The World of S5/S7

IBHsoftec
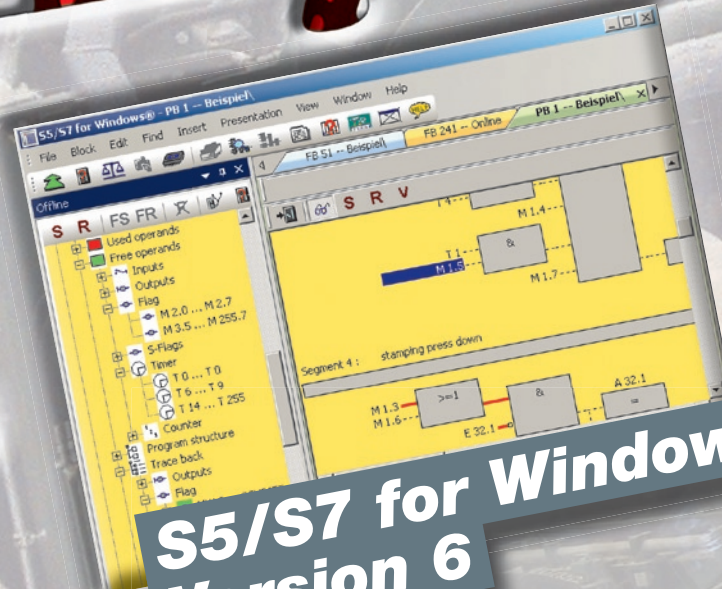
S5-CX945

S7-CX416

S7-CX317/ S7-CX317S
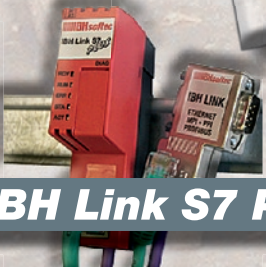
IBH Link S7++

S5/S7 for Windows® Version 6
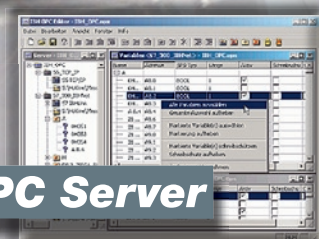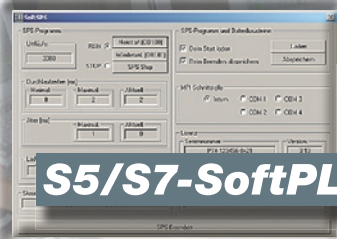
IBH Link S5

IBH Link S7 Plus

OPC Server

S5/S7-SoftPLC

S7 for Windows® Version 6

Programming system for S7-PLC-controls

In order to program the Siemens PLC-control series® S7-300® and S7-400® efficiently and comfortably, IBH*softec* provides the software *S7 for Windows*®. This software can be combined with *S5 for Windows*® or runs stand alone. With *S7 for Windows*® the entire SIMATIC® S7-300® and S7-400® PLC-control series can be programmed. The complete S7 instruction set is implemented in the presentations Statement List (STL), Function Block Diagram (FBD) and Ladder Diagram (LAD).

Of course all online-functions are implemented. The new operational concept of version 6 has been developed on the basis of the latest cognitions in operator guidance. Block lists and symbolic tables for example can be arranged freely, they can be drawn in any order from the main window onto a second screen and can be faded out automatically from the main window, in order to gain more space on the screen. The presentation of the module parameters has been adjusted as well.
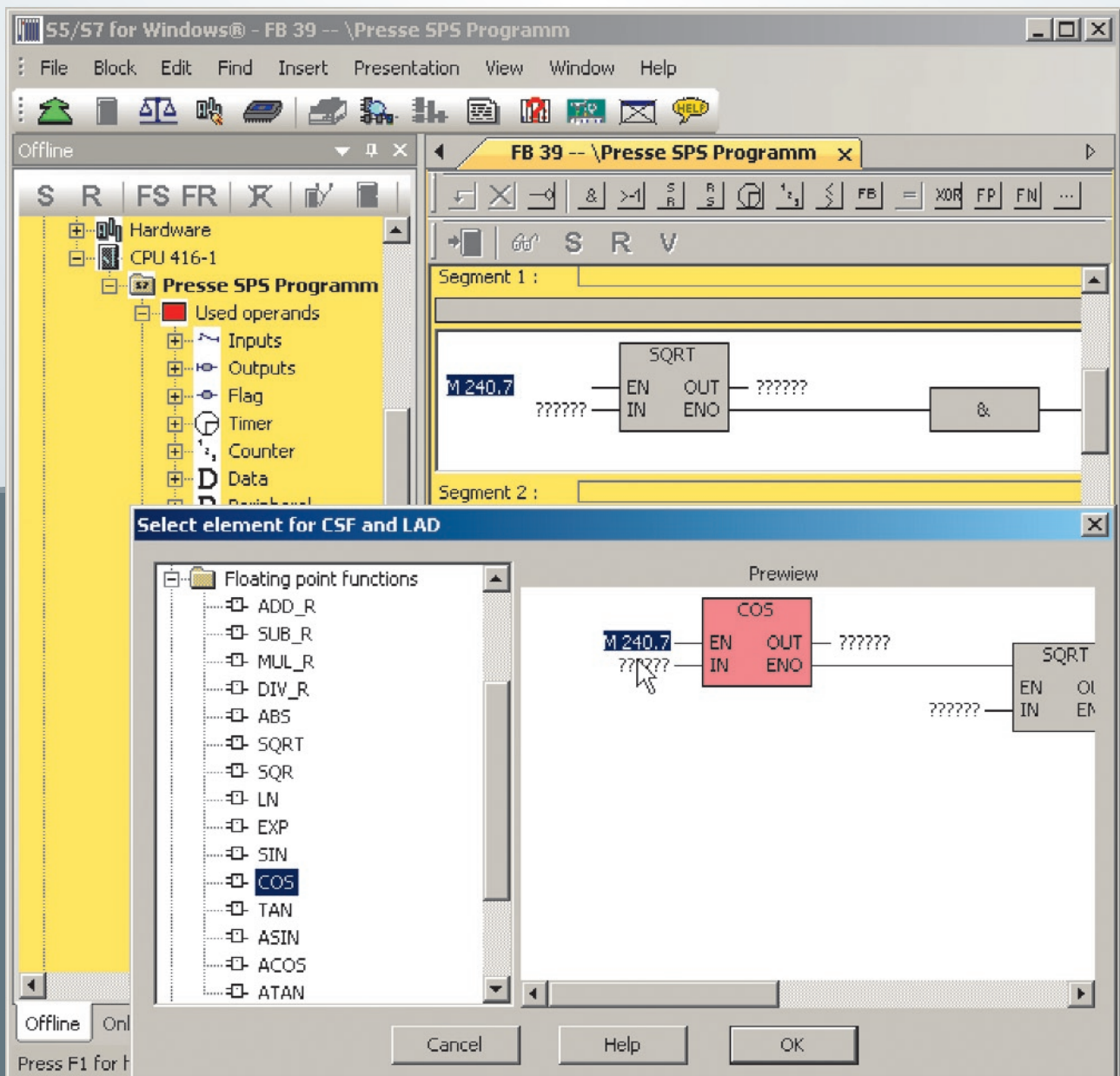
S7 for Windows® Version 6

