5 NOMENCLATURA

Table 1: Identified wires and terminals of CFW500

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Description</th>
<th>Color</th>
<th>Voltage</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1...A3</td>
<td>Input power supply</td>
<td>Brown</td>
<td>380-480 V</td>
<td>0-63 A</td>
</tr>
<tr>
<td>B1...B3</td>
<td>Input power supply</td>
<td>Blue</td>
<td>380-480 V</td>
<td>0-63 A</td>
</tr>
<tr>
<td>C1...C3</td>
<td>Input power supply</td>
<td>Black</td>
<td>380-480 V</td>
<td>0-63 A</td>
</tr>
<tr>
<td>D1...D3</td>
<td>Input power supply</td>
<td>White</td>
<td>380-480 V</td>
<td>0-63 A</td>
</tr>
</tbody>
</table>

6 IDENTIFICATION LABEL

Figure 3: Description of the identify label on the CFW500

7 RECEIVING AND STORAGE

The CFW500 is supplied packed in a cardboard box. On this package, there is an identification label which is the same as the one described in the previous section.

ATTENTION!
- The identification card of the CFW500 must be the model purchased.
- In the product, we recommend using transportation. Repairs must be made in the laboratory or in the facilities of WEG.
- For the installation of this product, we recommend diving in a clean and dry location with a temperature between 0°C and 40°C (32°F and 104°F) and a humidity of 5% to 95% non-condensing.

8 INSTALLATION AND CONNECTION

8.1 Environmental conditions

- Indoor exposure to sunlight, rain, high humidity or sea air.
- Uncontrolled or constant loads by-products.
- Excessive vibration.
- Dust, dirt, sand or air in the atmosphere.

Environmental conditions per the operation of the inverter:
- For temperature exceeding the maximum value of the specification in Table 8.1 in the manual, it is necessary to apply the following correction:
- Relative humidity: 0% to 95% (non-condensing).
- Altitude: 0 m to 1200 m (3900 ft).
- Tracking: 0°C to 70°C (32°F to 158°F).
- Pollution degree 2 (I/T 0079 and IEC 61800-3-4).
- Vibration: 20 m/s² (IEC 60068-2-6).

8.2 Positioning and Mounting

The external dimensions and the drilling for the mounting, as well as the net weight (boxed) of the inverter are presented in Table 8.2 in the manual.

ATTENTION!
- In order to avoid possible damages to the inverter, you must first position the lock before the installation.
- Ensure that the screws are fixed tightly to ensure the maximum torque for the installation.
- See the mount position in Table 8.2 in the manual.

9 ELECTRICAL INSTALLATION

ATTENTION!
- Always disconnect the general power supply before changing any electric component associated with the equipment.
- Do not install the inverter in a location where the input power supply is not accessible.
- Do not install the inverter in a location where a serious risk of electrical shock is present.
- Do not install the inverter in a location where the inverter could be subject to excessive vibration or shock.
- Do not install the inverter in a location where the inverter could be subject to excessive humidity or condensation.
- Do not install the inverter in a location where the inverter could be subject to excessive dust or dirt.

9.1 Identification of the Power Terminals and Grounding Points

The power terminals are of different sizes and configurations, depending on the model of the inverter, according to Table 9.1 in the manual.

Table 9: Power terminals, grounding poles and recommended lug sizes

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>Grounding Poles</th>
<th>Recommended Lug Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>115 V 60 Hz</td>
<td>1 10 A</td>
<td>10 A</td>
</tr>
<tr>
<td>230 V 50 Hz</td>
<td>3 16 A</td>
<td>16 A</td>
</tr>
<tr>
<td>230 V 60 Hz</td>
<td>3 16 A</td>
<td>16 A</td>
</tr>
<tr>
<td>400 V 50 Hz</td>
<td>2 20 A</td>
<td>20 A</td>
</tr>
<tr>
<td>400 V 60 Hz</td>
<td>2 20 A</td>
<td>20 A</td>
</tr>
</tbody>
</table>

9.2 Power and Grounding Wiring, Circuit Breakers and Fuses

- Provide a disconnect device for the inverter power supply. This device must cut off the power supply in case of overcurrent or fault conditions.
- Dependent on the installation, use type circuit breakers or fuses, etc. The RCD must be connected to the RCD manufacturer for selecting the correct type, size and protection.

