

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7100-5AF71-1FA5

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Figure similar

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data

Rated speed (100 K)	3000 rpm
Number of poles	8
Rated torque (100 K)	12.0 Nm
Rated current	8.0 A
Static torque (60 K)	15.00 Nm
Static torque (100 K)	18.0 Nm
Stall current (60 K)	9.20 A
Stall current (100 K)	11.20 A
Moment of inertia	55.300 kgcm ²
Efficiency	92.0 %

Physical constants

Torque constant	1.59 Nm/A
Voltage constant at 20° C	101.0 V/1000*min ⁻¹
Winding resistance at 20° C	0.34 Ω
Rotating field inductance	7.0 mH
Electrical time constant	20.50 ms
Mechanical time constant	2.23 ms
Thermal time constant	55 min
Shaft torsional stiffness	184000 Nm/rad
Net weight of the motor	19.0 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 and DE flange IP67
Design acc. to Code I	IM B5 (IM V1, IM V3)
Temperature monitoring	KTY84 temperature sensor in the stator winding
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 AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)

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Figure similar

Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	18 A
Optimum power	3.8 kW	Maximum inverter current	36 A
Limiting data		Maximum torque	53.80 Nm
Max. permissible speed (mech.)	5000 rpm		
Max. permissible speed (inverter)	5700 rpm		
Maximum torque	55.0 Nm		
Maximum current	37.0 A		