Hardware configuration

The hardware configuration allows the parametrizing of modules, the allocation of addresses and the configuration of a PROFIBUS. By clicking on the module in the configuration, a dialogue opens, which allows to setup the module parameters. In the detail window of the module or CPU, executed changes are marked clearly, in order to avoid unintentional changes before saving.
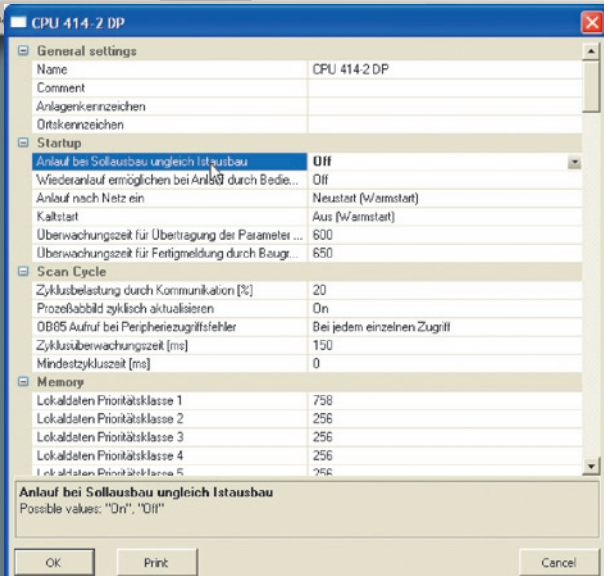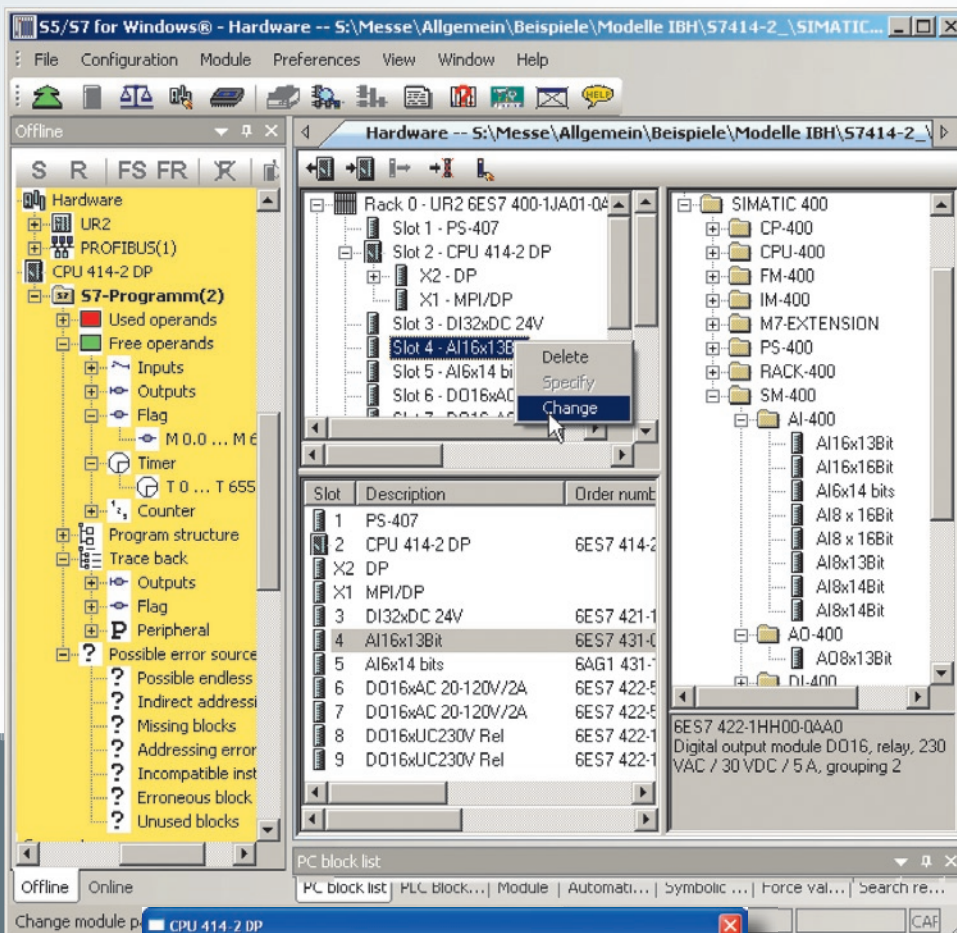
Besides the original Siemens PROFIBUS components, our hardware catalogue contains PROFIBUS components from other manufacturers, which are compatible to Siemens. The hardware catalogue can be extended with files in GSD-format. The hardware configuration of existing STEP®7 projects can be read and edited. Besides offline-creation of hardware configurations, it is also possible to read and edit existing configurations from a PLC. For quick debugging, module diagnostic functions are integrated. The hardware catalogue is updated constantly for the latest modules. These updates are freely available via internet.

