

## Data sheet for SIMOTICS S-1FK7

Article No. : 1FK7060-2AF71-1UB0

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

Item no. :  
Consignment no. :  
Project :



Figure similar

### Engineering data

|                       |                         |
|-----------------------|-------------------------|
| Rated speed (100 K)   | 3,000 rpm               |
| Number of poles       | 8                       |
| Rated torque (100 K)  | 4.7 Nm                  |
| Rated current         | 3.7 A                   |
| Static torque (60 K)  | 5.00 Nm                 |
| Static torque (100 K) | 6.00 Nm                 |
| Stall current (60 K)  | 3.60 A                  |
| Stall current (100 K) | 4.45 A                  |
| Moment of inertia     | 8.700 kgcm <sup>2</sup> |
| Efficiency            | 90.0 %                  |

### Physical constants

|                             |                               |
|-----------------------------|-------------------------------|
| Torque constant             | 1.33 Nm/A                     |
| Voltage constant at 20° C   | 85.5 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 1.35 Ω                        |
| Rotating field inductance   | 15.2 mH                       |
| Electrical time constant    | 11.30 ms                      |
| Mechanical time constant    | 1.71 ms                       |
| Thermal time constant       | 30 min                        |
| Shaft torsional stiffness   | 28,500 Nm/rad                 |
| Net weight of the motor     | 8.5 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            | with holding brake                                                       |
| Shaft end                | Feather key                                                              |
| Encoder system           | Resolver R15DQ: resolver 15 bits (resolution 32768, internal multi-pole) |

### Optimum operating point

|               |           |
|---------------|-----------|
| Optimum speed | 3,000 rpm |
| Optimum power | 1.5 kW    |

### Limiting data

|                                   |           |
|-----------------------------------|-----------|
| Max. permissible speed (mech.)    | 7,200 rpm |
| Max. permissible speed (inverter) | 6,700 rpm |
| Maximum torque                    | 18.0 Nm   |
| Maximum current                   | 15.0 A    |

### Holding brake

|                       |                        |
|-----------------------|------------------------|
| Holding brake version | Permanent-magnet brake |
| Holding torque        | 13.0 Nm                |
| Power supply voltage  | DC 24 V ± 10 %         |
| Coil current          | 0.8 A                  |
| Opening time          | 100 ms                 |
| Closing time          | 50 ms                  |
| Highest braking work  | 380 J                  |

### Recommended Motor Module

|                          |          |
|--------------------------|----------|
| Rated inverter current   | 5 A      |
| Maximum inverter current | 15 A     |
| Maximum torque           | 18.00 Nm |

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