

## Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7086-5AF71-1BH1



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)	18.0 Nm
Rated current	11.00 A
Static torque (60 K)	23.0 Nm
Static torque (100 K)	28.0 Nm
Stall current (60 K)	12.90 A
Stall current (100 K)	15.50 A
Rotor moment of inertia	79.00 kgcm <sup>2</sup>
Efficiency	93.0 %

### Physical constants

Torque constant	1.78 Nm/A
Voltage constant at 20° C	113.5 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	0.23 Ω
Rotary field inductance	4.0 mH
Electrical time constant	17.00 ms
Mechanical time constant	1.40 ms
Thermal time constant	60 min
Shaft torsional stiffness	57,000 Nm/rad
Net weight of the motor	31.8 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	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 AS24DQI: Absolut encoder Singleturn 24 bit - with signal connection RJ45
Electrical connection	Connector turnable
Connector size	1.5

### Optimum operating point

Optimum speed	3,000 rpm
Optimum power	5.7 kW

### Limiting data

Max. permissible speed (mech.)	8,000 rpm
Max. permissible speed (inverter)	5,100 rpm
Maximum torque	120.0 Nm
Maximum current	78.00 A

### Recommended Motor Module

Rated inverter current	18.00 A
Maximum inverter current	54.00 A
Maximum torque	86.0 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