

COMBIVERT



CRANES



Cranes - customised drive



- *Construction cranes*
- *Container cranes*
- *Harbour cranes*
- *Overhead cranes*
- *Balance cranes*

Powered and controlled by KEB!

drive solutions worldwide

COMBIVERT F5 range

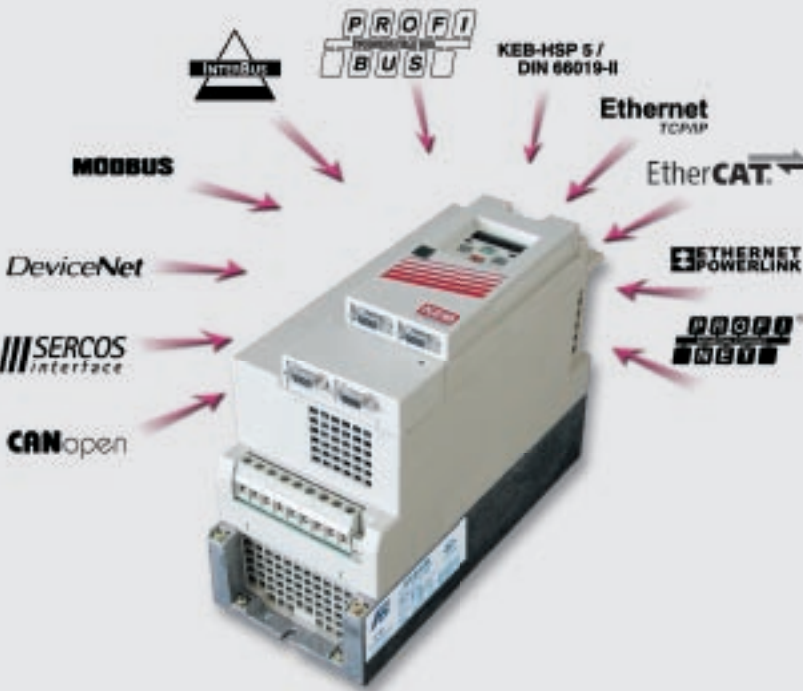
200 V : 1,5 ...45 kW

400 V : 0,75 ...800 kW

690 V : 200 ...900 kW



Bus structures



*Features for your crane:
various speed interface cards available*



*e.g. with detection of
overspeed / overacceleration*

Various cooling concepts



forced ventilation



liquid cooled



push through



flat rear

Profit from our longstanding experience in electronic drives!

with Unified Drive

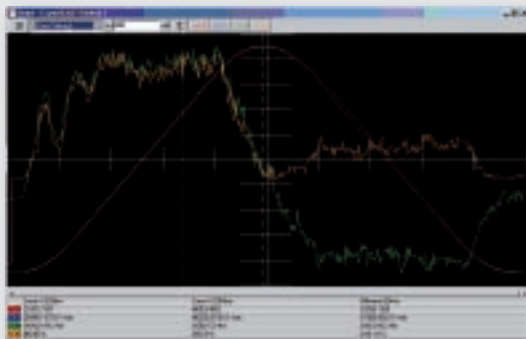
F5 APPLICATION

Single - Drive Application Master

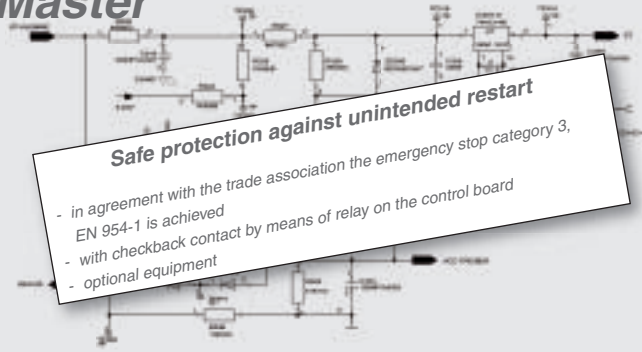
KEB Open Operator



flash programming of the open operator
by customer or KEB
C / Assembler as programming language



- easy commissioning and supervision of the system by using Inverter Scope function



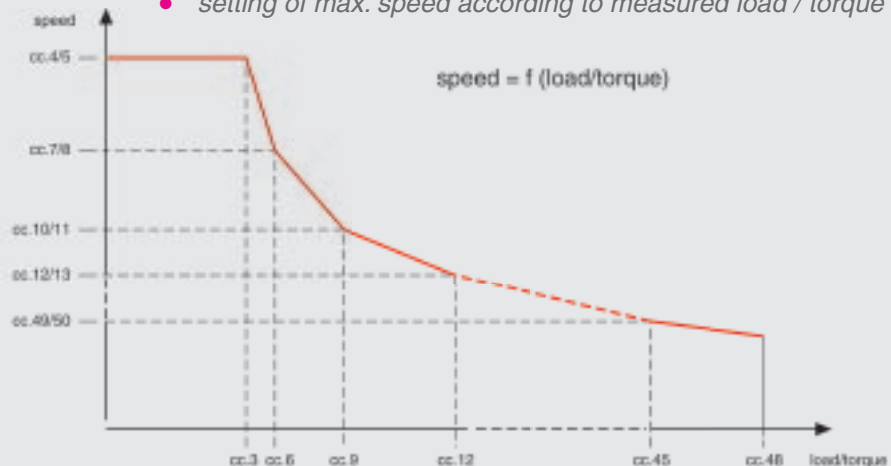
Safe protection against unintended restart

