



Figure similar

## Data sheet for SIMOTICS S-1FT7

Article No. : **1FT7105-5AF70-1CA1-Z  
X01**

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)	28.0 Nm
Rated current	15.00 A
Static torque (60 K)	41.0 Nm
Static torque (100 K)	50.0 Nm
Stall current (60 K)	21.00 A
Stall current (100 K)	26.00 A
Rotor moment of inertia	178.00 kgcm <sup>2</sup>
Efficiency	94.0 %

### Physical constants

Torque constant	1.92 Nm/A
Voltage constant at 20° C	123.5 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	0.08 Ω
Rotary field inductance	2.3 mH
Electrical time constant	27.00 ms
Mechanical time constant	1.20 ms
Thermal time constant	80 min
Shaft torsional stiffness	146,000 Nm/rad
Net weight of the motor	44.2 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 (new flange design)
Temperature monitoring	Pt1000 temperature sensor
Color of the housing	Jet black, matt RAL 9005
Shaft end type	Fitted key and keyway
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	Connector turnable
Connector size	1.5

### Optimum operating point

Optimum speed	3,000 rpm
Optimum power	8.8 kW

### Limiting data

Max. permissible speed (mech.)	6,000 rpm
Max. permissible speed (inverter)	4,630 rpm
Maximum torque	200.0 Nm
Maximum current	116.00 A

### Recommended Motor Module

Rated inverter current	30.00 A
Maximum inverter current	90.00 A
Maximum torque	157.0 Nm

### Special design

X01 Paint finish: Jet black, matt RAL 9005