

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data 1FK7081-2AH71-1CG2

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

Item no. :  
Consignment no. :  
Project :

| Engineering data            |                               | Mechanical data          |                                                                                                                                                     |
|-----------------------------|-------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated speed (100 K)         | 4500 rpm                      | Motor type               | Permanent-magnet synchronous motor                                                                                                                  |
| Number of poles             | 8                             | Motor type               | Compact                                                                                                                                             |
| Rated torque (100 K)        | 3.8 Nm                        | Shaft height             | 80                                                                                                                                                  |
| Rated current               | 4.9 A                         | Cooling                  | Natural cooling                                                                                                                                     |
| Static torque (60 K)        | 10.00 Nm                      | Radial runout tolerance  | 0.050 mm                                                                                                                                            |
| Static torque (100 K)       | 12.0 Nm                       | Concentricity tolerance  | 0.10 mm                                                                                                                                             |
| Stall current (60 K)        | 10.60 A                       | Axial runout tolerance   | 0.10 mm                                                                                                                                             |
| Stall current (100 K)       | 13.10 A                       | Vibration severity grade | Grade A                                                                                                                                             |
| Moment of inertia           | 20.000 kgcm²                  | Connector size           | 1                                                                                                                                                   |
| Efficiency                  | 93.0 %                        | Degree of protection     | IP65 and DE flange IP67                                                                                                                             |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                                                                                |
| Torque constant             | 0.92 Nm/A                     | Temperature monitoring   | Pt1000 temperature sensor                                                                                                                           |
| Voltage constant at 20° C   | 59.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                                                                                          |
| Winding resistance at 20° C | 0.19 Ω                        | Color of the housing     | Standard (Anthracite RAL 7016)                                                                                                                      |
| Rotating field inductance   | 3.4 mH                        | Holding brake            | without holding brake                                                                                                                               |
| Electrical time constant    | 17.90 ms                      | Shaft extension          | Plain shaft                                                                                                                                         |
| Mechanical time constant    | 1.36 ms                       | Encoder system           | Encoder AM24DQI: absolute encoder 24 bits (resolution 16777216, encoder-internal 2048 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |
| Thermal time constant       | 45 min                        |                          |                                                                                                                                                     |
| Shaft torsional stiffness   | 109000 Nm/rad                 |                          |                                                                                                                                                     |
| Net weight of the motor     | 12.9 kg                       |                          |                                                                                                                                                     |



Figure similar

MLFB-Ordering data                      1FK7081-2AH71-1CG2

| Optimum operating point           |          | Recommended Motor Module |          |
|-----------------------------------|----------|--------------------------|----------|
| Optimum speed                     | 3000 rpm | Rated inverter current   | 18 A     |
| Optimum power                     | 2.8 kW   | Maximum inverter current | 54 A     |
| Limiting data                     |          | Maximum torque           | 37.00 Nm |
| Max. permissible speed (mech.)    | 6000 rpm |                          |          |
| Max. permissible speed (inverter) | 6000 rpm |                          |          |
| Maximum torque                    | 37.0 Nm  |                          |          |
| Maximum current                   | 45.0 A   |                          |          |