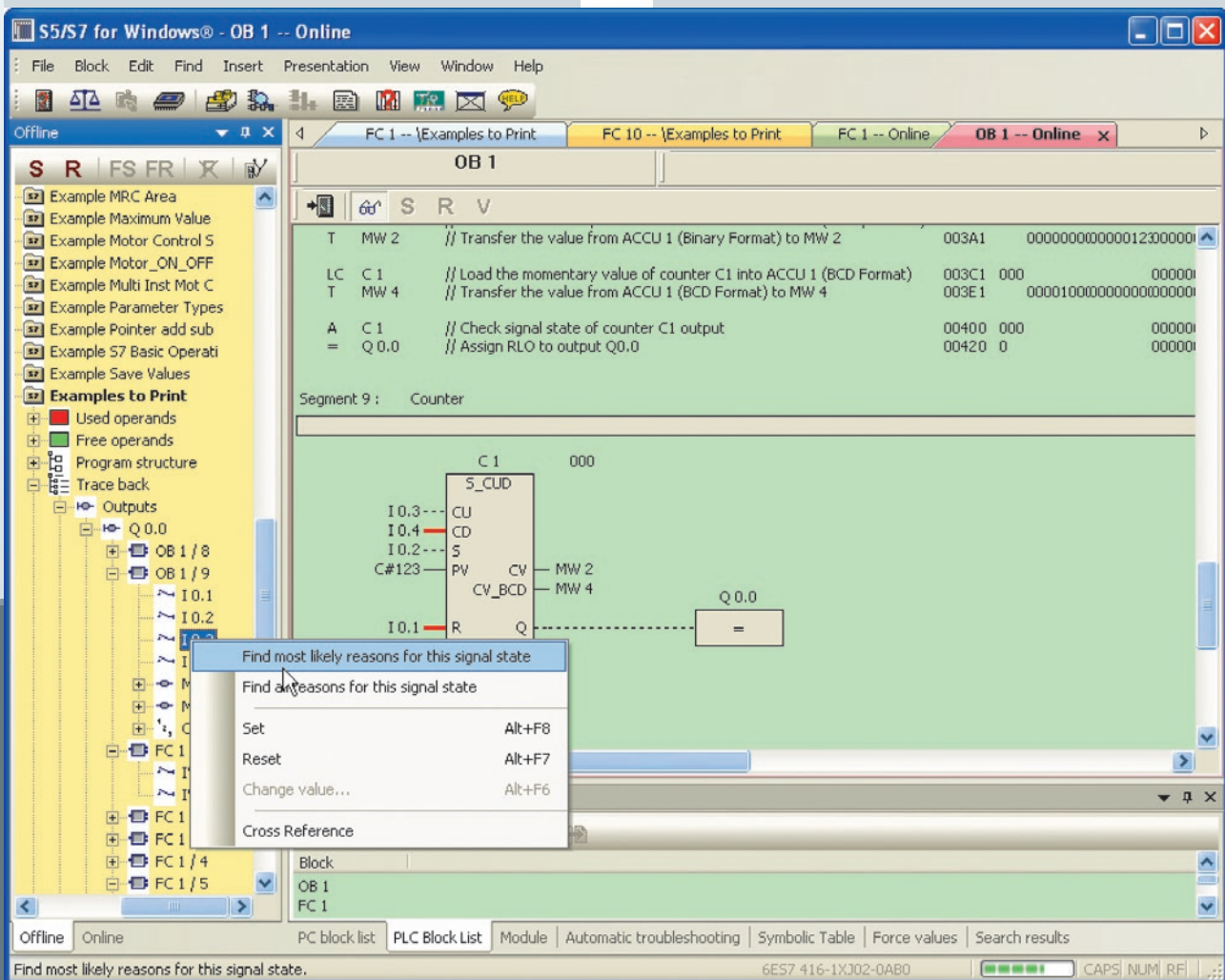# S7 for Windows® Version 6

Program test during online operations

With *S7 for Windows®* the entire S7 instruction set can be shown in the representation STL (Statement List) in status view. The status operation is also possible in the representations Function Block Diagram (FBD) and Ladder Diagram (LAD). Furthermore variable views and symbolic tables are integrated in the status window. All installed interfaces capable of connecting to a PLC are displayed in the online view.

during debugging and returns the reason for the stop in plain text. In contrast to conventional diagnostic tools, no special adaptation of the PLC program is necessary.

Other improvements

All STEP®7-projects can be edited directly without im-/export. Archived STEP®7-projects can be opened directly. All write accesses on the PLC can

Integrated *S7-Simulation, BlockDiff* and *S7 Doctor*

Version 6 contains *S7-Simulation* and the comfortable block comparison *(BlockDiff)*. The functions of *S7 Doctor* for automated troubleshooting are integrated as well. The *S7 for Windows®* allows a fully automated debugging in the running PLC program. Compared to the classical debugging the *S7 for Windows®* performs all the tasks required

be prevented with a password protection. Signals (operands) traceability is possible. Cross-reference over complete IO modules and hardware or module diagnostics is also possible. The print preview and the forcing of operands are implemented as well. The conversion from S5- to S7-programs has been optimized. Saving of complete S7-projects on a memory-card is also possible (CPU dependent).

S5 for Windows® Version 6

Programming system for S5 PLC controls

S5 for Windows® provides the tools for creating, modifying, testing and documenting programs for programmable logic controllers (PLC). *S5 for Windows®* is designed for programming the Siemens PLC family SIMATIC® S5 with STEP®5. The Function Block Diagram (FBD), the Ladder Diagram (LAD) and the Statement List (STL) are used as presentations for S5. Existing S5 programs can be edited directly without im-/export. *S5 for Windows®* is compatible to the original Siemens programming unit. For automatic troubleshooting the *S5 Doctor* functions are integrated as well.

