

## Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7043-4CH71-1PA1

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             | 6                             | Motor type               | High Dynamic   |
| Rated torque (100 K)        | 2.6 Nm                        | Shaft height             | 48   |
| Rated current               | 3.3 A                         | Cooling                  | Natural cooling  |
| Static torque (60 K)        | 2.90 Nm                       | Radial runout tolerance  | 0.040 mm   |
| Static torque (100 K)       | 3.5 Nm                        | Concentricity tolerance  | 0.08 mm  |
| Stall current (60 K)        | 3.30 A                        | Axial runout tolerance   | 0.08 mm  |
| Stall current (100 K)       | 4.10 A                        | Vibration severity grade | Grade A  |
| Moment of inertia           | 1.000 kgcm <sup>2</sup>       | Connector size           | 1  |
| Efficiency                  | 90.0 %                        | Degree of protection     | IP65   |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)   |
| Torque constant             | 0.85 Nm/A                     | Temperature monitoring   | Pt1000 temperature sensor  |
| 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    | 0.49 ms                       | Encoder system           | Resolver R14DQ: resolver 14 bits (resolution 16384, internal 2-pole) |
| Thermal time constant       | 40 min                        |                          |  |
| Shaft torsional stiffness   | 11400 Nm/rad                  |                          |  |
| Net weight of the motor     | 6.0 kg                        |                          |  |



Figure similar

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| Optimum operating point           |          | Recommended Motor Module |          |
|-----------------------------------|----------|--------------------------|----------|
| Optimum speed                     | 4500 rpm | Rated inverter current   | 5 A      |
| Optimum power                     | 1.2 kW   | Maximum inverter current | 15 A     |
| Limiting data                     |          | Maximum torque           | 10.00 Nm |
| Max. permissible speed (mech.)    | 9000 rpm |                          |          |
| Max. permissible speed (inverter) | 9000 rpm |                          |          |
| Maximum torque                    | 10.0 Nm  |                          |          |
| Maximum current                   | 12.5 A   |                          |          |