

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data1FK7060-5AF71-1DH0



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)        | 4.7 Nm                        | Shaft height             | 63                                                                                                                         |
| Rated current               | 3.7 A                         | Cooling                  | Natural cooling                                                                                                            |
| Static torque (60 K)        | 5.00 Nm                       | Radial runout tolerance  | 0.040 mm                                                                                                                   |
| Static torque (100 K)       | 6.00 Nm                       | Concentricity tolerance  | 0.10 mm                                                                                                                    |
| Stall current (60 K)        | 3.70 A                        | Axial runout tolerance   | 0.10 mm                                                                                                                    |
| Stall current (100 K)       | 4.50 A                        | Vibration severity grade | Grade A                                                                                                                    |
| Moment of inertia           | 10.200 kgcm²                  | Connector size           | 1                                                                                                                          |
| Efficiency                  | 90.0 %                        | Degree of protection     | IP64                                                                                                                       |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                                                       |
| Torque constant             | 1.33 Nm/A                     | Temperature monitoring   | KTY84 temperature sensor in the stator winding                                                                             |
| Voltage constant at 20° C   | 84.5 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                                                                 |
| Winding resistance at 20° C | 1.44 Ω                        | Color of the housing     | without                                                                                                                    |
| Rotating field inductance   | 14.7 mH                       | Holding brake            | with holding brake                                                                                                         |
| Electrical time constant    | 10.20 ms                      | Shaft end                | Plain shaft                                                                                                                |
| Mechanical time constant    | 1.94 ms                       | Encoder system           | Encoder IC22DQ: incremental encoder 22 bits (resolution 4194304, encoder-internal 2048 S/R) + commutation position 11 bits |
| Thermal time constant       | 30 min                        |                          |                                                                                                                            |
| Shaft torsional stiffness   | 42000 Nm/rad                  |                          |                                                                                                                            |
| Net weight of the motor     | 8.0 kg                        |                          |                                                                                                                            |

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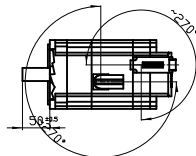
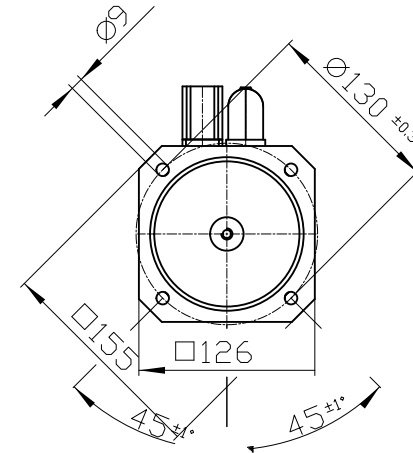
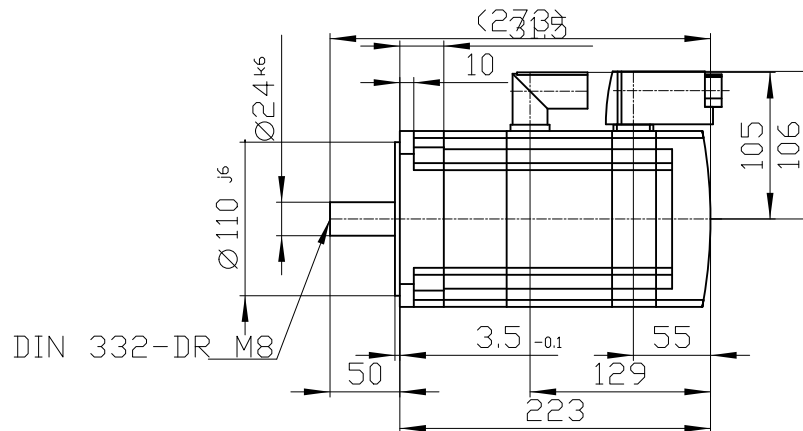
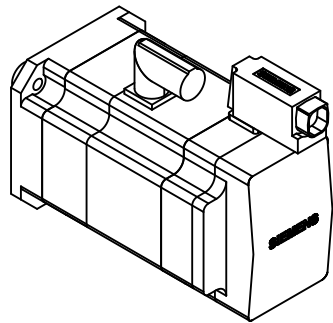
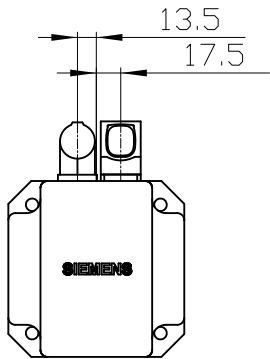
| Optimum operating point           |                        | Recommended Motor Module |          |
|-----------------------------------|------------------------|--------------------------|----------|
| Optimum speed                     | 3000 rpm               | Rated inverter current   | 5 A      |
| Optimum power                     | 1.5 kW                 | Maximum inverter current | 10 A     |
| Limiting data                     |                        | Maximum torque           | 13.20 Nm |
| Max. permissible speed (mech.)    | 7200 rpm               |                          |          |
| Max. permissible speed (inverter) | 6800 rpm               |                          |          |
| Maximum torque                    | 18.0 Nm                |                          |          |
| Maximum current                   | 15.0 A                 |                          |          |
| Holding brake                     |                        |                          |          |
| Holding brake version             | Permanent-magnet brake |                          |          |
| Holding torque                    | 13.0 Nm                |                          |          |
| Power supply voltage              | DC 24 V ± 10 %         |                          |          |
| Coil current                      | 0.8 A                  |                          |          |
| Opening time                      | 100 ms                 |                          |          |
| Closing time                      | 50 ms                  |                          |          |
| Highest braking work              | 380 J                  |                          |          |

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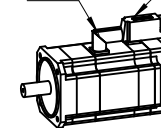
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Cada-drawing do not make any manual changes



Connector size 1 = M23;  
6-pole for power and brake

10-pole RJ45 socket



|            |         |                    |
|------------|---------|--------------------|
|            | -       |                    |
|            | -       |                    |
| Unit       | mm [in] | 1FK7060-5AF71-1DH0 |
| Date       | 3/29/23 |                    |
| SIEMENS AG |         | -                  |
| -          |         | DT                 |