



Figure similar

Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7105-5AC71-1NG1-Z J09

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	231.10 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	146,000 Nm/rad
Net weight of the motor	100.2 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	KTY84 temperature sensor in the stator winding
Color of the housing	Standard (pearl dark gray similar to RAL 9023)
Shaft end type	Plain shaft
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	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

Gearbox data	
Gearbox type	Planetary gearbox
Designation	SP 210S-MF1
Gearbox ratio	10
Motor speed S3-60 %	3,000 rpm
Motor speed S1	2,000 rpm
Output torque S1	1,708.0 Nm
Rated output torque at duty type S3-60 %	2,280.0 Nm
Moment of inertia of gearbox	53.10 kgcm ²
Radial output shaft loading, max.	21,000 N
Axial output shaft load, max.	30,000 N
Efficiency of gearbox	0.97
Torsional backlash	3 ´
Gearbox weight	56.00 kg

Special design	
J09	Mounting of SP+ planetary gearbox