SIEMENS

Data sheet for SIMOTICS S-1FK7

Article No. : **1FK7100-2AC71-1RH1**

Figure similar

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

Item no. :
Consignment no. :
Project :

Engineering data	
Rated speed (100 K)	2,000 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	62.000 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	1.95 ms
Thermal time constant	55 min
Shaft torsional stiffness	135,000 Nm/rad
Net weight of the motor	21.0 kg

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	Compact
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	M23
Degree of protection	IP65
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 AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)

Optimum operating point	
Optimum speed	2,000 rpm
Optimum power	3.0 kW

Limiting data	
Max. permissible speed (mech.)	5,000 rpm
Max. permissible speed (inverter)	4,200 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	3,380 J

Recommended Motor Module	
Rated inverter current	9 A
Maximum inverter current	27 A
Maximum torque	53.40 Nm