

## Data sheet for SIMOTICS S-1FK7 servo geared motor



Figure similar

Article No. : **1FK7033-4CK71-1CH0-Z  
V40**

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	0.620 kgcm <sup>2</sup>

### Physical constants

Torque constant	0.62 Nm/A
Voltage constant at 20° C	39.5 V/1000*min <sup>-1</sup>
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	4,700 Nm/rad
Net weight of the motor	5.3 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	1
Degree of protection	IP64
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 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 NP+
Designation	NP 015
Gearbox shaft end	With feather key
Gear ratio + steps	5 (1-step)
Temporary input speed	8,000 rpm
Motor speed S1	3,700 rpm
Output torque S1	21 Nm
Output moment maximum (short-time)	40 Nm
Moment of inertia of gearbox	0.270 kgcm <sup>2</sup>
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	4.3 Nm
Maximum current	7.6 A

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### Holding brake

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

### Special design

V40 Mounting of NP+ planetary gearbox

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