

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data 1FK7103-5AF71-1AB0



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

Item no. :
Consignment no. :
Project :

Engineering data		Mechanical data	
Rated speed (100 K)	3000 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Motor type	Compact
Rated torque (100 K)	14.0 Nm	Shaft height	100
Rated current	12.0 A	Cooling	Natural cooling
Static torque (60 K)	30.00 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	36.00 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	22.80 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	27.50 A	Vibration severity grade	Grade A
Moment of inertia	118.000 kgcm²	Connector size	1.5
Efficiency	93.0 %	Degree of protection	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.35 Nm/A	Temperature monitoring	KTY84 temperature sensor in the stator winding
Voltage constant at 20° C	86.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.09 Ω	Color of the housing	without
Rotating field inductance	2.0 mH	Holding brake	with holding brake
Electrical time constant	22.20 ms	Shaft end	Feather key
Mechanical time constant	1.55 ms	Encoder system	Encoder IC2048S/R: incremental encoder sin/cos 1 Vpp 2048 S/R with C and D track
Thermal time constant	65 min		
Shaft torsional stiffness	149000 Nm/rad		
Net weight of the motor	32.0 kg		

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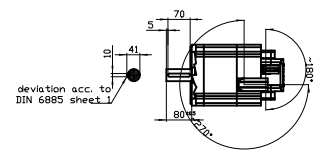
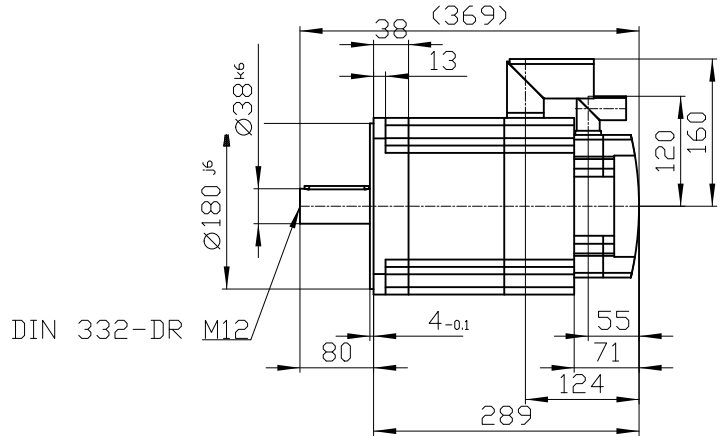
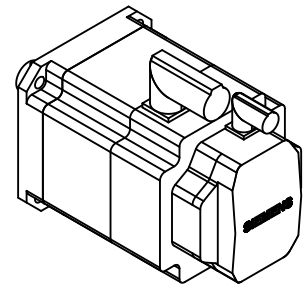
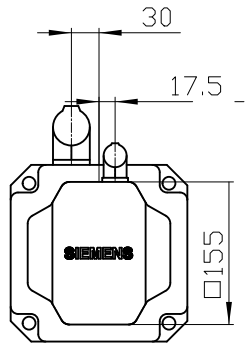
Optimum operating point		Recommended Motor Module	
Optimum speed	2500 rpm	Rated inverter current	30 A
Optimum power	5.4 kW	Maximum inverter current	56 A
Limiting data		Maximum torque	73.00 Nm
Max. permissible speed (mech.)	5000 rpm		
Max. permissible speed (inverter)	6700 rpm		
Maximum torque	108.0 Nm		
Maximum current	84.0 A		
Holding brake			
Holding brake version	Permanent-magnet brake		
Holding torque	43.0 Nm		
Power supply voltage	DC 24 V ± 10 %		
Coil current	1.0 A		
Opening time	300 ms		
Closing time	70 ms		
Highest braking work	3380 J		

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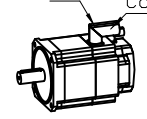
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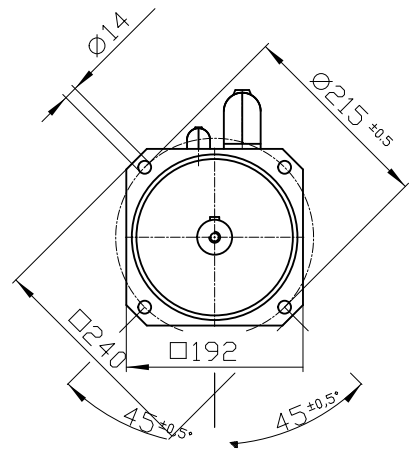
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Connector size 1.5 = M40;
6-pole for power and brake



Connector size M23, 17-pole



Unit	mm [in]	1FK7103-5AF 71-1AB0	
Date	7/28/23		
SIEMENS AG			
		DT	