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Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data **1FK7042-3BK71-1LG0**

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)	3.55 A
Stall current (100 K)	4.40 A
Moment of inertia	5.100 kgcm²
Efficiency	89.0 %

Physical constants

Torque constant	0.68 Nm/A
Voltage constant at 20° C	44.5 V/1000*min⁻¹
Winding resistance at 20° C	1.15 Ω
Rotating field inductance	8.6 mH
Electrical time constant	7.50 ms
Mechanical time constant	3.80 ms
Thermal time constant	30 min
Shaft torsional stiffness	14600 Nm/rad
Net weight of the motor	5.1 kg

Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	High Inertia
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	Pt1000 temperature sensor
Electrical connectors	Connectors for signals and power rotatable
Color of the housing	Standard (Anthracite RAL 7016)
Holding brake	without holding brake
Shaft extension	Plain shaft
Encoder system	Encoder AM20DQ: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)

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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)	9000 rpm
Maximum torque	10.5 Nm
Maximum current	15.3 A

Recommended Motor Module

Rated inverter current	5 A
Maximum inverter current	15 A
Maximum torque	10.30 Nm