

Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7105-5SC71-1NA3



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)	56.0 Nm
Rated current	29.00 A
Static torque (60 K)	51.0 Nm
Static torque (100 K)	65.0 Nm
Stall current (60 K)	24.00 A
Stall current (100 K)	31.00 A
Rotor moment of inertia	178.00 kgcm ²
Efficiency	93.0 %

Physical constants

Torque constant	2.11 Nm/A
Voltage constant at 20° C	134.5 V/1000*min ⁻¹
Winding resistance at 20° C	0.10 Ω
Rotary field inductance	2.7 mH
Electrical time constant	26.00 ms
Mechanical time constant	1.20 ms
Thermal time constant	50 min
Shaft torsional stiffness	107,000 Nm/rad
Net weight of the motor	50.0 kg

Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	100
Cooling	Forced ventilation
Radial runout tolerance	0.050 mm
Concentricity tolerance	0.100 mm
Axial runout tolerance	0.100 mm
Vibration severity grade	Grade R
Degree of protection	IP64
Design acc. to Code I	IM B5 (compatible with 1FT6)
Temperature monitoring	KTY84 temperature sensor in the stator winding
Color of the housing	Standard (pearl dark gray similar to RAL 9023)
Shaft end type	Fitted key and keyway
Sensor design	Encoder IC2048S/R: incremental encoder sin/cos 1 Vpp 2048 S/R with C and D track
Electrical connection	Connector turnable
Connector size	1.5

Optimum operating point

Optimum speed	2,000 rpm
Optimum power	11.7 kW

Limiting data

Max. permissible speed (mech.)	6,000 rpm
Max. permissible speed (inverter)	4,250 rpm
Maximum torque	200.0 Nm
Maximum current	107.00 A

Recommended Motor Module

Rated inverter current	45.00 A
Maximum inverter current	85.00 A
Maximum torque	168.0 Nm