

COMBIVERT



G6

Additional Instructions
COMBIVERT G6

Installation
Ferrite

| Translation of original manual | | | |
|--------------------------------|------|---------|------|
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KEB

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1. Preface

The described hard- and software are developments of the KEB Automation KG. The enclosed documents correspond to conditions valid at printing. Misprint, mistakes and technical changes reserved.

1.1 Information on special measures



The used pictograms have following significance:

- Danger**  Is used, if death or serious bodily injury may be the consequence of non-observance of the measure.
- Warning**  Is used, if bodily injury and/or substantial property damage may be the consequence of non-observance of the measure.
- Caution**  Is used, if property damage may be the consequence of non-observance of the measure.
- Attention**  Is used, if noise sensitive or unrequested operation may be the consequence of non-observance of the measure.
- Info**  Is used, if a better or simpler result can be the consequence of the measure.

For a special case the instructions can be supplemented by additional pictograms and text.

1.2 Documentation

Before working with the unit the user must become familiar with it. This especially applies to the knowledge and observance of the following safety and operating instructions.

| | | |
|---|---|--|
| Attention |  | Observe safety and operating instructions |
|  | Precondition for all further steps is the knowledge and observance of the safety and operating instructions. This is provided accompanied by the device or by the download site of www.keb.de. | |

Non-observance of the safety and operating instructions leads to the loss of any liability claims. The warnings and safety instructions in this manual work only supplementary. This list is not exhaustive.

1.3 Validity and liability

The use of our units in the target products is outside of our control and therefore lies exclusively in the area of responsibility of the machine manufacturer, system integrator or customer.

The information contained in the technical documentation, as well as any user-specific advice in spoken and written and through tests, are made to best of our knowledge and information about the application. However, they are considered for information only without responsibility. This also applies to any violation of industrial property rights of a third-party.

Selection of our units in view of their suitability for the intended use must be done generally by the user.

Tests can only be done within the application by the machine manufacturer. They must be repeated, even if only parts of hardware, software or the unit adjustment are modified.

Unauthorised opening and tampering may lead to bodily injury and property damage and may entail the loss of warranty rights. Original spare parts and authorized accessories by the manufacturer serve as security. The use of other parts excludes liability for the consequences arising out of.

The suspension of liability is especially valid also for operation interruption loss, loss of profit, data loss or other damages. This is also valid, if we referred first to the possibility of such damages.

If single regulations should be or become void, invalid or impracticable, the effectivity of all other regulations or agreements is not affected.

Through multitude applications not each possible case of installation, operation or maintenance can be considered. If you require further information or if special problems occur which are not treated detailed in the documentation, you can request the necessary information via the local KEB Automation KG agency.

1.4 Copyright

The customer may use the instruction manual as well as further documents or parts from it for internal purposes. Copyrights are with KEB and remain valid in its entirety.

KEB®, COMBIVERT®, COMBICONTROL® and COMBIVIS® are registered trademarks of KEB Automation KG.

Other wordmarks or/and logos are trademarks (™) or registered trademarks (®) of their respective owners and are listed in the footnote on the first occurrence.









When creating our documents we pay attention with the utmost care to the rights of third parties. Should we have not marked a trademark or breach a copyright, please inform us in order to have the possibility of remedy.

1.5 Specified application

The used semiconductors and components of the KEB Automation KG are developed and dimensioned for the use in industrial products. If the KEB COMBIVERT F5 is used in machines, which work under exceptional conditions or if essential functions, life-supporting measures or an extraordinary safety step must be fulfilled, the necessary reliability and security must be ensured by the machine builder.

The operation of our products outside the indicated limit values of the technical data leads to the loss of any liability claims.

1.6 Safety instructions

| | |
|--|---|
| <p>Danger</p> | <p> Electric Shock</p> |
| <p></p> | <p>Frequency inverter / servo drives contain dangerous voltages which can cause death or serious injury. In operation, drive converters, depending on their degree of protection, may have live, uninsulated, and possibly also moving and hot surfaces.</p> <p>Care should be taken to ensure correct and safe operation to minimise risk to personnel and equipment.</p> |
| <p>Warning</p> | <p> Only Qualified Electro-Personnel</p> |
| <p></p> | <p>All work of installation and start-up may only be done by qualified personnel. According to this manual qualified staff means those who are able to recognise and judge the possible dangers based on their technical training and experience and those with knowledge of the relevant standards and who are familiar with the field of power transmission and safety technology.</p> <p>In the range of safety technology, authorized personnel must be confirmed in written document by KEB.</p> |
| <p>Warning</p> | <p> Note capacitor discharge time</p> |
| <p></p> | <p>Before any installation and connecting work, the unit must be disconnected from mains and secure it accordingly.</p> <p>After disconnecting the frequency inverter/servo drive, the DC link capacitors are still charged with high voltage for a short time. Therefore, work on the device may be carried out until 5 minutes after switching off.</p> |
| <p>Attention</p> | <p> Electrostatic-discharge-sensitive components</p> |
| <p></p> | <p>Use antistatic wrist strap for any working on the device or take other appropriate measures for static discharge.</p> |

Product description

2. Product description

Inverter can cause high-frequency interferences on mains and motor lines. The lines or their screening act like antennas. Ferrite rings are used to suppress the common-mode interferences on mains and motor lines and thus to reduce the radiated interferences.

