



Figure similar

## Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7108-5AF71-1DH1

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)	20.0 Nm
Rated current	12.00 A
Static torque (60 K)	58.0 Nm
Static torque (100 K)	70.0 Nm
Stall current (60 K)	28.00 A
Stall current (100 K)	36.00 A
Rotor moment of inertia	276.00 kgcm <sup>2</sup>
Efficiency	93.0 %

### Physical constants

Torque constant	1.94 Nm/A
Voltage constant at 20° C	127.0 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	0.07 Ω
Rotary field inductance	1.7 mH
Electrical time constant	26.00 ms
Mechanical time constant	1.30 ms
Thermal time constant	95 min
Shaft torsional stiffness	96,000 Nm/rad
Net weight of the motor	65.1 kg

### Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	100
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
Safety Integrated - suitable encoder	Yes
Electrical connection	Connector turnable
Connector size	1.5

### Optimum operating point

Optimum speed	2,000 rpm
Optimum power	8.2 kW

### Limiting data

Max. permissible speed (mech.)	6,000 rpm
Max. permissible speed (inverter)	4,500 rpm
Maximum torque	280.0 Nm
Maximum current	165.00 A

### Recommended Motor Module

Rated inverter current	45.00 A
Maximum inverter current	85.00 A
Maximum torque	150.0 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