Max. permissible speed (inverter)	5000 rpm		
Maximum torque	108.0 Nm		
Maximum current	84.0 A		