

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

PRODUCT BRAND

Siemens

PRODUCT MODEL

1FK7042-5AF71-1FH2

SIMOTICS S 1FK7 Compact synchronous servo motor, 3.0 Nm, 3000 rpm and 0.82 kW, with DRIVE-CLiQ encoder and holding brake.

OFFICIAL SOURCE

Synchronous Motors 1FK7 Operating Instructions

610.40700.40c

[Open current Siemens source](#)

Installation

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5.1 Installation

 CAUTION
Temperature-sensitive parts Some parts of the electrical motor enclosure can reach temperatures that exceed 100 °C. Temperature-sensitive components, e.g. cables, etc., can be damaged if they come into direct contact with the motor enclosure. When arranging temperature-sensitive components, ensure that they do not come into contact with the motor enclosure.
CAUTION
Shaft extension When installing and mounting the motor, ensure that the shaft extension is protected against impact and pressure.
Note Observe the technical data on the labeling plates on the motor enclosure.

The following must be taken into account when installing motors

- Observe the data on the rating plate, as well as the warning and information plates on the motor.
- Observe permissible radial and axial forces (refer to the configuration manual). Axial forces are not permitted for motors equipped with an integrated brake.
- Check that the motors comply with the conditions (e.g. temperature, installation altitude) at the installation location.
- Their use is prohibited in hazardous zones and areas.
- Ensure that the shaft extension is completely free of any anti-corrosion protection (use a commercially available solvent).
- For natural-cooled motors, it must be ensured that thermal losses can be properly dissipated (see the chapter titled "Cooling").
- If the motor is installed vertically with the shaft extension facing up, ensure that no liquid can enter the upper bearing.

Connecting

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6.1 Electrical connection

6.1.1 Safety instructions

 DANGER
Risk of electric shock When the rotor is turning, a voltage of approx. 300 V is available at the motor terminals. All work performed on electrical components must be carried out when the motor is at a standstill. This also applies to auxiliary circuits. Converters and connectors must only be installed by appropriately trained personnel. The connectors may only be installed or removed when the equipment is in a no-voltage condition. Regulations regarding work carried out in electrical installations must be observed.
CAUTION
Electrostatic sensitive devices The motor contains electrostatic sensitive devices. Touching signal connections with electrostatically charged hands or tools can result in malfunctions. Note the ESD protection measures.

Safety regulations for work performed in electrical installations to EN 50110-1 (DIN VDE 0105-100):

- Disconnect the system.
- Protect against reconnection.
- Make sure that the equipment is de-energized and in a no-voltage condition.
- Ground and short-circuit.
- Cover or enclose adjacent components that are still live.

- All fixing screws, connecting elements, and electrical connections are tight and have been attached properly.
- The transmission elements have the proper setting conditions according to type, for example:
 - Couplings are aligned and balanced.
 - The belt tension is properly adjusted if a belt drive is used.
 - Gear tooth flank play and gear tooth tip play as well as radial play are properly adjusted if a gear drive is used.

Electrical connection

Make sure that:

- The grounding and equipotential bonding connections have been established correctly.
- The brake is operating perfectly.
- The specified speed limit n_{max} is not exceeded when operated from a converter.

Monitoring equipment

Make sure that:

- Appropriately configured control and speed monitoring functions are being used to ensure that the motor cannot exceed the permissible speeds specified on the rating plate.
- Any supplementary motor monitoring devices and equipment have been correctly connected and are fully functional.

Brake (optional)

Make sure that:

- Applying the operating voltage causes the brake to open.
- The brake functions (opens, closes) correctly.