



COMBICONTROL

C5



... Functions at the Drive

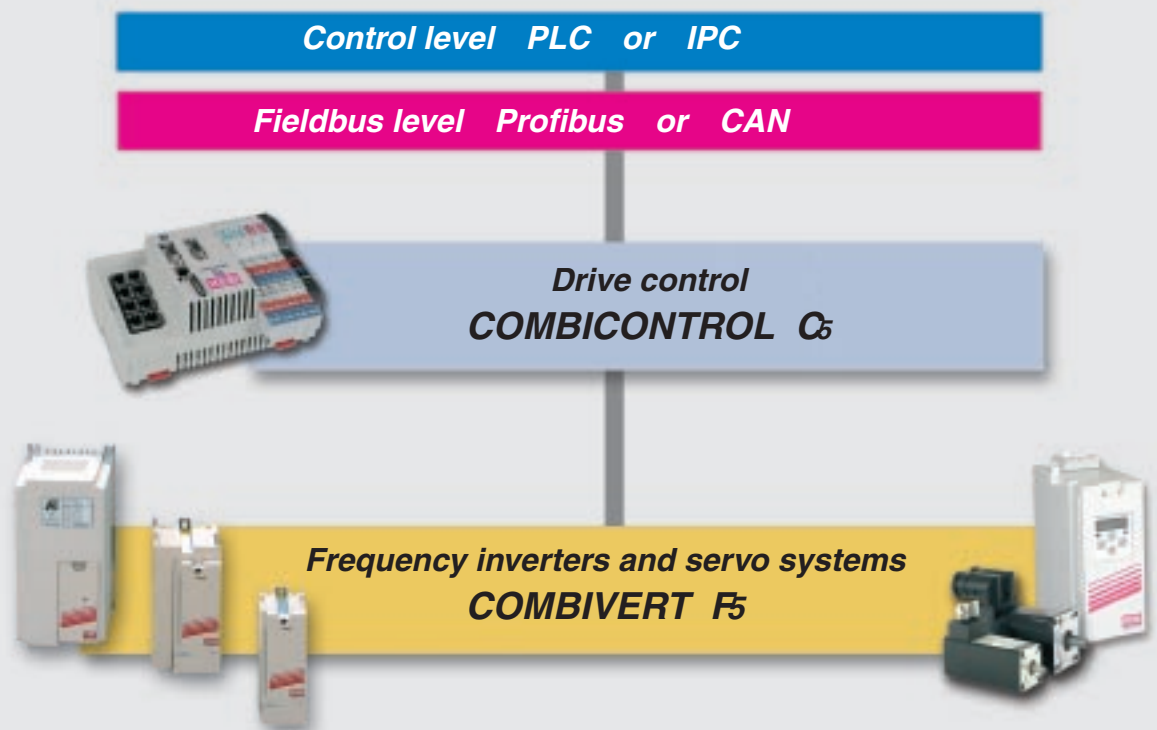
Multi axis drive tasks require particular attention to the interface between control and drive.

Until today two options were available:

- high end, high cost control methods, or transference of the function into the drive
- problem: special functions in the drive lead to special software variants.

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. In certain circumstances it can even replace the main control completely.

Used in conjunction with the **COMBIVERT F5** series of drives the **COMBICONTROL C5** offers a effective alternative to currently employed methods. The unit comes free to program utilising the programming method according to IEC 61131-3.



With the aid of the universal programming environment **CoDeSys** of company 3S-Software a combination of proven Soft-PLC and complete drive component system of the generation F5 for open-loop and closed-loop controlled applications including the connection to the well-known user interface **COMBIVIS** is created.

Modular designed the **COMBICONTROL C5** opens up a new approach for configuring the automation in interaction with **COMBIVERT** drives as it

- replaces the need for PLC's in isolated applications, or
- offers integration between drives and master control

amongst other things for decentralising machine and plant segments.

