



COMBICONTROL

C5



... Functions at the Drive

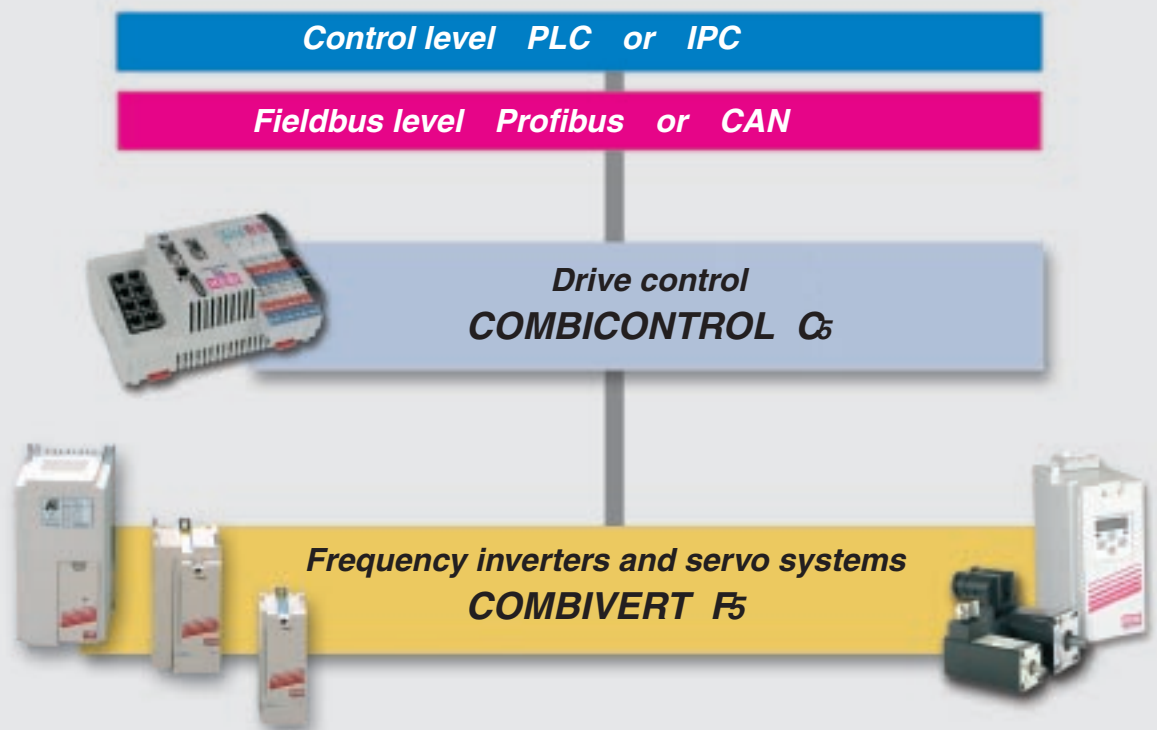
Multi axis drive tasks require particular attention to the interface between control and drive.

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

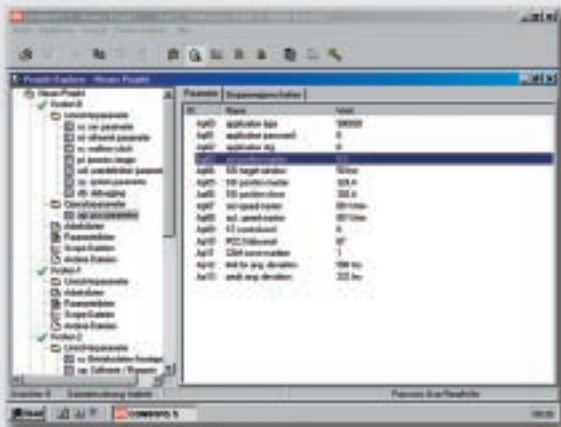
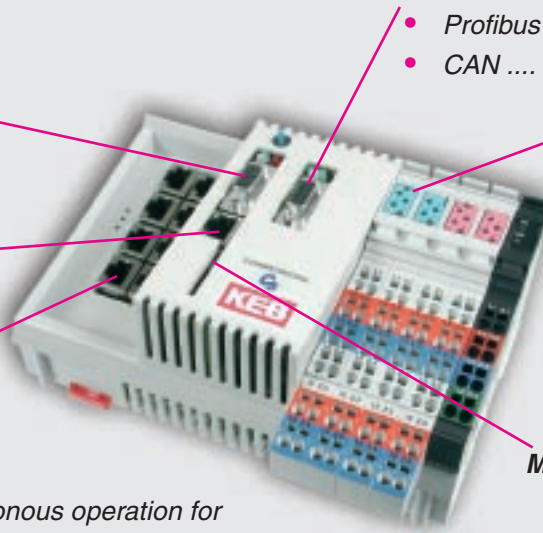
Fieldbus interfacing

