

COMBICONTROL C6

HowTo – Startup **COMBIVIS** studio 6

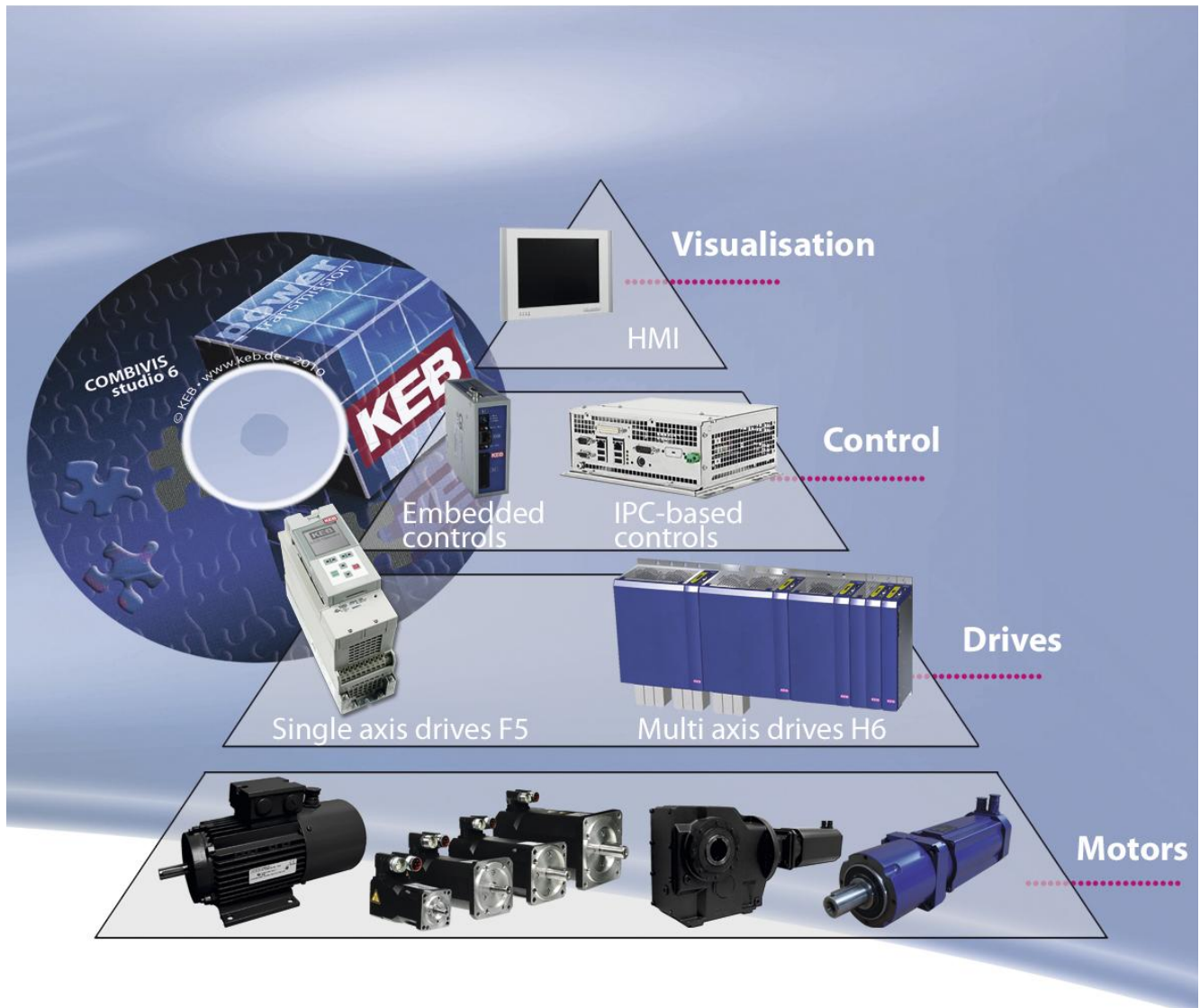


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General

This manual is intended for doing first steps with COMBIVIS studio 6. It gives a short overview about some basic features, assist you in creating a basic project and get your PLC running.

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The information contained in the technical documentation, as well as any user-specific advice in verbal or in written form are made to the 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.

Inspection of our units in view of their suitability for the intended use must be done generally by the user. Inspections are particular necessary, if changes are executed, which serve for the further development or adaption of our products to the applications (hardware, software or download lists). Inspections must be repeated completely, even if only parts of hardware, software or download lists are modified.

Application and use of our units in the target products is outside of our control and therefore lies exclusively in the area of responsibility of the user.

Versions

Tool for parameter adjustment: „**COMBIVIS 6**“

Tool for programming and parameter adjustment: „**COMBIVIS studio 6**“ (licence required)

Main Features

COMBIVIS 6

- Parameter adjustment of **KEB COMBIVERT F5/ B6/ G6/ H6 /R6** and **COMBICONTROL C5/ C6**
- Monitoring of device parameters via 16-channel scope
- KEB Device search (IP and serial scan)
- Down/ Upload of parameter lists
- Integrated startup assistants (wizards)

COMBIVIS studio 6

- All features of COMBIVIS 6
- PLC programming in **IEC 61131-3**
 - Function Block Diagram (**FBD**), Ladder Logic Diagram (**LD**), Instruction List (**IL**)
 - Sequential Function Chart (**SFC**)
 - Structured Text (**ST**)
 - Continuous Function Chart (**CFC**)
- Code Generation, Online Change, Monitoring, Debugging, Visualization
- Object orientated project organisation
 - Bus configuration (e.g. EtherCAT, CAN, Profibus, ...)
 - Configuration of Remote I/O s
 - Multiple applications in one project
 - **Portability** of projects/ applications/ IEC code to different platforms

(C6-Embedded, IPC (Windows/ Linux), ...)

- Re use of CoDeSys 2.3 IEC Code
- Multitasking
- KEB libraries with predefined functions for standard and enhanced applications

Basic COMBIVIS studio 6 knowledge

General Terms

Project: Container for all elements of an project (objects and devices).

Project Navigator: Explorer for all elements of an project.

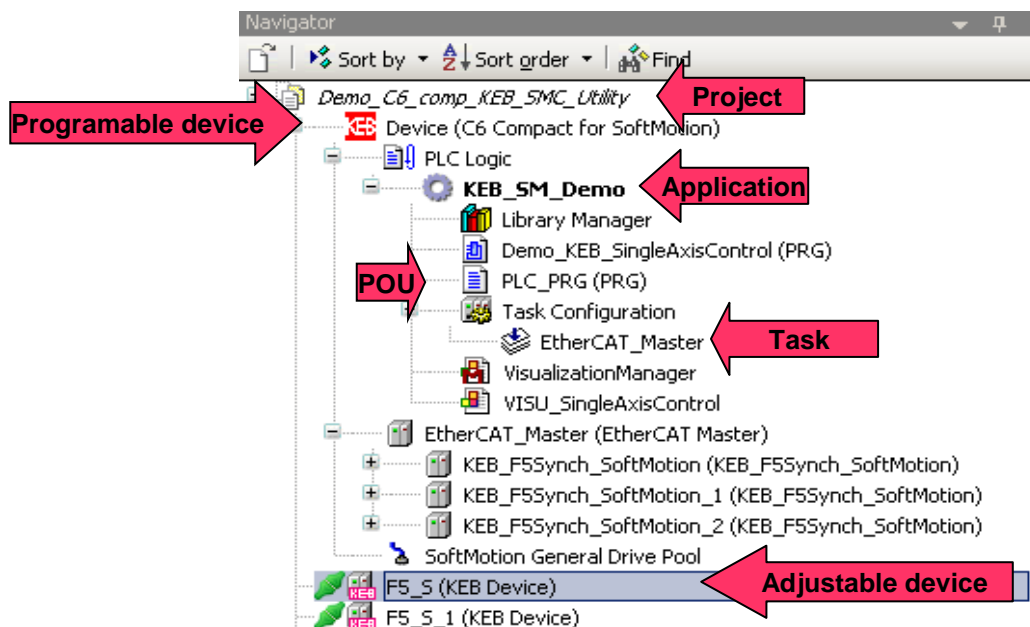
- Shows elements in logical alignment (tree structure)
- Adding, deleting, editing of elements

Device: General term for hardware component involved in an project

- **Adjustable Device/ KEB Device:** Device for Monitoring and parameter adjustments (e.g. Inverter, control).
- **Programmable Device:** Device to run an IEC application on.(embedded Controls, IPCs, etc).
- **Other:** Other hardware components(real or virtual) (e.g. EtherCAT Master/ slaves (Remote IO, Inverters)).

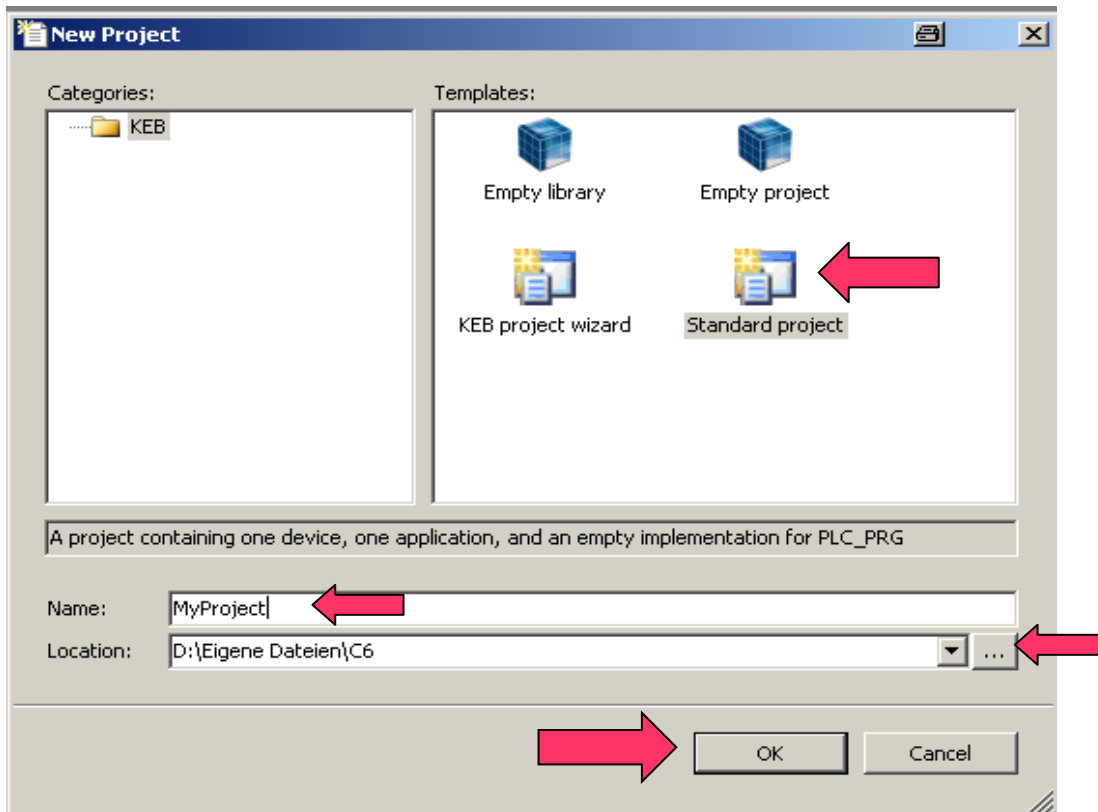
Object: Container for certain software functions.

- **Application:** Set of objects which build an IEC Application. An application can be linked and transferred to a certain *programmable device*.
- **POU:** Program Organization Unit (e.g. PLC_PRG). Container for IEC Code.
- **Library:** Collection of predefined software functions like function blocks, visualization templates and other modular IEC Code.
- **Library Manager:** For each application an individual set of libraries can be chosen.
- **Task:** Defines 1 to x programs, that are called in defined cycles by the PLC.
- **Task Configuration:** Definition and Monitoring of all Tasks that belong to an application.
- **Visualization:** Free programmable user interface to control and watch an application.

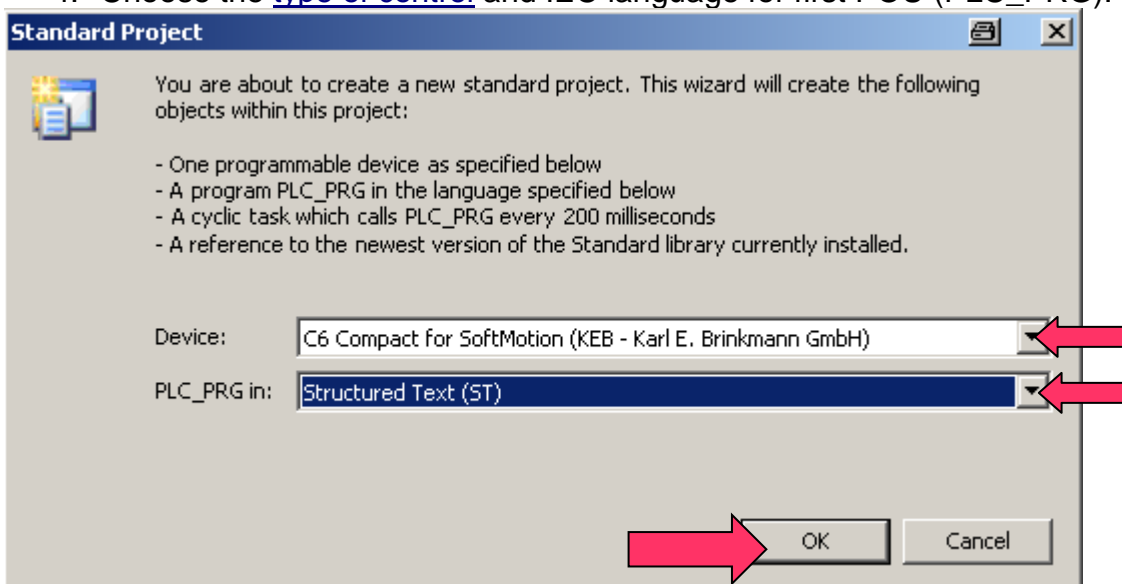


Create a Standard project

1. Start COMBIVIS studio 6.
2. Choose *Standard project* in *New Project* dialog.
3. Choose project name and location for saving the project.



