

Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7105-5AC71-1DH1-Z
J25



Figure similar

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

Item no. :
Consignment no. :
Project :

Engineering data

Rated speed	2,000 rpm
Number of poles	10
Rated torque (100 K)	38.0 Nm
Rated current	15.00 A
Static torque (60 K)	41.0 Nm
Static torque (100 K)	50.0 Nm
Stall current (60 K)	15.00 A
Stall current (100 K)	18.00 A
Rotor moment of inertia	228.20 kgcm ²
Efficiency	93.0 %

Physical constants

Torque constant	2.68 Nm/A
Voltage constant at 20° C	170.5 V/1000*min ⁻¹
Winding resistance at 20° C	0.16 Ω
Rotary field inductance	4.3 mH
Electrical time constant	27.00 ms
Mechanical time constant	1.00 ms
Thermal time constant	80 min
Shaft torsional stiffness	107,000 Nm/rad
Net weight of the motor	84.4 kg

Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	100
Cooling	Natural 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 IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits
Electrical connection	Connector turnable
Connector size	1.5

Optimum operating point

Optimum speed	2,000 rpm
Optimum power	8.0 kW

Limiting data

Max. permissible speed (mech.)	6,000 rpm
Max. permissible speed (inverter)	3,350 rpm
Maximum torque	200.0 Nm
Maximum current	84.00 A

Recommended Motor Module

Rated inverter current	18.00 A
Maximum inverter current	54.00 A
Maximum torque	135.0 Nm

Holding brake

Holding brake version	Permanent-magnet brake
Holding torque	85.0 Nm
Braking torque	35.0 Nm
Power supply voltage	DC 24 V
Coil current	1.60 A
Permissible brake work	5,300 J
Opening time	250 ms
Closing time	70 ms

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

J25 Mounting of SP+ planetary gearbox