

## Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7042-5AF71-1CH1



Figure similar

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

Item no. :  
Consignment no. :  
Project :

### Engineering data

Rated speed	3,000 rpm
Number of poles	6
Rated torque (100 K)	2.7 Nm
Rated current	2.10 A
Static torque (60 K)	2.5 Nm
Static torque (100 K)	3.0 Nm
Stall current (60 K)	1.80 A
Stall current (100 K)	2.10 A
Rotor moment of inertia	3.68 kgcm <sup>2</sup>
Efficiency	92.0 %

### Physical constants

Torque constant	1.38 Nm/A
Voltage constant at 20° C	87.5 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	3.60 Ω
Rotary field inductance	21.4 mH
Electrical time constant	5.90 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	3,000 rpm
Optimum power	0.8 kW

### Limiting data

Max. permissible speed (mech.)	9,000 rpm
Max. permissible speed (inverter)	6,600 rpm
Maximum torque	13.0 Nm
Maximum current	11.00 A

### Recommended Motor Module

Rated inverter current	3.00 A
Maximum inverter current	9.00 A
Maximum torque	10.9 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