

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data                      1FK7105-2AF71-1EG0-Z  
N16

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             | 8                              | Motor type               | Compact                                                                                         |
| Rated torque (100 K)        | 26.0 Nm                        | Shaft height             | 100                                                                                             |
| Rated current               | 18.0 A                         | Cooling                  | Natural cooling                                                                                 |
| Static torque (60 K)        | 40.00 Nm                       | Radial runout tolerance  | 0.050 mm                                                                                        |
| Static torque (100 K)       | 48.00 Nm                       | Concentricity tolerance  | 0.10 mm                                                                                         |
| Stall current (60 K)        | 25.00 A                        | Axial runout tolerance   | 0.10 mm                                                                                         |
| Stall current (100 K)       | 31.00 A                        | Vibration severity grade | Grade A                                                                                         |
| Moment of inertia           | 154.000 kgcm²                  | Connector size           | 1.5                                                                                             |
| Efficiency                  | 94.0 %                         | Degree of protection     | IP64                                                                                            |
| Physical constants          |                                | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                            |
| Torque constant             | 1.55 Nm/A                      | Temperature monitoring   | KTY84 temperature sensor in the stator winding                                                  |
| Voltage constant at 20° C   | 102.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                                      |
| Winding resistance at 20° C | 0.07 Ω                         | Color of the housing     | Standard (Anthracite RAL 7016)                                                                  |
| Rotating field inductance   | 1.9 mH                         | Holding brake            | without holding brake                                                                           |
| Electrical time constant    | 26.00 ms                       | Shaft end                | Plain shaft                                                                                     |
| Mechanical time constant    | 1.40 ms                        | Encoder system           | Encoder AM2048S/R: absolute encoder 2048 S/R, 4096 revolutions multi-turn, with EnDat interface |
| Thermal time constant       | 70 min                         |                          |                                                                                                 |
| Shaft torsional stiffness   | 125000 Nm/rad                  |                          |                                                                                                 |
| Net weight of the motor     | 39.0 kg                        |                          |                                                                                                 |



Figure similar

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| Optimum operating point           |          | Recommended Motor Module |                                                                              |
|-----------------------------------|----------|--------------------------|------------------------------------------------------------------------------|
| Optimum speed                     | 3000 rpm | Rated inverter current   | 30 A                                                                         |
| Optimum power                     | 8.2 kW   | Maximum inverter current | 90 A                                                                         |
| Limiting data                     |          | Maximum torque           | 129.70 Nm                                                                    |
| Max. permissible speed (mech.)    | 5000 rpm | Special design           |                                                                              |
| Max. permissible speed (inverter) | 5000 rpm | N16                      | Nickel plated connectors and paint varnish for increased chemical resistance |
| Maximum torque                    | 150.0 Nm |                          |                                                                              |
| Maximum current                   | 109.0 A  |                          |                                                                              |