

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data 1FK7033-7AK71-1TG3



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

Item no. :  
Consignment no. :  
Project :

| Engineering data            |                               | Mechanical data          |                                                |
|-----------------------------|-------------------------------|--------------------------|------------------------------------------------|
| Rated speed (100 K)         | 6000 rpm                      | Motor type               | Permanent-magnet synchronous motor             |
| Number of poles             | 6                             | Motor type               | High Dynamic                                   |
| Rated torque (100 K)        | 0.9 Nm                        | Shaft height             | 36                                             |
| Rated current               | 1.5 A                         | Cooling                  | Natural cooling                                |
| Static torque (60 K)        | 1.00 Nm                       | Radial runout tolerance  | 0.035 mm                                       |
| Static torque (100 K)       | 1.30 Nm                       | Concentricity tolerance  | 0.08 mm                                        |
| Stall current (60 K)        | 1.70 A                        | Axial runout tolerance   | 0.08 mm                                        |
| Stall current (100 K)       | 2.20 A                        | Vibration severity grade | Grade A                                        |
| Moment of inertia           | 0.270 kgcm²                   | Connector size           | 1                                              |
| Efficiency                  | 88.0 %                        | Degree of protection     | IP64                                           |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)                           |
| Torque constant             | 0.60 Nm/A                     | Temperature monitoring   | KTY84 temperature sensor in the stator winding |
| Voltage constant at 20° C   | 40.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable     |
| Winding resistance at 20° C | 3.70 Ω                        | Color of the housing     | Standard (Anthracite RAL 7016)                 |
| Rotating field inductance   | 18.0 mH                       | Holding brake            | without holding brake                          |
| Electrical time constant    | 4.90 ms                       | Shaft end                | Plain shaft                                    |
| Mechanical time constant    | 0.83 ms                       | Encoder system           | Resolver 2-pole                                |
| Thermal time constant       | 25 min                        |                          |                                                |
| Shaft torsional stiffness   | 8000 Nm/rad                   |                          |                                                |
| Net weight of the motor     | 3.1 kg                        |                          |                                                |

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| Optimum operating point           |           | Recommended Motor Module |         |
|-----------------------------------|-----------|--------------------------|---------|
| Optimum speed                     | 6000 rpm  | Rated inverter current   | 3 A     |
| Optimum power                     | 0.6 kW    | Maximum inverter current | 6 A     |
| Limiting data                     |           | Maximum torque           | 3.50 Nm |
| Max. permissible speed (mech.)    | 10000 rpm |                          |         |
| Max. permissible speed (inverter) | 13300 rpm |                          |         |
| Maximum torque                    | 4.3 Nm    |                          |         |
| Maximum current                   | 7.2 A     |                          |         |