

## Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7105-5SF70-4CH0



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)	48.0 Nm
Rated current	35.00 A
Static torque (60 K)	51.0 Nm
Static torque (100 K)	65.0 Nm
Stall current (60 K)	36.00 A
Stall current (100 K)	45.00 A
Rotor moment of inertia	206.00 kgcm <sup>2</sup>
Efficiency	93.0 %

### Physical constants

Torque constant	1.43 Nm/A
Voltage constant at 20° C	91.0 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	0.05 Ω
Rotary field inductance	1.3 mH
Electrical time constant	25.00 ms
Mechanical time constant	1.30 ms
Thermal time constant	50 min
Shaft torsional stiffness	107,000 Nm/rad
Net weight of the motor	56.0 kg

### Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	100
Cooling	Forced ventilation
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 (new flange design)
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	Axial DE
Connector size	3

### Optimum operating point

Optimum speed	3,000 rpm
Optimum power	15.1 kW

### Limiting data

Max. permissible speed (mech.)	6,000 rpm
Max. permissible speed (inverter)	6,000 rpm
Maximum torque	200.0 Nm
Maximum current	158.00 A

### Recommended Motor Module

Rated inverter current	45.00 A
Maximum inverter current	85.00 A
Maximum torque	120.0 Nm

### Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	85.0 Nm
Braking torque	35.0 Nm
Power supply voltage	DC 24 V
Coil current	1.60 A
Permissible brake work	5,300 J
Opening time	250 ms
Closing time	70 ms