and/or the keyboard. Cross references and/or the corresponding symbol files are shown with the correct addresses. In this window the symbol file can be edited simultaneously. The allocation of new addresses with syntax check is integrated. Statement lists are created with the comfort of the integrated editor. The Windows® clipboard can be used for program or configuration manipulations in any place. Statement lists can be altered into function block or ladder diagrams, as far as they are displayable. The display of Function Block Diagrams and Ladder Diagrams in form of Statement Lists is always possible.
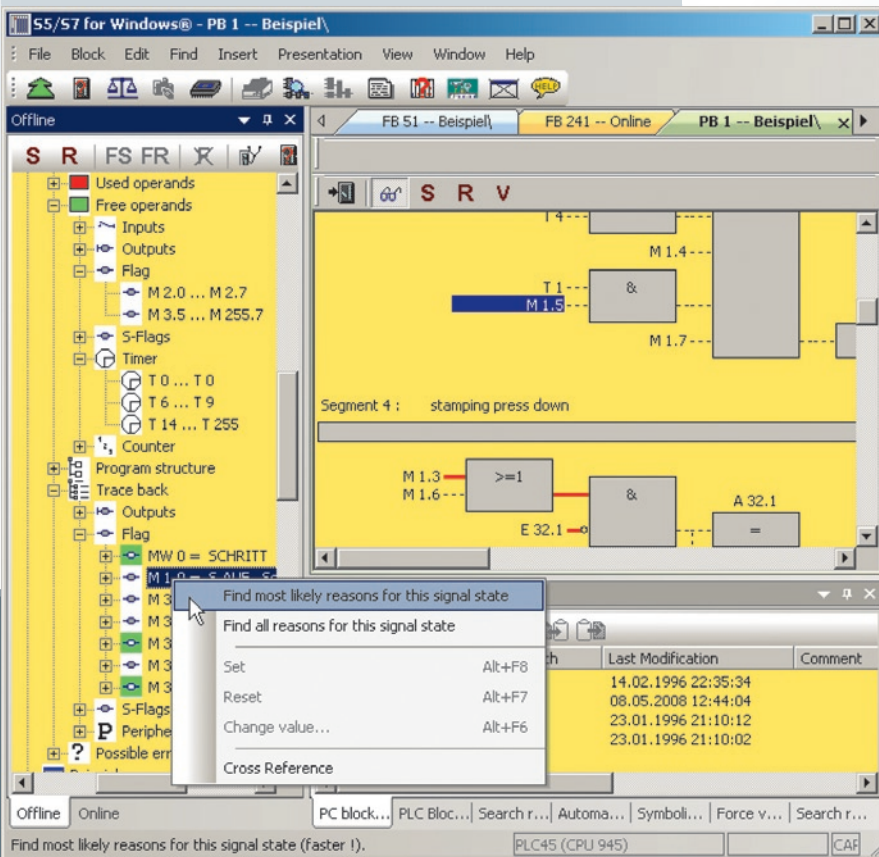
Create and correct

A comfortable editor to create and edit symbolic tables is integrated. Searching and replacing for any criteria as well as rewiring is possible. A syntax check is integrated. The new comfortable multiple segment editor for the creation of statement lists, function block diagrams and ladder diagrams allows the representation of complex functions too. Focus was set on the ease of use with the mouse

Program test during online operations

With *S5 for Windows®* multiple segments can be shown in the status display representations statement list, function block diagram and ladder diagram. The CPU status function provides information about interrupt stack, block stack and system data.

Calling the COM packages

S5 for Windows® allows calling the COM packages (Windows® 2000 and XP only). Communication to a PLC can be established via an USB adaptor for instance.

The PLC, that connects two worlds

IBH*softec* offers two new PLC types: The high performance *S7-CX416* and the low-priced *S7-CX317* and *S7-CX317S*.

For the *S7-CX317* a **Starter kit** is available.

Since the new *S7-CX* series behaves like a original SIMATIC® PLC, the programming tools *S7 for Windows®* and STEP®7 can be used. Online connections can be established via Ethernet. The *S7-CX* executes a program in the same manner as a hardware PLC. The program of a S7-PLC can be transferred to the *S7-CX* series.

As hardware platform for the *S7-CX*, the modular DIN rail PCs of the **CX** series of the Beckhoff Automation GmbH is used. The fieldbus used to control the central and the distributed IO primarily is EtherCAT (Real-Time Ethernet).

Technical data:

RAM:
IBH S7-CX317:   16MB
IBH S7-CX317S: 16MB
IBH S7-CX416:   64MB

Load memory:
IBH S7-CX317:   4MB
IBH S7-CX317S: 4MB
IBH S7-CX416:   8MB

Retain memory:
IBH S7-CX317:   64kB
IBH S7-CX317S: 64kB
IBH S7-CX416:   all Data

Processing time:
IBH S7-CX317:   0,15μs/Instr.
IBH S7-CX317S: 0,075μs/Instr.
IBH S7-CX416:   0,015μs/Instr.

Dimensions:
IBH S7-CX317:   59 mm × 100 mm × 91 mm
IBH S7-CX317S: 59 mm × 100 mm × 91 mm
IBH S7-CX416:   216 mm × 112 mm × 99 mm

Internal Bus system of the CPU:
EtherCAT(E-Bus)

- PU functions with STEP®7 or *S7 for Windows®* over Ethernet with the ISO on TCP (RFC1006) or the *IBHLink* protocol.
- Online connections via PROFIBUS-DP are possible with the Beckhoff PROFIBUS Master EL6731. Operator panels (OPs) and PU devices can be connected in the usual way to PROFIBUS-DP.
- HMI applications can connect via ISO on TCP (RFC1006), the *IBHLink* protocol or via the optional *IBH OPC Server* for the visualization PC.

- Diagnostics and HMI via Intranet/Internet with the integrated web server.
- PLC to PLC communication via the integrated Ethernet CP.
- Based on the reliable and flexible Beckhoff hardware.
- In conjunction with the Beckhoff TwinSAFE modules, safety functions (f.i. emergency stop) can be realized very easy and cost-efficient with the *S7-CX317, S7-CX317S* and *S7-CX416 PLC*.
- Using the EtherCAT technology, it is possible to integrate other fieldbus segments, as for instance PROFIBUS DP, CANOpen, AS-i, DeviceNet, ControlNet, Modbus, Fipio, CC-Link, EtherNet/IP, and SERCOS interface at any place of the EtherCAT network.
- For the operation in building automation, the bus systems LON, EIB/KNX, MP, as well as DALI are available.
- Special functions for the peripheral devices (ADS functions) can be called via integrated function blocks.
- *S7-CX317S* and *S7-CX416 PLC* are available with **DVI/USB** interface.

S7-CX317/S7-CX317S/S7-CX416

Data exchange with the *S7-CX PLC* can be established with *S7 for Windows®* or the Siemens SIMATIC® manager.

Further it is possible to access the IBH*softec S7-CX PLC* via TCP/IP Ethernet using the *IBHNet* driver.

Online functions are also possible using the Siemens ISO on TCP (RFC1006) protocol (a standard protocol within STEP®7 and *S7 for Windows®*).