4. Choose the type of control and IEC language for first POU (PLC_PRG).



Overview selectable devices

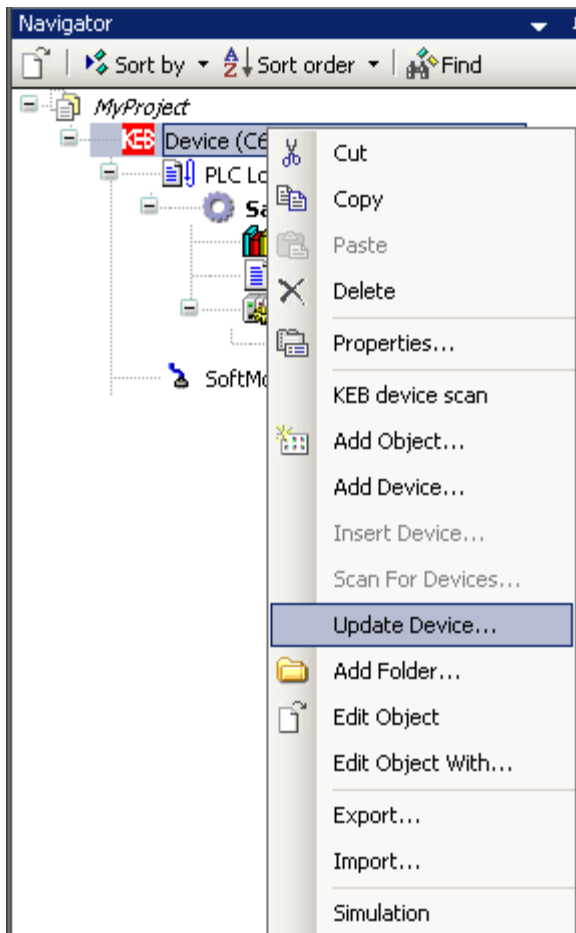
Vendor	Target	Hardware	Class	Functionality
KEB	C6 Compact	C6 Compact	embedded	SoftPLC
KEB	C6 Compact for SoftMotion	C6 Compact	embedded	SoftPLC+ SoftMotion
KEB	H6 Control Unit	H6 platform	embedded	SoftPLC
KEB	H6 Control Unit SoftMotion	H6 platform	embedded	SoftPLC+ SoftMotion
KEB	P6 Control Unit	P6 platform	embedded	SoftPLC
3S	CoDeSys SP RTE	C6 ECON - PERFORM	windows xp	SoftPLC + Target Visu
3S	CoDeSys SP SoftMotion RTE	C6 ECON - PERFORM	windows xp	SoftPLC+ SoftMotion + Target Visu
3S	CoDeSys SP Win V3	Workbench (simulation)	standard windows	SoftPLC + Target Visu
3S	CoDeSys SP Win SoftMotion V3	Workbench (simulation)	standard windows	SoftPLC+ SoftMotion + Target Visu

Write a sample Application

After confirming the **Standard Project dialog** several predefined objects are added to the project.

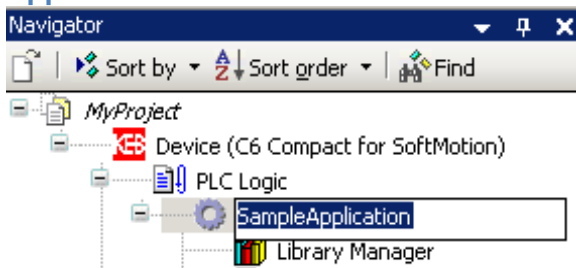
Device

The chosen PLC (Target system) is automatically added to the project. All objects that are necessary to run a basic application are already appended to this device.



If you would like to change the device type Right-Click on the device and choose **Update Device**

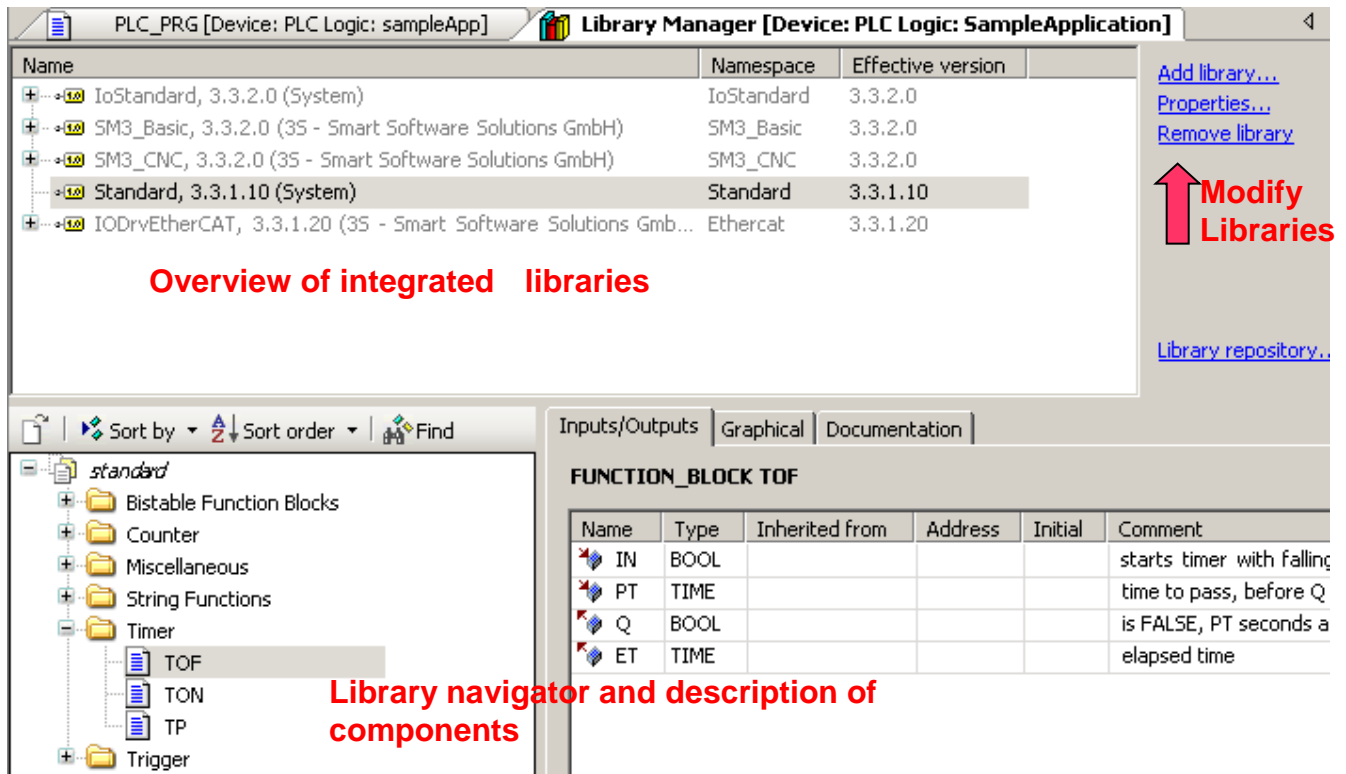
Application



First, left-click on the Application object to give your application an significant name. This name is important for compilation and download of the application because you may have several applications in a project or on a device.

Library Manager

The Library Manager defines the available libraries in this application



Overview of integrated libraries

Name	Namespace	Effective version
IoStandard, 3.3.2.0 (System)	IoStandard	3.3.2.0
SM3_Basic, 3.3.2.0 (3S - Smart Software Solutions GmbH)	SM3_Basic	3.3.2.0
SM3_CNC, 3.3.2.0 (3S - Smart Software Solutions GmbH)	SM3_CNC	3.3.2.0
Standard, 3.3.1.10 (System)	Standard	3.3.1.10
IODrvEtherCAT, 3.3.1.20 (3S - Smart Software Solutions GmbH)	Ethercat	3.3.1.20

Library navigator and description of components

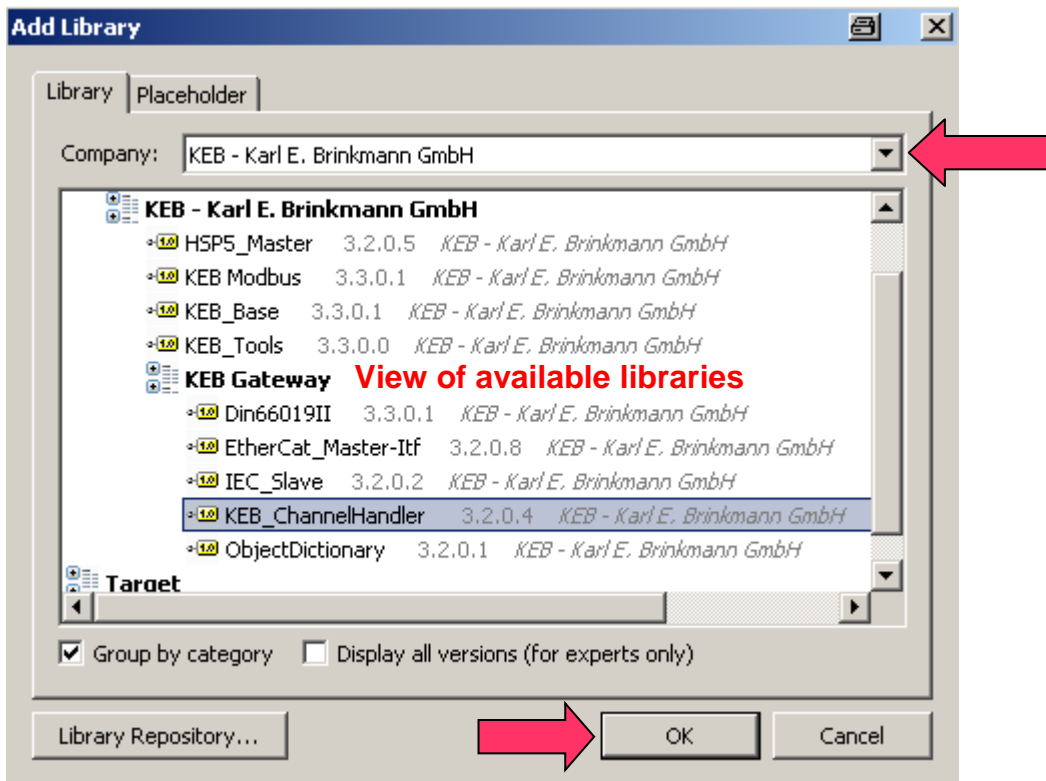
FUNCTION_BLOCK TOF

Name	Type	Inherited from	Address	Initial	Comment
IN	BOOL				starts timer with falling
PT	TIME				time to pass, before Q
Q	BOOL				is FALSE, PT seconds a
ET	TIME				elapsed time

Modify Libraries

[Add library...](#)
[Properties...](#)
[Remove library](#)
[Library repository...](#)

If you like to add additional libraries press the **Add library** link.



Add Library

Library Placeholder

Company: KEB - Karl E. Brinkmann GmbH

View of available libraries

- KEB - Karl E. Brinkmann GmbH
 - HSP5_Master 3.2.0.5 KEB - Karl E. Brinkmann GmbH
 - KEB Modbus 3.3.0.1 KEB - Karl E. Brinkmann GmbH
 - KEB_Base 3.3.0.1 KEB - Karl E. Brinkmann GmbH
 - KEB_Tools 3.3.0.0 KEB - Karl E. Brinkmann GmbH
 - KEB Gateway**
 - Din66019II 3.3.0.1 KEB - Karl E. Brinkmann GmbH
 - EtherCat_Master-Itf 3.2.0.8 KEB - Karl E. Brinkmann GmbH
 - IEC_Slave 3.2.0.2 KEB - Karl E. Brinkmann GmbH
 - KEB_ChannelHandler 3.2.0.4 KEB - Karl E. Brinkmann GmbH
 - ObjectDictionary 3.2.0.1 KEB - Karl E. Brinkmann GmbH

☒ Group by category ☐ Display all versions (for experts only)

[Library Repository...](#) **OK** **Cancel**

The libraries are grouped in categories (company, purpose).

Short library overview

On this page you see a short description of the most commonly used libraries in various categories.

3S → Softmotion and CNC

- **SM3_Basic:** Function blocks for motion control (PLC Open standard)
- **SM3_CNC:** Basic CNC functions
- **SM3_Drive_ETC_KEB:** Softmotion drivers for KEB Drives via Ethercat
- ...and more

System

- **Standard:** IEC help functions (e.g.: Timer, string handle, counter, trigger, ...)
- **Util:** More IEC help functions (e.g.: Math functions, Bit/byte handle, signals, ...)
- **SysLibs:** (e.g.: SysTime, SysSocket, Visu, etc.)
- ...and more

KEB – Karl E. Brinkmann GmbH

- **KEB_Base:** Basic functions (e.g.: Socket handle)
- **PLC Hardware Library:** Hardware access functions (e.g.: reboot PLC, set error LED, ...)
- **KEB_Communication_Utility:** Com. tools (e.g.: ModBus, TFTP, FileAccess ...)
- **KEB_SMC_Utility:** Enhanced Softmotion functions (e.g.: coming, phasing, ...)
- **KEB_Drive_Utility:** Axis control without Softmotion, misc. drive tools(PID, Ramp...)
- **KEB_Gateway_Utility:** Communication management of KEB devices.
 - Parameter adjustment of KEB devices via field bus.
 - Usage of drive parameter channel
 - Master and Slave handling (EtherCAT, HSP5, DIN66019, IEC...)
 - Bus diagnostic
- **KEB_Channelhandler:** Gateway for all jobs (requests/ responses) of KEB devices. The basic library for the KEB communication model. Entire SDO communication is handled by the channelhandler function block.

...and more

PLC_PRG

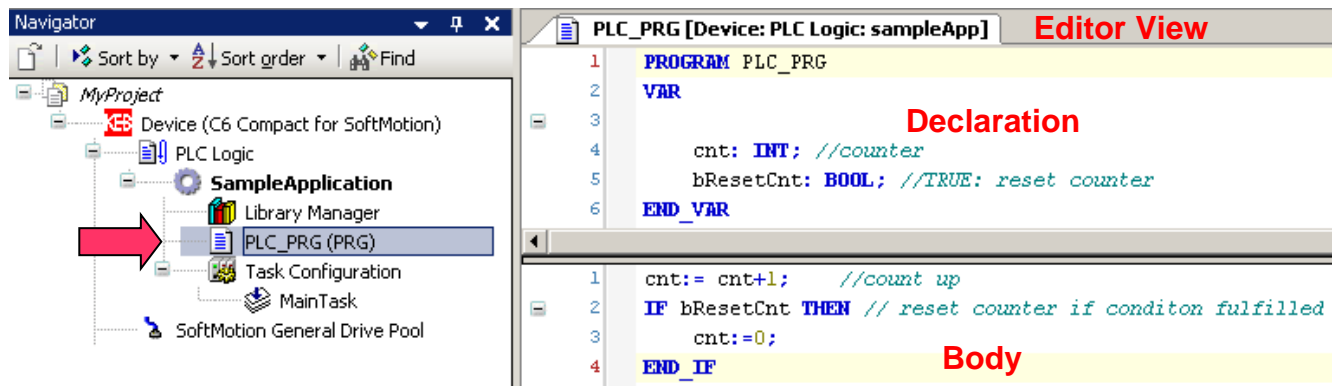
PLC_PRG is the standard POU that is called first of all by the PLC.

(can be changed in the task configuration)

Double-Click on a POU (e.g. PLC_PRG) opens the Editor View (ST Editor).

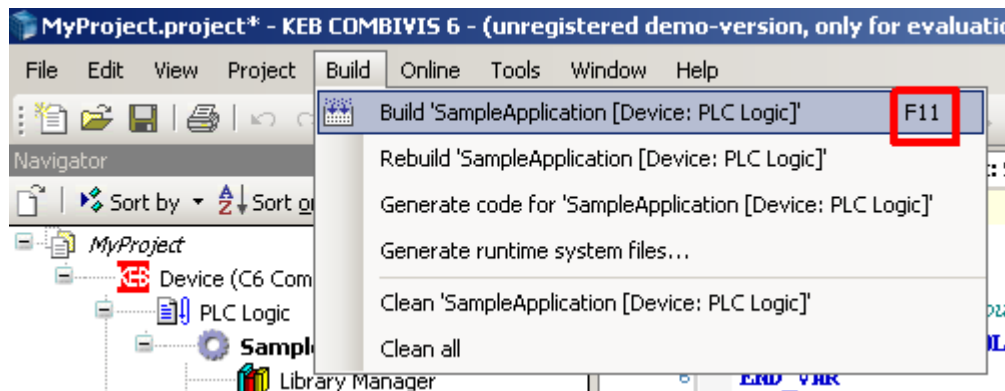
-In the **Declaration** part you may declare the needed variables.

-in the **Body** part you may enter your programming code.

