

Data sheet for SIMOTICS S-1FT7

Article No. : **1FT7087-7SF71-1BG1-Z
J05**



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	8
Rated torque (100 K)	33.0 Nm
Rated current	29.00 A
Static torque (60 K)	37.0 Nm
Static torque (100 K)	48.0 Nm
Stall current (60 K)	31.00 A
Stall current (100 K)	40.00 A
Rotor moment of inertia	49.60 kgcm ²
Efficiency	93.0 %

Physical constants	
Torque constant	1.20 Nm/A
Voltage constant at 20° C	77.0 V/1000*min ⁻¹
Winding resistance at 20° C	0.08 Ω
Rotary field inductance	2.1 mH
Electrical time constant	26.00 ms
Mechanical time constant	0.50 ms
Thermal time constant	25 min
Shaft torsional stiffness	60,000 Nm/rad
Net weight of the motor	76.0 kg

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	High Dynamic
Shaft height	80
Cooling	Forced ventilation
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 AS24DQI: Absolut encoder Singleturn 24 bit - with signal connection RJ45
Electrical connection	Connector turnable
Connector size	1.5

Optimum operating point	
Optimum speed	3,000 rpm
Optimum power	10.4 kW

Limiting data	
Max. permissible speed (mech.)	8,000 rpm
Max. permissible speed (inverter)	7,500 rpm
Maximum torque	150.0 Nm
Maximum current	170.00 A

Recommended Motor Module	
Rated inverter current	45.00 A
Maximum inverter current	85.00 A
Maximum torque	96.0 Nm

Gearbox data	
Gearbox type	Planetary gearbox
Designation	SP 180S-MF1
Gearbox ratio	7
Motor speed S3-60 %	4,500 rpm
Motor speed S1	2,300 rpm
Output torque S1	825.0 Nm
Rated output torque at duty type S3-60 %	1,452.0 Nm
Moment of inertia of gearbox	22.20 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	
J05	Mounting of SP+ planetary gearbox