Fieldbus interfacing

Digital in- and outputs

Mainboard with 32 bit embedded controller

Functional principle

Parameterizing

- RS 232
- Ethernet

Programming/Visualization

- Ethernet

Drive bus connection

- up to 8 axes among other things also in bus-synchronous operation for motion applications

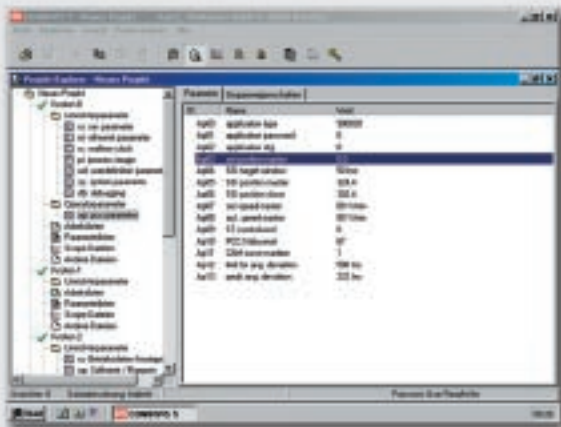
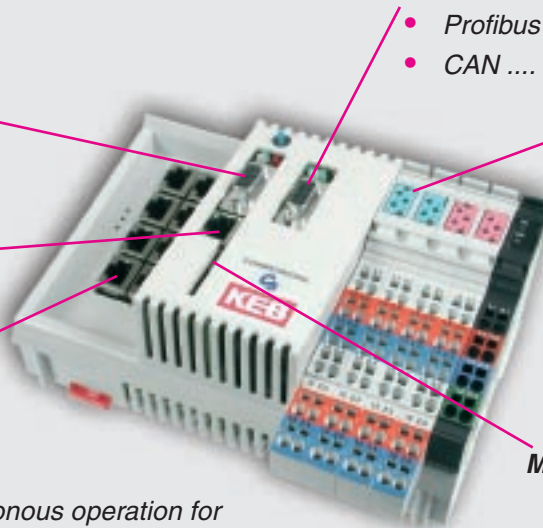
Fieldbus interfacing

