

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7084-2AC71-1QG0

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

Item no. :  
Consignment no. :  
Project :

| Engineering data            |                                | Mechanical data          |                                                       |
|-----------------------------|--------------------------------|--------------------------|-------------------------------------------------------|
| Rated speed (100 K)         | 2000 rpm                       | Motor type               | Permanent-magnet synchronous motor                    |
| Number of poles             | 8                              | Motor type               | Compact                                               |
| Rated torque (100 K)        | 15.0 Nm                        | Shaft height             | 80                                                    |
| Rated current               | 6.7 A                          | Cooling                  | Natural cooling                                       |
| Static torque (60 K)        | 16.60 Nm                       | Radial runout tolerance  | 0.050 mm                                              |
| Static torque (100 K)       | 20.00 Nm                       | Concentricity tolerance  | 0.10 mm                                               |
| Stall current (60 K)        | 6.90 A                         | Axial runout tolerance   | 0.10 mm                                               |
| Stall current (100 K)       | 8.50 A                         | Vibration severity grade | Grade A                                               |
| Moment of inertia           | 32.500 kgcm <sup>2</sup>       | Connector size           | 1                                                     |
| Efficiency                  | 93.0 %                         | Degree of protection     | IP64                                                  |
| Physical constants          |                                | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                  |
| Torque constant             | 2.36 Nm/A                      | Temperature monitoring   | Pt1000 temperature sensor                             |
| Voltage constant at 20° C   | 152.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable            |
| Winding resistance at 20° C | 0.58 Ω                         | Color of the housing     | Standard (Anthracite RAL 7016)                        |
| Rotating field inductance   | 12.0 mH                        | Holding brake            | without holding brake                                 |
| Electrical time constant    | 20.50 ms                       | Shaft end                | Plain shaft                                           |
| Mechanical time constant    | 1.02 ms                        | Encoder system           | Encoder AS20DQI: absolute encoder single-turn 20 bits |
| Thermal time constant       | 55 min                         |                          |                                                       |
| Shaft torsional stiffness   | 93000 Nm/rad                   |                          |                                                       |
| Net weight of the motor     | 18.3 kg                        |                          |                                                       |



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| Optimum operating point           |          | Recommended Motor Module |          |
|-----------------------------------|----------|--------------------------|----------|
| Optimum speed                     | 2000 rpm | Rated inverter current   | 9 A      |
| Optimum power                     | 3.1 kW   | Maximum inverter current | 27 A     |
| Limiting data                     |          | Maximum torque           | 58.40 Nm |
| Max. permissible speed (mech.)    | 6000 rpm |                          |          |
| Max. permissible speed (inverter) | 3800 rpm |                          |          |
| Maximum torque                    | 61.0 Nm  |                          |          |
| Maximum current                   | 28.5 A   |                          |          |