- Profibus
- CAN

I / O components

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

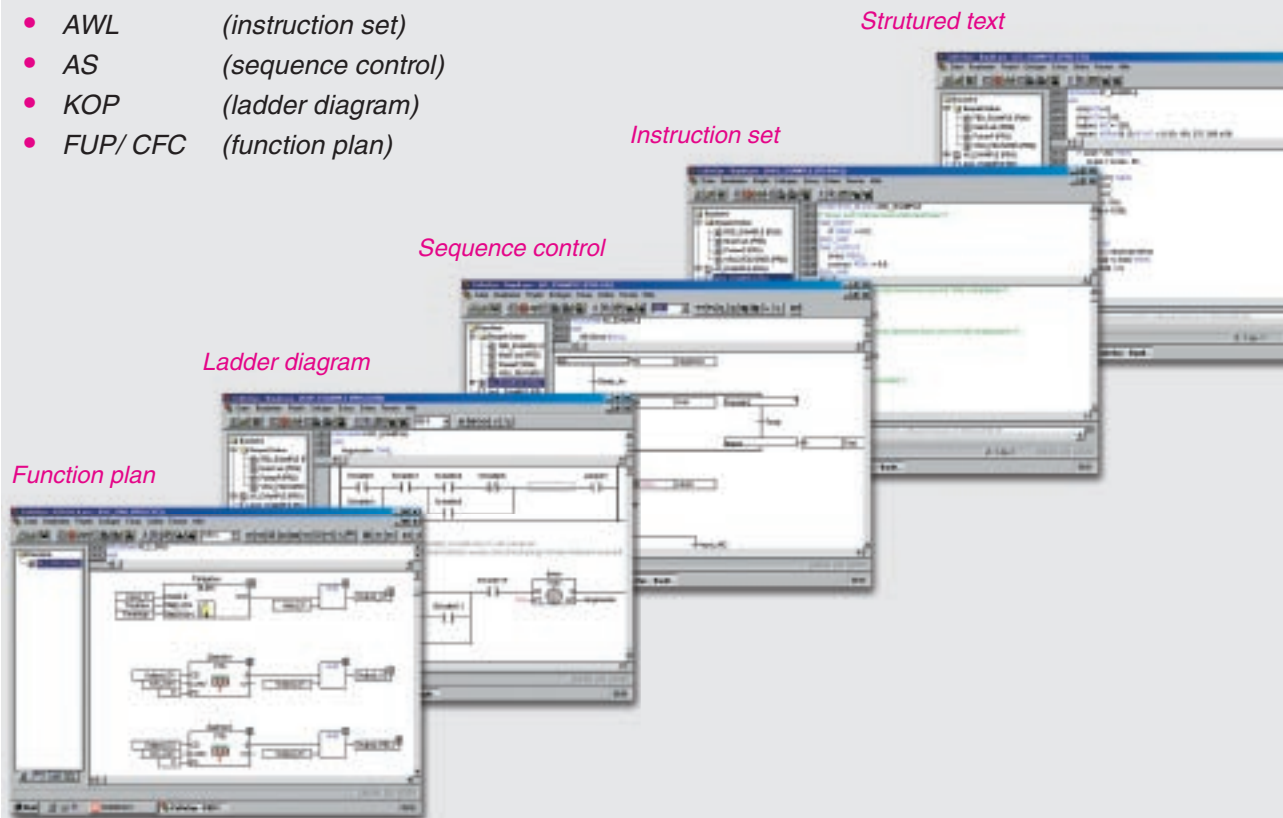
Memory card reader



... Programming according to

CoDeSys - The universal tool for all programming languages

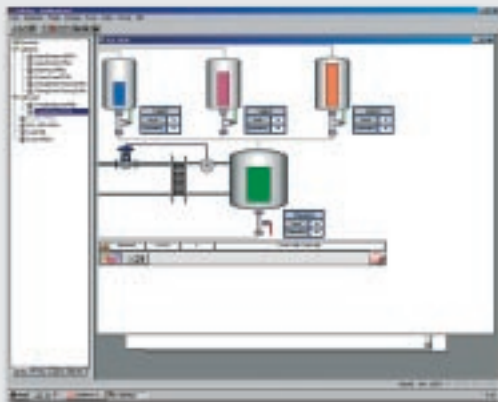
- ST (structured text)
- AWL (instruction set)
- AS (sequence control)
- KOP (ladder diagram)
- FUP/ CFC (function plan)