- Profibus
- CAN

I / O components

- 8 digital IN
- 8 digital OUT
- 24 V supply

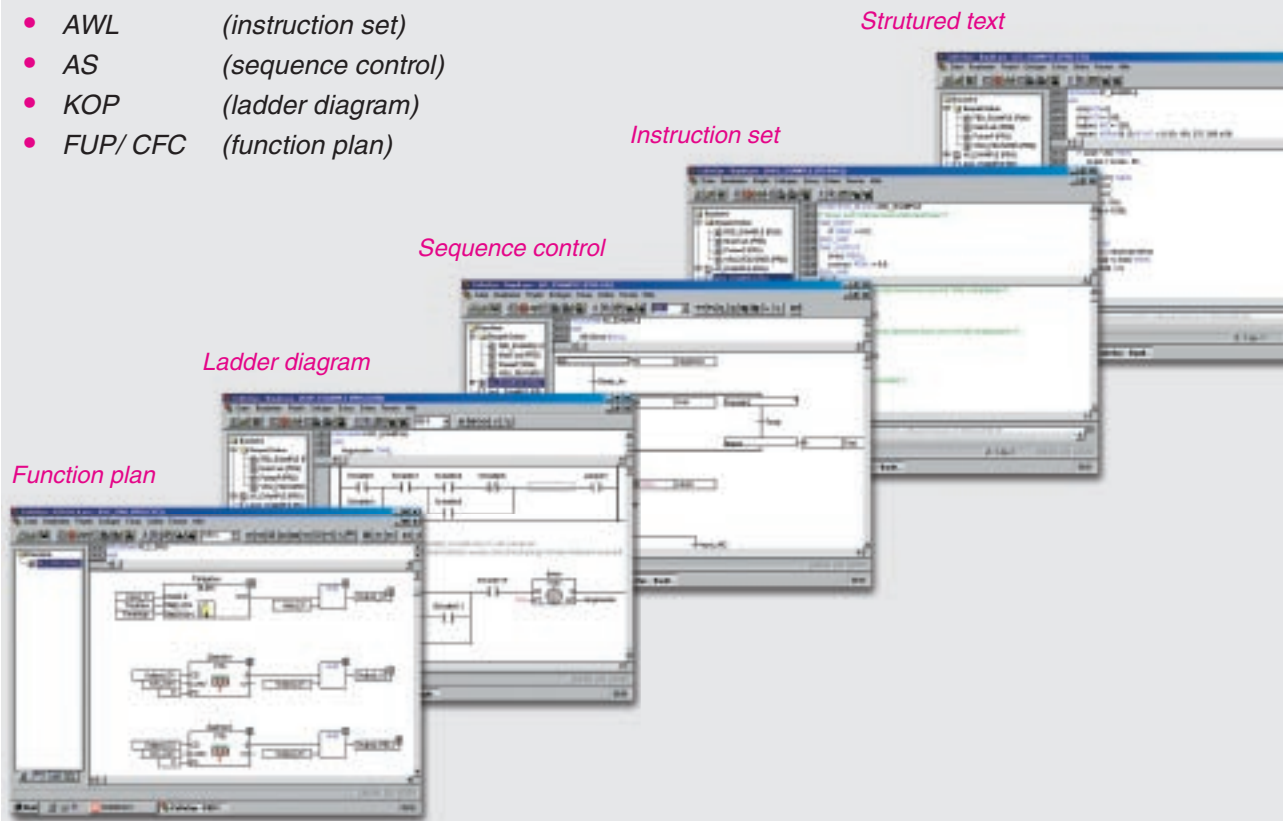
Memory card reader



... Programming according to

CoDeSys - The universal tool for all programming languages

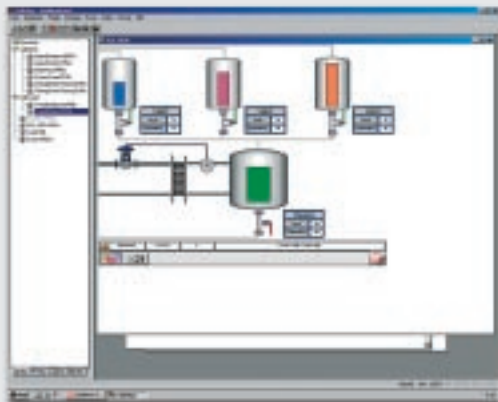
- ST (structured text)
- AWL (instruction set)
- AS (sequence control)
- KOP (ladder diagram)
- FUP/ CFC (function plan)



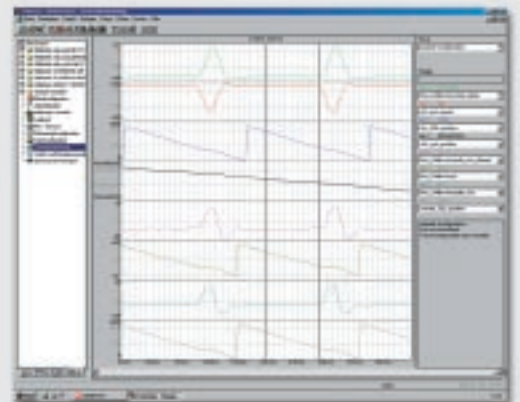
CoDeSys is the leading, globally recognised programming tool of company 3S-Software, amongst other things it offers

- integrated HMI - interface for the application orientated configuration of operator control
- simulation - online change
- debugging, breakpoint, single step, individual cycle, forcing
- monitoring of variables including scope function
- file management of control
- import/ export of control
- extensive help functions

Visualization



Scope-function



to IEC 61131-3

System libraries

The „target information file“ contains the complete description of the target system with prepared functions and modules in

- **kebplc2.lib**
- **kebttools3.lib**
- **CoDeSys** with elementary functions of the working environment (i.e. counter, timer, controller, signal generator etc.)
- basic function for adjusting and connecting the drives to the C5-control
- project examples for the application of **COMBIVERT F5**

The **KEB COMBICONTROL** Software CD.SW.020-0100 comprises all electronic data.



The application library

- **keb_application.lib**

is in preparation with user-specific functions in function blocks like e.g.:

- synchronization of axes onto one master
- axle positioning
- cam disc operation
- electronic gear box etc.

