

## Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7042-5AK71-1CH1



Figure similar

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

Item no. :  
Consignment no. :  
Project :

### Engineering data

Rated speed	6,000 rpm
Number of poles	6
Rated torque (100 K)	2.0 Nm
Rated current	3.00 A
Static torque (60 K)	2.4 Nm
Static torque (100 K)	3.0 Nm
Stall current (60 K)	3.10 A
Stall current (100 K)	3.90 A
Rotor moment of inertia	3.68 kgcm <sup>2</sup>
Efficiency	91.0 %

### Physical constants

Torque constant	0.77 Nm/A
Voltage constant at 20° C	48.6 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	1.11 Ω
Rotary field inductance	6.5 mH
Electrical time constant	6.00 ms
Mechanical time constant	1.60 ms
Thermal time constant	20 min
Shaft torsional stiffness	11,700 Nm/rad
Net weight of the motor	5.5 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	0.080 mm
Axial runout tolerance	0.080 mm
Vibration severity grade	Grade A
Degree of protection	IP65
Design acc. to Code I	IM B5 (compatible with 1FT6)
Temperature monitoring	Pt1000 temperature sensor
Color of the housing	Standard (pearl dark gray similar to RAL 9023)
Shaft end type	Plain shaft
Sensor design	Encoder AM24DQI: Absolute encoder 24 bit (resolution 16777216, encoder-internal 2048 S/R) + 12 bit Multiturn (traversing range 4096 revolutions) - with signal connection RJ45
Electrical connection	Connector turnable
Connector size	1

### Optimum operating point

Optimum speed	6,000 rpm
Optimum power	1.3 kW

### Limiting data

Max. permissible speed (mech.)	9,000 rpm
Max. permissible speed (inverter)	9,000 rpm
Maximum torque	13.0 Nm
Maximum current	21.00 A

### Recommended Motor Module

Rated inverter current	5.00 A
Maximum inverter current	15.00 A
Maximum torque	10.4 Nm

### Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	8.0 Nm
Braking torque	5.0 Nm
Power supply voltage	DC 24 V
Coil current	0.60 A
Permissible brake work	270 J
Opening time	90 ms
Closing time	30 ms