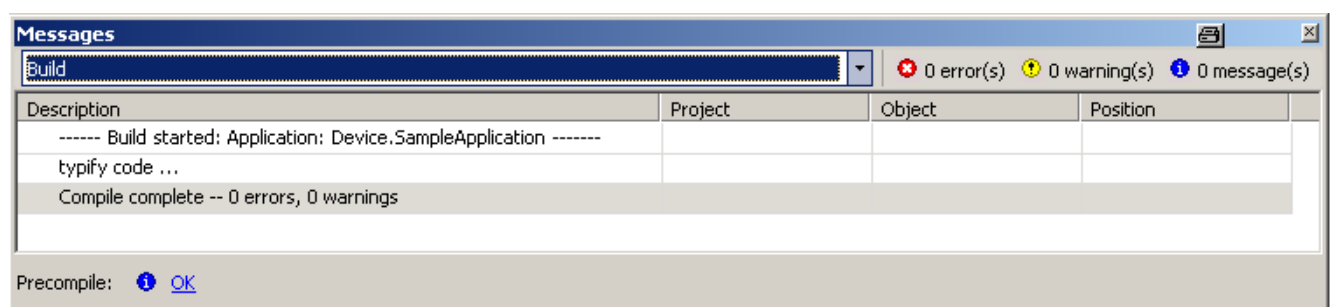


Compile an Application

Left-Click on **Build--> Build 'Application name'**

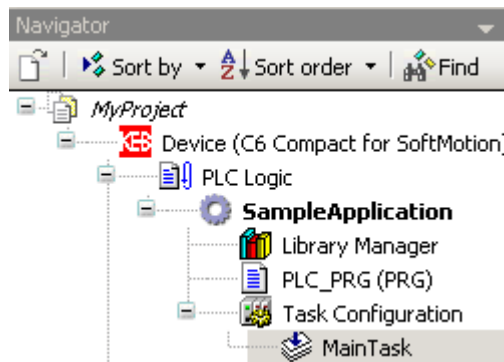
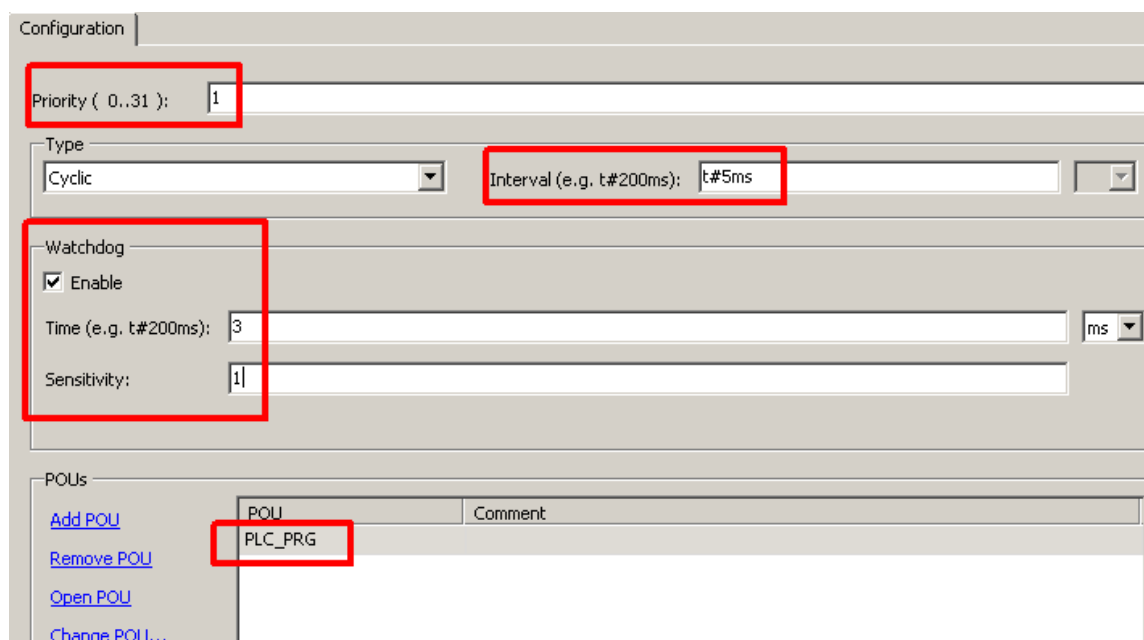


The window **Messages** shows the result of the build process.



Task Configuration

Double-Click on the **MainTask** object opens the task configuration view.

Configuration

Priority (0..31): 1

Type: Cyclic Interval (e.g. t#200ms): t#5ms

Watchdog

☒ Enable

Time (e.g. t#200ms): 3 ms

Sensitivity: 1

POUs

[Add POU](#) [Remove POU](#) [Open POU](#) [Change POU...](#)

POU	Comment
PLC_PRG	

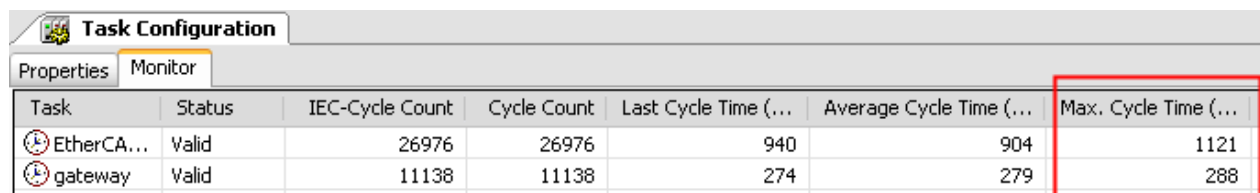
Priority: Tasks with higher priority may interrupt tasks with lower ones (0= highest priority).

Interval: Defines the task cycle time.

Recommendation: Factor 1.5..3* Max. Cycletime, see Task Configuration→Monitor

(Times can be reseted manually for a new measurement)

Attention: Too short cycletimes may result in high jitter and cycletime overflows.



Task	Status	IEC-Cycle Count	Cycle Count	Last Cycle Time (...)	Average Cycle Time (...)	Max. Cycle Time (...)
EtherCA...	Valid	26976	26976	940	904	1121
gateway	Valid	11138	11138	274	279	288

Watchdog: (optional) If enabled, the program stops, if a program cycle is longer than the adjusted time.

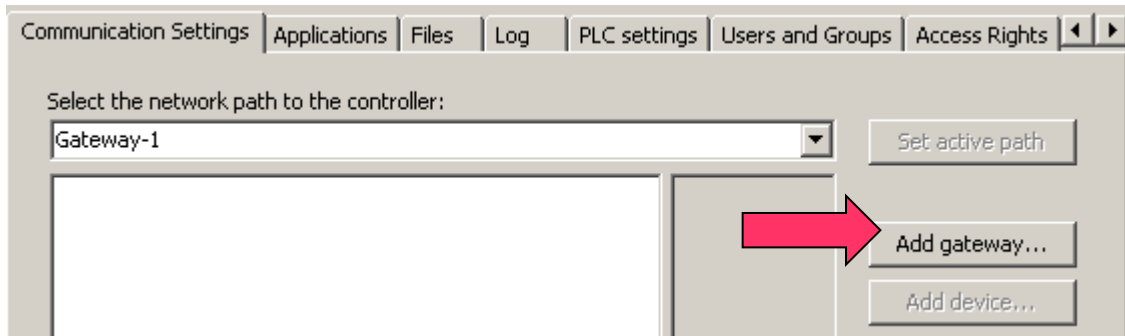
Sensitivity: Number of critic cycles until cycle time error will be triggered.

POUs: POUs that are called at every task activation.

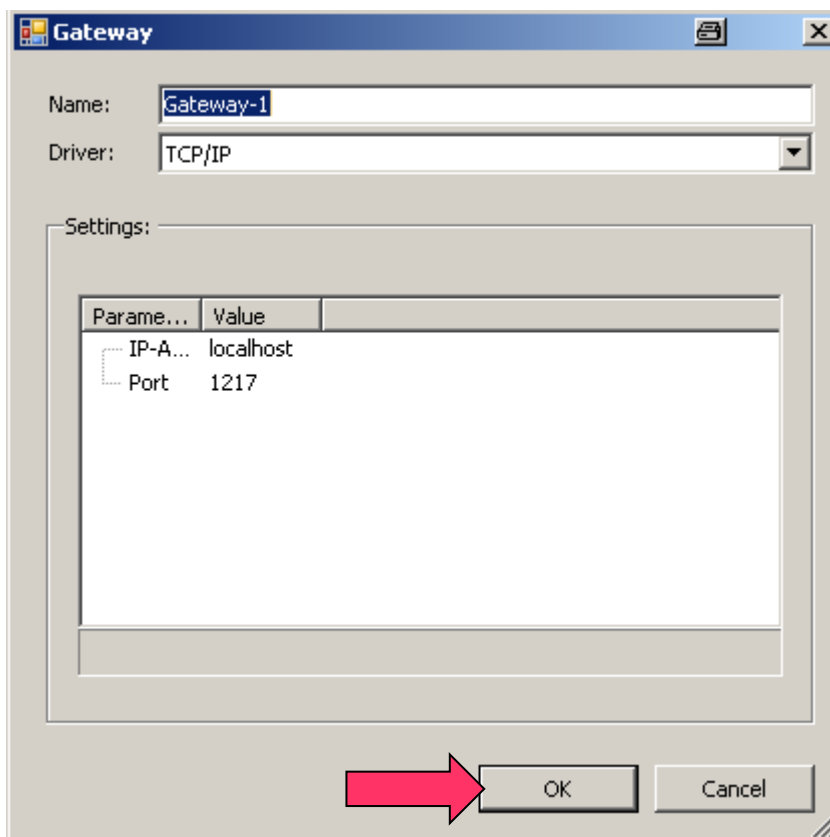
Configure communication to PLC

Double-Click on a device object shows the device options view.

Go to Tab **Communication Settings**



If COMBIVIS studio 6 is started the first time press the button **Add gateway**.



Confirm the default settings to add the gateway.

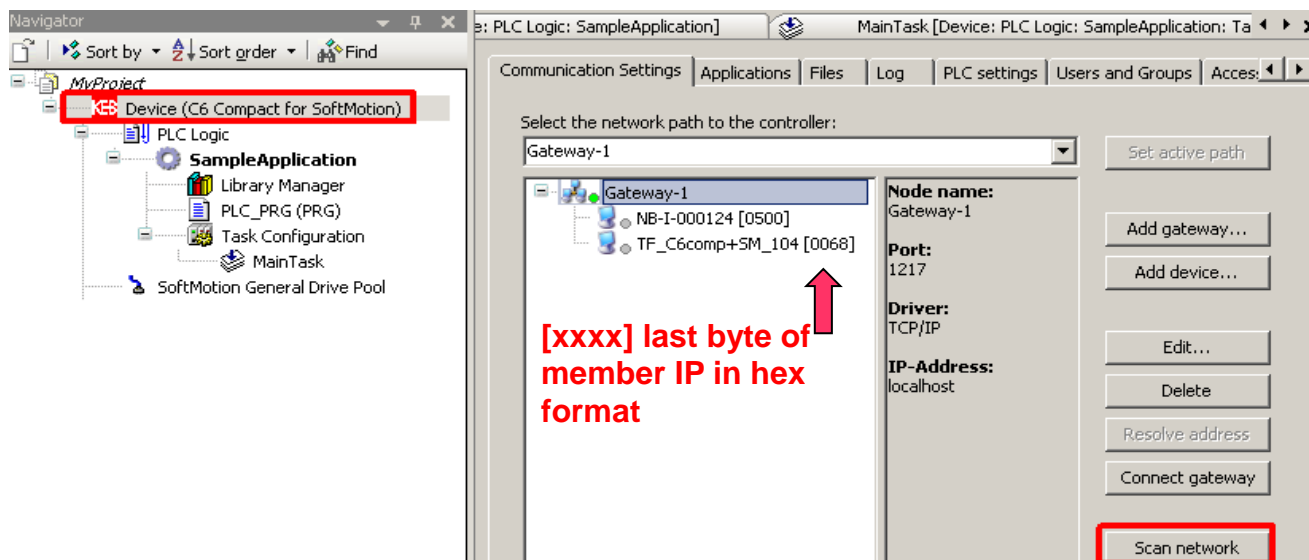
Mark **Gateway-1 (default Gateway)**.

Press the Button **Scan Network**.

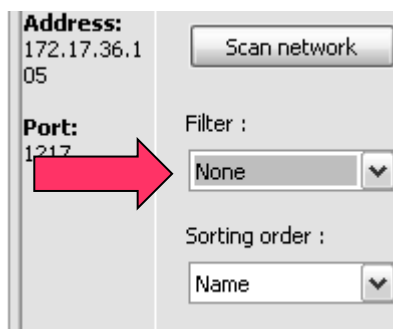
→ **Local Ethernet is scanned for active PLCs**

All powered PLCs in your current Ethernet network are found (depends on the IP address and subnet mask of the PLCs and your PC → see [#2.9.KEB device search](#))

(Note: PCs with a running soft PLC are also found)



Note: Deactivate Filter options to find all control types.

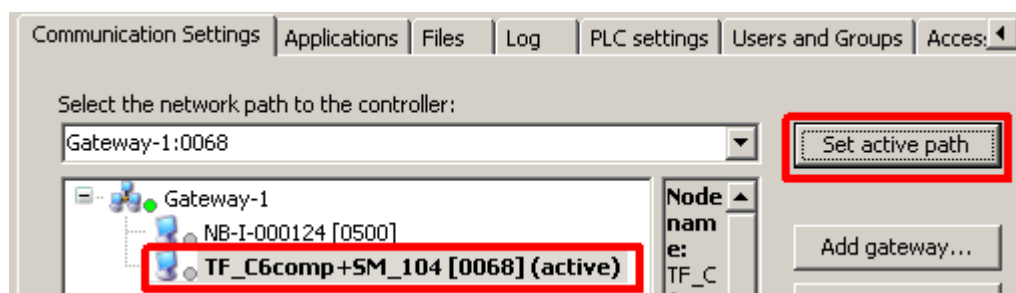


Choose the control you want to log in to.

Press the button **Set active Path**.

→ **Active Device is displayed in bold font.**

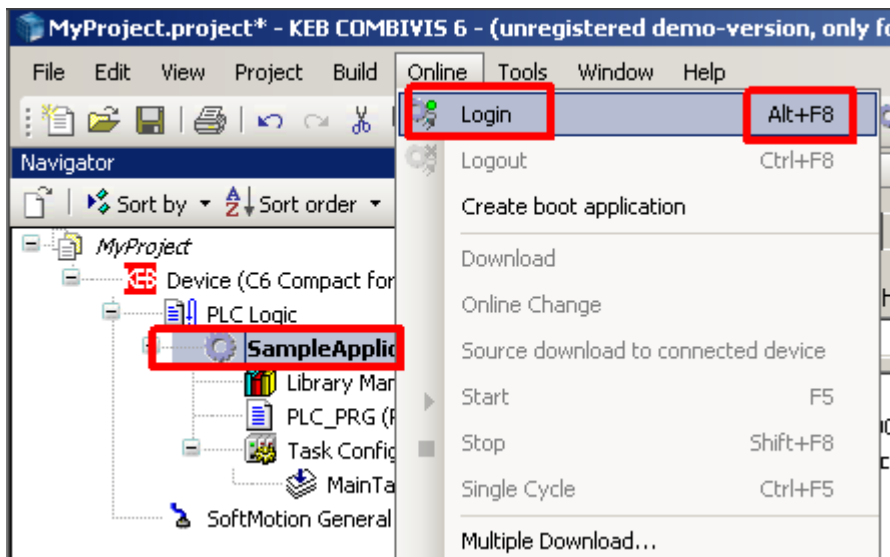
→ **“Virtual” device is now linked to a real hardware device in the network!**



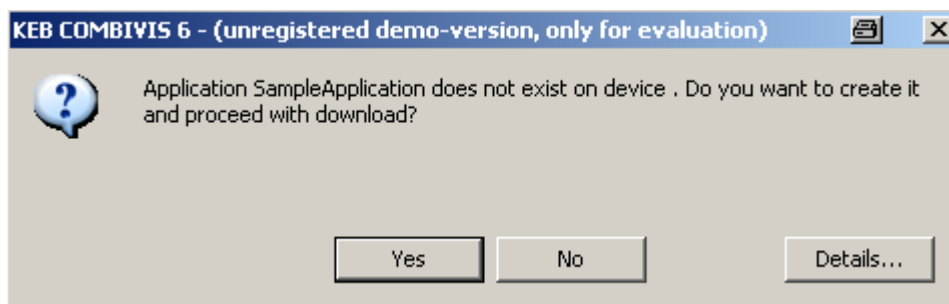
Download application and login

The currently active application in an project is displayed in bold font.

