

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data                      1FK7043-4CF21-1AA0

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

Item no. :  
Consignment no. :  
Project :

| Engineering data            |                               | Mechanical data          |                                                                                  |
|-----------------------------|-------------------------------|--------------------------|----------------------------------------------------------------------------------|
| Rated speed (100 K)         | 3000 rpm                      | Motor type               | Permanent-magnet synchronous motor                                               |
| Number of poles             | 6                             | Motor type               | High Dynamic                                                                     |
| Rated torque (100 K)        | 3.0 Nm                        | Shaft height             | 48                                                                               |
| Rated current               | 3.7 A                         | Cooling                  | Natural cooling                                                                  |
| Static torque (60 K)        | 2.90 Nm                       | Radial runout tolerance  | 0.040 mm                                                                         |
| Static torque (100 K)       | 3.3 Nm                        | Concentricity tolerance  | 0.08 mm                                                                          |
| Stall current (60 K)        | 3.30 A                        | Axial runout tolerance   | 0.08 mm                                                                          |
| Stall current (100 K)       | 3.90 A                        | Vibration severity grade | Grade A                                                                          |
| Moment of inertia           | 1.000 kgcm <sup>2</sup>       | 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             | 0.84 Nm/A                     | Temperature monitoring   | KTY84 temperature sensor in the stator winding                                   |
| Voltage constant at 20° C   | 54.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                       |
| Winding resistance at 20° C | 1.20 Ω                        | Color of the housing     | Standard (Anthracite RAL 7016)                                                   |
| Rotating field inductance   | 13.6 mH                       | Holding brake            | without holding brake                                                            |
| Electrical time constant    | 11.30 ms                      | Shaft extension          | Feather key                                                                      |
| Mechanical time constant    | 0.50 ms                       | Encoder system           | Encoder IC2048S/R: incremental encoder sin/cos 1 Vpp 2048 S/R with C and D track |
| Thermal time constant       | 40 min                        |                          |                                                                                  |
| Shaft torsional stiffness   | 11400 Nm/rad                  |                          |                                                                                  |
| Net weight of the motor     | 6.0 kg                        |                          |                                                                                  |



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| Optimum operating point           |          | Recommended Motor Module |         |
|-----------------------------------|----------|--------------------------|---------|
| Optimum speed                     | 3000 rpm | Rated inverter current   | 4 A     |
| Optimum power                     | 0.9 kW   | Maximum inverter current | 8 A     |
| Limiting data                     |          | Maximum torque           | 6.60 Nm |
| Max. permissible speed (mech.)    | 9000 rpm |                          |         |
| Max. permissible speed (inverter) | 5350 rpm |                          |         |
| Maximum torque                    | 10.0 Nm  |                          |         |
| Maximum current                   | 12.5 A   |                          |         |