The S7-compatible PLC based on Beckhoff-hardware with EtherCAT

PLC – PLC communication:
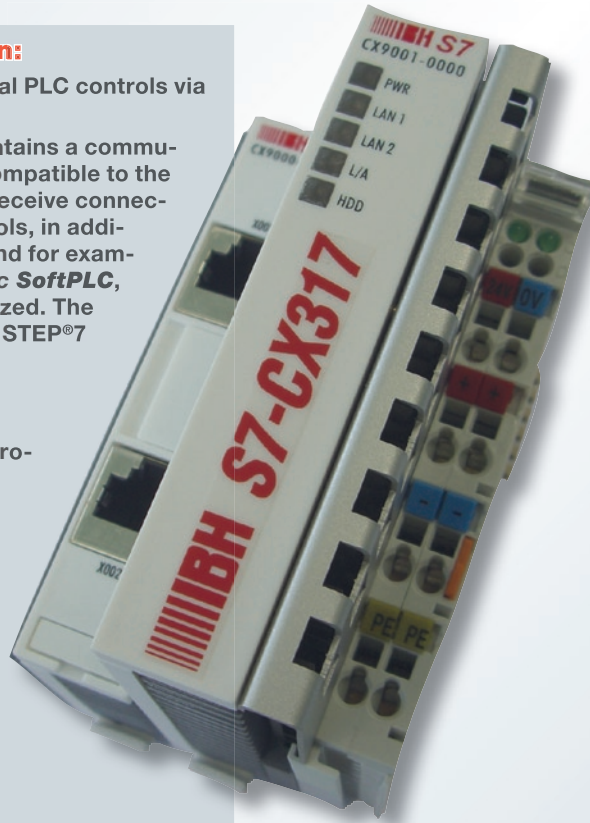
A data exchange between several PLC controls via Ethernet is possible.

The IBHsoftec *S7-CX* series contains a communications processor, which is compatible to the Siemens CP343/CP443. Send/Receive connections between two *S7-CX* controls, in addition, between *S7-CX* controls and for example Siemens PLCs or a IBHsoftec *SoftPLC*, which runs on a PC, can be realized. The configuration is made using the STEP®7 tool NetPro®.

The following protocols are supported:

- ISO on TCP PU channel (PU, Pro-Tool, WinCC, compatible OPC server etc.)
- ISO on TCP Send/Receive passive
- ISO on TCP Send/Receive active
- ISO on TCP Fetch/Write passive
- TCP Send/Receive passive
- TCP Send/Receive active
- TCP Fetch/Write passive
- UDP Send/Receive

The new series of *S7-CX* PLCs unites the worlds of industrial PC and hardware PLC and fulfils the criteria for Programmable Automation Controller. Depending on the task, the components of the modular control system can be plugged together and be built like a PLC into the switch cabinet or terminal box. The new S7-compatible controls support the Beckhoff fieldbus terminals and also the EtherCAT terminals via the appropriate IO interfaces as IO system. This offers the opportunity to use the entire range of the open and fieldbus-neutral Beckhoff IO system.

The *S7-CX PLC* will be supplied preconfigured, so it is immediately ready to use.

With the Beckhoff System Configurator, the variety of the Beckhoff I/O terminal modules can be configured.

The user takes benefit from a flexible automation system and can take advantage of the wide-spread S7-programming tool.

The fast S7-CX317 series:

S7-CX317 S

EtherCAT®

The S7-compatible PLC based on Beckhoff-hardware with EtherCAT

RAM:	16 MB
Load memory:	4 MB
Retain memory:	64 kB
Processing time:	0,075µs/Instr.

- PU functions with STEP®7 or *S7 for Windows*® over Ethernet with the ISO on TCP (RFC1006) or the *IBHLink* protocol.
- Online connections via PROFIBUS-DP are possible with the Beckhoff PROFIBUS Master EL6731. Operator panels (OPs) and PU devices can be connected in the usual way to PROFIBUS-DP.
- HMI applications can connect via ISO on TCP (RFC1006), the *IBHLink* protocol or via the optional *IBH OPC Server* for the visualization PC.
- Diagnostics and HMI via Intranet/Internet with the integrated web server.
- PLC to PLC communication via the integrated Ethernet CP.
- Based on the reliable and flexible Beckhoff hardware.
- In conjunction with the Beckhoff TwinSAFE modules, safety functions (f.i. emergency stop) can be realized very easy and cost-efficient with the *S7-CX317, S7-CX317S* and *S7-CX416 PLC*.
- Using the EtherCAT technology, it is possible to integrate other fieldbus segments, as for instance PROFIBUS DP, CANOpen, AS-i, DeviceNet, ControlNet, Modbus, Fipio, CC-Link and SERCOS interface at any place of the EtherCAT network.
- For the operation in building automation, the bus systems LON, EIB/KNX, MP, as well as DALI are available.
- Special functions for the peripheral devices (ADS functions) can be called via integrated function blocks.
- Available with *DVI/USB* interface.

S5-CX945

Replacing existing S5 PLC

The high performance *S5-CX945* is a S5-115U-compatible PLC based on Beckhoff hardware.

Since the new *S5-CX* series behaves like a original SIMATIC® PLC, the programming tools *S5 for Windows*® and STEP®5 can be used. Online connections can be established via Ethernet and the integrated serial ports. The *S5-CX* executes a program in the same manner as a hardware PLC. The program of a S5-PLC can be transferred to the *S5-CX* series.

As hardware platform for the *S5-CX*, the modular DIN rail PCs of the *CX* series of the Beckhoff Automation GmbH is used. The fieldbus used to control the central and the distributed IO primarily is EtherCAT (Real-Time Ethernet).

