

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7042-5AK71-1KG0

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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)	6000 rpm
Number of poles	8
Rated torque (100 K)	1.5 Nm
Rated current	2.5 A
Static torque (60 K)	2.50 Nm
Static torque (100 K)	3.0 Nm
Stall current (60 K)	3.60 A
Stall current (100 K)	4.40 A
Moment of inertia	3.010 kgcm ²
Efficiency	89.0 %

Physical constants

Torque constant	0.69 Nm/A
Voltage constant at 20° C	44.0 V/1000*min ⁻¹
Winding resistance at 20° C	1.20 Ω
Rotating field inductance	6.7 mH
Electrical time constant	5.60 ms
Mechanical time constant	2.27 ms
Thermal time constant	30 min
Shaft torsional stiffness	16000 Nm/rad
Net weight of the motor	4.9 kg

Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	48
Cooling	Natural cooling
Radial runout tolerance	0.040 mm
Concentricity tolerance	0.08 mm
Axial runout tolerance	0.08 mm
Vibration severity grade	Grade A
Connector size	1
Degree of protection	IP64
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	without
Holding brake	without holding brake
Shaft extension	Plain shaft
Encoder system	Encoder AM16DQ: absolute encoder 16 bits (resolution 65536, encoder-internal 32 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)

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Figure similar

Optimum operating point		Recommended Motor Module	
Optimum speed	5000 rpm	Rated inverter current	5 A
Optimum power	1.0 kW	Maximum inverter current	10 A
Limiting data		Maximum torque	6.80 Nm
Max. permissible speed (mech.)	9000 rpm		
Max. permissible speed (inverter)	9990 rpm		
Maximum torque	10.5 Nm		
Maximum current	15.3 A		