

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data1FK7100-5AF71-1EG0



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	55.300 kgcm²	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	without holding brake
Electrical time constant	20.50 ms	Shaft end	Plain shaft
Mechanical time constant	2.23 ms	Encoder system	Encoder AM2048S/R: absolute encoder 2048 S/R, 4096 revolutions multi-turn, with EnDat interface
Thermal time constant	55 min		
Shaft torsional stiffness	184000 Nm/rad		
Net weight of the motor	19.0 kg		

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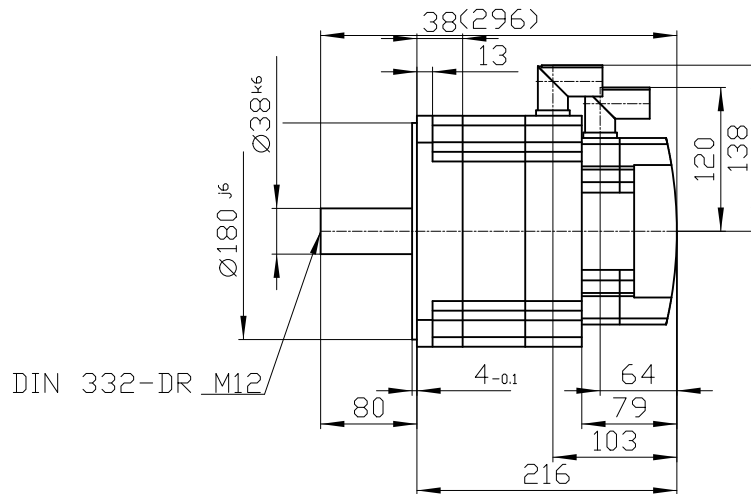
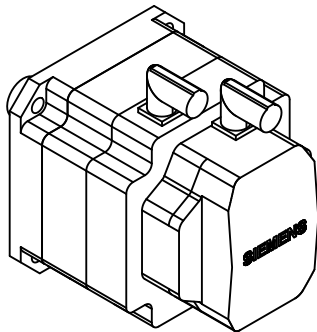
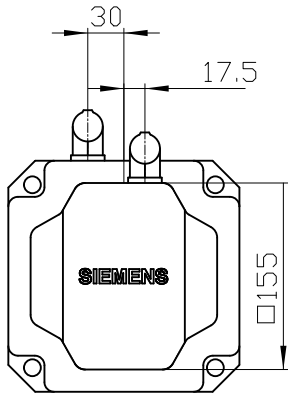
Optimum operating point		Recommended Motor Module	
Optimum speed	3000 rpm	Rated inverter current	18 A
Optimum power	3.8 kW	Maximum inverter current	36 A
Limiting data		Maximum torque	53.80 Nm
Max. permissible speed (mech.)	5000 rpm		
Max. permissible speed (inverter)	5700 rpm		
Maximum torque	55.0 Nm		
Maximum current	37.0 A		

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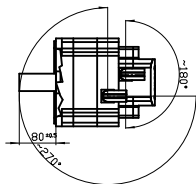
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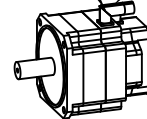
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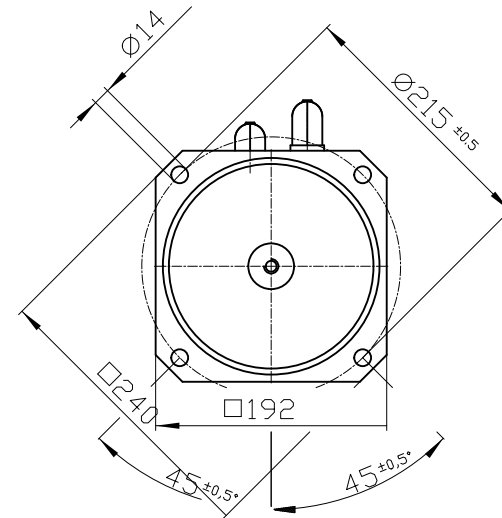
DIN 332-DR M12



Connector size 1 = M23;
6-pole for power and brake



Connector size M23, 17-pole



Unit	mm [in]	1FK7100-5AF71-1EG0	
Date	7/21/23		
SIEMENS AG			
		DT	