Technical data

Memory Program and Datablocks:	**720 kB (Full retain with integrated UPS)**
Processing time:	**0,15µs/Instr.**
Dimensions:	**216 mm × 112 mm × 99 mm**
Internal Bus system of the CPU:	**EtherCAT(E-Bus)**

- Compatible to CPU 945 from the 115U-series.
- PU functions with STEP®5 or *S5 for Windows*® over Ethernet and the integrated serial ports.
- HMI applications can connect serial (RS232) via AS511-protocol, via *IBH Link S5* PU protocol, *IBH Link S5* Variables protocol, INAT TCP/IP PU protocol, Send Receive over TCP/IP, UDP and RFC1006, Fetch/Write passive over TCP/IP and RFC1006 ISO on TCP (RFC1006), or via the optional *IBH OPC Server* for the visualization PC.
- Modbus TCP Server.
- S7 Operator panels can be connected in the usual way via PROFIBUS or Ethernet
- Diagnostics and HMI via Intranet/Internet with the integrated web server.
- PLC to PLC communication via the integrated Ethernet CP.
- Based on the reliable and flexible Beckhoff hardware.
- In conjunction with the Beckhoff TwinSAFE modules, safety functions (f.i. emergency stop) can be realized very easy and cost-efficient with the *S5-CX945* PLC.
- Using the EtherCAT technology, it is possible to integrate other fieldbus segments, as for instance PROFIBUS DP, CANOpen, AS-i, DeviceNet, ControlNet, Modbus, Fipio, CC-Link, EtherNet/IP, and SERCOS interface at any place of the EtherCAT network.
- For the operation in building automation, the bus systems LON, EIB/KNX, MP, as well as DALI are available.
- Special functions for the peripheral devices (ADS functions) can be called via integrated function blocks.

SoftPLC PLC S7-315®/PLC S7-416®

The *SoftPLC PLC S7-315/PLC S7-416* executes a program in the same manner as a hardware PLC. The advantage of executing a PLC program this way is, that the PLC status can be displayed in real time. Since the *Soft PLC* behaves like a original SIMATIC® PLC, the programming tools *S7 for Windows*® and STEP®7 can be used. Online connections can be established serial, via Ethernet, via PROFIBUS DP and directly on the same PC. Even for project engineering and diagnostics of the PROFIBUS DP *S7 for Windows*® or the original STEP®7 tool can be used. The program of a *S7-PLC* or a Siemens Win AC® SoftPLC including PROFIBUS DP configuration can be transferred to the *SoftPLC PLC S7-315/PLC S7-416*.

Operating systems

To meet the demands of our customers and provide flexibility, a variety of hardware and software platforms are available that are supported by the *SoftPLC*. The S7 version can be installed on systems using Windows® 2000/XP and Vista. For OEM applications, also a Windows® CE version is available for almost every CPU architecture.

SoftPLC I/Os

The *SoftPLC* can access standard I/O boards as well as numerous intelligent hardware boards available to control bus systems widely used in the industry. Also a driver for Modbus TCP is included. Modbus TCP is used by companies like Wago and Phoenix Contact.

The configuration of the fieldbus is very comfortable:
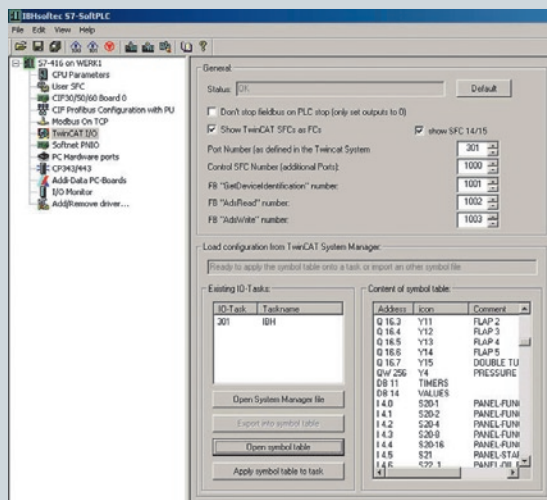
Fieldbuscard/-system	Hilscher	Beckhoff
Lightbus	–	✔
PROFIBUS	✔	✔
PROFINET IO	✔	✔
INTERBUS	✔	✔
DeviceNet	✔	✔
AS-i	✔	✔
CAN	✔	✔
SERCOS	✔	✔
EtherCAT	✔	✔
EtherNet/IP	✔	–
ControlNet	–	✔
Fipio	–	✔
CC-Link	–	✔
LON	–	✔
EIB/KNX	–	✔
MP-Bus	–	✔

Signal state watching and modification of the I/Os is simplified by the integrated IO monitor:
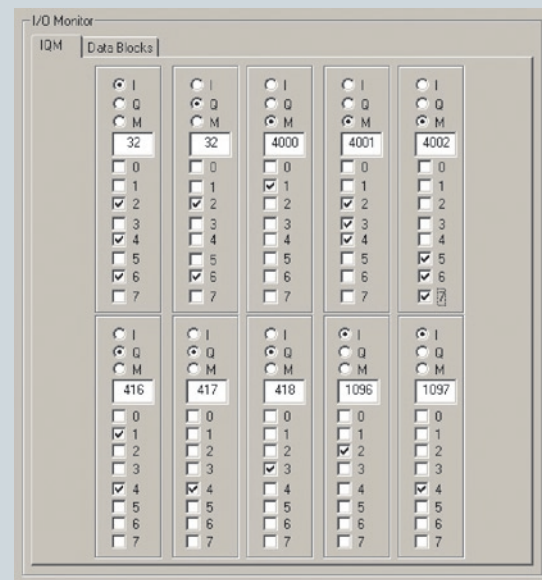
Online-Functions

Direct Online Access with *S7 for Windows*® or STEP®7. Data exchange with the *SoftPLC* can be established with *S7 for Windows*® or Siemens STEP®7. If the programming system is installed on the same PC, the *SoftPLC* can be reached directly. All necessary drivers are included.

SoftPLC PLC S7-315®/PLC S7-416®

Access with *S7 for Windows®* or STEP®7 via Serial port

Alternatively data exchange can be established via serial interface using a zero-modem cable.

Access with *S7 for Windows®* or STEP®7 via TCP/IP

Further it is possible to access the *SoftPLC* via TCP/IP Ethernet using the *IBHNet* driver. The *IBHNet* driver can be downloaded from our homepage.

Access with STEP®7 using Siemens ISO on TCP (RFC1006) protocol

Online functions are also possible using the Siemens ISO on TCP (RFC1006) protocol.

