

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data

1FK7042-5AK71-1DH0

No image available for this configuration.

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	3.450 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	5.4 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	with holding brake
Shaft extension	Plain shaft
Encoder system	Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits

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Figure similar

Optimum operating point

Optimum speed 5000 rpm

Optimum power 1.0 kW

Limiting data

Max. permissible speed (mech.) 9000 rpm

Max. permissible speed (inverter) 9990 rpm

Maximum torque 10.5 Nm

Maximum current 15.3 A

Holding brake

Holding brake version Permanent-magnet brake

Holding torque 4.0 Nm

Power supply voltage DC 24 V \pm 10 %

Coil current 0.5 A

Opening time 70 ms

Closing time 30 ms

Highest braking work 150 J

Recommended Motor Module

Rated inverter current 5 A

Maximum inverter current 10 A

Maximum torque 6.80 Nm