

Data sheet for SIMOTICS S-1FT7

Article No. : **1FT7086-5SF71-1BG1-Z
J09**



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)	29.0 Nm
Rated current	24.00 A
Static torque (60 K)	30.0 Nm
Static torque (100 K)	36.0 Nm
Stall current (60 K)	24.00 A
Stall current (100 K)	29.00 A
Rotor moment of inertia	83.20 kgcm ²
Efficiency	93.0 %

Physical constants

Torque constant	1.25 Nm/A
Voltage constant at 20° C	80.0 V/1000*min ⁻¹
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	40 min
Shaft torsional stiffness	57,000 Nm/rad
Net weight of the motor	66.0 kg

Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
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	9.1 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	101.0 Nm

Gearbox data

Gearbox type	Planetary gearbox
Designation	SP 180S-MF1
Gearbox ratio	10
Motor speed S3-60 %	4,500 rpm
Motor speed S1	2,300 rpm
Output torque S1	864.0 Nm
Rated output torque at duty type S3-60 %	1,164.0 Nm
Moment of inertia of gearbox	19.20 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

J09 Mounting of SP+ planetary gearbox