

## Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7064-5AF70-1CG5



Figure similar

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

Item no. :  
Consignment no. :  
Project :

### Engineering data

|                         |                         |
|-------------------------|-------------------------|
| Rated speed             | 3,000 rpm               |
| Number of poles         | 10                      |
| Rated torque (100 K)    | 7.6 Nm                  |
| Rated current           | 5.20 A                  |
| Static torque (60 K)    | 7.7 Nm                  |
| Static torque (100 K)   | 9.0 Nm                  |
| Stall current (60 K)    | 4.90 A                  |
| Stall current (100 K)   | 5.70 A                  |
| Rotor moment of inertia | 11.90 kgcm <sup>2</sup> |
| Efficiency              | 93.0 %                  |

### Physical constants

|                             |                                |
|-----------------------------|--------------------------------|
| Torque constant             | 1.57 Nm/A                      |
| Voltage constant at 20° C   | 100.0 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 0.92 Ω                         |
| Rotary field inductance     | 10.0 mH                        |
| Electrical time constant    | 11.00 ms                       |
| Mechanical time constant    | 1.30 ms                        |
| Thermal time constant       | 30 min                         |
| Shaft torsional stiffness   | 26,000 Nm/rad                  |
| Net weight of the motor     | 9.7 kg                         |

### Mechanical data

|                          |  |
|--------------------------|--|
| Motor type               | Permanent-magnet synchronous motor   |
| Motor type               | Compact  |
| Shaft height             | 63   |
| Cooling                  | Natural cooling  |
| Radial runout tolerance  | 0.040 mm   |
| Concentricity tolerance  | 0.100 mm   |
| Axial runout tolerance   | 0.100 mm   |
| Vibration severity grade | Grade R  |
| Degree of protection     | IP67   |
| Design acc. to Code I    | IM B5 (new flange design)  |
| Temperature monitoring   | Pt1000 temperature sensor  |
| Color of the housing     | Standard (pearl dark gray similar to RAL 9023)   |
| Shaft end type           | Plain shaft  |
| Sensor design            | Encoder AM24DQI: Absolute encoder 24 bit (resolution 16777216, encoder-internal 2048 S/R) + 12 bit Multiturn (traversing range 4096 revolutions) - with signal connection RJ45 |
| Electrical connection    | Connector turnable   |
| Connector size           | 1  |

### Optimum operating point

|               |           |
|---------------|-----------|
| Optimum speed | 3,000 rpm |
| Optimum power | 2.4 kW    |

### Limiting data

|                                   |           |
|-----------------------------------|-----------|
| Max. permissible speed (mech.)    | 9,000 rpm |
| Max. permissible speed (inverter) | 5,700 rpm |
| Maximum torque                    | 36.0 Nm   |
| Maximum current                   | 29.00 A   |

### Recommended Motor Module

|                          |         |
|--------------------------|---------|
| Rated inverter current   | 9.00 A  |
| Maximum inverter current | 27.00 A |
| Maximum torque           | 34.7 Nm |