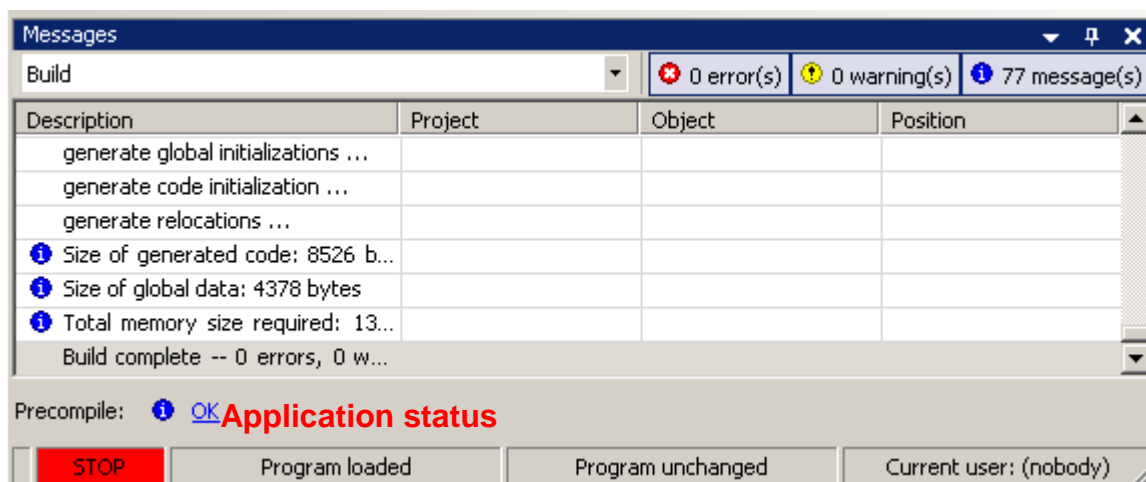
To login with this application execute Online→Login (Alt+F8)



The current application status of the device is checked. The shown dialog has to be confirmed to proceed.

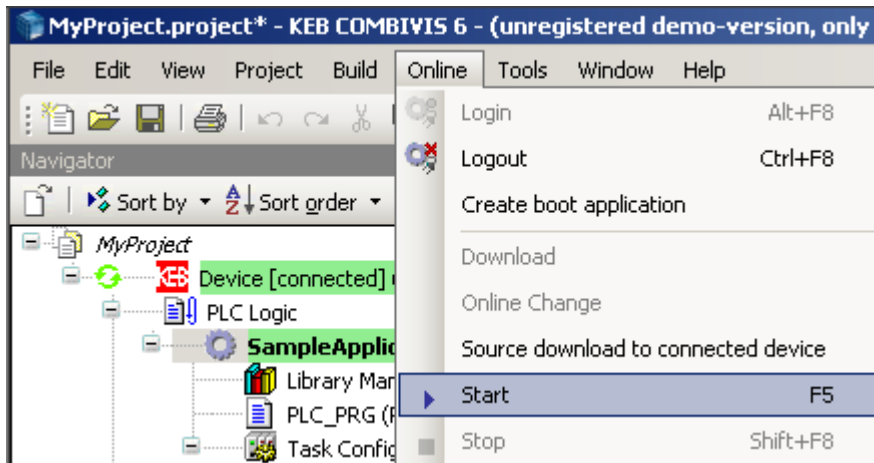


If you are logged in the status bar shows the application status.



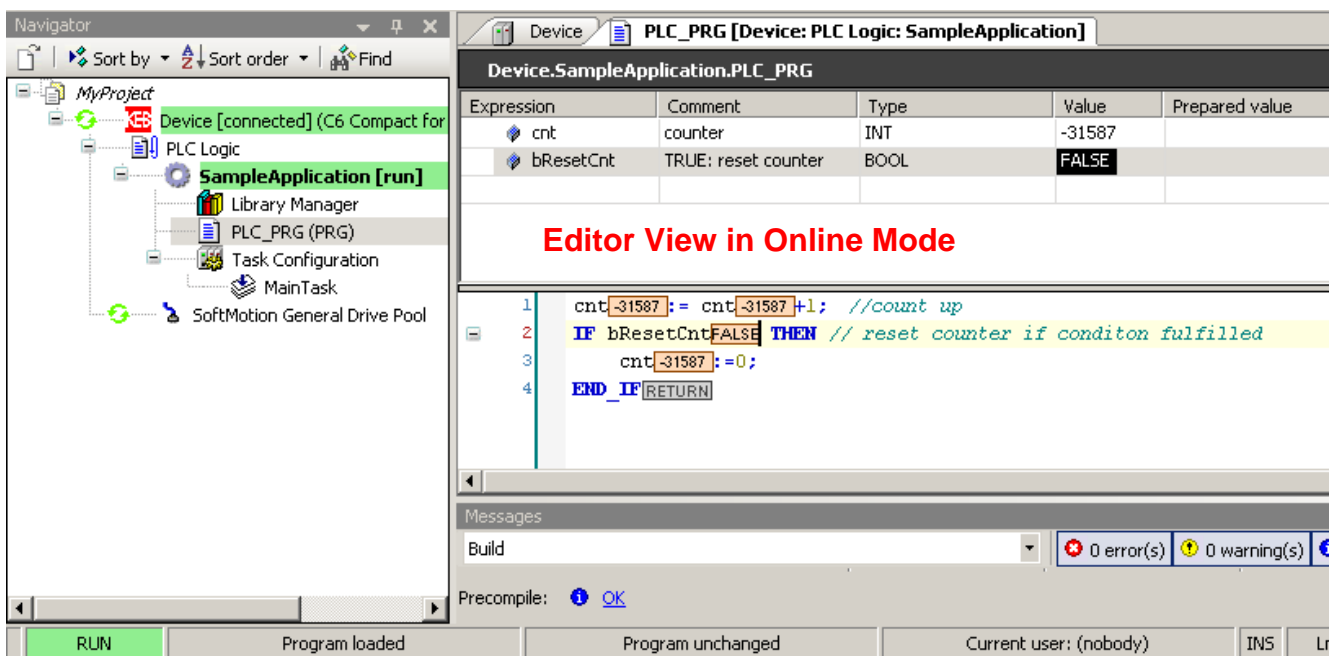
→ STOP: Application is stopped

To start the application execute **Online** → **Start (F5)**.



Watch and debug application

As you are logged in on an running application, the editor view switches into “online mode”
A Field behind every variable shows the current value.



To change a parameter Value online just click on the parameter field or in the column **Prepared Value** in the Declaration part.

Device.SampleApplication.PLC_PRG				
Expression	Comment	Type	Value	Prepared value
cnt	counter	INT	-25036	
bResetCnt	TRUE: reset counter	BOOL	FALSE	TRUE


```

1 cnt-25036 := cnt-25036+1; //count up
2 IF bResetCnt FALSE<TRUE> THEN // reset counter if conditon fulfilled
3   cnt-25036 :=0;
4 END_IF RETURN
  
```

To write the prepared value to the parameter execute **Online** → **Write Values (Ctrl+F7)**.

Device.SampleApplication.PLC_PRG				
Expression	Comment	Type	Value	Prepared value
cnt	counter	INT	0	
bResetCnt	TRUE: reset counter	BOOL	TRUE	


```

1 cnt 0 := cnt 0 +1; //count up
2 IF bResetCnt TRUE THEN // reset counter if conditon fulfilled
3   cnt 0 :=0;
4 END_IF RETURN
  
```

To **force** the prepared value to the parameter execute **Online** → **Force Values (F7)**.

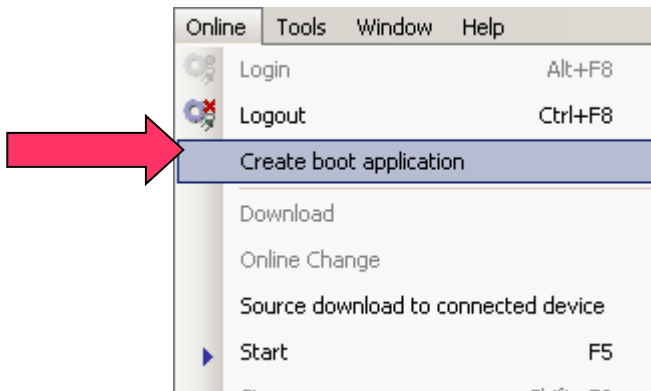
Device.SampleApplication.PLC_PRG				
Expression	Comment	Type	Value	Prepared value
cnt	counter	INT	0	
bResetCnt	TRUE: reset counter	BOOL	F TRUE	


```

1 cnt 0 := cnt 0 +1; //count up
2 IF bResetCnt TRUE THEN // reset counter if conditon fulfilled
3   cnt 0 :=0;
4 END_IF RETURN
  
```

Create boot application

To save an application persistent on the device an boot application has to be created.



You have to be logged in and there must be enough free space on the internal memory.

An normal application (downloaded to device via *Login*) will be lost after power off/ on reset!

Hint: When you create a boot application on an IPC you have to reboot the IPC to save the boot project (start-->shut down). When you do a power off/on reset directly after the creating, the boot project will be lost!

Hint: On an C6 embedded control the creating of the boot project and automatic cleaning of the flash memory needs up to 30 sec. It is not allowed to turn the power off during this time!

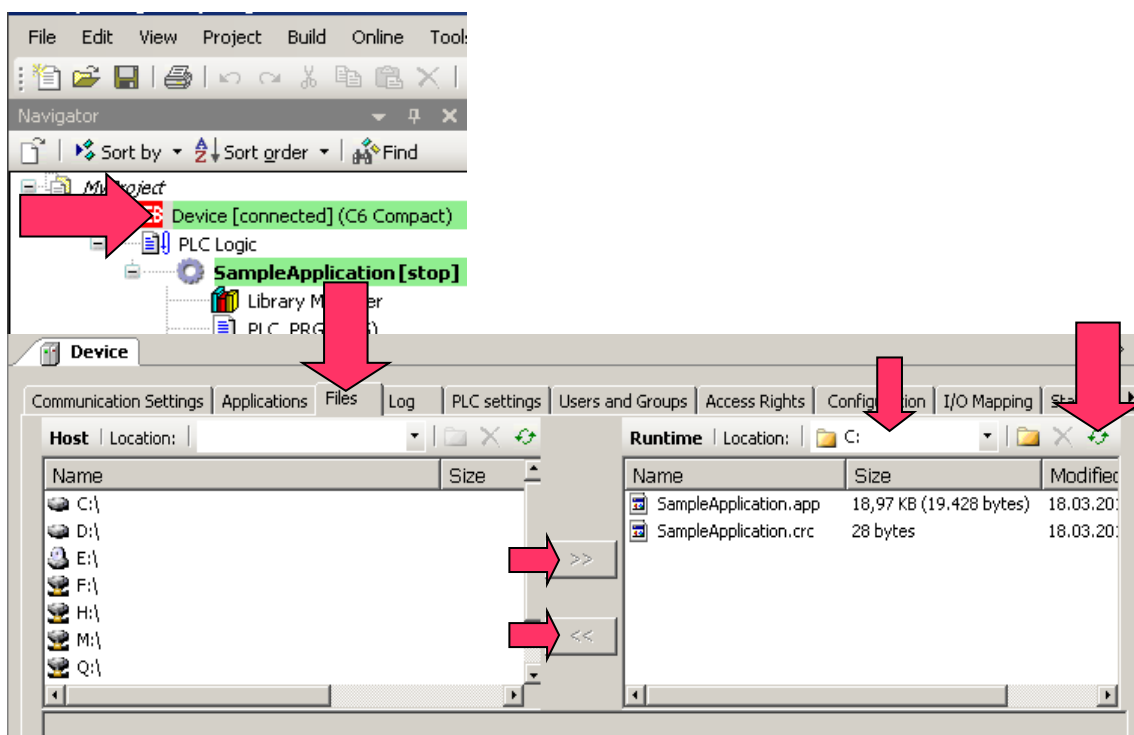
Device file system access

The internal device file system can be easily managed by using the integrated file browser.

→ Device\Files

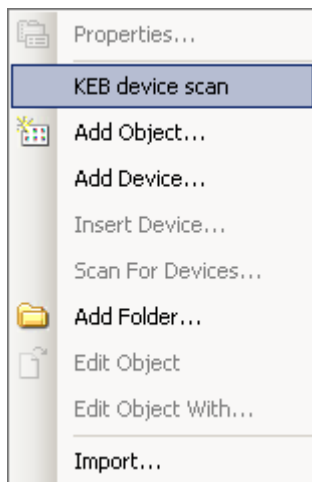
Click → Refresh Button to see the current files on the device

Use Buttons << / >> for file transfer between PC and control.



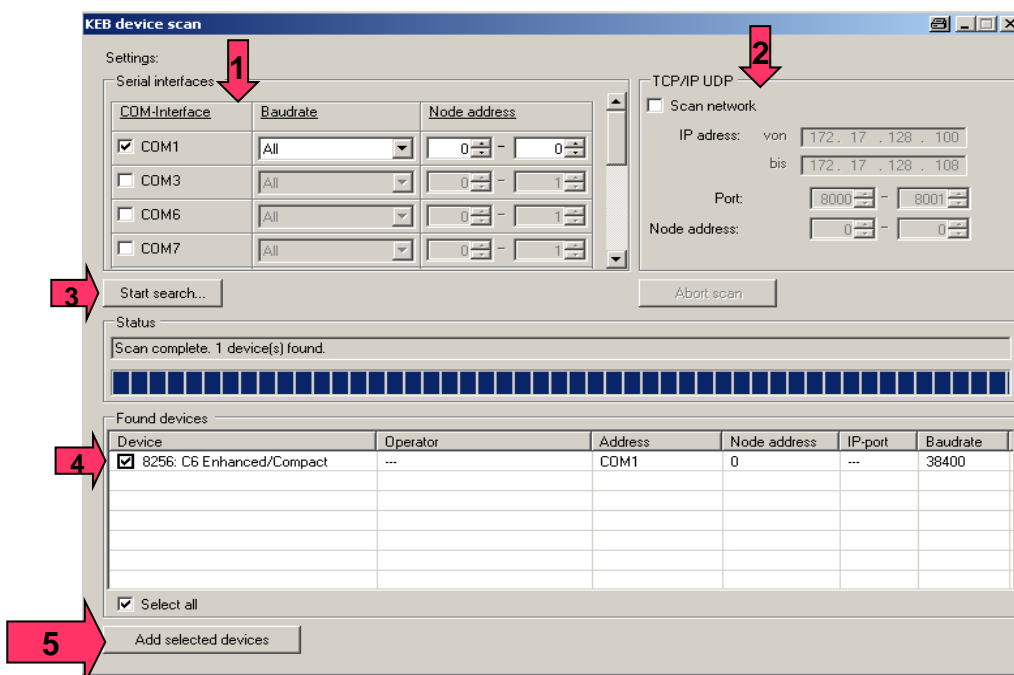
KEB device search

To scan your COM ports/ your network for devices (controls/ inverters) just right-click anywhere in environment and execute the **KEB device scan**.