ATTENTION!
- The voltage limits listed in Table 9.1 are conservative ratings. Installation conditions and the environment, when in operation, may impose maximum ratings lower than those presented in Table 9.1.

9.3 Power Connections

9.3.1 Input Connections

ATTENTION!
- Do not use a circuit breaker for the power and grounding connection cables. Refer to Table 9.1 for selection, considering the nominal power of the inverter.
- Ensure that the connection of the conductors to the power terminals is tight, as the inverter could be damaged if the conductors are not properly connected.

9.3.2 HV and LV terminals

Table 10: Available options for the input and output power supply, with conductors, fuses, etc.

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>Available Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>115 V 60 Hz</td>
<td>1 10 A</td>
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<tr>
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<td>2 20 A</td>
</tr>
<tr>
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<td>2 20 A</td>
</tr>
</tbody>
</table>

9.3.3 Output Connections

Table 11: Available options for the output power supply and circuit breakers, fuses, etc.

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>Available Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>115 V 60 Hz</td>
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<tr>
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<td>3 16 A</td>
</tr>
<tr>
<td>400 V 50 Hz</td>
<td>2 20 A</td>
</tr>
<tr>
<td>400 V 60 Hz</td>
<td>2 20 A</td>
</tr>
</tbody>
</table>
1. Check if the power, grounding and control connections are correct and firm.
2. Remove all connections from the inside of the inverter or drive.
3. Check if the wire connections and outputs match the supply, the inverter or drive.
4. Mechanically secure the rotation of the shaft. The motor cannot be connected, until the start of any connection (production or assembly) unless it will cause damage to the machine in case of accidents.
5. Measure the voltage of the output power supply and check if it is within the permitted range, as presented in Chapter 11 Preparation and Powering Up.
6. Power up the output after closing the disconnection switch.
7. Check the correct operation of the power supply and the display.

The display of the inverters:

1. Preparation and Powering Up

11 INSTALLATIONS ACCORDING TO EUROPEAN DIRECTIVE OF ELECTROMAGNETIC COMPATIBILITY

For the calculation of the input power supply reactance necessary to obtain the desired percentage voltage drop, use:

\[ L = \frac{1}{\frac{\Delta V}{V_{in}}} \times \frac{V_{in}}{I_{in}} \times 10^{-6} \text{ [μH]} \]

The CFW500 inverter series was developed for professional applications only. Therefore, the emission limits of environments that include domestic installations, as well as establishments directly connected to the power grid, must be observed.

NOTE: The dynamic braking is available from trans 4. For installation information, refer to Item 9.2.3 Dynamic Braking of the user manual, available at www.webnet.com

5. When using the external RFI use the cable that connects to the inverter must be separated from the other cables in the installation, avoiding the connection of the coil of the capacitors to the inverter grounding connection.
6. When using analog reference (AVR) and the frequency oscillates (protection of electromagnetic interference), mechanical secure the rotation of the shaft. The motor cannot be connected, until the start of any connection (production or assembly) unless it will cause damage to the machine in case of accidents.

The CFW500 series meets the requirements of professional applications only. Therefore, the emission limits of environments that include domestic installations, as well as establishments directly connected to the power grid, must be observed.

Table 8: Cable separation distance

<table>
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<tr>
<th>Cable Separation Distance</th>
<th>L</th>
<th>Tolerances</th>
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<tbody>
<tr>
<td>Cables</td>
<td>1.5 mm</td>
<td>-0.5 to 0.0 mm</td>
</tr>
<tr>
<td>Wires</td>
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<td>-1.0 to 0.0 mm</td>
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10 INSTALLATIONS ACCORDING TO EUROPEAN DIRECTIVE OF ELECTROMAGNETIC COMPATIBILITY

Installation, the filter C3 and C2 (CFW500C - C3) feature internal RFI filter to reduce the electromagnetic interference. Those inverters, when properly installed, meet the requirements of the directive 89/336/EEC of the European Parliament.

For the calculation of the input power supply reactance necessary to obtain the desired percentage voltage drop, use:

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