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SIEMENS

Data sheet for SIMOTICS S-1FK7

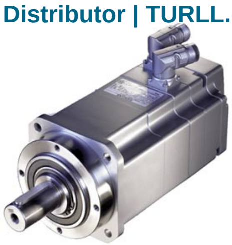

Figure similar

Article No. : 1FK7042-2AK71-1CH2-Z
Q20+Q31

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

Item no. :
Consignment no. :
Project :

Engineering data

Rated speed (100 K)	6,000 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)	3.00 Nm
Stall current (60 K)	3.55 A
Stall current (100 K)	4.40 A
Moment of inertia	3.200 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	2.15 ms
Thermal time constant	30 min
Shaft torsional stiffness	11,400 Nm/rad
Net weight of the motor	5.3 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	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)

Optimum operating point

Optimum speed	5,000 rpm
Optimum power	1.0 kW

Limiting data

Max. permissible speed (mech.)	9,000 rpm
Max. permissible speed (inverter)	9,000 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 ± 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	15 A
Maximum torque	10.30 Nm

Special design

Q20	Opening for pressure compensation
Q31	Metal rating plate on the motor

Technical data are subject to change! There may be discrepancie

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1FK7042-2AK71-1CH2-ZQ20Q31

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