- 1: Adjust the COM Ports you like to scan.
- 2: Adjust the Ethernet range you like to scan.
- 3: Press the **Start search button**.
- 4: Select the found devices you like to add to the project.
- 5: Press the **Add selected devices** button.

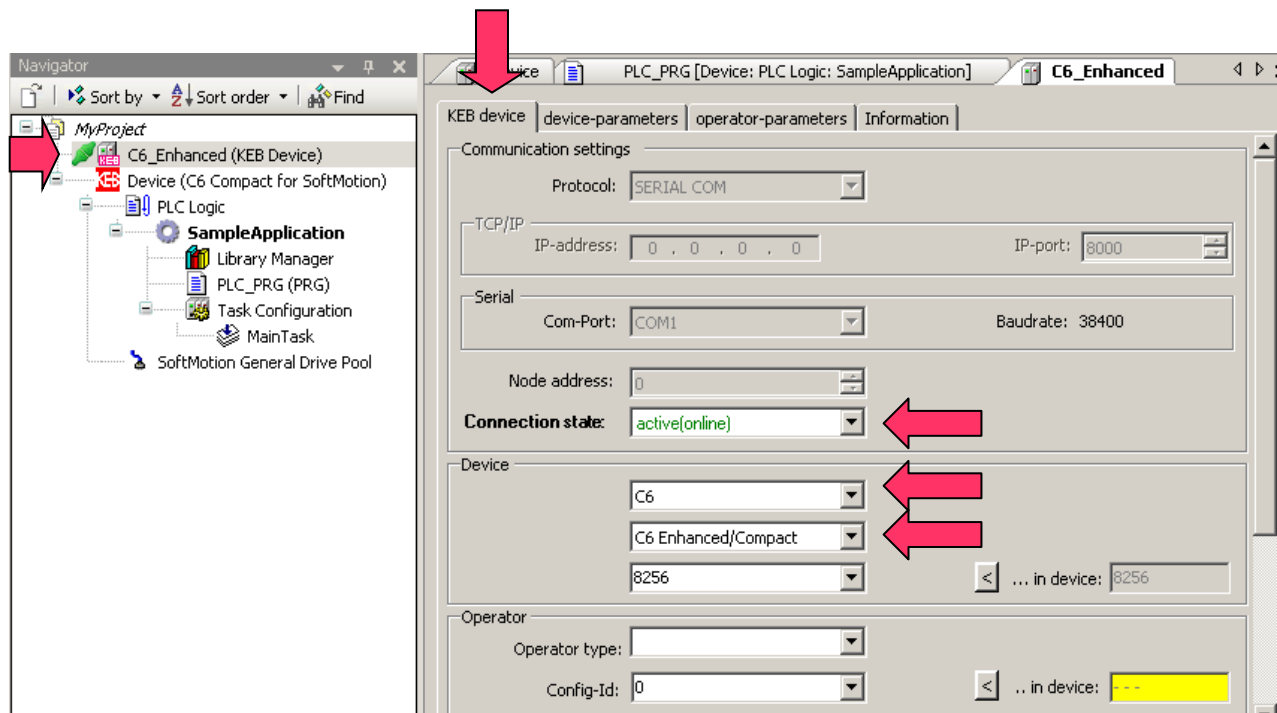
(Hint: C6 embedded PLCs via TCP/IP can be found on Port **8001**
inverters on Port 8000 + Node address)



E.g.: C6 Compact connected to COM port 1 via **RS232 cable (0058025-001D)**.
The found devices are added to the project navigator.

Assign IP address to KEB embedded control (C6 compact)

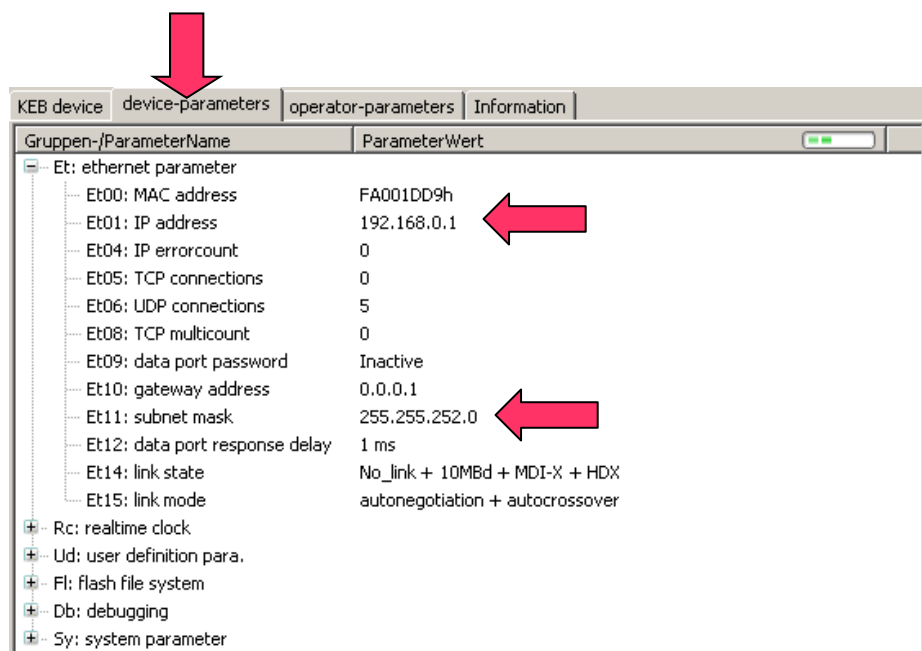
Search and add the control via the KEB device search (e.g. control connected via serial COM)
Double-Click on the device opens the device options view.



Tab KEB device: Shows the communication settings. These are already configured by the KEB device search!

Tab device-parameters: Shows the internal device parameters. (E.g. ethernet parameters)

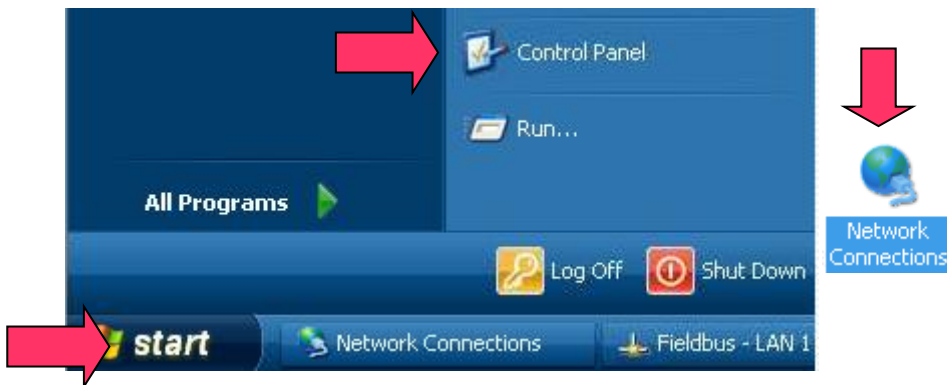
Hint: You can only login to devices that have a valid IP address (Et00) and are located in the same subnet (Et11) as your PC you want to login from!



Sample IP address

Assign IP address to KEB IPC (C6 ECON/ PERFORM)

- Use the windows menu to assign the IP settings for the IPC

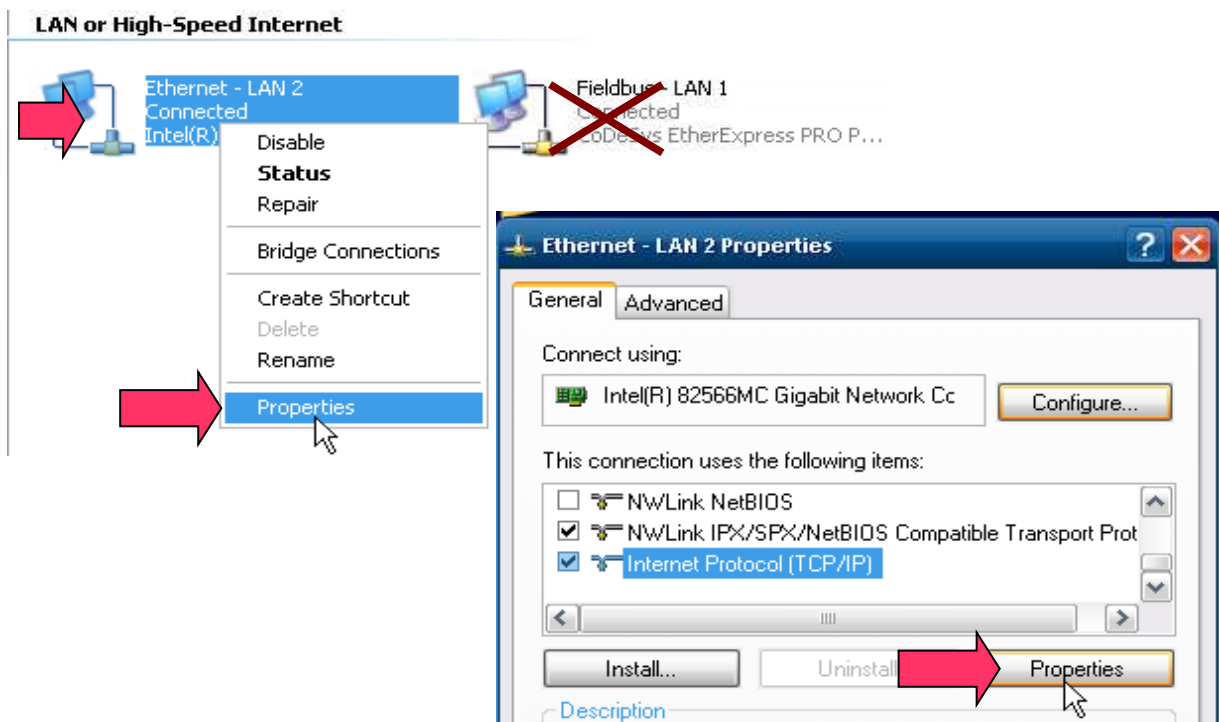


- Start → Control Panel → Network Connections
- Choose Ethernet – LAN 2 → properties

Hint: Do not change the Fieldbus LAN 1 settings!

(Fieldbus IP e.g.: 169.254.1.20; SubNetMask: 255.255.0.0)

- Consult the responsible network administrator to choose an appropriate IP address AND Subnet mask for your Network



☐ Obtain an IP address automatically
☒ Use the following IP address:

IP address:

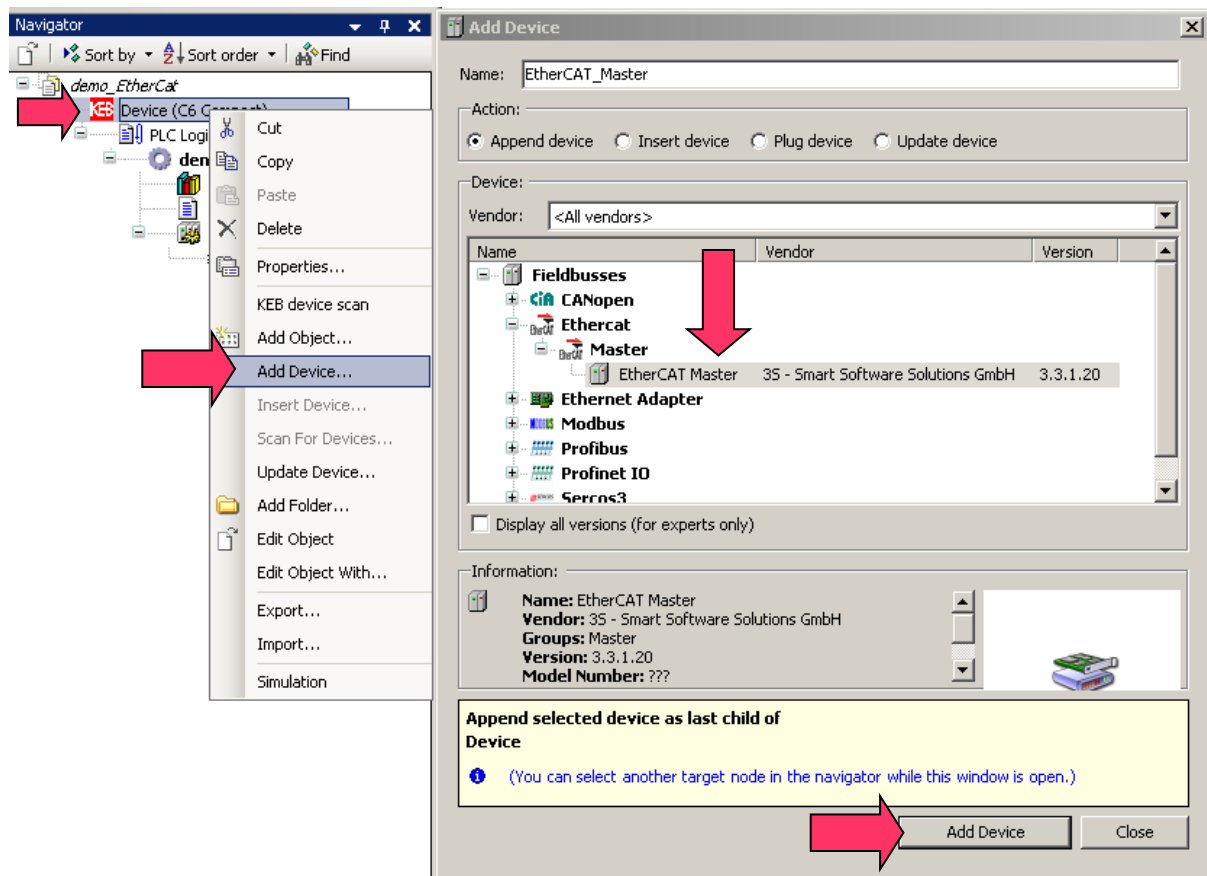
Subnet mask:

Default gateway:

