

## Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7082-5AF71-1CH0



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	10
Rated torque (100 K)	10.3 Nm
Rated current	6.60 A
Static torque (60 K)	10.6 Nm
Static torque (100 K)	13.0 Nm
Stall current (60 K)	6.30 A
Stall current (100 K)	7.60 A
Rotor moment of inertia	41.90 kgcm <sup>2</sup>
Efficiency	93.0 %

### Physical constants

Torque constant	1.67 Nm/A
Voltage constant at 20° C	106.5 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	0.61 Ω
Rotary field inductance	9.3 mH
Electrical time constant	15.00 ms
Mechanical time constant	1.70 ms
Thermal time constant	40 min
Shaft torsional stiffness	76,000 Nm/rad
Net weight of the motor	18.3 kg

### Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	80
Cooling	Natural cooling
Radial runout tolerance	0.050 mm
Concentricity tolerance	0.100 mm
Axial runout tolerance	0.100 mm
Vibration severity grade	Grade A
Degree of protection	IP64
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	3.2 kW

### Limiting data

Max. permissible speed (mech.)	8,000 rpm
Max. permissible speed (inverter)	5,400 rpm
Maximum torque	52.0 Nm
Maximum current	39.00 A

### Recommended Motor Module

Rated inverter current	9.00 A
Maximum inverter current	27.00 A
Maximum torque	39.8 Nm

### Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	48.0 Nm
Braking torque	25.0 Nm
Power supply voltage	DC 24 V
Coil current	1.00 A
Permissible brake work	1,900 J
Opening time	220 ms
Closing time	65 ms