

Installation Instructions

VLT[®] 2800 Safety Instructions

Safety

Safety Symbols

The following symbols are used in this document:

⚠ WARNING

Indicates a potentially hazardous situation which could result in death or serious injury.

⚠ CAUTION

Indicates a potentially hazardous situation which could result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE

Indicates important information, including situations that may result in damage to equipment or property.

Qualified Personnel

Correct and reliable transport, storage, installation, operation and maintenance are required for the trouble-free and safe operation of the frequency converter. Only qualified personnel is allowed to install or operate this equipment.

Qualified personnel is defined as trained staff, who are authorised to install, commission, and maintain equipment, systems and circuits in accordance with pertinent laws and regulations. Additionally, the personnel must be familiar with the instructions and safety measures described in this document.

Safety Precautions

⚠ WARNING

HIGH VOLTAGE

Frequency converters contain high voltage when connected to AC mains input, DC power supply, or load sharing. Failure to perform installation, start-up, and maintenance by qualified personnel can result in death or serious injury.

- Installation, start-up, and maintenance must be performed by qualified personnel only.

⚠ WARNING

UNINTENDED START

When the frequency converter is connected to AC mains, DC power supply, or load sharing, the motor may start at any time. Unintended start during programming, service or repair work can result in death, serious injury, or property damage. The motor can start by means of an external switch, a serial bus command, an input reference signal from the LCP or LOP, via remote operation using MCT 10 software, or after a cleared fault condition.

To prevent unintended motor start:

- Disconnect the frequency converter from mains.
- Press [Off/Reset] on the LCP, before programming parameters.
- The frequency converter, motor, and any driven equipment must be fully wired and assembled when the frequency converter is connected to AC mains, DC power supply, or load sharing.

Discharge Time

⚠ WARNING

DISCHARGE TIME

The frequency converter contains DC-link capacitors, which can remain charged even when the frequency converter is not powered. Failure to wait the specified time after power has been removed before performing service or repair work, can result in death or serious injury.

- Stop motor.
- Disconnect AC mains and remote DC-link power supplies, including battery back-ups, UPS, and DC-link connections to other frequency converters.
- Disconnect or lock PM motor.
- Wait at least 4 minutes for the capacitors to discharge fully, before performing any service or repair work.

⚠ WARNING

LEAKAGE CURRENT HAZARD

Leakage currents exceed 3.5 mA. Failure to ground the frequency converter properly can result in death or serious injury.

- Ensure correct grounding of the equipment by a certified electrical installer.

⚠ WARNING

EQUIPMENT HAZARD

Contact with rotating shafts and electrical equipment can result in death or serious injury.

- Ensure that only trained and qualified personnel perform installation, start up, and maintenance.
- Ensure that electrical work conforms to national and local electrical codes.
- Follow the procedures in this manual.

⚠ CAUTION

INTERNAL FAILURE HAZARD

An internal failure in the frequency converter can result in serious injury, when the frequency converter is not properly closed.

- Before applying power, ensure all safety covers are in place and securely fastened.

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NOTICE

HIGH ALTITUDES

For installation at altitudes above 2,000 m, contact Danfoss regarding PELV.

NOTICE

Use on Isolated Mains

For details about the use of the frequency converter on isolated mains, refer to section *RFI Switch* in the *Design Guide*.

Follow the recommendations regarding the installation on IT-mains. Use relevant monitoring devices for IT-mains to avoid damage.