

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7101-5AF71-1DH3-Z
X01

No image
available for this
configuration.

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	Compact		
Rated torque (100 K)	15.5 Nm	Shaft height	100		
Rated current	11.8 A	Cooling	Natural cooling		
Static torque (60 K)	22.40 Nm	Radial runout tolerance	0.050 mm		
Static torque (100 K)	27.0 Nm	Concentricity tolerance	0.10 mm		
Stall current (60 K)	15.70 A	Axial runout tolerance	0.10 mm		
Stall current (100 K)	19.00 A	Vibration severity grade	Grade A		
Moment of inertia	92.300 kgcm ²	Connector size	1.5		
Efficiency	93.0 %	Degree of protection	IP64		
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)		
		Torque constant	1.41 Nm/A	Temperature monitoring	KTY84 temperature sensor in the stator winding
		Voltage constant at 20° C	90.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
		Winding resistance at 20° C	0.15 Ω	Color of the housing	Jet black, matt RAL 9005
		Rotating field inductance	3.0 mH	Holding brake	with holding brake
		Electrical time constant	20.00 ms	Shaft extension	Plain shaft
		Mechanical time constant	1.80 ms	Encoder system	Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits
		Thermal time constant	60 min		
		Shaft torsional stiffness	165000 Nm/rad		
		Net weight of the motor	24.0 kg		

MLFB-Ordering data

1FK7101-5AF71-1DH3-Z
X01

Figure similar

Optimum operating point

Optimum speed	3000 rpm
Optimum power	4.9 kW

Limiting data

Max. permissible speed (mech.)	5000 rpm
Max. permissible speed (inverter)	6400 rpm
Maximum torque	80.0 Nm
Maximum current	63.0 A

Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	43.0 Nm
Power supply voltage	DC 24 V \pm 10 %
Coil current	1.0 A
Opening time	300 ms
Closing time	70 ms
Highest braking work	3380 J

Recommended Motor Module

Rated inverter current	18 A
Maximum inverter current	36 A
Maximum torque	51.00 Nm

Special design

X01 Paint finish: Jet black, matt RAL 9005