

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data 1FK7100-5AF71-1FB0

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

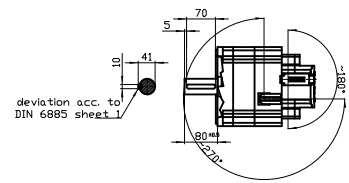
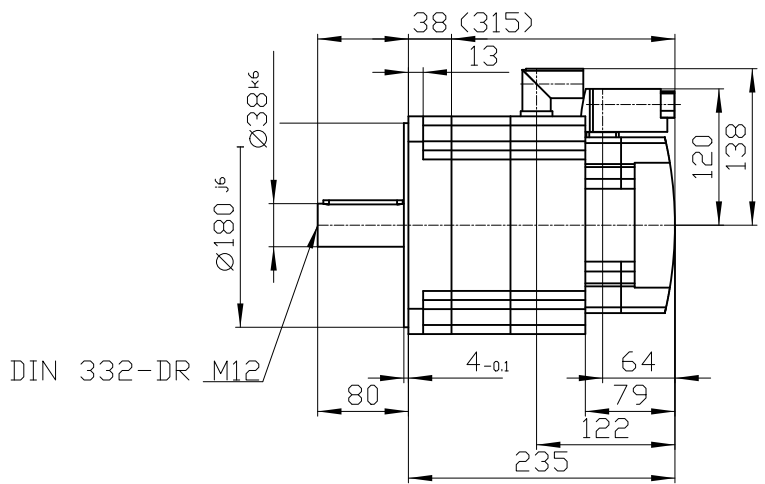
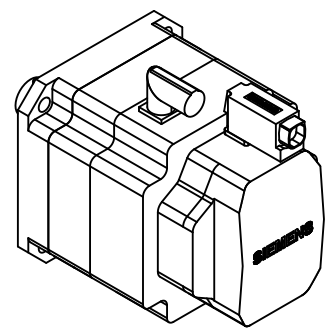
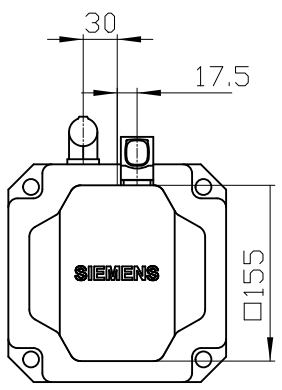
Item no. :
Consignment no. :
Project :

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)	12.0 Nm	Shaft height	100
Rated current	8.0 A	Cooling	Natural cooling
Static torque (60 K)	15.00 Nm	Radial runout tolerance	0.050 mm
Static torque (100 K)	18.00 Nm	Concentricity tolerance	0.10 mm
Stall current (60 K)	9.20 A	Axial runout tolerance	0.10 mm
Stall current (100 K)	11.20 A	Vibration severity grade	Grade A
Moment of inertia	63.900 kgcm ²	Connector size	1
Efficiency	92.0 %	Degree of protection	IP64
Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
Torque constant	1.59 Nm/A	Temperature monitoring	KTY84 temperature sensor in the stator winding
Voltage constant at 20° C	101.0 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
Winding resistance at 20° C	0.34 Ω	Color of the housing	without
Rotating field inductance	7.0 mH	Holding brake	with holding brake
Electrical time constant	20.50 ms	Shaft end	Feather key
Mechanical time constant	2.23 ms	Encoder system	Encoder AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Thermal time constant	55 min		
Shaft torsional stiffness	184000 Nm/rad		
Net weight of the motor	21.5 kg		

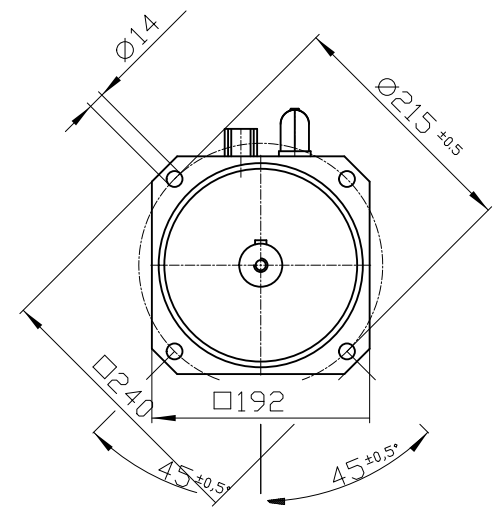
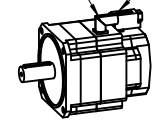
MLFB-Ordering data1FK7100-5AF71-1FB0

Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	18 A
Optimum power	3.8 kW	Maximum inverter current	36 A
Limiting data		Maximum torque	53.80 Nm
Max. permissible speed (mech.)	5000 rpm		
Max. permissible speed (inverter)	5700 rpm		
Maximum torque	55.0 Nm		
Maximum current	37.0 A		
Holding brake			
Holding brake version	Permanent-magnet brake		
Holding torque	23.0 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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Connector size 1 = M23;
6-pole for power and brake
10-pole RJ45 socket



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Unit	mm [in]	1FK7100-5AF71-1FB0
Date	7/21/23	
SIEMENS AG		-
-		DT