

## Data sheet for SIMOTICS S-1FT7

Article No. : **1FT7086-5AH70-1CL1-Z**  
X01+Y84



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	79.00 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	57,000 Nm/rad
Net weight of the motor	31.8 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	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	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	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

Holding brake	
Holding brake version	Permanent-magnet brake
Holding torque	48.0 Nm
Braking torque	25.0 Nm
Power supply voltage	DC 24 V
Coil current	1.00 A
Permissible brake work	1,900 J
Opening time	220 ms
Closing time	65 ms

Special design	
X01	Paint finish: Jet black, matt RAL 9005
Y84	Customer specifications on rating plate: