

## Data sheet for SIMOTICS S-1FT7

MLFB-Ordering data

1FT7087-7WH71-7FD1



Figure similar

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

Item no. :  
Consignment no. :  
Project :

Engineering data		Mechanical data	
Rated speed	4500 rpm	Motor type	Permanent-magnet synchronous motor
Number of poles	8	Design of the motor type	High Dynamic
Rated torque (100 K)	46.0 Nm	Shaft height	80 mm
Rated current	53.0 A	Cooling	Water cooling
Static torque (60 K)	48.00 Nm	Radial runout tolerance	R
Static torque (100 K)	61.0 Nm	Vibration severity grade	Grade A
Stall current (60 K)	53.0 A	Degree of protection	IP65
Stall current (100 K)	67.0 A	Design acc. to Code I	IM B5 (compatible with 1FT6)
Rotor moment of inertia	0.0027400 kgm <sup>2</sup>	Temperature monitoring	Pt1000 temperature sensor
Efficiency	94.0 %	Color of the housing	Standard (pearl dark gray similar to RAL 9023)
<b>Physical constants</b>		Holding brake version	no value
Torque constant	0.91 Nm/A	Shaft end type	Fitted key and keyway
Voltage constant at 20° C	58.0 V/1000*min <sup>-1</sup>	Sensor design	Encoder AM22DQ: absolute encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions)
Winding resistance at 20° C	0.05 Ω	Electrical connectors	Terminal box axial NDE
Rotating field inductance	1.2 mH		
Electrical time constant	26.00 ms		
Mechanical time constant	0.50 ms		
Thermal time constant	11 min		
Shaft torsional stiffness	45500 Nm/rad		
Net weight of the motor	41.0 kg		

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Optimum operating point		Recommended Motor Module	
Optimum speed	4500 rpm	Rated inverter current	85 A
Optimum power	21.7 kW	Maximum inverter current	141 A
Limiting data		Maximum torque	116.00 Nm
Max. permissible speed (mech.)	8000 rpm		
Max. permissible speed (inverter)	8000 rpm		
Maximum torque	150.0 Nm		
Maximum current	225.0 A		