

## Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7042-5AF71-1FE5



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	0.021 mm
Concentricity tolerance	0.040 mm
Axial runout tolerance	0.040 mm
Vibration severity grade	Grade R
Degree of protection	IP67
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	Fitted key and keyway
Sensor design	Encoder AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
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