

## Inverters Varispeed F7 and Varispeed E7

### Safety Precautions and Instructions for Use!

Please read these safety precautions and instructions for use thoroughly before installing and operating this inverter. Also read all of the warning signs on the inverter and ensure they are never damaged or removed.



## Warning!

- ➔ Live and hot inverter components may be accessible during operation. Removal of housing components, the digital operator or terminal covers runs the risk of serious injuries or damage in the event of incorrect installation or operation. The fact that frequency inverters control rotating mechanical machine components can give rise to other dangers.
- ➔ The instructions in this manual must be followed. Installation, operation and maintenance may only be carried out by qualified personnel. For the purposes of the safety precautions, qualified personnel are defined as individuals who are familiar with the installation, starting, operation and maintenance of frequency inverters and have the proper qualifications for this work. Safe operation of these units is only possible if they are used properly for their intended purpose.
- ➔ The DC bus capacitors can remain live from about 5 minutes after the inverter is disconnected from the power. It is therefore necessary to wait for this time before opening its covers. All of the main circuit terminals may still carry dangerous voltages.
- ➔ Children and other unauthorised persons must not be allowed access to these inverters.
- ➔ Keep these Safety Precautions and Instructions for Use readily accessible and supply them to all persons with any form of access to the inverters.

#### Intended Use

Frequency inverters are intended for installation in electrical systems or machinery. Their installation in machinery and systems must conform to the following product standards of the

Low Voltage Directive:

**EN 50178, 1997-10,  
EN 60204-1, 1997-12**

**Electronic equipment for use in power installations  
Safety of machinery - Electrical equipping of machines**

**- Part 1: General requirements**

**Attention: plus Corrigendum September 1998**

**EN 61010-1, A2 1995**

**Safety requirements for electrical equipment for  
measurement, control and laboratory use.**

**Part 1: General requirements**

**(IEC 950, 1991 + A1, 1992 + A2, 1993 + A3,  
1995 + A4, 1996, modified)**

CE certification is carried out to EN 50178, using the line filters specified in the instruction manual (YEG-TOE-S616-55.1 for Varispeed F7 or YEG-TOE-S616-55.1 for Varispeed E7) and following the appropriate installation instructions.

#### Transportation and storage

The instructions for transportation, storage and proper handling must be followed in accordance with the technical data.

## Installation

Install and cool the inverters as specified in the documentation. The cooling air must flow in the specified direction. The inverter may therefore only be operated in the specified position (e.g. upright). Maintain the specified clearances. Protect the inverters against impermissible loads. Components must not be bent nor insulation clearances changed. To avoid damage being caused by static electricity, do not touch any electronic components or contacts.

## Electrical Connection

Carry out any work on live equipment in compliance with the national safety and accident prevention regulations (e.g. VBG 4). Carry out electrical installation in compliance with the relevant regulations. For further information please refer to the User's Manual. In particular, follow the installation instructions ensuring electromagnetic compatibility (EMC), e.g. shielding, grounding, filter arrangement and laying of cables. This also applies to equipment with the CE mark. It is the responsibility of the manufacturer of the system or machine to ensure conformity with EMC limits. Your supplier or Yaskawa representative must be contacted when using leakage current circuit breaker in conjunction with frequency inverters.

In certain systems it may be necessary to use additional monitoring and safety devices in compliance with the relevant safety and accident prevention regulations. The frequency inverter hardware must not be modified.



# Caution!

- ➔ Cables must not be connected or disconnected, nor signal tests carried out, while the power is switched on.
- ➔ Do not perform a withstand voltage test on any part of this inverter. The frequency inverter contains semiconductors, which are not designed for such high voltages.
- ➔ Do not remove the digital operator while the mains supply is switched on. The printed circuit board must also not be touched while the inverter is connected to the power.
- ➔ Never connect general LC/RC interference suppression filters, capacitors or overvoltage protection devices to the inverter input or output.
- ➔ To avoid unnecessary over current faults, etc. being displayed, the signal contacts of any contactor or switch fitted between inverter and motor must be integrated into the inverter control logic (e.g. baseblock).
- ➔ Please do not connect or operate any equipment with visible damage or missing parts. The operating company is responsible for any injuries or equipment damage resulting from failure to heed the warnings in this manual.

A complete manual on CD-ROM is included within this package. A paper copy can be printed directly from this CD-ROM. Of course a printed copy can be ordered from a local sales office or also from our web site <http://www.yaskawa.de>.

## Notes

The VARISPEED F7 and VARISPEED E7 frequency inverters are certified to CE, UL, and c-UL.



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