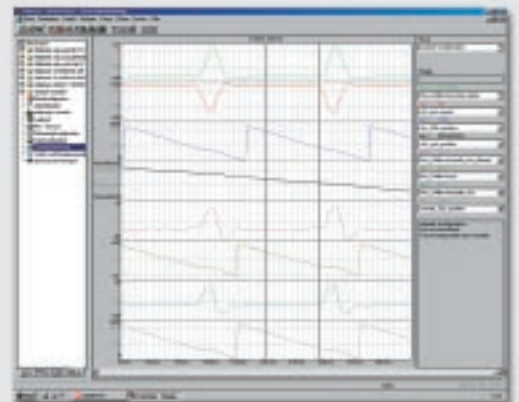
CoDeSys is the leading, globally recognised programming tool of company 3S-Software, amongst other things it offers

- 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.

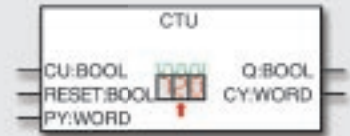
Operation mode



Up- and Download



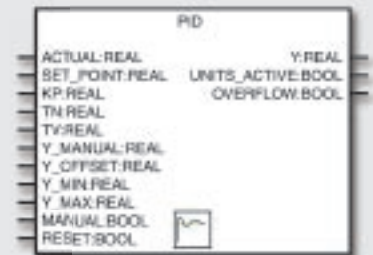
Counter



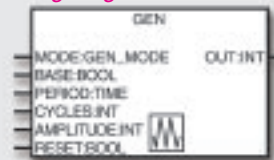
Timer



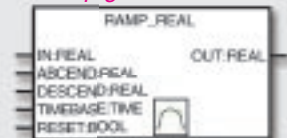
PID- controller



Signal generator



Ramp generator



FI communication



... COMBICONTROL C5 - Mo

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

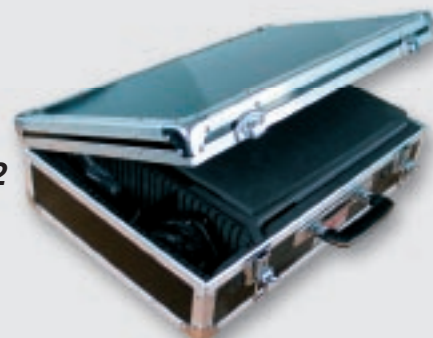
or

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,

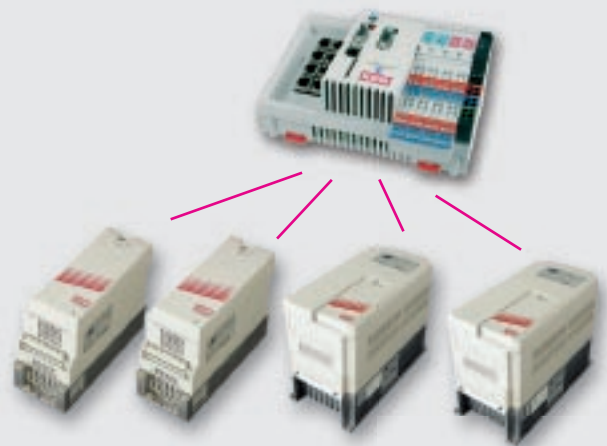
- total conception
- design advisory service
- programming
- commissioning
- training
- documentation



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



KEB Antriebstechnik Austria GmbH • Ritzstraße 8 • **A** - 4614 Marchtrenk
Tel.: +43 (0)7243 53586-0 • FAX: +43 (0) 7243 53586 - 21 • E-mail: info@keb.at
Kostelni 32/1226 • **CZ** - 370 04 České Budejovice
Tel.: +420 (0) 38 769 91 11 • FAX: +420 (0) 38 769 91 19 • E-mail: info.keb@seznam.cz
Internet: www.keb.at