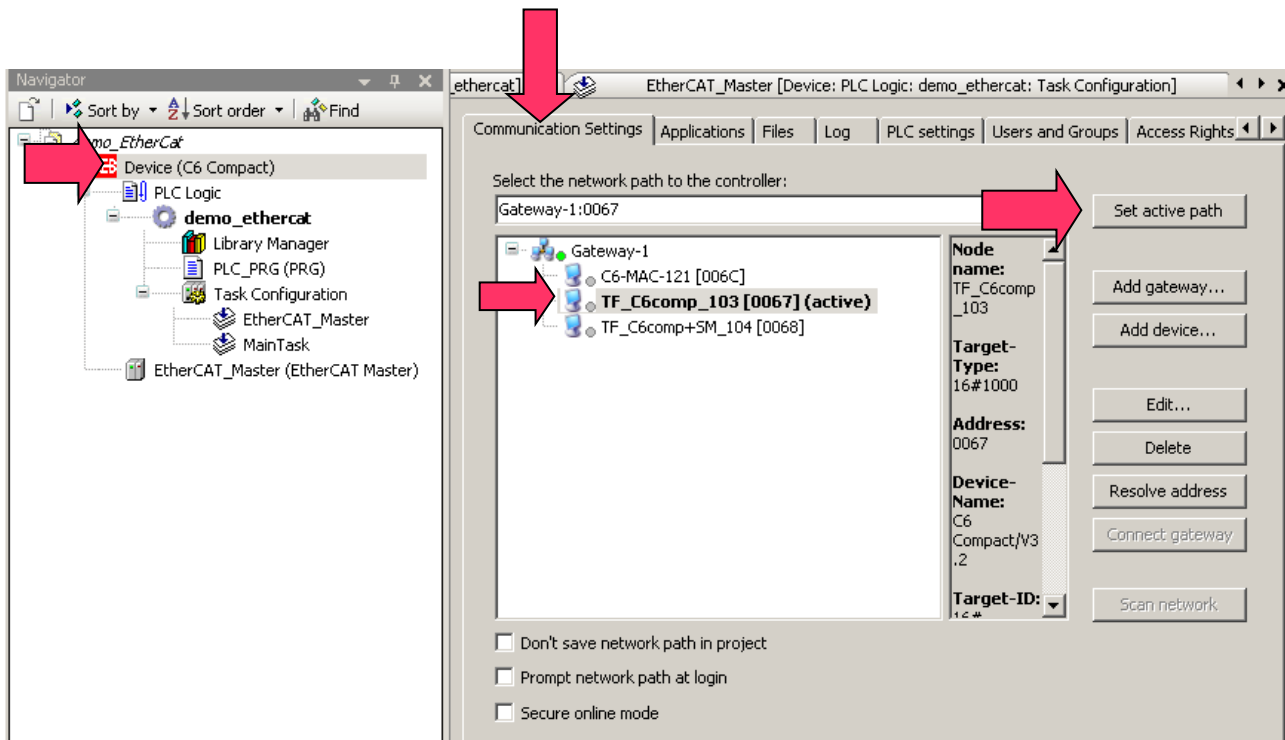
Enhanced COMBIVIS studio 6 knowledge

Configure Ethercat field bus

- Begin with a new standard project
- Right-Click on the control device → **Add Device**
- The **Add Device** dialog will be opened
- Select **Fieldbusses** → **Ethercat** → **Master** → **EtherCAT Master (Vendor 3S)**



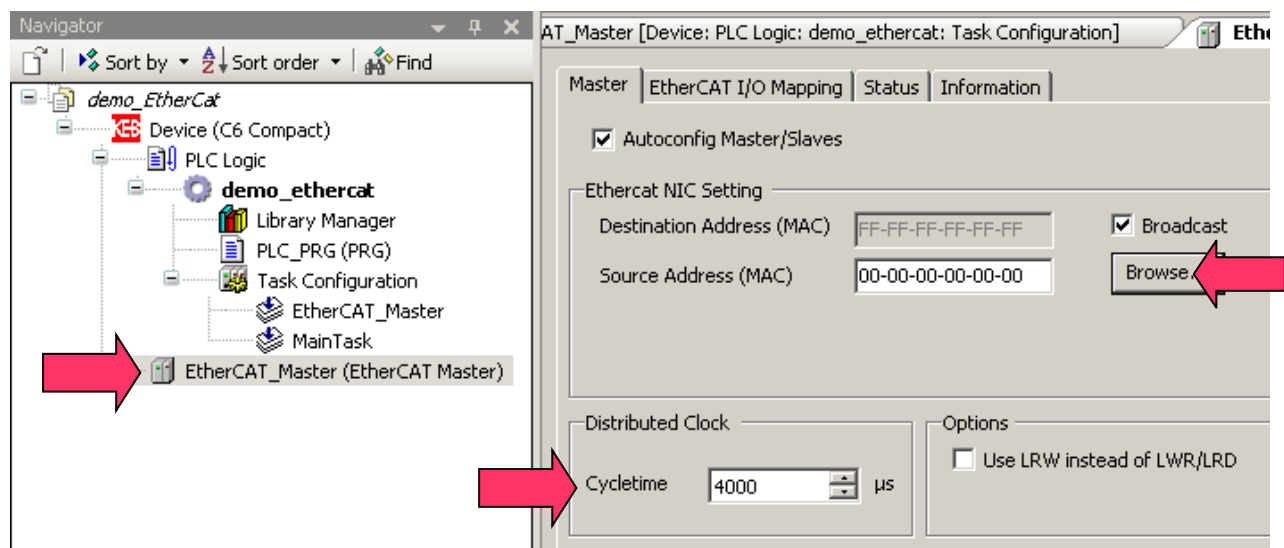
- Press **Add Device** button
→ Ethercat Master appears in the project navigator subordinated to selected device



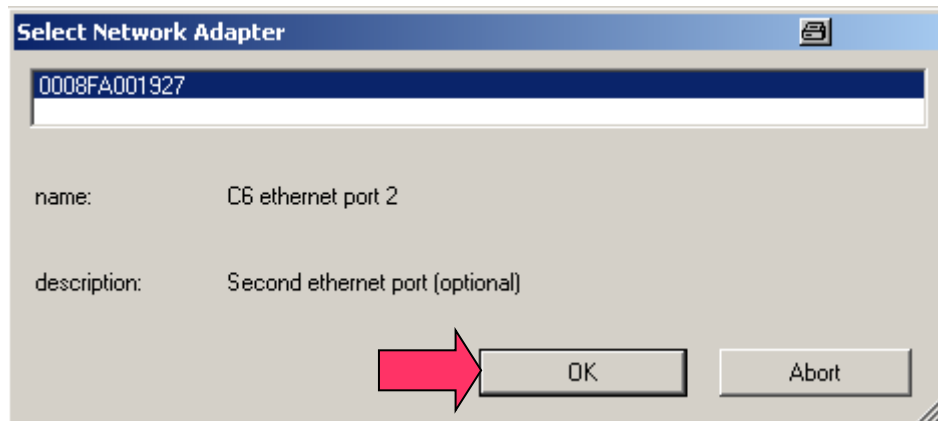
- Link the control device object to a hardware device in your network with Ethercat master ability.

Set EtherCAT MAC option 1

- Double-Click on the Ethercat Master object
- Choose the cycle time for the field bus communication
- Choose the hardware interface (RJ45 Ethernet slot) on the control device for the Ethercat Master by clicking on the **Browse..** button.



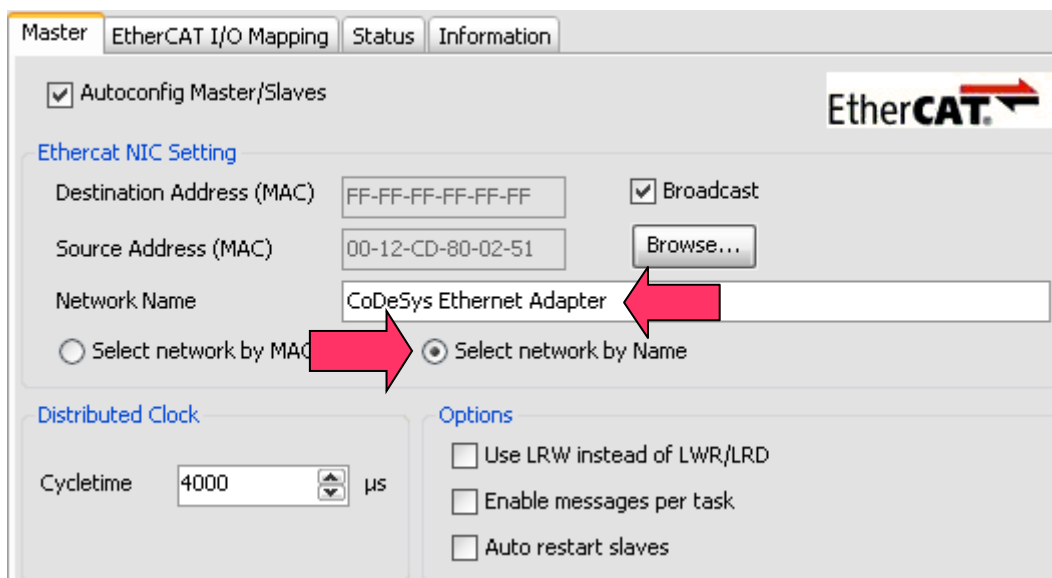
Select the Network Adapter (MAC address is shown) for your Ethercat Master



Set EtherCAT MAC option 2

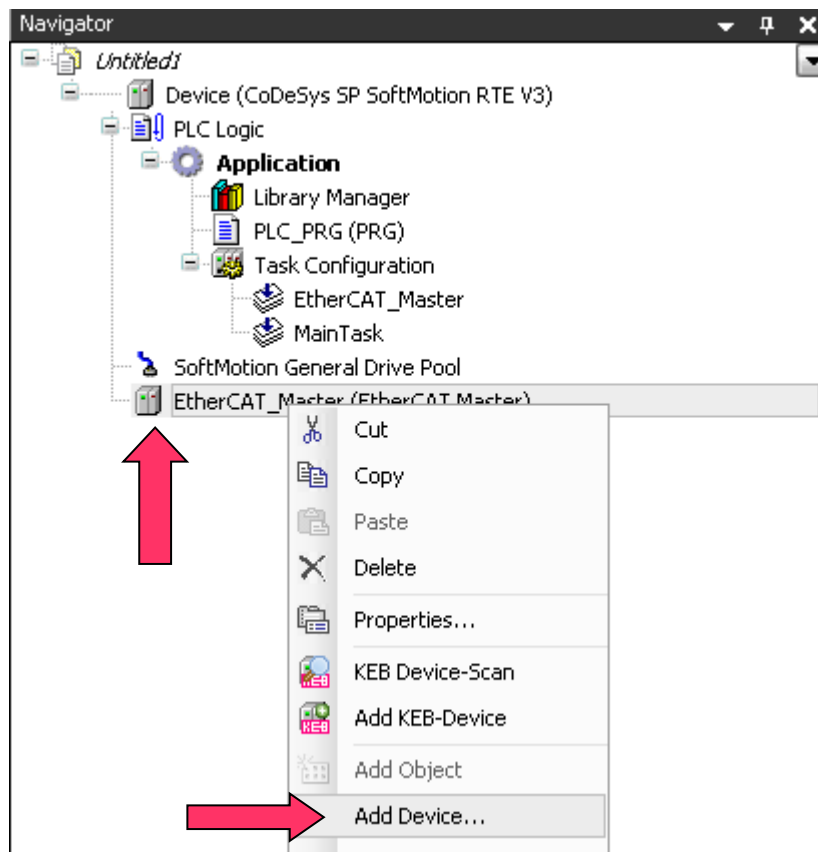
For KEB IPC you can optionally “select the network by Name”

- left click- on option **“select the network by Name”**
- Enter the Network name: **“CoDeSys Ethernet Adapter”**



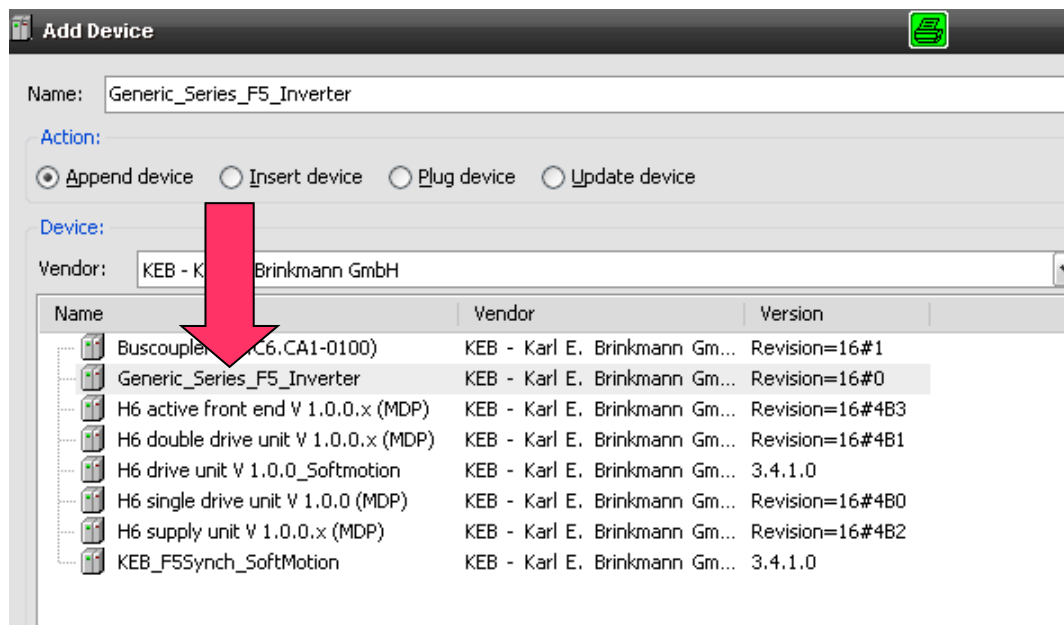
Append devices to the EtherCAT Master

- Right-Click on the Ethercat Master object → **Add Device**
- Choose the device from the Ethercat Slave list → **Add Device**



e.g. **generic_Series_F5_Inverter** (F5 inverter with self defined process data mapping)

e.g. **KEB_F5Synch_SoftMotion** (F5 inverter configured for softmotion)



Configure Device on the EtherCAT Master

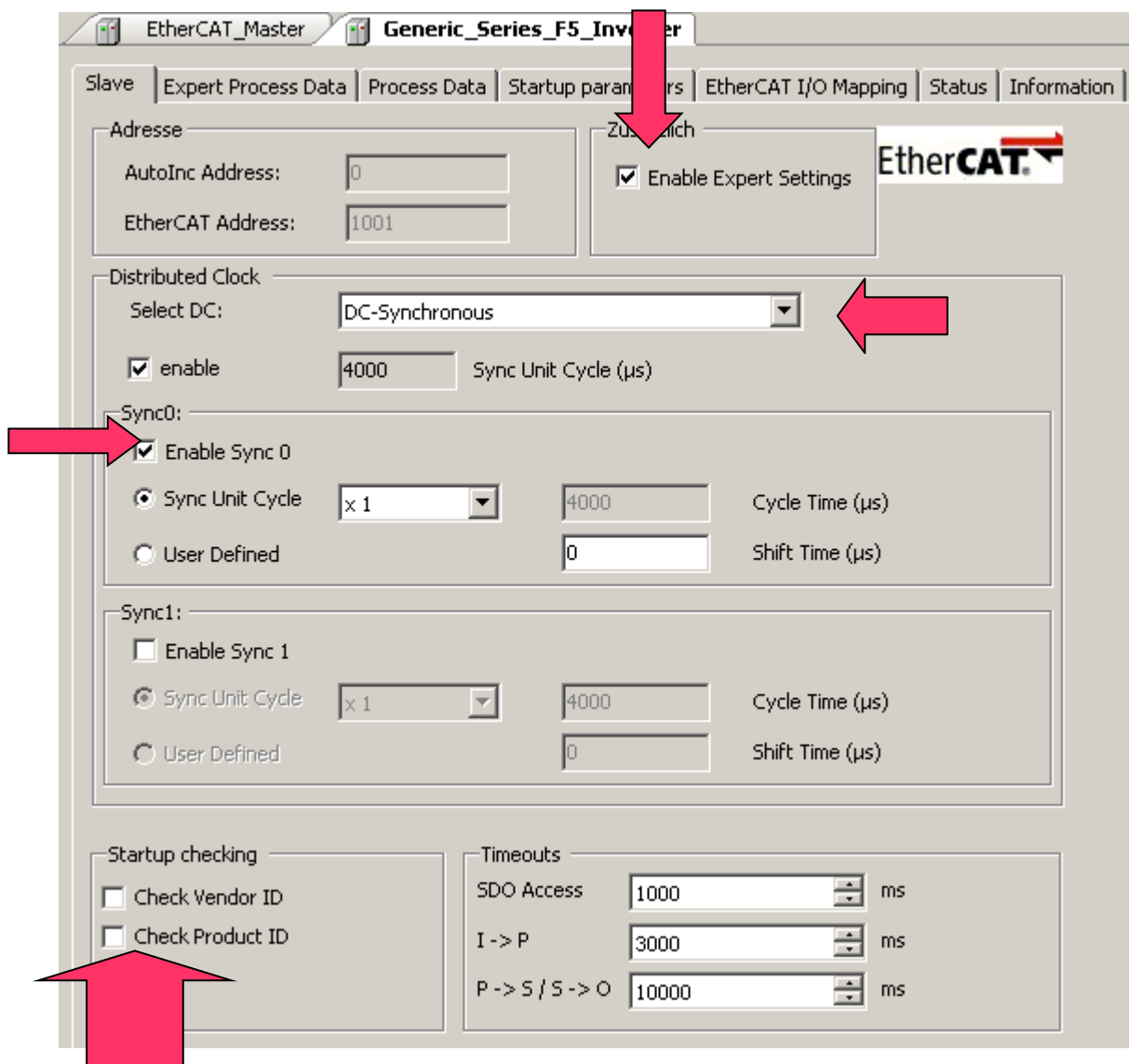
To get the communication with the device working correctly you have to set some additional EtherCAT options. Double click on the device and set following instructions:

- Enable Expert Settings
- Enable Synchronous mode (if needed in your application and supported by the device)

Hint: Do not activate Sync mode for KEB Remote IO

- **Disable check of Product ID**

(only, if not supported by device, e.g. generic_series_F5_inverter)



Configure the EtherCAT Process Data

To control the devices on the EtherCAT bus you can define which parameters should be exchanged cyclically.

