

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7100-3BC71-1CH2

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data	
Rated speed (100 K)	2000 rpm
Number of poles	8
Rated torque (100 K)	14.5 Nm
Rated current	7.1 A
Static torque (60 K)	14.90 Nm
Static torque (100 K)	18.00 Nm
Stall current (60 K)	6.80 A
Stall current (100 K)	8.40 A
Moment of inertia	95.000 kgcm²
Efficiency	92.0 %
Physical constants	
Torque constant	2.14 Nm/A
Voltage constant at 20° C	138.0 V/1000*min ⁻¹
Winding resistance at 20° C	0.55 Ω
Rotating field inductance	12.7 mH
Electrical time constant	23.00 ms
Mechanical time constant	3.15 ms
Thermal time constant	55 min
Shaft torsional stiffness	135000 Nm/rad
Net weight of the motor	22.8 kg

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	High Inertia
Shaft height	100
Cooling	Natural cooling
Radial runout tolerance	0.050 mm
Concentricity tolerance	0.10 mm
Axial runout tolerance	0.10 mm
Vibration severity grade	Grade A
Connector size	1
Degree of protection	IP65 and DE flange IP67
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	with holding brake
Shaft end	Plain shaft
Encoder system	Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)



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Optimum operating point

Optimum speed	2000 rpm
Optimum power	3.0 kW

Limiting data

Max. permissible speed (mech.)	5000 rpm
Max. permissible speed (inverter)	4200 rpm
Maximum torque	55.0 Nm
Maximum current	28.0 A

Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	23.0 Nm
Power supply voltage	DC 24 V ± 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	9 A
Maximum inverter current	27 A
Maximum torque	53.40 Nm

Figure similar