

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data                      1FK7040-2AK74-1SG2

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)        | 1.1 Nm                        | Shaft height             | 48                                                                                          |
| Rated current               | 1.9 A                         | Cooling                  | Natural cooling                                                                             |
| Static torque (60 K)        | 1.30 Nm                       | Radial runout tolerance  | 0.040 mm                                                                                    |
| Static torque (100 K)       | 1.60 Nm                       | Concentricity tolerance  | 0.08 mm                                                                                     |
| Stall current (60 K)        | 1.90 A                        | Axial runout tolerance   | 0.08 mm                                                                                     |
| Stall current (100 K)       | 2.35 A                        | Vibration severity grade | Grade A                                                                                     |
| Moment of inertia           | 1.600 kgcm²                   | Connector size           | 1                                                                                           |
| Efficiency                  | 88.0 %                        | Degree of protection     | IP65 and DE flange IP67                                                                     |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                        |
| Torque constant             | 0.68 Nm/A                     | Temperature monitoring   | Pt1000 temperature sensor                                                                   |
| Voltage constant at 20° C   | 43.4 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                                  |
| Winding resistance at 20° C | 2.87 Ω                        | Color of the housing     | Standard (Anthracite RAL 7016)                                                              |
| Rotating field inductance   | 16.5 mH                       | Holding brake            | without holding brake                                                                       |
| Electrical time constant    | 5.70 ms                       | Shaft end                | Plain shaft                                                                                 |
| Mechanical time constant    | 3.00 ms                       | Encoder system           | Multi-pole resolver (number of pole pairs corresponds to number of pole pairs of the motor) |
| Thermal time constant       | 25 min                        |                          |                                                                                             |
| Shaft torsional stiffness   | 18700 Nm/rad                  |                          |                                                                                             |
| Net weight of the motor     | 3.2 kg                        |                          |                                                                                             |



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| Optimum operating point           |          | Recommended Motor Module |         |
|-----------------------------------|----------|--------------------------|---------|
| Optimum speed                     | 6000 rpm | Rated inverter current   | 3 A     |
| Optimum power                     | 0.7 kW   | Maximum inverter current | 9 A     |
| Limiting data                     |          | Maximum torque           | 5.10 Nm |
| Max. permissible speed (mech.)    | 9000 rpm |                          |         |
| Max. permissible speed (inverter) | 9000 rpm |                          |         |
| Maximum torque                    | 5.1 Nm   |                          |         |
| Maximum current                   | 7.7 A    |                          |         |