→ e.g. F5 Inverter generation: You can read 3 Parameters and write 3 Parameters.

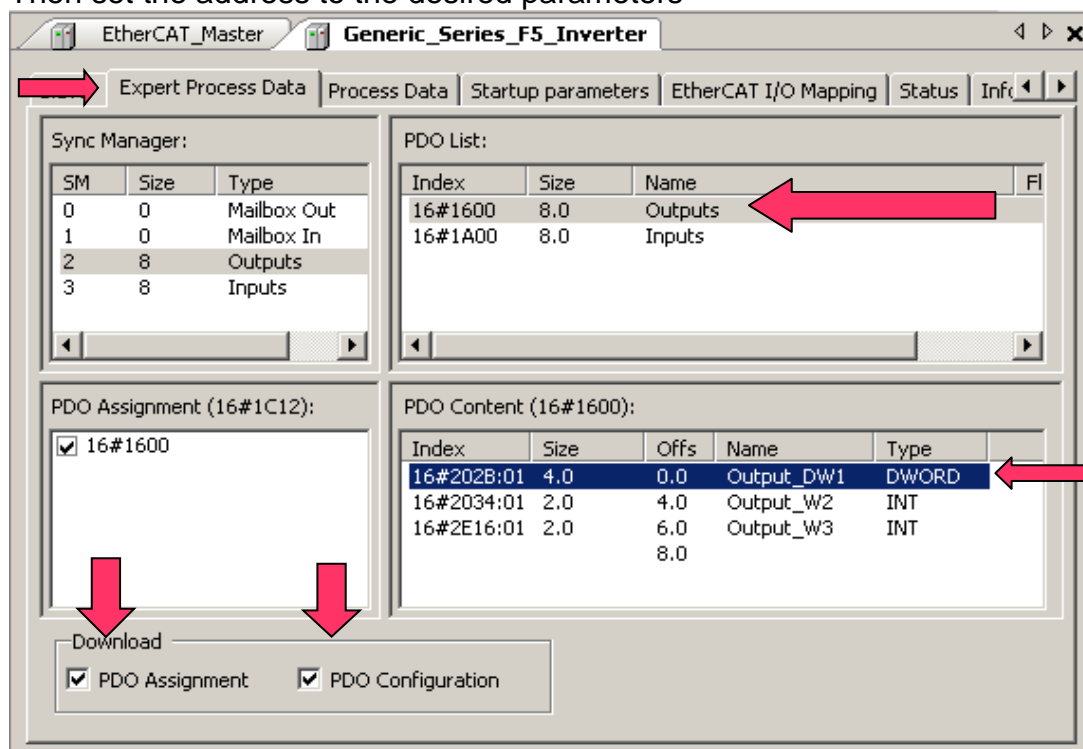
Outputs: (Send to device)

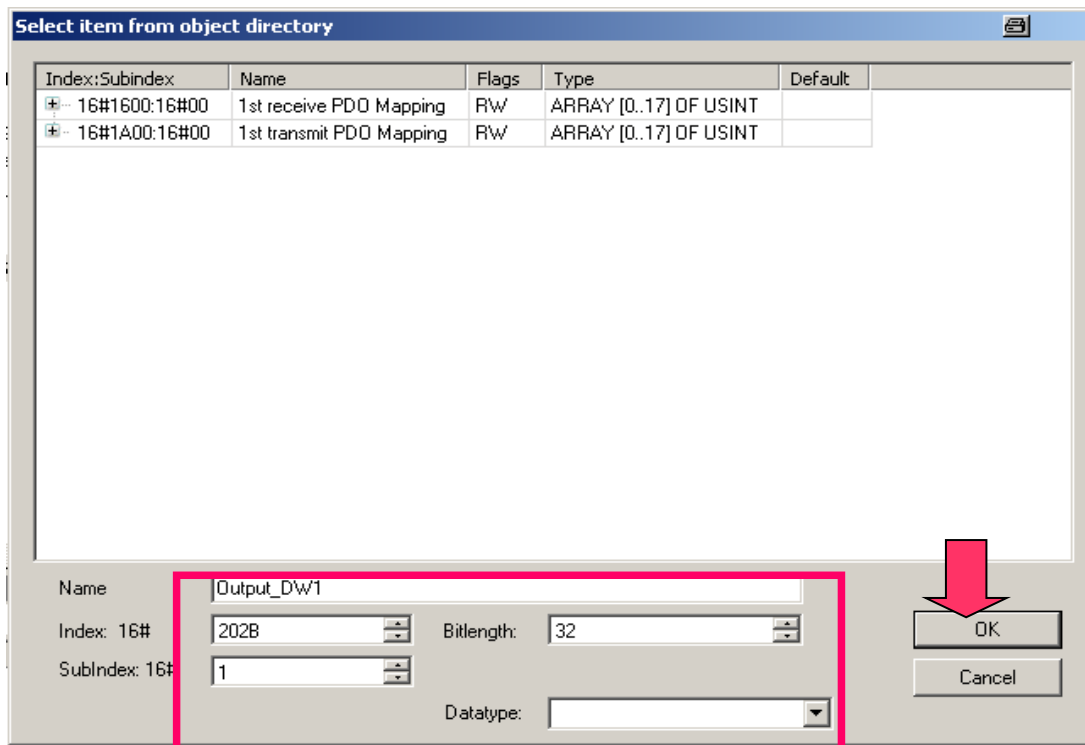
- Output_DW1 DWORD
- Output_W2 INT
- Output_W3 INT

Inputs: (Read from device)

- Input_DW1 DWORD
- Input_W2 INT
- Input_W3 INT

- To use them properly you have to assign the address of the parameters you want to transfer.
- Choose tab “Expert Process Data”
- Set the ticks for “PDO Assignment” and “PDO Configuration”
- Click on Outputs or Inputs
- Double Click on the assignment you want to modify
- Then set the address to the desired parameters

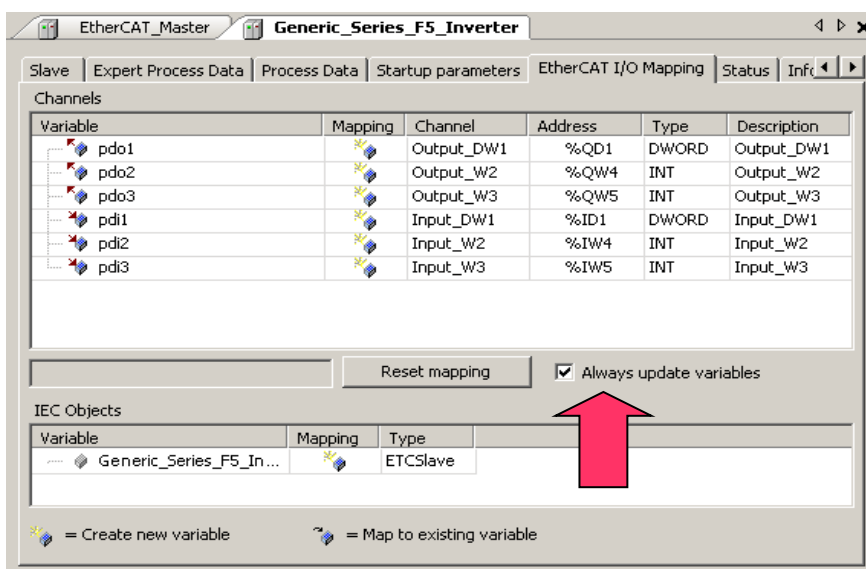




Hint for F5: The first 16#2000 address are reserved by the EtherCAT Master! So in case of a F5 inverter you have to add this value as offset to your address (Address 16#0023 would be 16#2023)

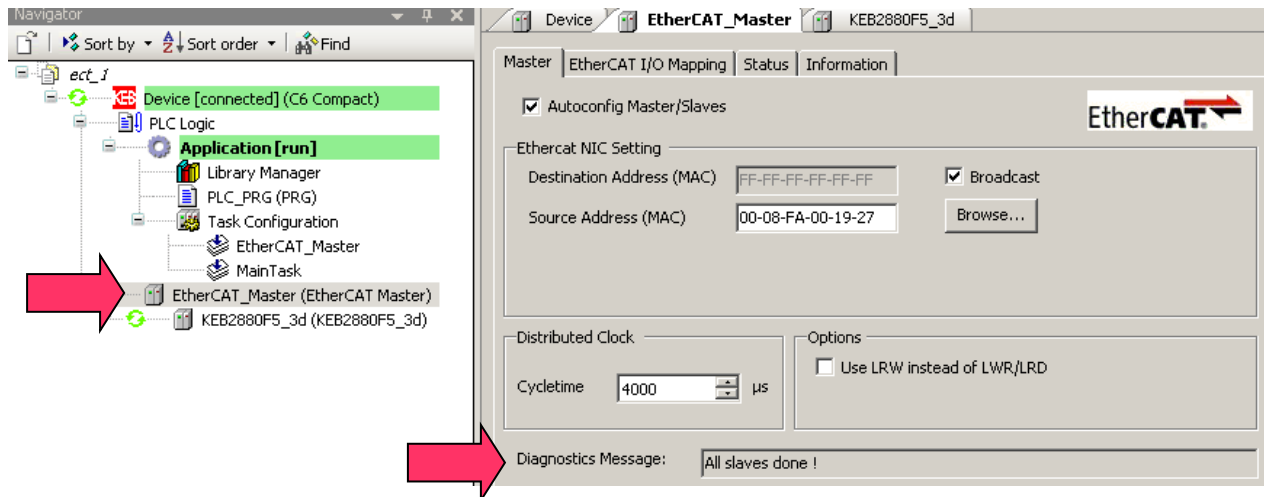
Now you can add a mapping to your outputs and inputs:

- Click tab EtherCAT I/O Mapping
- Enter desired variable name (if variable name does not exist, COMBIVIS 6 declares it as global variable)
- **Set "Always update variables"**



When you don't want to use your own variables then you can use the address given from the EtherCAT master.

When these adjustments are done then compile, download and start application.



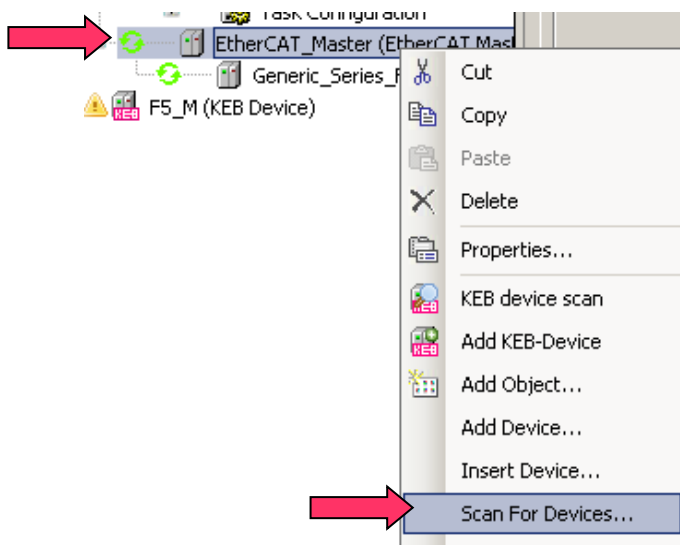
Ethercat Master Options View shows the current status of the Ethercat Bus.

KEB I/O Module

KEB I/O modules have to be connected to a bus-coupler.

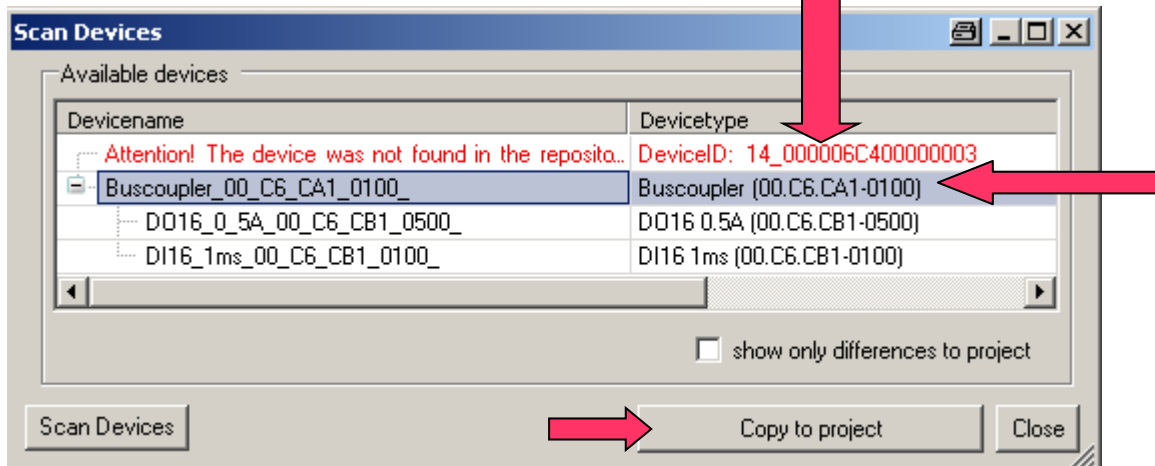
The KEB bus-coupler and the KEB I/O modules can be added manually or automatically with the EtherCAT bus scan.

- Login on control
- Run program
- When EtherCAT master is running, right click on the master and click “Scan for devices”
-

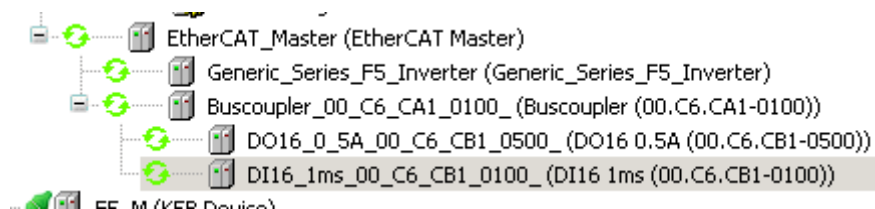


- The Bus-coupler and the I/O modules are found.
- Click on the Bus-coupler and then on “Copy to project”

An F5 device is also found, but has to be added manually, because the generic device mask is needed for any F5 Config IDs



The Bus-coupler and the I/O Modules are added to the EtherCAT master.



