

## Data sheet for SIMOTICS S-1FK7

Article No. : **1FK7042-2AF71-1CA1-Z  
N16**



Figure similar

Client order no. :  
Order no. :  
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Remarks :

Item no. :  
Consignment no. :  
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### Engineering data

Rated speed (100 K)	3,000 rpm
Number of poles	8
Rated torque (100 K)	2.6 Nm
Rated current	2.0 A
Static torque (60 K)	2.50 Nm
Static torque (100 K)	3.00 Nm
Stall current (60 K)	1.80 A
Stall current (100 K)	2.20 A
Moment of inertia	2.900 kgcm <sup>2</sup>
Efficiency	89.0 %

### Physical constants

Torque constant	1.38 Nm/A
Voltage constant at 20° C	90.0 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	4.67 Ω
Rotating field inductance	35.0 mH
Electrical time constant	7.50 ms
Mechanical time constant	2.15 ms
Thermal time constant	30 min
Shaft torsional stiffness	15,500 Nm/rad
Net weight of the motor	4.6 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
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 end	Feather key
Encoder system	Encoder AM24DQI with nickel-plated M17 round connector: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)

### Optimum operating point

Optimum speed	3,000 rpm
Optimum power	0.8 kW

### Limiting data

Max. permissible speed (mech.)	9,000 rpm
Max. permissible speed (inverter)	6,400 rpm
Maximum torque	10.5 Nm
Maximum current	7.6 A

### Recommended Motor Module

Rated inverter current	3 A
Maximum inverter current	9 A
Maximum torque	10.50 Nm

### Special design

N16 Nickel plated connectors and paint varnish for increased chemical resistance

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