

Data sheet for SIMOTICS S-1FK7 servo geared motor



Figure similar

Article No. : **1FK7034-2AK71-1CG1-Z
J17**

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)	1.0 Nm
Rated current	1.3 A
Static torque (60 K)	1.35 Nm
Static torque (100 K)	1.60 Nm
Stall current (60 K)	1.55 A
Stall current (100 K)	1.90 A
Moment of inertia	1.280 kgcm ²

Physical constants

Torque constant	0.84 Nm/A
Voltage constant at 20° C	55.0 V/1000*min ⁻¹
Winding resistance at 20° C	4.46 Ω
Rotating field inductance	17.2 mH
Electrical time constant	3.85 ms
Mechanical time constant	1.71 ms
Thermal time constant	30 min
Shaft torsional stiffness	5,300 Nm/rad
Net weight of the motor	11.4 kg

Recommended Motor Module

Rated inverter current	3 A
Maximum inverter current	9 A
Maximum torque	6.50 Nm

Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
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	1
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	Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)

Gearbox data

Gearbox type	Planetary gearbox SP+
Designation	SP 100S-MF2
Gearbox shaft end	With feather key
Gear ratio + steps	50 (2-step)
Motor speed S3-60 %	6,500 rpm
Motor speed S1	3,500 rpm
Output torque S1	277 Nm
Rated output torque at duty type S3-60 %	347 Nm
Moment of inertia of gearbox	0.380 kgcm ²
Radial output shaft loading, max.	6,600 N
Axial output shaft load, max.	5,650 N
Efficiency of gearbox	0.94
Torsional backlash	5'
Gearbox weight	7.90 kg

Limiting data

Max. permissible speed (mech.)	10,000 rpm
Max. permissible speed (inverter)	10,000 rpm
Maximum torque	6.5 Nm
Maximum current	8.0 A



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Figure similar

Special design

J17 Mounting of SP+ planetary gearbox

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