

Data sheet for SIMOTICS S-1FK7

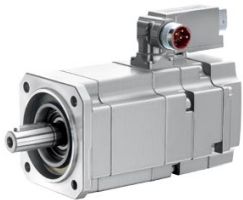


Figure similar

MLFB-Ordering data                      1FK7015-5AK71-1AH3

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             | 8                             | Motor type               | Compact                                                                          |
| Rated torque (100 K)        | 0.2 Nm                        | Shaft height             | 20                                                                               |
| Rated current               | 0.8 A                         | Cooling                  | Natural cooling                                                                  |
| Static torque (60 K)        | 0.29 Nm                       | Radial runout tolerance  | 0.000 mm                                                                         |
| Static torque (100 K)       | 0.3 Nm                        | Concentricity tolerance  | 0.00 mm                                                                          |
| Stall current (60 K)        | 1.20 A                        | Axial runout tolerance   | 0.00 mm                                                                          |
| Stall current (100 K)       | 1.50 A                        | Vibration severity grade | Grade A                                                                          |
| Moment of inertia           | 0.102 kgcm²                   | Connector size           | 0.5                                                                              |
| Efficiency                  | 68.0 %                        | Degree of protection     | IP54                                                                             |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                             |
| Torque constant             | 0.42 Nm/A                     | Temperature monitoring   | KTY84 temperature sensor in the stator winding                                   |
| Voltage constant at 20° C   | 16.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                       |
| Winding resistance at 20° C | 4.30 Ω                        | Color of the housing     | Standard (Anthracite RAL 7016)                                                   |
| Rotating field inductance   | 8.4 mH                        | Holding brake            | with holding brake                                                               |
| Electrical time constant    | 2.00 ms                       | Shaft extension          | Plain shaft                                                                      |
| Mechanical time constant    | 1.90 ms                       | Encoder system           | Encoder IC2048S/R: incremental encoder sin/cos 1 Vpp 2048 S/R with C and D track |
| Thermal time constant       | 16 min                        |                          |                                                                                  |
| Shaft torsional stiffness   | 1300 Nm/rad                   |                          |                                                                                  |
| Net weight of the motor     | 1.2 kg                        |                          |                                                                                  |

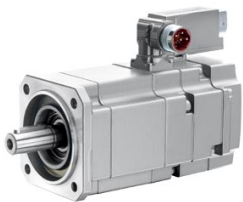


Figure similar

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| Optimum operating point           |                        | Recommended Motor Module |         |
|-----------------------------------|------------------------|--------------------------|---------|
| Optimum speed                     | 5000 rpm               | Rated inverter current   | 3 A     |
| Optimum power                     | 0.1 kW                 | Maximum inverter current | 6 A     |
| Limiting data                     |                        | Maximum torque           | 1.00 Nm |
| Max. permissible speed (mech.)    | 8000 rpm               |                          |         |
| Max. permissible speed (inverter) | 8000 rpm               |                          |         |
| Maximum torque                    | 1.0 Nm                 |                          |         |
| Maximum current                   | 4.2 A                  |                          |         |
| Holding brake                     |                        |                          |         |
| Holding brake version             | Permanent-magnet brake |                          |         |
| Holding torque                    | 0.4 Nm                 |                          |         |
| Power supply voltage              | DC 24 V ± 10 %         |                          |         |
| Coil current                      | 0.3 A                  |                          |         |
| Opening time                      | 30 ms                  |                          |         |
| Closing time                      | 20 ms                  |                          |         |
| Highest braking work              | 2 J                    |                          |         |