SIEMENS

Data sheet for SIMOTICS S-1FT7

Figure similar

Article No. : 1FT7086-5WH71-1FH0

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)	43.0 Nm
Rated current	38.00 A
Static torque (60 K)	41.0 Nm
Static torque (100 K)	50.0 Nm
Stall current (60 K)	33.60 A
Stall current (100 K)	40.50 A
Rotor moment of inertia	81.90 kgcm²
Efficiency	94.0 %

Physical constants	
Torque constant	1.22 Nm/A
Voltage constant at 20° C	77.0 V/1000*min^{-1}
Winding resistance at 20° C	0.09 Ω
Rotary field inductance	1.5 mH
Electrical time constant	18.00 ms
Mechanical time constant	1.20 ms
Thermal time constant	2 min
Shaft torsional stiffness	57,000 Nm/rad
Net weight of the motor	37.1 kg

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	80
Cooling	Water 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	IP64
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	1.5

Optimum operating point	
Optimum speed	4,500 rpm
Optimum power	20.3 kW

Limiting data	
Max. permissible speed (mech.)	8,000 rpm
Max. permissible speed (inverter)	7,500 rpm
Maximum torque	125.0 Nm
Maximum current	133.00 A

Recommended Motor Module	
Rated inverter current	45.00 A
Maximum inverter current	85.00 A
Maximum torque	88.0 Nm

Holding brake	
Holding brake version	Permanent-magnet brake
Holding torque	48.0 Nm
Braking torque	25.0 Nm
Power supply voltage	DC 24 V
Coil current	1.00 A
Permissible brake work	1,900 J
Opening time	220 ms
Closing time	65 ms