Access with *S7 for Windows®* or STEP®7 via PROFIBUS DP

If a Hilscher CIF30/50/60 PROFIBUS card is used, the *SoftPLC* can be programmed or reached from an operator panel via the connected PROFIBUS, if the drivers are correctly configured.
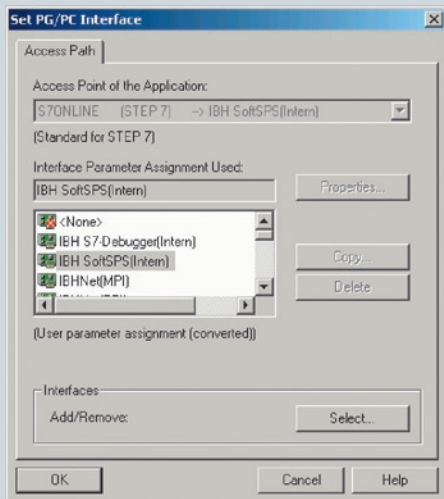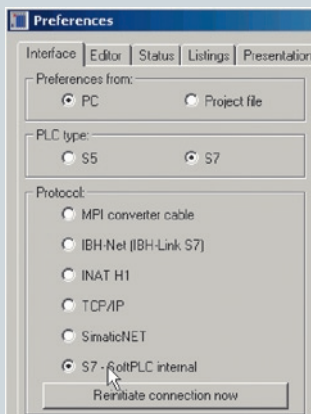
## Monitoring, Operating, and Controlling simultaneously from one PC

The *SoftPLC* allows process monitoring, operation, and control from one hardware unit. The use of the *SoftPLC* is especially useful if a PC for data collection, process visualization, programming, or any other reason needs to be used anyway. A *SoftPLC* solution eliminates the need for a hardware PLC and the corresponding communication processor.

Access with *IBH OPC Server/IBHNet/ RFC1006/DLL/Modbus TCP Server*

The *S7 SoftPLC* has an integrated Modbus TCP-Server, which is supported by numerous visualization software suppliers.
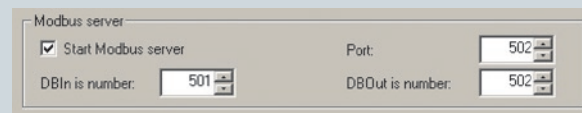
With the *IBH OPC Server* a communication via Ethernet to the *S7 SoftPLC* as well as a direct communication in the same PC can be established.
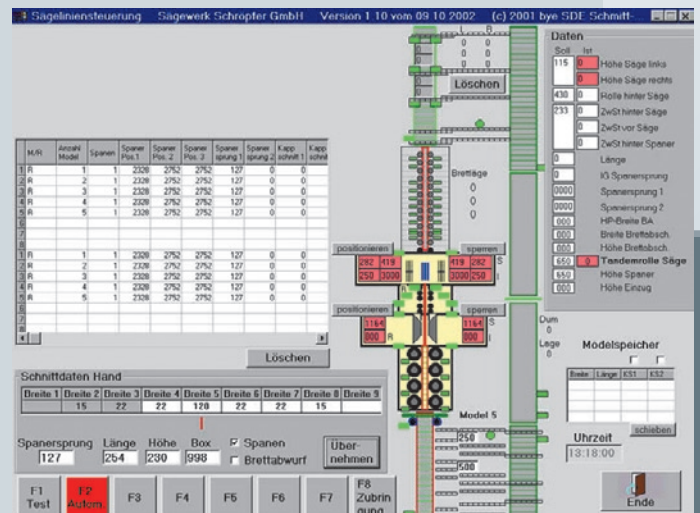
For fast data transfer between the *SoftPLC* and other Windows® applications, a DLL is available. Examples for the usual programming tools are supplied.

# SoftPLC PLC S7-315®/PLC S7-416®

PLC – PLC communication

A data exchange between several PLC controls via Ethernet is possible. The *SoftPLC* contains a communications processor, which is compatible to the Siemens CP343/CP443. Send/Receive connections between two *SoftPLC*s, between *SoftPLC* and for example Siemens PLCs can be realized. The configuration is made using the STEP®7 tool NetPro®.

The following protocols are supported:
- ISO on TCP PU channel (PU, ProTool, WinCC, compatible OPC server etc..)
- ISO on TCP Send/Receive passive
- ISO on TCP Send/Receive active
- ISO on TCP Fetch/Write passive
- TCP Send/Receive passive
- TCP Send/Receive active
- TCP Fetch/Write passive
- UDP Send/Receive

Additional Functions

The PC environment offers additional functions, which go beyond the usual S7 instructions. So own functions blocks, programmed in C++ can be integrated. This gives the possibility to program hardware drivers for customized I/O without large development.
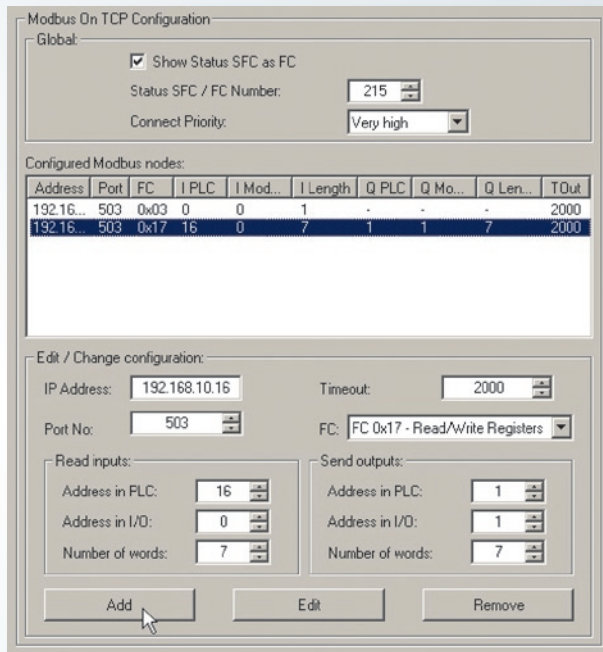
S7 Simulation PLC

The *SoftPLC* is also available as a pure Simulation-PLC. The *S7 Simulation PLC* also has the ModbusTCP- and CP-functionality integrated.

