

Data sheet for SIMOTICS S-1FK7 servo geared motor

Article No. : 1FK7040-5AK71-1PU3-Z
A13



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	8
Rated torque (100 K)	1.1 Nm
Rated current	1.7 A
Static torque (60 K)	1.30 Nm
Static torque (100 K)	1.60 Nm
Stall current (60 K)	1.80 A
Stall current (100 K)	2.25 A
Moment of inertia	2.300 kgcm²

Physical constants	
Torque constant	0.68 Nm/A
Voltage constant at 20° C	43.0 V/1000*min ⁻¹
Winding resistance at 20° C	3.30 Ω
Rotating field inductance	17.0 mH
Electrical time constant	5.15 ms
Mechanical time constant	3.62 ms
Thermal time constant	25 min
Shaft torsional stiffness	19,000 Nm/rad
Net weight of the motor	6.6 kg

Recommended Motor Module	
Rated inverter current	3 A
Maximum inverter current	6 A
Maximum torque	4.10 Nm

Mechanical data	
Motor type	Permanent-magnet synchronous motor
Motor type	Compact
Shaft height	48
Cooling	Natural cooling
Radial runout tolerance	0.040 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	without holding brake
Shaft end	Fitted key and keyway
Encoder system	Resolver R14DQ: resolver 14 bits (resolution 16384, internal 2-pole)

Gearbox data	
Gearbox type	DYA compact planetary gear unit
Designation	DYA
Gearbox shaft end	Fitted key and keyway
Gearbox ratio	10
Rated speed	340 rpm
Rated power	0.45 kW
Output speed at the gearbox shaft	600 rpm
Acceleration torque max.	49 Nm
Static torque	15.0 Nm
Output torque S1	12.5 Nm
Maximum current	7.4 A
Static current	2.3 A
Weight	6.60 kg

Limiting data	
Max. permissible speed (mech.)	9,000 rpm
Max. permissible speed (inverter)	9,990 rpm
Maximum torque	5.1 Nm
Maximum current	7.7 A

Special design	
A13	1FK7-DYA, M2standstill=15Nm S1Output speed=340rpm (I=10)