KEB Antriebstechnik • Herenveld 2 • **B** - 9500 Geraardsbergen
Tel.: +32 (0) 5443 7860 • FAX: +32 (0) 5443 7898
E-mail: vb.belgien@keb.de



KEB China • No. 99 Tianzhou Road • **CHN** - 200233 Shanghai
Tel.: +86 (0) 21 54 50 32 30 ... 32 • FAX: +86 (0) 21 54 45 01 15
Internet: www.keb.cn • E-mail: info@keb.cn



Société Française KEB • Z.I. de la Croix St. Nicolas • 14, rue Gustave Eiffel • **F** - 94510 LA QUEUE EN BRIE
Tél.: +33 (0)1 49 62 01 01 • FAX: +33 (0)1 45 76 74 95
Internet: www.keb.fr • E-mail: info@keb.fr



KEB (UK) Ltd. • 6 Chieftain Buisness Park, Morris Close • Park Farm, Wellingborough, **GB** - Northants, NN8 6 XF
Tel.: +44 (0)1933 402220 • FAX: +44 (0)1933 400724
Internet: www.keb-uk.co.uk • E-mail: info@keb-uk.co.uk



KEB Italia • Via Newton 2 • **I** - 20019 Settimo Milanese (Milano)
Tel.: +39 02 3350 0782 • FAX: +39 02 3350 0790
Internet: www.keb.it • E-mail: info@keb.it



KEB - YAMAKYU Ltd. • 15 - 16, 2-Chome • **J** - Takanawa Minato-ku • **J** - Tokyo 108 - 0074
Tel.: +81 (0) 33 445 / 8515 • FAX: +81 (0) 33 445 8215
E-mail: info@keb.jp



KEB KOREA • Representative Office, Room 1709, 415 Missy 2000, 725 Su Seo Dong, Gang Nam Gu
ROK - 135-757 Seoul / South Korea
Tel.: +82 (0) 2 6253 6771 • FAX: + 82 (0) 2 6253 6770
E-mail: vb.korea@keb.de



KEB Nederland • Leidsevaart 126 • **NL** - 2013 HD Haarlem
Tel.: +31 (0) 23 532 0049 • FAX: + 31 (0) 23 532 2260
E-mail: vb.nederland@keb.de



KEB Polska • Karl E. Brinkmann GmbH • ul. Budapesztańska 3/16 • **PL** - 80-288 Gdańsk
Tel.: +48 (0) 58 524 05 18 • FAX: +48 (0) 58 524 05 19
E-mail: vb.polska@keb.de



KEB Portugal • Karl E. Brinkmann Portugal - Automação L.da
Avenida da Igreja - Pavilhão A n.º261, Mouquim • **P** - 4770 - 360 MOUQUIM V.N.F.
Tel.: +351 (0) 252 371 318 + 19 • FAX: +351 (0) 252 371 320
E-mail: keb.portugal@netc.pt



KEB Sverige • Box 265 (Bergavägen 19) • **S** - 43093 Hälsö
Tel.: +46 (0) 31 96 15 20 • FAX: +46 (0) 31 96 11 24
E-mail: vb.schweden@keb.de



KEB España • C / Mitjer, Nave 8 Poligono Industrial „La masia“
E - 08799 Sant Cugat Sesgarrigues (Barcelona)
Tel.: +34 (0) 93 897 02 68 • FAX: +34 (0) 93 899 20 35
E-mail: vb.espana@keb.de



KEB Taiwan Ltd. • No. 8, Lane 89, Sec. 3, Taichung Kang Rd. • **R.O.C.** - Taichung City Taiwan
Tel.: +886 (0) 4 23 50 64 88 • FAX: +886 (0) 4 23 50 14 03
E-mail: info@keb.com.tw



KEB America, Inc. • 5100 Valley Industrial Blvd. South • **USA** - Shakopee, MN 55379
Tel.: +1 (0) 952 224 14 00 • FAX: +1 (0) 952 224 14 99
Internet: www.kebamerica.com • E-mail: info@kebamerica.com



KEB Antriebstechnik GmbH • Wildbacher Str. 5 • **D** - 08289 Schneeberg
Telefon +49 (0) 37 72 67 - 0 • Telefax +49 (0) 37 72 67 - 281
E-mail: info@keb-combidrive.de



Karl E. Brinkmann GmbH
Försterweg 36 - 38 • **D** - 32683 Barntrop
Telefon 0 52 63 / 4 01 - 0 • Telefax 4 01 - 116
Internet: www.keb.de • E-mail: info@keb.de