

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data                      1FK7032-2AK71-1RA0

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

Item no. :  
Consignment no. :  
Project :

| Engineering data        |                         | Physical constants          |                               |
|-------------------------|-------------------------|-----------------------------|-------------------------------|
| Rated speed             | 6000 rpm                | Torque constant             | 0.67 Nm/A                     |
| Number of poles         | 6                       | Voltage constant at 20° C   | 45.0 V/1000*min <sup>-1</sup> |
| Rated torque (100 K)    | 0.8 Nm                  | Winding resistance at 20° C | 5.05 Ω                        |
| Rated current           | 1.4 A                   | Rotating field inductance   | 17.3 mH                       |
| Static torque (60 K)    | 0.95 Nm                 | Electrical time constant    | 3.45 ms                       |
| Static torque (100 K)   | 1.1 Nm                  | Mechanical time constant    | 2.20 ms                       |
| Stall current (60 K)    | 1.4 A                   | Thermal time constant       | 25 min                        |
| Stall current (100 K)   | 1.7 A                   | Shaft torsional stiffness   | 6000 Nm/rad                   |
| Rotor moment of inertia | 0.650 kgcm <sup>2</sup> | Net weight of the motor     | 2.7 kg                        |
| Efficiency              | 88.0 %                  |                             |                               |

| Mechanical data          |                                                |                       |                                                                                                                                                   |
|--------------------------|------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Motor type               | Compact                                        | Electrical connectors | Connectors for signals and power rotatable                                                                                                        |
| Shaft height             | 36                                             | Color of the housing  | Standard painting (Anthracite RAL 7016)                                                                                                           |
| Cooling                  | Natural cooling                                | Holding brake         | without holding brake                                                                                                                             |
| Radial runout tolerance  | 0.035 mm                                       | Shaft extension       | Feather key                                                                                                                                       |
| Concentricity tolerance  | 0.08 mm                                        | Encoder system        | Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |
| Axial runout tolerance   | 0.08 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   | KTY84 temperature sensor in the stator winding |                       |                                                                                                                                                   |



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| Optimum operating point        |           | Recommended Motor Module |         |
|--------------------------------|-----------|--------------------------|---------|
| Optimum speed                  | 6000 rpm  | Rated inverter current   | 3 A     |
| Optimum power                  | 0.5 kW    | Maximum inverter current | 6 A     |
| Limiting data                  |           | Maximum torque           | 4.15 Nm |
| Max. permissible speed (mech.) | 10000 rpm |                          |         |