

Data sheet for SIMOTICS S-1FT7

Article No. : **1FT7066-5AH71-1FG1-Z**
J23



Figure similar

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

Item no. :
Consignment no. :
Project :

Engineering data

Rated speed	4,500 rpm
Number of poles	10
Rated torque (100 K)	5.0 Nm
Rated current	6.30 A
Static torque (60 K)	10.0 Nm
Static torque (100 K)	12.0 Nm
Stall current (60 K)	11.30 A
Stall current (100 K)	13.60 A
Rotor moment of inertia	19.01 kgcm ²
Efficiency	90.0 %

Physical constants

Torque constant	0.88 Nm/A
Voltage constant at 20° C	56.0 V/1000*min ⁻¹
Winding resistance at 20° C	0.20 Ω
Rotary field inductance	2.3 mH
Electrical time constant	12.00 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	4,000 rpm
Optimum power	2.5 kW

Limiting data

Max. permissible speed (mech.)	9,000 rpm
Max. permissible speed (inverter)	8,000 rpm
Maximum torque	49.0 Nm
Maximum current	70.00 A

Recommended Motor Module

Rated inverter current	18.00 A
Maximum inverter current	54.00 A
Maximum torque	42.8 Nm

Gearbox data

Gearbox type	Planetary gearbox
Designation	SP 100S-MF1
Gearbox ratio	5
Motor speed S3-60 %	5,500 rpm
Motor speed S1	2,500 rpm
Output torque S1	169.0 Nm
Rated output torque at duty type S3-60 %	378.0 Nm
Moment of inertia of gearbox	2.61 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

J23 Mounting of SP+ planetary gearbox