

Data sheet for SIMOTICS S-1FK7

MLFB-Ordering data 1FK7101-5AF71-1KH0



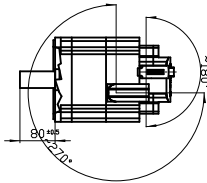
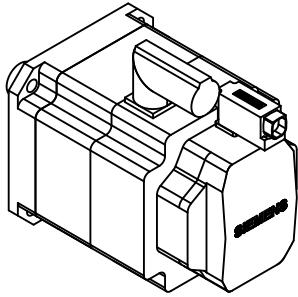
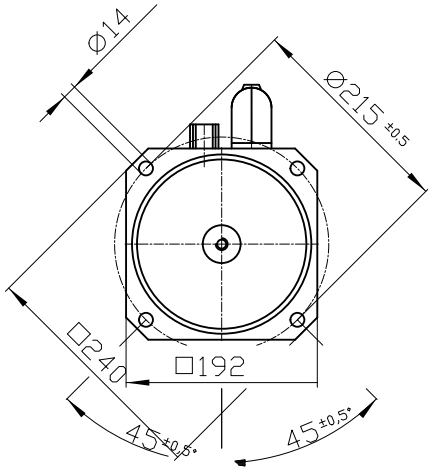
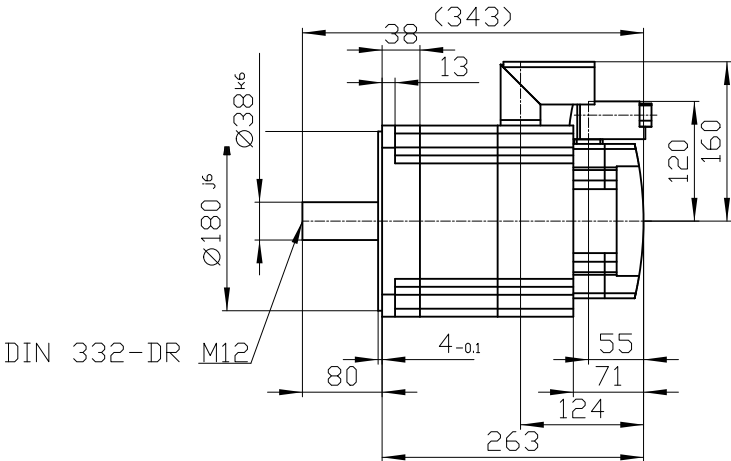
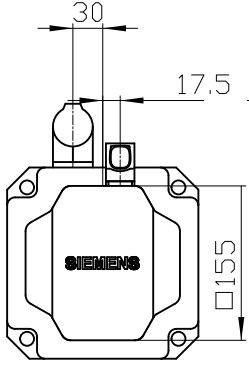
Client order no. :  
Order no. :  
Offer no. :  
Remarks :

Item no. :  
Consignment no. :  
Project :

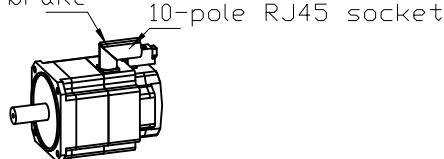
| Engineering data            |                               | Mechanical data          |                                                                                                                                               |
|-----------------------------|-------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Rated speed (100 K)         | 3000 rpm                      | Motor type               | Permanent-magnet synchronous motor                                                                                                            |
| Number of poles             | 8                             | Motor type               | Compact                                                                                                                                       |
| Rated torque (100 K)        | 15.5 Nm                       | Shaft height             | 100                                                                                                                                           |
| Rated current               | 11.8 A                        | Cooling                  | Natural cooling                                                                                                                               |
| Static torque (60 K)        | 22.40 Nm                      | Radial runout tolerance  | 0.050 mm                                                                                                                                      |
| Static torque (100 K)       | 27.00 Nm                      | Concentricity tolerance  | 0.10 mm                                                                                                                                       |
| Stall current (60 K)        | 15.70 A                       | Axial runout tolerance   | 0.10 mm                                                                                                                                       |
| Stall current (100 K)       | 19.00 A                       | Vibration severity grade | Grade A                                                                                                                                       |
| Moment of inertia           | 92.300 kgcm²                  | Connector size           | 1.5                                                                                                                                           |
| Efficiency                  | 93.0 %                        | Degree of protection     | IP64                                                                                                                                          |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                                                                          |
| Torque constant             | 1.41 Nm/A                     | Temperature monitoring   | KTY84 temperature sensor in the stator winding                                                                                                |
| Voltage constant at 20° C   | 90.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                                                                                    |
| Winding resistance at 20° C | 0.15 Ω                        | Color of the housing     | without                                                                                                                                       |
| Rotating field inductance   | 3.0 mH                        | Holding brake            | with holding brake                                                                                                                            |
| Electrical time constant    | 20.00 ms                      | Shaft end                | Plain shaft                                                                                                                                   |
| Mechanical time constant    | 1.80 ms                       | Encoder system           | Encoder AM16DQ: absolute encoder 16 bits (resolution 65536, encoder-internal 32 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |
| Thermal time constant       | 60 min                        |                          |                                                                                                                                               |
| Shaft torsional stiffness   | 165000 Nm/rad                 |                          |                                                                                                                                               |
| Net weight of the motor     | 24.0 kg                       |                          |                                                                                                                                               |

MLFB-Ordering data1FK7101-5AF71-1KH0

| Optimum operating point           |                        | Recommended Motor Module |          |
|-----------------------------------|------------------------|--------------------------|----------|
| Optimum speed                     | 3000 rpm               | Rated inverter current   | 18 A     |
| Optimum power                     | 4.9 kW                 | Maximum inverter current | 36 A     |
| Limiting data                     |                        | Maximum torque           | 51.00 Nm |
| Max. permissible speed (mech.)    | 5000 rpm               |                          |          |
| Max. permissible speed (inverter) | 6400 rpm               |                          |          |
| Maximum torque                    | 80.0 Nm                |                          |          |
| Maximum current                   | 63.0 A                 |                          |          |
| Holding brake                     |                        |                          |          |
| Holding brake version             | Permanent-magnet brake |                          |          |
| Holding torque                    | 43.0 Nm                |                          |          |
| Power supply voltage              | DC 24 V ± 10 %         |                          |          |
| Coil current                      | 1.0 A                  |                          |          |
| Opening time                      | 300 ms                 |                          |          |
| Closing time                      | 70 ms                  |                          |          |
| Highest braking work              | 3380 J                 |                          |          |



Connector size 1.5 = M40;  
6-pole for power and brake



|      |         |                    |  |
|------|---------|--------------------|--|
|      |         | 1FK7101-5AF71-1KH0 |  |
| Unit | mm [in] | SIEMENS AG         |  |
| Date | 7/27/23 | DT                 |  |

Confie a titre de secret d'entreprise. Tous droits réservés.  
Confidado como secreto industrial. Nos reservamos todos los derechos  
Comunicado como segredo empresarial. Reservados todos os direitos

Weitergabe sowie Vervielfältigung dieser Unterlage. Verwer-  
tung und Mitteilung ihres Inhalts nicht gestattet, soweit nicht  
ausdrücklich zugestanden. Zuwiderhandlungen verpflichten  
zu Schadenersatz. Alle Rechte vorbehalten, insbesondere fuer  
den Fall der Patenterteilung oder der Eintragung

The reproduction or use of this document or its  
contents is not permitted without express written authority.  
Diffenders will be liable for damages. All rights, including rights  
created by patent grant or registration of a utility model or design,  
are reserved.

Copyright© Siemens AG 2005  
Cada-drawing do not make any  
manual changes