- in agreement with the trade association the emergency stop category 3, EN 954-1 is achieved
- with checkback contact by means of relay on the control board
- optional equipment

KEB Crane Control F5.M
e.g. **single axis control** within operator

- hoisting and luffing function
- special crane parameters „operator parameter“
- activation of crane control by parameter
- specific parameters are exchanged between operator and inverter by process data communication
- set speed via analogue joystick
- 0 ... 10 V equivalent to 0 ... max. speed
- start with input FOR / REV
- setting of gear ratio
- load weighting (torque / load) before movement
- also load weighting when going through speed 0
- filter for torque measurement
- correction factor for measured torque up/down
- push button for positioning mode
- setting of output at overload

- setting of max. speed according to measured load / torque (16 values)

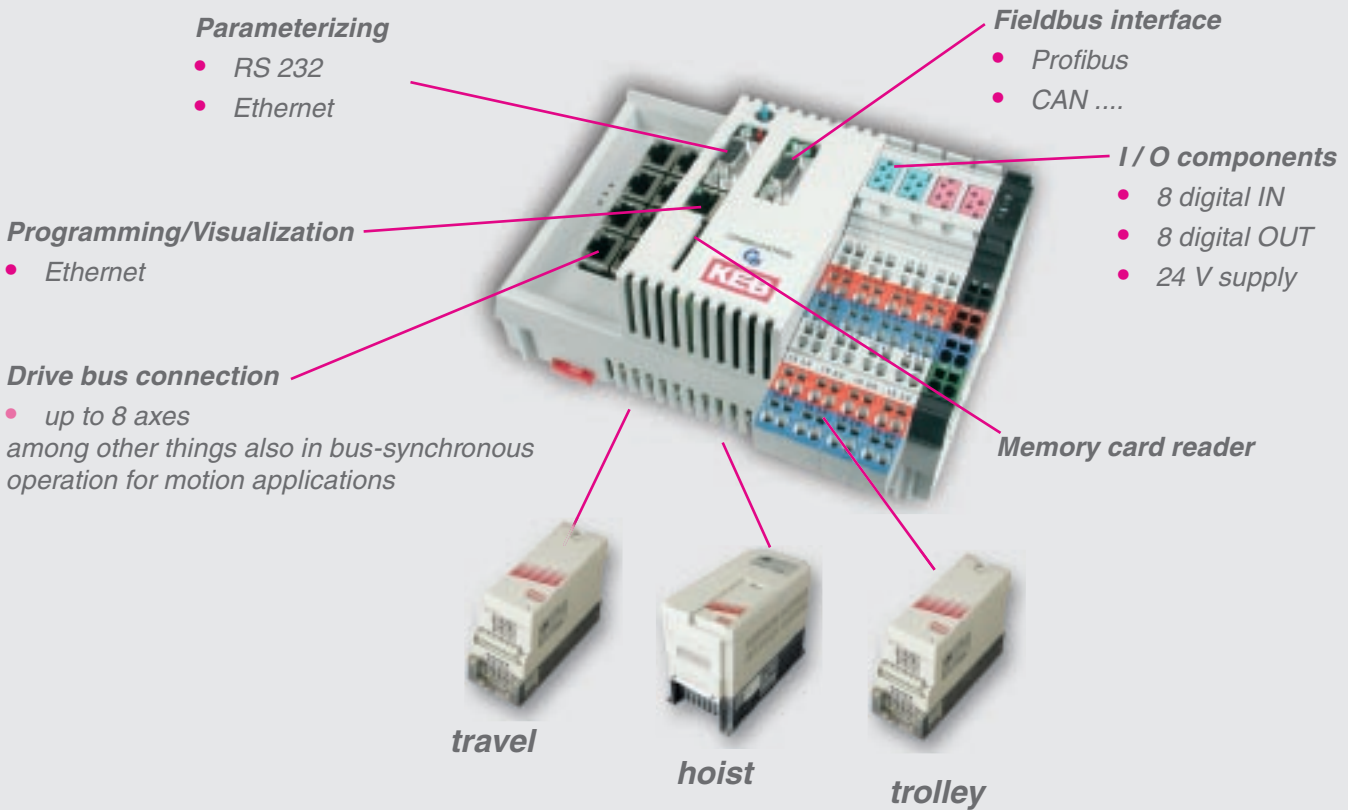


Platform

Multi-Axis-Application Master

With the **COMBICONTROL C5** a new option is available that is designed to act as the interface between the main control, PLC, IPC etc and the motor drives. Possibly it can even replace the main control completely.

Used together with the **COMBIVERT F5** series of drives, the **COMBICONTROL C5** offers an effective alternative solution to currently employed methods. The C5 is free to be programmed working with the programming method according to IEC 61131-3.



