

Data sheet for SIMOTICS S-1FT7

Article No. : **1FT7066-5AF71-1FG1-Z
B02+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)	9.3 Nm
Rated current	7.20 A
Static torque (60 K)	10.0 Nm
Static torque (100 K)	12.0 Nm
Stall current (60 K)	7.10 A
Stall current (100 K)	8.40 A
Rotor moment of inertia	18.47 kgcm ²
Efficiency	92.0 %

Physical constants	
Torque constant	1.41 Nm/A
Voltage constant at 20° C	89.5 V/1000*min ⁻¹
Winding resistance at 20° C	0.50 Ω
Rotary field inductance	5.5 mH
Electrical time constant	11.00 ms
Mechanical time constant	1.20 ms
Thermal time constant	40 min
Shaft torsional stiffness	31,500 Nm/rad
Net weight of the motor	20.0 kg

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	63
Cooling	Natural cooling
Radial runout tolerance	0.040 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 AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Electrical connection	Connector turnable
Connector size	1

Optimum operating point	
Optimum speed	3,000 rpm
Optimum power	2.9 kW

Limiting data	
Max. permissible speed (mech.)	9,000 rpm
Max. permissible speed (inverter)	6,500 rpm
Maximum torque	49.0 Nm
Maximum current	44.00 A

Recommended Motor Module	
Rated inverter current	9.00 A
Maximum inverter current	27.00 A
Maximum torque	35.2 Nm

Gearbox data	
Gearbox type	Planetary gearbox
Designation	SP 100S-MF1
Gearbox ratio	10
Motor speed S3-60 %	5,500 rpm
Motor speed S1	2,800 rpm
Output torque S1	174.0 Nm
Rated output torque at duty type S3-60 %	282.0 Nm
Moment of inertia of gearbox	2.07 kgcm ²
Radial output shaft loading, max.	6,600 N
Axial output shaft load, max.	5,650 N
Efficiency of gearbox	0.97
Torsional backlash	3'
Gearbox weight	7.70 kg

Special design	
B02	Works test certificate
J09	Mounting of SP+ planetary gearbox