

## Data sheet for SIMOTICS S-1FT7

Article No. : **1FT7105-5SF74-1NK4-Z**  
K20+K23+X01



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)	48.0 Nm
Rated current	35.00 A
Static torque (60 K)	51.0 Nm
Static torque (100 K)	65.0 Nm
Stall current (60 K)	36.00 A
Stall current (100 K)	45.00 A
Rotor moment of inertia	178.00 kgcm <sup>2</sup>
Efficiency	93.0 %

Physical constants	
Torque constant	1.43 Nm/A
Voltage constant at 20° C	91.0 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	0.05 Ω
Rotary field inductance	1.3 mH
Electrical time constant	25.00 ms
Mechanical time constant	1.30 ms
Thermal time constant	50 min
Shaft torsional stiffness	146,000 Nm/rad
Net weight of the motor	50.0 kg

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	100
Cooling	Forced ventilation
Radial runout tolerance	0.025 mm
Concentricity tolerance	0.050 mm
Axial runout tolerance	0.050 mm
Vibration severity grade	Grade R
Degree of protection	IP65
Design acc. to Code I	IM B5 (compatible with 1FT6)
Temperature monitoring	Pt1000 temperature sensor
Color of the housing	Jet black, matt RAL 9005
Shaft end type	Plain shaft
Sensor design	Encoder IC2048S/R: incremental encoder sin/cos 1 Vpp 2048 S/R with C and D track
Electrical connection	Transverse facing to right site
Connector size	3

Optimum operating point	
Optimum speed	3,000 rpm
Optimum power	15.1 kW

Limiting data	
Max. permissible speed (mech.)	6,000 rpm
Max. permissible speed (inverter)	6,000 rpm
Maximum torque	200.0 Nm
Maximum current	158.00 A

Recommended Motor Module	
Rated inverter current	45.00 A
Maximum inverter current	85.00 A
Maximum torque	120.0 Nm

Special design	
K20	Reinforced bearings
K23	Special painting for climate group Worldwide: Primer and varnish
X01	Paint finish: Jet black, matt RAL 9005