2.1 Order designation


| | | | |
|-------------------------------|--------------|---|--|
| Designation | Ferrite ring |  | |
| Material number | 0090396-2011 | | |
| Outside diameter | 36 mm | | |
| Inside diameter | 23 mm | | |
| Height | 22 mm | | |
| Weight | 63 g | | |
| Designation | Ferrite ring | | |
| Material number | 0090396-1720 | | |
| Outside diameter | 26 mm | | |
| Inside diameter | 14.5 mm | | |
| Height | 20 mm | | |
| Weight | 35 g | | |
| <i>Figure 1: Ferrite ring</i> | | | |

| | DC input (++, --) | Motor output (U, V, W) |
|---|-------------------|------------------------|
| Housing B | 0090396-2011 | 0090396-1720 |
| Housing C | 0090396-2011 | 0090396-2011 |
| Housing E | 0090396-2011 | 0090396-2011 |
| <i>Table 1: Use of ferrite rings according DC supply to the housing</i> | | |

| | AC input (L1,L2,L3) | Motor output (U, V, W) |
|---|---------------------|------------------------|
| Housing B | not required | not required |
| Housing C | 0090396-2011 | 0090396-1720 |
| Housing E | not required | not required |
| <i>Table 2: Use of ferrite rings according AC supply to the housing</i> | | |

2.2 Installation

2.2.1 Motor cable

- 1) Strip the sheathing of the motor line from about 4 to 6 cm length
 - 2) Strip the cores at the end about 0.8 cm and install with wire-end ferrules
 - 3) Push the ferrite ring over the three cores of the phases.
 - 4) Connect the cores to terminals U, V, W
 - 5) Connect PE on PE terminal
-  Do not lay PE through the ferrite ring
- 6) Apply shielding of the motor cable in a large-area on the mounting surface or on the optional shield plate (as shown in the picture).

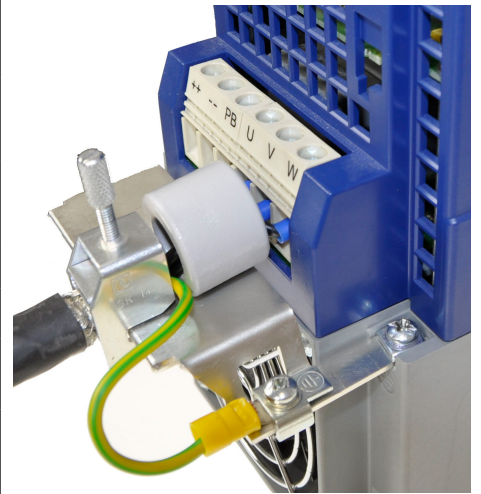



Figure 2: Motor cable

2.2.2 DC supply line

- 1) Coating of the DC supply line to about 4-6 cm length
 - 2) Strip the terminal cores at the end to about 1 cm and connect with wire-end ferrules
 - 3) Push the ferrite ring over the two cores of the DC supply line.
 - 4) Connect the cores to terminals ++ and --.
 - 5) Connect PE on PE terminal
-  Do not lay PE through the ferrite ring
- 6) Apply shielding of the motor cable in a large-area on the mounting surface or on the optional shield plate (as shown in the picture).

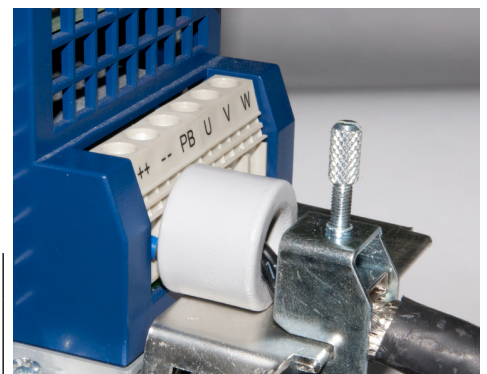


Figure 3: DC supply line

Info

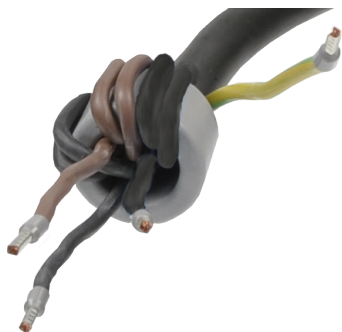


A shielded cable provides optimal protection against radiated interferences.

Product description

2.2.3 AC supply cable

- 1) Coating of strip supply cable to about 26 cm length
- 2) Strip the cores at the end about 1 cm and install with wire-end ferrules



- 3) Each core must cross the ferrit ring three times.

- 4) Connect the cores to terminals L1, L2, L3
- 5) Connect PE on PE terminal



Do not lay PE through the ferrite ring



Table 3: AC supply cable



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