

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

Article No. : **1FK7060-5AF71-1DU5-Z**  
C11+G23+H51



Figure similar

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

Item no. :  
Consignment no. :  
Project :

### Engineering data

Rated speed (100 K)	3,000 rpm
Number of poles	8
Rated torque (100 K)	4.7 Nm
Rated current	3.7 A
Static torque (60 K)	5.00 Nm
Static torque (100 K)	6.00 Nm
Stall current (60 K)	3.70 A
Stall current (100 K)	4.50 A
Moment of inertia	7.950 kgcm <sup>2</sup>

### Physical constants

Torque constant	1.33 Nm/A
Voltage constant at 20° C	84.5 V/1000*min <sup>-1</sup>
Winding resistance at 20° C	1.44 Ω
Rotating field inductance	14.7 mH
Electrical time constant	10.20 ms
Mechanical time constant	1.94 ms
Thermal time constant	30 min
Shaft torsional stiffness	42,000 Nm/rad
Net weight of the motor	25.6 kg

### Recommended Motor Module

Rated inverter current	5 A
Maximum inverter current	10 A
Maximum torque	13.20 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	IP65 and DE flange IP67
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	without holding brake
Shaft end	Fitted key and keyway
Encoder system	Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits

### Gearbox data

Gearbox type	Offset-shaft
Designation	F102
Gearbox ratio	4
Output speed at the gearbox shaft	696 rpm
Rated output torque at duty type S3-60 %	20 Nm
Acceleration torque max.	80 Nm
Power at duty type S3-60%	1.43 kW
Radial output shaft loading, max.	1,021 N
Precise ratio	56/13
Overload factor	3.20
Type of construction	no value
Mounting position	EL 5
Connector position	Connector position on gearbox side 2, top
Type	Tapped hole group
Gearbox shaft end	Hollow shaft with keyway
Gearbox output arrangement	Insertion side 5
Arrangement of shrink disk	no value

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### Limiting data

Max. permissible speed (mech.)	7,200 rpm
Max. permissible speed (inverter)	6,800 rpm
Maximum torque	18.0 Nm
Maximum current	15.0 A

### Special design

- C11 Offset-shaft geared motors
- G23 Tapped hole group, Hollow shaft with keyway (Plug-in gearbox side 5 for parallel shaft gearboxes, plug-in side 4 for bevel and worm gearboxes)
- H51 Connector position on gearbox side 2, top