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Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data **1FK7044-7AH71-1FA3**

Figure similar

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

Engineering data

Rated speed (100 K)	4500 rpm
Number of poles	6
Rated torque (100 K)	3.0 Nm
Rated current	4.9 A
Static torque (60 K)	3.00 Nm
Static torque (100 K)	4.0 Nm
Stall current (60 K)	4.6 A
Stall current (100 K)	6.3 A
Moment of inertia	1.280 kgcm²
Efficiency	91.0 %

Physical constants

Torque constant	0.63 Nm/A
Voltage constant at 20° C	42.0 V/1000*min⁻¹
Winding resistance at 20° C	0.81 Ω
Rotating field inductance	11.0 mH
Electrical time constant	13.50 ms
Mechanical time constant	0.78 ms
Thermal time constant	45 min
Shaft torsional stiffness	9500 Nm/rad
Net weight of the motor	7.7 kg

Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	High Dynamic
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	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

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Optimum operating point

Optimum speed	4500 rpm
Optimum power	1.4 kW

Limiting data

Max. permissible speed (mech.)	8000 rpm
Max. permissible speed (inverter)	13300 rpm
Maximum torque	12.0 Nm
Maximum current	20.0 A

Recommended Motor Module

Rated inverter current	9 A
Maximum inverter current	18 A
Maximum torque	11.00 Nm