Application example for drive control



e.g. **overhead crane control**
for

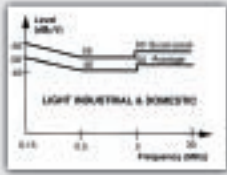
- travel
- hoist
- trolley



KEB - your reliable partner

Components

EMC Solutions



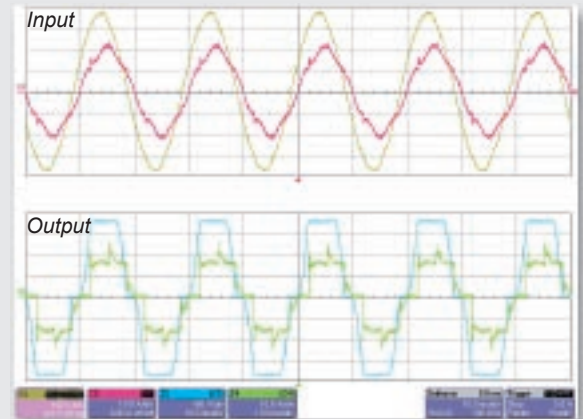
KEB design, manufacture and supply a comprehensive range of input / output filters and chokes. Those products can be used to make machinery compliant with the relevant EMC regulations as well as to improve operating conditions. **KEB** experts in the field of EMC offer advice and support during the selection process of the suitable products. For on site testing a mobile EMC service is available.



The new **KEB COMBILINE HARMONIC FILTER** is the latest innovative solution designed by our team of highly skilled engineers to combat such problems. It can be designed in at the planning stage and simply replace the traditional line reactor. With this solution compliance to the following standards are achieved:

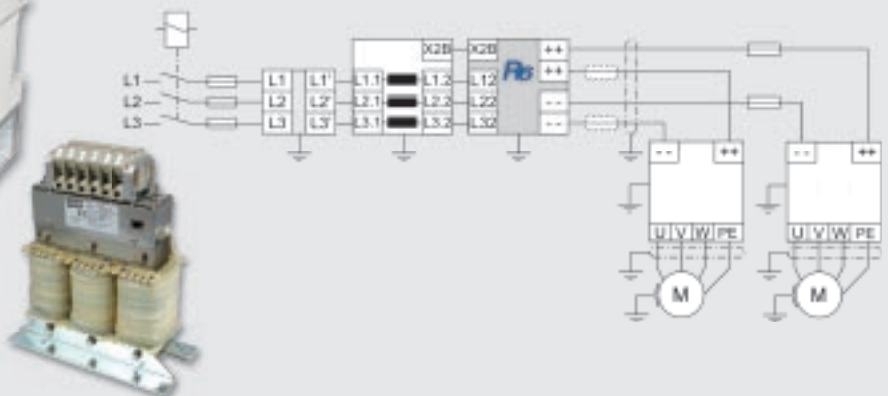
- IEEE 519 - 1992 (USA)
- G5/4 Engineering Recommendation (GB)
- EN 61000-3-2; bis16 A
- EN 61000-3-12; 16 A bis 75 A
- EN 61000-3-4
- EN 12015 (lift norm Europa)
- AS 2279 (Australia)
- COP, supply rules (Hongkong)
- Quality of Electric Energy Supply, Harmonics in Public Supply Network (China)

Voltage and current at harmonic filters

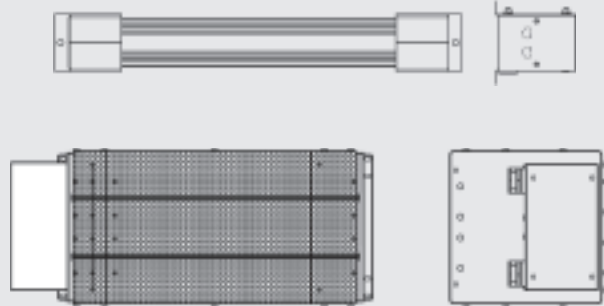


Supply and Regenerative Units Combivert R6

regenerative power 20.5 and 41 kW, can be multiplied by parallel installation
supply power 22.3 and 44.5 kW



Braking resistors



Usually used for the absorption of generative energy. Noiseless braking with the compact submounted modules to absorb pulse energy, or universal side-mounted units.

The Program of the industrial geared motors is based on many years of production experience using the most modern design methods, it is a flexible modular systems for a large variety of customer requirements. Compact and functional design with extensive power reserves. Rugged construction with a high level of rigidity combine optimum dynamic characteristics for mains and inverter operation and high variability in the mechanical and electrical customer requirement, through the attachment of brakes, encoder, ventilation systems.



Gearbox Technology

Industrial geared motors in the designs

- Inline helical gear 0.12... 45kW
- Helical bevel gear 0.12... 30kW
- Shaftmounted helical gear 0.12... 30kW
- Helical worm gear 0.12... 11kW



Magnet Technology

- Electro-magnetic clutches and brakes
- Spring applied brakes
- Permanent magnet brakes
- Rectifier and switchgear
- Clutch-brake-combinations

