# Danfoss iC7-Automation Configurators User Guide



Contents



## Danfoss iC7-Automation Configurators

## Product Information

### Specifications

- Product Name: iC7 Series Frequency Converters
- Manufacturer: Danfoss
- Safety Features: Multiple safety warnings and precautions

## Product Usage Instructions

1. Installation Safety
   Before installing the iC7 Series Frequency Converters, ensure you have read and understood all safety instructions provided in the manual.
2. Powering On
   Ensure the power source is compatible with the converter's requirements. Connect the converter following the installation guidelines provided.
3. Operation
   Follow the operational instructions provided in the user manual to set up and operate the frequency converter effectively.
4. Maintenance
   Regularly inspect the converter for any signs of wear or damage. Follow maintenance procedures outlined in the manual to ensure optimal performance.

### FAQ

- Q: What should I do if I encounter a warning message while using the iC7 Series Frequency Converters?
  **A:** If you encounter a warning message, immediately stop using the converter and refer to the user manual for guidance on how to address the specific warning.
- Q: How can I troubleshoot common issues with the frequency converter?
  **A:** Refer to the troubleshooting section in the user manual for step-by-step instructions on identifying and resolving common issues that may arise during usage.

### Scan to access more documentation

## Installation Safety Instructions

### Overview

This safety guide is to be used only to install the drive. When programming or operating the drive, refer to the application guide or operating guide for applicable safety instructions. To install this product safely:

- Check that the content of the delivery is correct and complete.
- Never install or start up damaged units. File a complaint immediately to the shipping company, if you receive a damaged unit.
- Follow the instructions provided in this safety guide and the accompanying installation guide.
- Make sure that all personnel working on or with the drive have read and understood this guide and any additional product manuals. Contact Danfoss if you are unclear of the given information, or if you are missing information.

**Target Group and Necessary Qualifications**
Correct and reliable transport, storage, installation, operation, and maintenance are required for the trouble-free and safe operation of the drive. Only skilled personnel are allowed to perform all related activities for these tasks. Skilled personnel are defined as properly trained staff, who are familiar with and authorized to install, commission, and maintain equipment, systems, and circuits following pertinent laws and regulations. Also, the skilled personnel must be familiar with the instructions and safety measures described in this manual and the other product-specific manuals. Non-skilled electricians are not allowed to perform any electrical installation and troubleshooting activities. Only Danfoss-authorized, skilled personnel are allowed to repair this equipment. Further training is required to perform the activities related to repair.

**Safety Symbols**

| ⚠ DANGER ⚠ |
| --- |
| Indicates a hazardous situation which, if not avoided, will result in death or serious injury. |

| ⚠ WARNING ⚠ |
| --- |
| Indicates a hazardous situation which, if not avoided, could result in death or serious injury. |

| ⚠ CAUTION ⚠ |
| --- |
| Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. |

| NOTICE |
| --- |
| Indicates information considered important, but not hazard-related (for example, messages relating to property damage). |

**General Safety Precautions**

**WARNING**
**LACK OF SAFETY AWARENESS**
This guide provides important information on preventing injury and damage to the equipment or the system. Ignoring this information can lead to death, serious injury, or severe damage to the equipment.

- Make sure to fully understand the dangers and safety measures present in the application.
- Before performing any electrical work on the drive, lock out and tag out all power sources to the drive.

**HAZARDOUS VOLTAGE**
AC drives contain hazardous voltage when connected to AC mains or connected on the DC terminals. Failure to perform installation, start-up, and maintenance by qualified personnel can result in death or serious injury.

- Only qualified personnel must perform installation, start-up, and maintenance.

**DISCHARGE TIME**

The drive contains DC-link capacitors, which can remain charged even when the drive is not powered. High voltage can be present even when the warning indicator lights are off. 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 the motor.
- Disconnect all power sources, including permanent magnet-type motors.
- Wait for capacitors to discharge fully. The discharge time is shown on the exterior of the drive.
- Measure the voltage level to verify full discharge.

