

## Data sheet for SIMOTICS S-1FK7

Article No. : 1FK7060-2AC71-1RG0

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

Item no. :  
Consignment no. :  
Project :



Figure similar

### Engineering data

|                       |                         |
|-----------------------|-------------------------|
| Rated speed (100 K)   | 2,000 rpm               |
| Number of poles       | 8                       |
| Rated torque (100 K)  | 5.3 Nm                  |
| Rated current         | 3.0 A                   |
| Static torque (60 K)  | 5.00 Nm                 |
| Static torque (100 K) | 6.00 Nm                 |
| Stall current (60 K)  | 2.55 A                  |
| Stall current (100 K) | 3.15 A                  |
| Moment of inertia     | 7.700 kgcm <sup>2</sup> |
| Efficiency            | 90.0 %                  |

### Physical constants

|                             |                                |
|-----------------------------|--------------------------------|
| Torque constant             | 1.91 Nm/A                      |
| Voltage constant at 20° C   | 121.0 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 2.75 Ω                         |
| Rotating field inductance   | 30.5 mH                        |
| Electrical time constant    | 11.10 ms                       |
| Mechanical time constant    | 1.75 ms                        |
| Thermal time constant       | 30 min                         |
| Shaft torsional stiffness   | 40,500 Nm/rad                  |
| Net weight of the motor     | 7.1 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  | 0.10 mm                                                                                                                                           |
| Axial runout tolerance   | 0.10 mm                                                                                                                                           |
| Vibration severity grade | Grade A                                                                                                                                           |
| Connector size           | 1                                                                                                                                                 |
| Degree of protection     | IP64                                                                                                                                              |
| Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                                                                              |
| Temperature monitoring   | Pt1000 temperature sensor                                                                                                                         |
| Electrical connectors    | Connectors for signals and power rotatable                                                                                                        |
| Color of the housing     | Standard (Anthracite RAL 7016)                                                                                                                    |
| Holding brake            | without holding brake                                                                                                                             |
| Shaft end                | Plain shaft                                                                                                                                       |
| Encoder system           | Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |

### Optimum operating point

|               |           |
|---------------|-----------|
| Optimum speed | 2,000 rpm |
| Optimum power | 1.1 kW    |

### Limiting data

|                                   |           |
|-----------------------------------|-----------|
| Max. permissible speed (mech.)    | 7,200 rpm |
| Max. permissible speed (inverter) | 4,750 rpm |
| Maximum torque                    | 18.0 Nm   |
| Maximum current                   | 10.7 A    |

### Recommended Motor Module

|                          |          |
|--------------------------|----------|
| Rated inverter current   | 3 A      |
| Maximum inverter current | 9 A      |
| Maximum torque           | 15.90 Nm |

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