

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



Figure similar

Article No. : **1FK7060-2AH71-1DG0-Z  
V42**

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

Item no. :  
Consignment no. :  
Project :

### Engineering data

Rated speed (100 K)	4,500 rpm
Number of poles	8
Rated torque (100 K)	3.7 Nm
Rated current	4.3 A
Static torque (60 K)	5.00 Nm
Static torque (100 K)	6.00 Nm
Stall current (60 K)	5.10 A
Stall current (100 K)	6.30 A
Moment of inertia	9.400 kgcm <sup>2</sup>

### Physical constants

Torque constant	0.95 Nm/A
Voltage constant at 20° C	60.5 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	0.69 Ω
Rotating field inductance	7.6 mH
Electrical time constant	10.90 ms
Mechanical time constant	1.78 ms
Thermal time constant	30 min
Shaft torsional stiffness	40,500 Nm/rad
Net weight of the motor	16.5 kg

### Recommended Motor Module

Rated inverter current	9 A
Maximum inverter current	27 A
Maximum torque	18.00 Nm

### Mechanical data

Motor type	Permanent-magnet synchronous motor
Motor type	Compact
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	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	without holding brake
Shaft end	Plain shaft
Encoder system	Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits

### Gearbox data

Gearbox type	Planetary gearbox NP+
Designation	NP 035
Gearbox shaft end	With feather key
Gear ratio + steps	10 (1-step)
Temporary input speed	6,000 rpm
Motor speed S1	3,000 rpm
Output torque S1	110 Nm
Output moment maximum (short-time)	220 Nm
Moment of inertia of gearbox	1.700 kgcm <sup>2</sup>
Radial output shaft loading, max.	5,000 N
Axial output shaft load, max.	0 N
Efficiency of gearbox	0.97
Torsional backlash	8'
Gearbox weight	9.40 kg

### Limiting data

Max. permissible speed (mech.)	7,200 rpm
Max. permissible speed (inverter)	7,200 rpm
Maximum torque	18.0 Nm
Maximum current	21.5 A



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Figure similar

Special design

V42 Mounting of NP+ planetary gearbox

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