**WARNING**
**ELECTRIC SHOCK**
AC drives contain hazardous voltage when connected to AC mains, DC terminals, or motors. Failure to disconnect all power sources, including permanent magnet-type motors and DC load sharing, can result in death or serious injury.

**WARNING**
**UNINTENDED START**
When the drive is connected to the AC mains or connected on the DC terminals, the motor may start at any time, causing a risk of death, serious injury, and equipment or property damage.

- Stop the drive and motor before configuring parameters.
- Make sure that the drive cannot be started by an external switch, a Fieldbus command, an input reference signal from the control panel, or after a cleared fault condition.
- Disconnect the drive from the mains whenever safety considerations make it necessary to avoid unintended motor start.
- Check that the drive, motor, and any driven equipment are in operational readiness.

**CAUTION**
**INTERNAL FAILURE HAZARD**

- An internal failure in the drive can result in serious injury when the drive is not properly closed.
- Ensure that all safety covers are in place and securely fastened before applying power.

**Lifting the Drive**
**NOTICE**
**LIFTING HEAVY LOAD**
The weight of the drive is heavy and failure to follow local safety regulations for lifting heavy weights may cause death, personal injury, or property damage.

- Check the weight of the drive. The weight is provided on the outside of the shipping box.
- If needed, ensure that the lifting equipment is in proper working condition and can safely lift the weight of the drive.
- Test lift the unit to verify the proper center of gravity lift point. Reposition if not level.

**Electrical Installation Precautions**
Before you do electrical work on the drive, lock out and tag out all power sources to the drive.

**ELECTRICAL SHOCK AND FIRE HAZARD**
The drive can cause a DC in the PE conductor. Failure to use a Type B residual current-operated protective device

{RCD) may lead to the RCD not providing the intended protection and therefore may result in death, fire, or other serious hazard.

- Ensure an RCD device is used.
- When an RCD is used for protection against electrical shock or fire, use only a Type B device on the supply side.

**WARNING**
**INDUCED VOLTAGE**
Induced voltage from output motor cables that run together can charge equipment capacitors, even with the equipment turned off and locked out. Failure to run output motor cables separately or to use shielded cables could result in death or serious injury.

- Run output motor cables separately or use shielded cables.
- Simultaneously lock out all the drives.

**ELECTRICAL SHOCK HAZARD – HIGH LEAKAGE CURRENT**
Leakage currents exceed 3.5 mA. Failure to connect the drive properly to the protective earth may result in death or serious injury.

- Ensure reinforced protective earthing (PE) conductor according to IEC 60364-5-54 cl. 543.7 or local safety regulations for equipment with leakage current >3.5 mA.
- PE conductor with a cross-section of at least 10 mm2 Cu or 16 mm2 Al, or an additional PE conductor of the same crosssectional area as the original PE conductor as specified by IEC 60364-5-54, with a minimum cross-sectional area of 2.5 mm2 (mechanical protected) or 4 mm2 (not mechanical protected).
- PE conductor is completely enclosed within an enclosure or otherwise protected throughout its length against mechanical damage.
- PE conductor that is part of a multi-conductor power cable with a minimum PE conductor cross-section of 2.5 mm2 {permanently connected or plugged in by an industrial connector). The multi-conductor power cable must be installed with an appropriate strain relief.

**LEAKAGE CURRENT HAZARD**
Leakage currents exceed 3.5 mA. Failure to ground the drive properly can result in death or serious injury.

- Ensure that the minimum size of the ground conductor complies with the local safety regulations for high touch current equipment.

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## Documents / Resources

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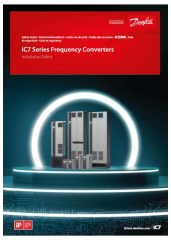
|  | Danfoss iC7-Automation Configurators [pdf] User Guide<br>iC7-Automation Configurators, iC7, Automation Configurators, Configurators |

## References

- User Manual