

Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7105-5WF74-1NG1-Z
J02

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



Figure similar

Item no. :
Consignment no. :
Project :

Engineering data	
Rated speed	3,000 rpm
Number of poles	10
Rated torque (100 K)	79.0 Nm
Rated current	49.45 A
Static torque (60 K)	72.0 Nm
Static torque (100 K)	90.0 Nm
Stall current (60 K)	43.10 A
Stall current (100 K)	53.20 A
Rotor moment of inertia	224.90 kgcm ²
Efficiency	94.0 %

Physical constants	
Torque constant	1.67 Nm/A
Voltage constant at 20° C	105.0 V/1000*min ⁻¹
Winding resistance at 20° C	0.05 Ω
Rotary field inductance	1.0 mH
Electrical time constant	21.00 ms
Mechanical time constant	1.00 ms
Thermal time constant	2 min
Shaft torsional stiffness	107,000 Nm/rad
Net weight of the motor	88.8 kg

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	100
Cooling	Water 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 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	24.8 kW

Limiting data	
Max. permissible speed (mech.)	6,000 rpm
Max. permissible speed (inverter)	5,500 rpm
Maximum torque	230.0 Nm
Maximum current	164.00 A

Recommended Motor Module	
Rated inverter current	60.00 A
Maximum inverter current	113.00 A
Maximum torque	161.0 Nm

Gearbox data	
Gearbox type	Planetary gearbox
Designation	SP 180S-MF1
Gearbox ratio	4
Motor speed S3-60 %	4,500 rpm
Motor speed S1	1,500 rpm
Output torque S1	927.0 Nm
Rated output torque at duty type S3-60 %	1,452.0 Nm
Moment of inertia of gearbox	33.90 kgcm ²
Radial output shaft loading, max.	15,400 N
Axial output shaft load, max.	15,570 N
Efficiency of gearbox	0.97
Torsional backlash	3 ´
Gearbox weight	34.00 kg

Special design	
J02	Mounting of SP+ planetary gearbox