

Data sheet for SIMOTICS S-1FK7 servo geared motor

Article No. : 1FK7032-2AK71-1SH0-Z
V42



Figure similar

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)	0.8 Nm
Rated current	1.3 A
Static torque (60 K)	0.95 Nm
Static torque (100 K)	1.10 Nm
Stall current (60 K)	1.40 A
Stall current (100 K)	1.70 A
Moment of inertia	0.970 kgcm²

Physical constants	
Torque constant	0.67 Nm/A
Voltage constant at 20° C	45.0 V/1000*min ⁻¹
Winding resistance at 20° C	5.05 Ω
Rotating field inductance	17.3 mH
Electrical time constant	3.45 ms
Mechanical time constant	2.20 ms
Thermal time constant	25 min
Shaft torsional stiffness	4,100 Nm/rad
Net weight of the motor	5.0 kg

Recommended Motor Module	
Rated inverter current	3 A
Maximum inverter current	9 A
Maximum torque	4.50 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	IP64
Design acc. to Code I	IM B5 (IM V1, IM V3)
Temperature monitoring	KTY84 temperature sensor in the stator winding
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 Multi-pole resolver (number of pole pairs corresponds to number of pole pairs of the motor)

Gearbox data	
Gearbox type	Planetary gearbox NP+
Designation	NP 015
Gearbox shaft end	With feather key
Gear ratio + steps	10 (1-step)
Temporary input speed	8,000 rpm
Motor speed S1	4,300 rpm
Output torque S1	19 Nm
Output moment maximum (short-time)	35 Nm
Moment of inertia of gearbox	0.220 kgcm²
Radial output shaft loading, max.	1,700 N
Axial output shaft load, max.	0 N
Efficiency of gearbox	0.97
Torsional backlash	8 ´
Gearbox weight	1.90 kg

Limiting data	
Max. permissible speed (mech.)	10,000 rpm
Max. permissible speed (inverter)	10,000 rpm
Maximum torque	4.5 Nm
Maximum current	7.0 A

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Holding brake	
Holding brake version	Permanent-magnet brake
Holding torque	1.9 Nm
Power supply voltage	DC 24 V ± 10 %
Coil current	0.3 A
Opening time	50 ms
Closing time	30 ms
Highest braking work	40 J

Special design	
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V42 Mounting of NP+ planetary gearbox