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Data sheet for SIMOTICS S-1FK7 servo geared motor



Figure similar

Article No. : 1FK7033-4CK71-1UG1-Z
J09

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

Item no. :
Consignment no. :
Project :

Engineering data	
Rated speed (100 K)	6,000 rpm
Number of poles	6
Rated torque (100 K)	0.9 Nm
Rated current	1.6 A
Static torque (60 K)	1.08 Nm
Static torque (100 K)	1.30 Nm
Stall current (60 K)	1.70 A
Stall current (100 K)	2.10 A
Moment of inertia	0.410 kgcm²

Physical constants	
Torque constant	0.62 Nm/A
Voltage constant at 20° C	39.5 V/1000*min⁻¹
Winding resistance at 20° C	3.51 Ω
Rotating field inductance	22.0 mH
Electrical time constant	6.30 ms
Mechanical time constant	0.68 ms
Thermal time constant	25 min
Shaft torsional stiffness	7,300 Nm/rad
Net weight of the motor	4.9 kg

Recommended Motor Module	
Rated inverter current	3 A
Maximum inverter current	9 A
Maximum torque	4.30 Nm

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	High Dynamic
Shaft height	36
Cooling	Natural cooling
Radial runout tolerance	0.035 mm
Concentricity tolerance	0.08 mm
Axial runout tolerance	0.08 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	without holding brake
Shaft end	Plain shaft
Encoder system	Resolver R15DQ: resolver 15 bits (resolution 32768, internal multi-pole)

Gearbox data	
Gearbox type	Planetary gearbox SP+
Designation	SP 060S-MF1
Gearbox shaft end	With feather key
Gear ratio + steps	10 (1-step)
Motor speed S3-60 %	7,500 rpm
Motor speed S1	4,000 rpm
Output torque S1	27 Nm
Rated output torque at duty type S3-60 %	38 Nm
Moment of inertia of gearbox	0.160 kgcm²
Radial output shaft loading, max.	2,800 N
Axial output shaft load, max.	2,400 N
Efficiency of gearbox	0.97
Torsional backlash	4 '
Gearbox weight	1.90 kg

Limiting data	
Max. permissible speed (mech.)	10,000 rpm
Max. permissible speed (inverter)	10,000 rpm
Maximum torque	4.3 Nm
Maximum current	7.6 A

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

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Special design

J09 Mounting of SP+ planetary gearbox