

## Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7086-5AH71-1DG1



Figure similar

Client order no. :  
Order no. :  
Offer no. :  
Remarks :

Item no. :  
Consignment no. :  
Project :

### Engineering data

Rated speed	4,500 rpm
Number of poles	10
Rated torque (100 K)	10.0 Nm
Rated current	10.00 A
Static torque (60 K)	23.0 Nm
Static torque (100 K)	28.0 Nm
Stall current (60 K)	18.40 A
Stall current (100 K)	22.40 A
Rotor moment of inertia	63.60 kgcm <sup>2</sup>
Efficiency	91.0 %

### Physical constants

Torque constant	1.25 Nm/A
Voltage constant at 20° C	80.0 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	0.11 Ω
Rotary field inductance	2.0 mH
Electrical time constant	18.00 ms
Mechanical time constant	1.40 ms
Thermal time constant	60 min
Shaft torsional stiffness	74,000 Nm/rad
Net weight of the motor	27.5 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 IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits
Electrical connection	Connector turnable
Connector size	1.5

### Optimum operating point

Optimum speed	4,500 rpm
Optimum power	4.7 kW

### Limiting data

Max. permissible speed (mech.)	8,000 rpm
Max. permissible speed (inverter)	7,200 rpm
Maximum torque	120.0 Nm
Maximum current	110.00 A

### Recommended Motor Module

Rated inverter current	30.00 A
Maximum inverter current	90.00 A
Maximum torque	100.0 Nm