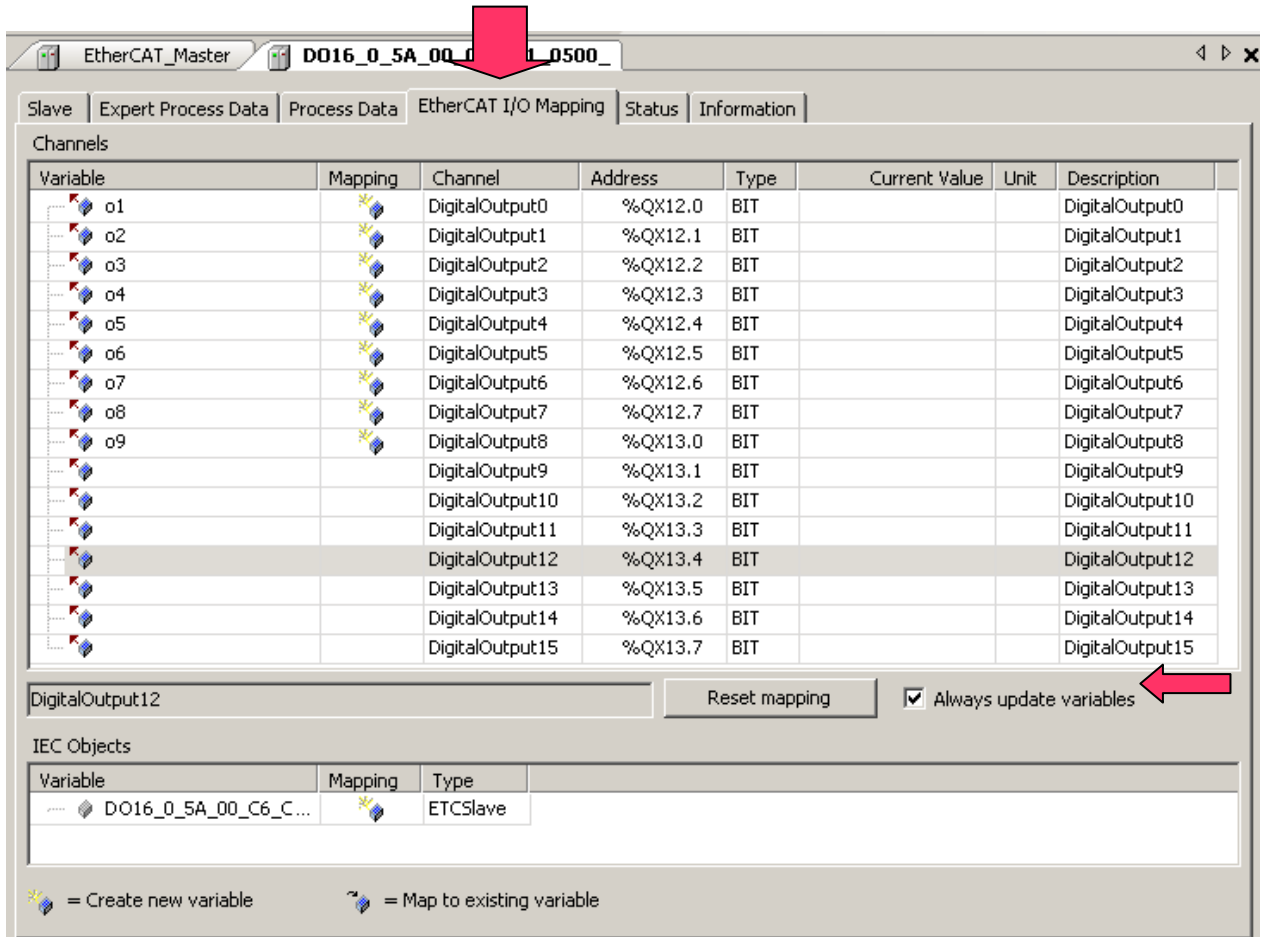
Use the default slave settings for the Bus-coupler and the I/O modules:

default expert settings:

- disabled Distributed Clock
- disabled Sync 0
- Enabled check of Vendor ID and Product ID

To use the in and outputs in your program you can set a mapping for the different in- and output channels.

- Set “Always update variables”
- When you don't use a variable name you can use the Address to access the in- or output channel.



The screenshot shows the 'EtherCAT Master' window with the 'EtherCAT I/O Mapping' tab selected. The 'Channels' table lists 16 digital outputs (o1 to o15) mapped to DigitalOutput0 through DigitalOutput15. The 'Mapping' column shows a blue cube icon for each output, indicating they are mapped to existing variables. The 'Always update variables' checkbox is checked, and the 'Reset mapping' button is visible. Below the table, the 'IEC Objects' section shows a single object 'DO16_0_5A_00_C6_C...' mapped to 'ETCSlave'.

Variable	Mapping	Channel	Address	Type	Current Value	Unit	Description
o1		DigitalOutput0	%QX12.0	BIT			DigitalOutput0
o2		DigitalOutput1	%QX12.1	BIT			DigitalOutput1
o3		DigitalOutput2	%QX12.2	BIT			DigitalOutput2
o4		DigitalOutput3	%QX12.3	BIT			DigitalOutput3
o5		DigitalOutput4	%QX12.4	BIT			DigitalOutput4
o6		DigitalOutput5	%QX12.5	BIT			DigitalOutput5
o7		DigitalOutput6	%QX12.6	BIT			DigitalOutput6
o8		DigitalOutput7	%QX12.7	BIT			DigitalOutput7
o9		DigitalOutput8	%QX13.0	BIT			DigitalOutput8
		DigitalOutput9	%QX13.1	BIT			DigitalOutput9
		DigitalOutput10	%QX13.2	BIT			DigitalOutput10
		DigitalOutput11	%QX13.3	BIT			DigitalOutput11
		DigitalOutput12	%QX13.4	BIT			DigitalOutput12
		DigitalOutput13	%QX13.5	BIT			DigitalOutput13
		DigitalOutput14	%QX13.6	BIT			DigitalOutput14
		DigitalOutput15	%QX13.7	BIT			DigitalOutput15

IEC Objects

Variable	Mapping	Type
DO16_0_5A_00_C6_C...		ETCSlave

= Create new variable = Map to existing variable

Adjust inverter parameters of devices connected via Bus

COMBIVIS studio 6 gives you the possibility to adjust and monitor all device parameters via the COMBIVIS 6 functions (e.g. Scope).

- Devices connected directly to your PC (serial/ Ethernet) (Standard COMBIVIS function)
- **Devices connected via Bus to the PLC (Ethercat, HSP5, DIN66019II,...)**

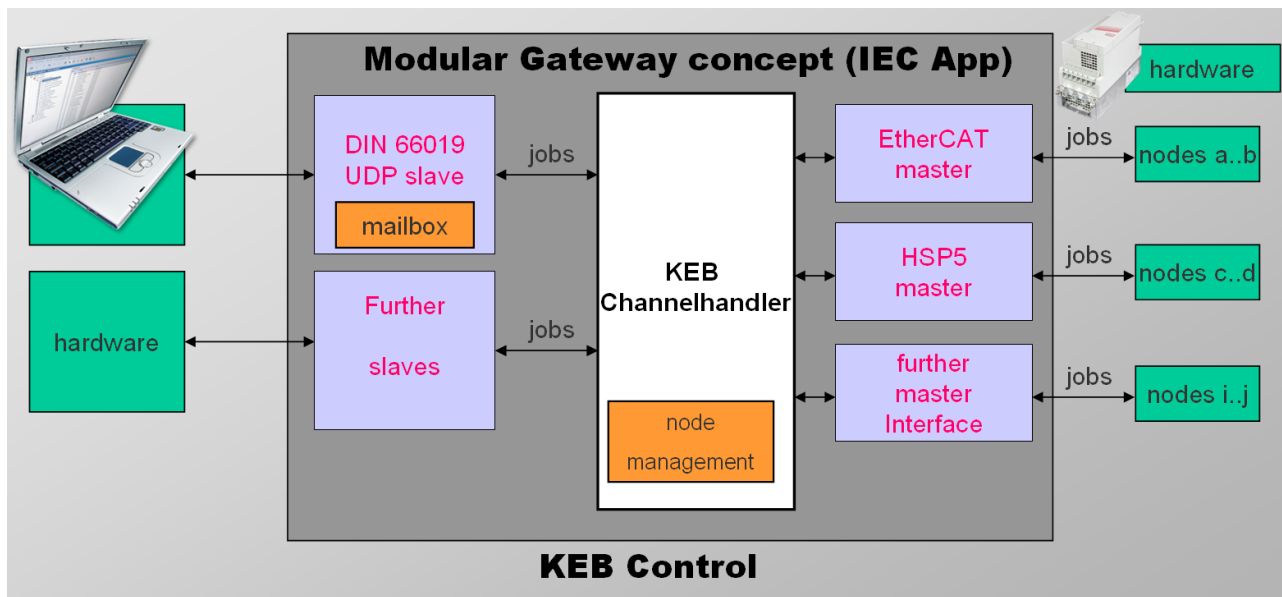
(Pre-conditions)

- **KEB Channelhandler** function block is implemented in the application.
 - Has to be called every cycle by the PLC.
 - The used bus masters and slaves have to be registered to the Channelhandler.
- **PLC is in RUN mode.**

[See documentation of KEB Gateway Utility library!](#)

The KEB Channelhandler is a software function which runs on the PLC. It handles entire communication between the devices connected to the PLC.

-->Receiving and Forwarding of all jobs (requests/ responses) of KEB devices.

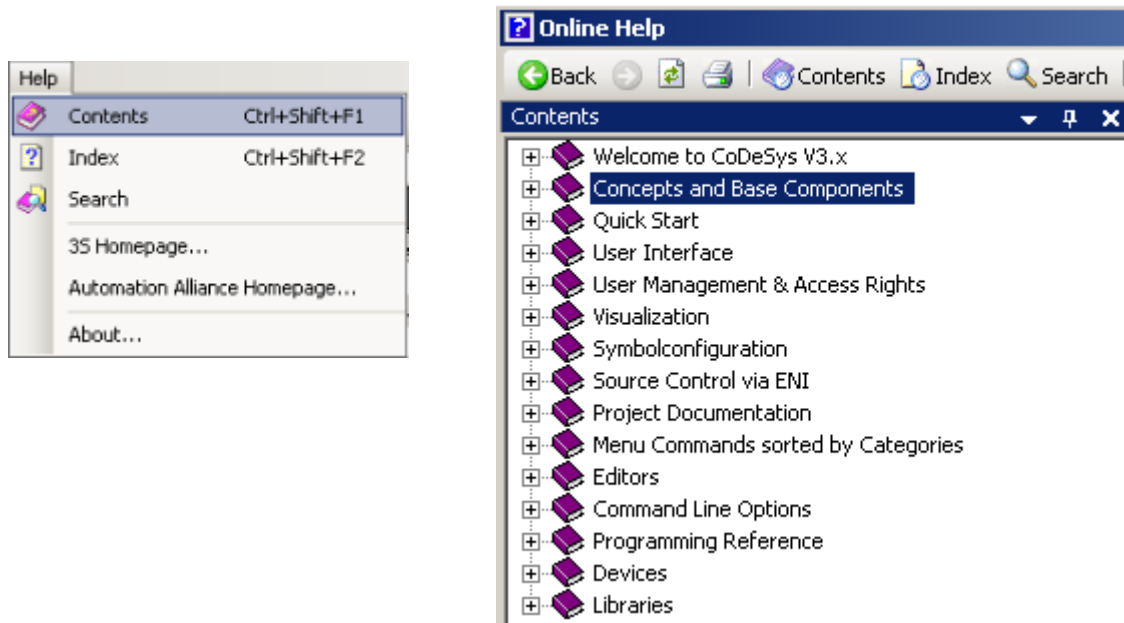


..more Information

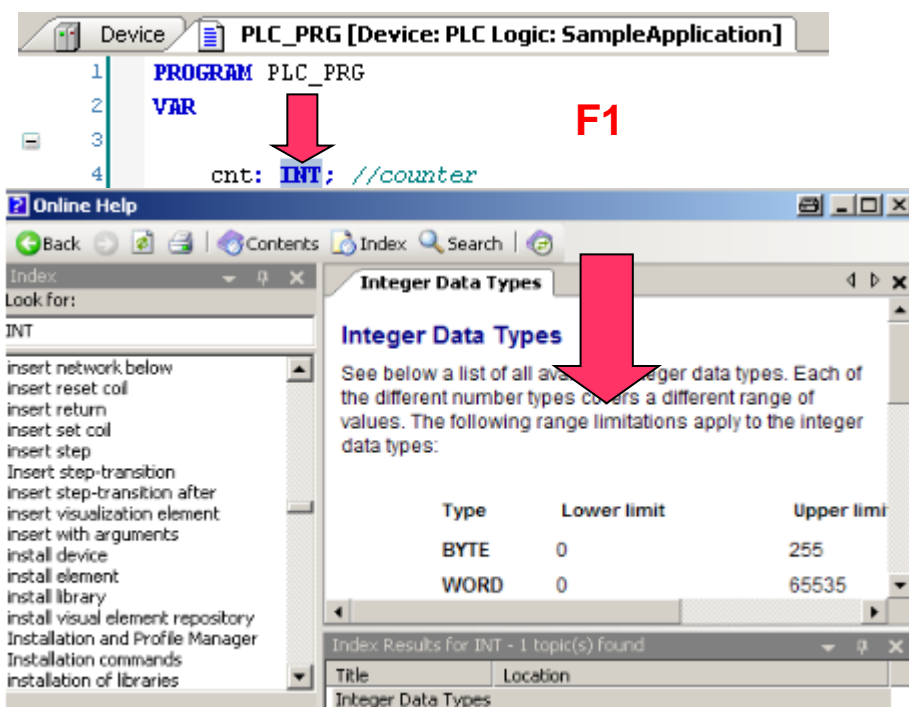
If the searched information is not a topic of this manual, please consult one of these data sources.

Online Help

Please consult the **Online Help** for more information about the development environment.



The easiest way to find the information is to highlight the respective item (e.g. data type, function block, etc) in the environment and press **F1** on your keyboard.



The online help will be started and searches automatically for the marked topic.

Known Bugs

Unexpected Behavior

In some cases, certain online edits (work with pointers, constant definition changes, copy/paste of objects, etc.) can result in unexpected behavior. In these cases, please perform a clean rebuild:

1. Logout
2. Clean All
3. Rebuild
4. Login / download

Notes

Sample projects

Basic sample projects are installed with COMBIVIS 6:

Default Folder: *C:\program files\KEB\COMBIVIS_6\Sample projects*

Special documentation

Documentation for special application tasks and libraries are installed with COMBIVIS 6:

Default Folder: *C:\program files\KEB\COMBIVIS_6\HowTo*

Links

Further information about COMBICONTROL C6 can be found at:

<http://www.keb.de>

<http://www.keb.de/en/products/control-technology.html>

<http://www.keb.de/en/service-downloads/downloads.html>



Karl E. Brinkmann GmbH

Försterweg 36-38 • D-32683 Barntrup

fon: +49 5263 401-0 • fax: +49 5263 401-116

net: www.keb.de • mail: info@keb.de