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Data sheet for SIMOTICS S-1FK7 servo geared motor



Figure similar

Article No. : 1FK7064-4CF71-1RH1-Z
J23

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

Item no. :
Consignment no. :
Project :

Engineering data	
Rated speed (100 K)	3,000 rpm
Number of poles	6
Rated torque (100 K)	8.0 Nm
Rated current	7.6 A
Static torque (60 K)	10.00 Nm
Static torque (100 K)	12.00 Nm
Stall current (60 K)	8.70 A
Stall current (100 K)	10.80 A
Moment of inertia	11.110 kgcm²

Physical constants	
Torque constant	1.11 Nm/A
Voltage constant at 20° C	70.5 V/1000*min⁻¹
Winding resistance at 20° C	0.35 Ω
Rotating field inductance	12.0 mH
Electrical time constant	34.50 ms
Mechanical time constant	0.64 ms
Thermal time constant	55 min
Shaft torsional stiffness	22,500 Nm/rad
Net weight of the motor	24.5 kg

Recommended Motor Module	
Rated inverter current	18 A
Maximum inverter current	54 A
Maximum torque	32.00 Nm

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	High Dynamic
Shaft height	63
Cooling	Natural cooling
Radial runout tolerance	0.040 mm
Concentricity tolerance	0.10 mm
Axial runout tolerance	0.10 mm
Vibration severity grade	Grade A
Connector size	M23
Degree of protection	IP65
Design acc. to Code I	IM B5 (IM V1, IM V3)
Temperature monitoring	Pt1000 temperature sensor
Electrical connectors	Connectors for signals and power rotatable
Color of the housing	Standard (Anthracite RAL 7016)
Holding brake	with holding brake
Shaft end	Plain shaft
Encoder system	Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)

Gearbox data	
Gearbox type	Planetary gearbox SP+
Designation	SP 100S-MF1
Gearbox shaft end	Without feather key
Gear ratio + steps	5 (1-step)
Motor speed S3-60 %	5,500 rpm
Motor speed S1	2,500 rpm
Output torque S1	169 Nm
Rated output torque at duty type S3-60 %	378 Nm
Moment of inertia of gearbox	2.610 kgcm²
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

Limiting data	
Max. permissible speed (mech.)	7,500 rpm
Max. permissible speed (inverter)	7,500 rpm
Maximum torque	32.0 Nm
Maximum current	33.0 A

Subject to change. Calculated values may differ from nameplate ratings. © Copyright Siemens

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Holding brake	
Holding brake version	Permanent-magnet brake
Holding torque	13.0 Nm
Power supply voltage	DC 24 V ± 10 %
Coil current	0.8 A
Opening time	100 ms
Closing time	50 ms
Highest braking work	380 J

Special design

J23 Mounting of SP+ planetary gearbox