

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data                      1FK7011-5AK74-1JG3

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)        | 0.1 Nm                       | Shaft height             | 20                                                                                          |
| Rated current               | 0.8 A                        | Cooling                  | Natural cooling                                                                             |
| Static torque (60 K)        | 0.15 Nm                      | Radial runout tolerance  | -/-                                                                                         |
| Static torque (100 K)       | 0.18 Nm                      | Concentricity tolerance  | -/-                                                                                         |
| Stall current (60 K)        | 1.20 A                       | Axial runout tolerance   | -/-                                                                                         |
| Stall current (100 K)       | 1.50 A                       | Vibration severity grade | Grade A                                                                                     |
| Moment of inertia           | 0.064 kgcm²                  | Connector size           | 0.5                                                                                         |
| Efficiency                  | 62.0 %                       | Degree of protection     | IP54                                                                                        |
| Physical constants          |                              | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                        |
| Torque constant             | 0.12 Nm/A                    | Temperature monitoring   | Pt1000 temperature sensor                                                                   |
| Voltage constant at 20° C   | 8.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                                  |
| Winding resistance at 20° C | 3.00 Ω                       | Color of the housing     | Standard (Anthracite RAL 7016)                                                              |
| Rotating field inductance   | 4.2 mH                       | Holding brake            | without holding brake                                                                       |
| Electrical time constant    | 1.40 ms                      | Shaft end                | Plain shaft                                                                                 |
| Mechanical time constant    | 4.00 ms                      | Encoder system           | Encoder AM16S/R: absolute encoder 16 S/R, 4096 revolutions multi-turn, with EnDat interface |
| Thermal time constant       | 14 min                       |                          |                                                                                             |
| Shaft torsional stiffness   | 1400 Nm/rad                  |                          |                                                                                             |
| Net weight of the motor     | 0.9 kg                       |                          |                                                                                             |



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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           | 0.50 Nm |
| Max. permissible speed (mech.)    | 8000 rpm |                          |         |
| Max. permissible speed (inverter) | 8000 rpm |                          |         |
| Maximum torque                    | 0.5 Nm   |                          |         |
| Maximum current                   | 4.2 A    |                          |         |