

## Data sheet for SIMOTICS S-1FT7

MLFB-Ordering data

1FT7105-5AB70-1CA0



Figure similar

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Engineering data            |                                | Mechanical data          |                                                                                                                                                                                |
|-----------------------------|--------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated speed                 | 1500 rpm                       | Motor type               | Permanent-magnet synchronous motor                                                                                                                                             |
| Number of poles             | 10                             | Design of the motor type | Compact                                                                                                                                                                        |
| Rated torque (100 K)        | 42.0 Nm                        | Shaft height             | 100 mm                                                                                                                                                                         |
| Rated current               | 13.0 A                         | Cooling                  | Natural cooling                                                                                                                                                                |
| Static torque (60 K)        | 41.00 Nm                       | Radial runout tolerance  | N                                                                                                                                                                              |
| Static torque (100 K)       | 50.0 Nm                        | Vibration severity grade | Grade A                                                                                                                                                                        |
| Stall current (60 K)        | 12.0 A                         | Degree of protection     | IP64                                                                                                                                                                           |
| Stall current (100 K)       | 15.0 A                         | Design acc. to Code I    | IM B5 (new flange design)                                                                                                                                                      |
| Rotor moment of inertia     | 0.0178000 kgm <sup>2</sup>     | Temperature monitoring   | Pt1000 temperature sensor                                                                                                                                                      |
| Efficiency                  | 93.0 %                         | Color of the housing     | Standard (pearl dark gray similar to RAL 9023)                                                                                                                                 |
| Physical constants          |                                | Holding brake version    | no value                                                                                                                                                                       |
| Torque constant             | 3.33 Nm/A                      | Shaft end type           | Fitted key and keyway                                                                                                                                                          |
| Voltage constant at 20° C   | 214.0 V/1000*min <sup>-1</sup> | Sensor design            | Encoder AM24DQI: Absolute encoder 24 bit (resolution 16777216, encoder-internal 2048 S/R) + 12 bit Multiturn (traversing range 4096 revolutions) - with signal connection RJ45 |
| Winding resistance at 20° C | 0.26 Ω                         |                          |                                                                                                                                                                                |
| Rotating field inductance   | 6.8 mH                         |                          |                                                                                                                                                                                |
| Electrical time constant    | 27.00 ms                       |                          |                                                                                                                                                                                |
| Mechanical time constant    | 1.20 ms                        | Electrical connectors    | Connector turnable                                                                                                                                                             |
| Thermal time constant       | 80 min                         | Connector size           | 1.5                                                                                                                                                                            |
| Shaft torsional stiffness   | 107000 Nm/rad                  |                          |                                                                                                                                                                                |
| Net weight of the motor     | 44.2 kg                        |                          |                                                                                                                                                                                |



Figure similar

| Optimum operating point           |          | Recommended Motor Module |           |
|-----------------------------------|----------|--------------------------|-----------|
| Optimum speed                     | 1500 rpm | Rated inverter current   | 18 A      |
| Optimum power                     | 6.6 kW   | Maximum inverter current | 54 A      |
| Limiting data                     |          | Maximum torque           | 165.00 Nm |
| Max. permissible speed (mech.)    | 6000 rpm |                          |           |
| Max. permissible speed (inverter) | 2670 rpm |                          |           |
| Maximum torque                    | 200.0 Nm |                          |           |
| Maximum current                   | 67.0 A   |                          |           |