

## Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7084-5AF71-1FK2



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)	14.5 Nm
Rated current	8.50 A
Static torque (60 K)	16.8 Nm
Static torque (100 K)	20.0 Nm
Stall current (60 K)	9.20 A
Stall current (100 K)	11.00 A
Rotor moment of inertia	45.10 kgcm <sup>2</sup>
Efficiency	93.0 %

### Physical constants

Torque constant	1.82 Nm/A
Voltage constant at 20° C	115.5 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	0.35 Ω
Rotary field inductance	6.0 mH
Electrical time constant	17.00 ms
Mechanical time constant	1.40 ms
Thermal time constant	55 min
Shaft torsional stiffness	88,000 Nm/rad
Net weight of the motor	20.8 kg

### Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	80
Cooling	Natural cooling
Radial runout tolerance	0.025 mm
Concentricity tolerance	0.050 mm
Axial runout tolerance	0.050 mm
Vibration severity grade	Grade A
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	Plain shaft
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	4.5 kW

### Limiting data

Max. permissible speed (mech.)	8,000 rpm
Max. permissible speed (inverter)	5,000 rpm
Maximum torque	81.0 Nm
Maximum current	55.00 A

### Recommended Motor Module

Rated inverter current	18.00 A
Maximum inverter current	54.00 A
Maximum torque	79.5 Nm