

Data sheet for SIMOTICS S-1FK7 servo geared motor

MLFB-Ordering data

1FK7042-5AK71-1FU3-Z
A10



Figure similar

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data		Mechanical data	
Rated speed (100 K)	6000 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Motor type	Compact
Rated torque (100 K)	1.5 Nm	Shaft height	48
Rated current	2.5 A	Cooling	Natural cooling
Static torque (60 K)	2.50 Nm	Radial runout tolerance	0.040 mm
Static torque (100 K)	3.0 Nm	Concentricity tolerance	0.08 mm
Stall current (60 K)	3.60 A	Axial runout tolerance	0.08 mm
Stall current (100 K)	4.40 A	Vibration severity grade	Grade A
Moment of inertia	3.600 kgcm ²	Connector size	1
Physical constants		Degree of protection	IP64
Torque constant	0.69 Nm/A	Design acc. to Code I	IM B5 (IM V1, IM V3)
Voltage constant at 20° C	44.0 V/1000*min ⁻¹	Temperature monitoring	KTY84 temperature sensor in the stator winding
Winding resistance at 20° C	1.20 Ω	Electrical connectors	Connectors for signals and power rotatable
Rotating field inductance	6.7 mH	Color of the housing	Standard (Anthracite RAL 7016)
Electrical time constant	5.60 ms	Holding brake	without holding brake
Mechanical time constant	2.27 ms	Shaft extension	Fitted key and keyway
Thermal time constant	30 min	Encoder system	Encoder AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Shaft torsional stiffness	16000 Nm/rad		
Net weight of the motor	7.9 kg		
Recommended Motor Module			
Rated inverter current	5 A		
Maximum inverter current	10 A		
Maximum torque	6.80 Nm		



Figure similar

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Gearbox data			
Gearbox type	DYA compact planetary gear unit	Static torque	13.0 Nm
Designation	DYA	Output torque S1	10.0 Nm
Gearbox shaft end	Fitted key and keyway	Moment of inertia of rotor	3.600 kgcm²
Gearbox ratio	5	Maximum current	14.9 A
Rated speed	680 rpm	Static current	4.4 A
Rated power	0.71 kW	Weight	7.91 kg
Output speed at the gearbox shaft	1200 rpm		
Acceleration torque max.	51 Nm		

Limiting data	
Max. permissible speed (mech.)	9000 rpm
Max. permissible speed (inverter)	9990 rpm
Maximum torque	10.5 Nm
Maximum current	15.3 A

Special design	
A10	1FK7-DYA, M2standstill=13Nm S1Output speed=680rpm (I=5)