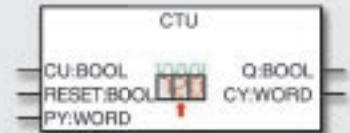
Operation mode



Up- and Download



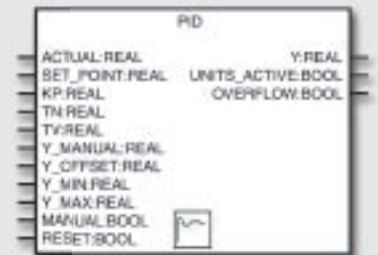
Counter



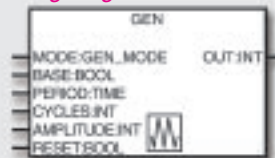
Timer



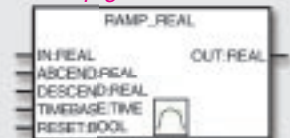
PID- controller



Signal generator



Ramp generator



FI communication



... COMBICONTROL C5 - Mo

Solutions

Version Basis 09.C5.B00-1000

I/O- card 8DI/8DO, RS 232, Ethernet

Version Profibus 09.C5.B30-1000

+ Profibus -DP- interface connection 12 MB

in preparation

Version CAN 09.C5.B50-1000

+ CAN- Slave-connection



Technical Data

processor	32 Bit microcontroller
running time	500...1000 lines<1ms
program memory	2 x 256 kByte
data storage	392 kByte
remnant data	31 kByte
file storage	2 MB Flash
supply	18...30 V DC
power input	4 W

Dig. In-/ Outputs

connection	tension spring clip	dimensions	144x182x76 mm
output current	max. 0,7A per channel	assembly mode	35 mm top hat rail
input voltage /		weight	0,6 kg
input current	accord. to IEC 61131-2 / Type 1	protection class (EN60529)	IP 20
		operating temperature	-10 ... 45°C
		storage temperature	-25 ... 70°C

The serial drive connection for **COMBIVERT F5** is effected optionally by

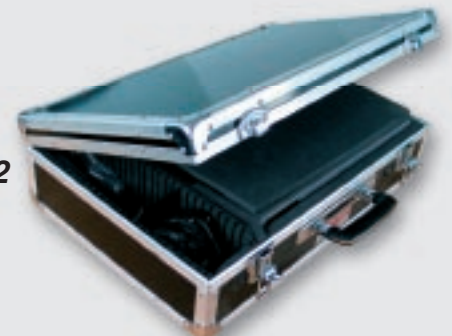
HSP/485 - Operator 00.F5.060-9001

with screw terminal
connecting line 2.5m 00.F5.0C3-2025

or

HSP/485 - Operator 00.F5.060-9002

with RJ45 connector
Bus line 2m 00.F5.0C3-1020
Bus line 5m 00.F5.0C3-1050



Starterkit C5 09.C5.B30-K000

Modules

Complete Solutions

No development resources available at short notice ...?

We can offer:

An efficient service group with experienced application technicians and engineers to design and implement complete solutions with,

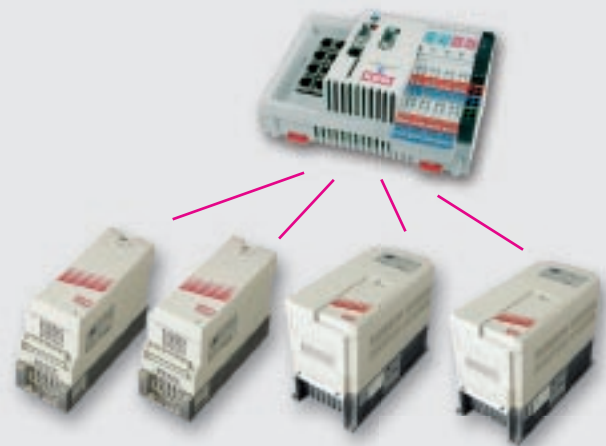
- total conception
- design advisory service
- programming
- commissioning
- training
- documentation



Application examples for drive control

e.g. crane bridge control

- with
- moving gear
 - hoisting gear
 - crab



e.g. machine control

- with
- take-off and take-up axes with tension regulation
 - axes in the processing



people in motion



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