Timetable	Windows® NT 4.x/2000/XP/Vista			
	Compatible to STEP®5		Compatible to STEP®7	
	PLC S5-943	PLC S5-945	PLC S7-315®	PLC S7-416®
Load Memory	–	–	256 kByte	adjustable
Work Memory	48 kByte	720 kByte	256 kByte	adjustable
Memory bit	F 0.0 – 255.7	F 0.0 – 255.7	M 0.0 – 2047.7	M 0.0 – 16383.7
S-flags	S 0.0 – 4095.7	S 0.0 – 4095.7	–	–
Timer	256	256	256	2048
Counter	256	256	256	2048
Digital I/O	I/Q 0.0 – 127.7	I/Q 0.0 – 127.7	I/Q 0.0 – 127.7	I/Q 0.0 – 4095.7
Analog I/O	256	256	64	2048
Processing time for 1024 instructions*)				
Pentium III 600	190 µs	190 µs	100 µs	100 µs
Pentium IV 1,1 GHz	80 µs	80 µs	50 µs	50 µs
Pentium IV 2,6 GHz	55 µs	55 µs	28 µs	28 µs
*) Time setting 50 % PLC Time, 50 % Windows®-Time, 1024 mixed instructions, (50 % binary, 50 % digital)				

SoftPLC PLC S5-943/PLC S5-945

The *SoftPLC PLC S5-943/PLC S5-945* executes a program in the same manner as a hardware PLC. The advantage of executing a PLC program program this way is, that the PLC status can be displayed in real time. Since the *SoftPLC* behaves like a original SIMATIC® PLC, the programming tools *S5 for Windows*® and STEP®5 can be used. Online connections can be estasblished serial, via Ethernet and directly in the same PC. The program of a S5-PLC can be transferred to the *SoftPLC PLC S5-943/PLC S5-945*.
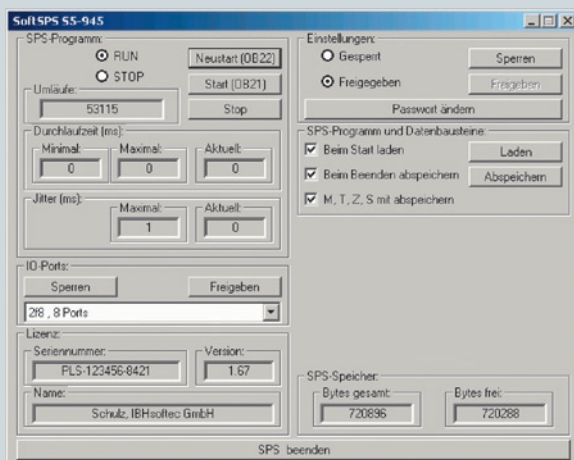
Operating systems

To meet the demands of our customers and provide flexibility, a variety of hardware and software platforms are available that are supported by the software PLC. The S5 version can be installed on systems using Windows® NT 4.x/2000/XP. A S5-Windows® CE version for our OEM's is also available.

SoftPLC I/Os

The *SoftPLC* can access standard I/O boards as well as numerous intelligent hardware boards available to control bus systems widely used in the industry (PROFIBUS DP, INTERBUS, DeviceNet, CAN-Bus). Drivers have been developed to connect bus system interface boards with the *SoftPLC*.

Monitoring, Operating, and Controlling simultaneously, from one PC

The *SoftPLC* integrated in a PC allows process monitoring, operation, and control from one hardware unit. The use of the *SoftPLC* is especially useful, if a PC for data collection, process visualization, programming, or any other reason needs to be used anyway. Such a solution eliminates the need for a hardware PLC and the corresponding communication processor.

Access with IBH OPC Server/DLL Interface to Windows® Applications

With the *IBH OPC Server*, a communication via Ethernet to the S5 and S7 *SoftPLC* as well as a direct communication in the same PC can be established.
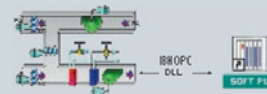
For fast data transfer between the *SoftPLC* and other Windows® applications, a DLL is available. Examples for the usual programming tools are supplied. Numerous visualization software suppliers have drivers available for fast data transfer between the *SoftPLC* and their visualization software

Integrated Watchdog Function

Intelligent up-to-date Bus Control Boards today have integrated watchdog functions. These watchdog functions guarantee that the inputs and outputs of the *SoftPLC*, in case of a hardware failure of the PC, are handled in the same way as a hardware PLC CPU. If the PC fails, all the outputs of the Bus System are resetted.

Hardware Access

To connect the PC executing the *SoftPLC* with the outside world, an interface board is required. Small applications may only require Multi-I/O boards. These boards can be accessed directly from the *SoftPLC* without major effort. The *SoftPLC* provides special instructions (DO RS 10 up to DO RS 31) to use standard boards (I/O port access). These commands can read from inputs and write to outputs in the lower 64k segment of the PC. It is also possible to connect the PC to an external Bus System. In addition to standard I/O boards, different bus systems can be accessed via the *SoftPLC*. Numerous intelligent hardware boards are available to control bus systems widely used in industry (e.g. INTERBUS, PROFIBUS DP, CAN AS-i DeviceNet, etc.). To access bus interface boards, drivers have been developed by IBH*softec*. Optionally, drivers for the following bus systems are available: INTERBUS (boards from Phoenix and Hilscher), PROFIBUS DP, CAN, AS-i, DeviceNet (boards from Hilscher).

TCP/IP driver IBHNet

With a standard Ethernet board it is possible to connect to an existing network (Internet, Intranet) with the TCP/IP-Protocol. The TCP/IP-Protocol enables diagnostics of the *SoftPLC* via the internet or a continuous data exchange is possible via a Company Intranet. This is accomplished with *S5 for Windows*®.

IBH OPC Server

With the *IBH OPC Server* a visualization application can be linked with a SIMATIC® PLC S5, S7-200®, S7-300® and S7-400® or an IBH*softec SoftPLC*. Also a mixed operation is possible.

Access to the variables of a PLC Control via OPC. The symbolic addressing used within the PLC program and the Data Blocks can directly be used within the HMI. With a few mouse clicks all or only the desired variables from the PLC can be selected. The following file formats are supported: *S5 for Windows®, S7 for Windows®,* STEP®5 and STEP®7.

The communication between the *IBH OPC Server* and the Siemens PLCs can be established via:

- S5-AS511
- S5-TCP/IP
- *IBH S5 SoftPLC*
- S7-300®/400® via PROFIBUS/MPI® using a PC Adaptor (serial/USB)
- S7-200®/300®/400® via *IBH Link*
- *IBH S7 SoftPLC*
- S7-TCP/IP via Ethernet
- The STEP®7-Online Interface (SIMATIC NET) can also be used
- With an optional driver it is possible to communicate via S5-H1 and S7-H1.

Routing functions to PLCs in subnets are also supported.
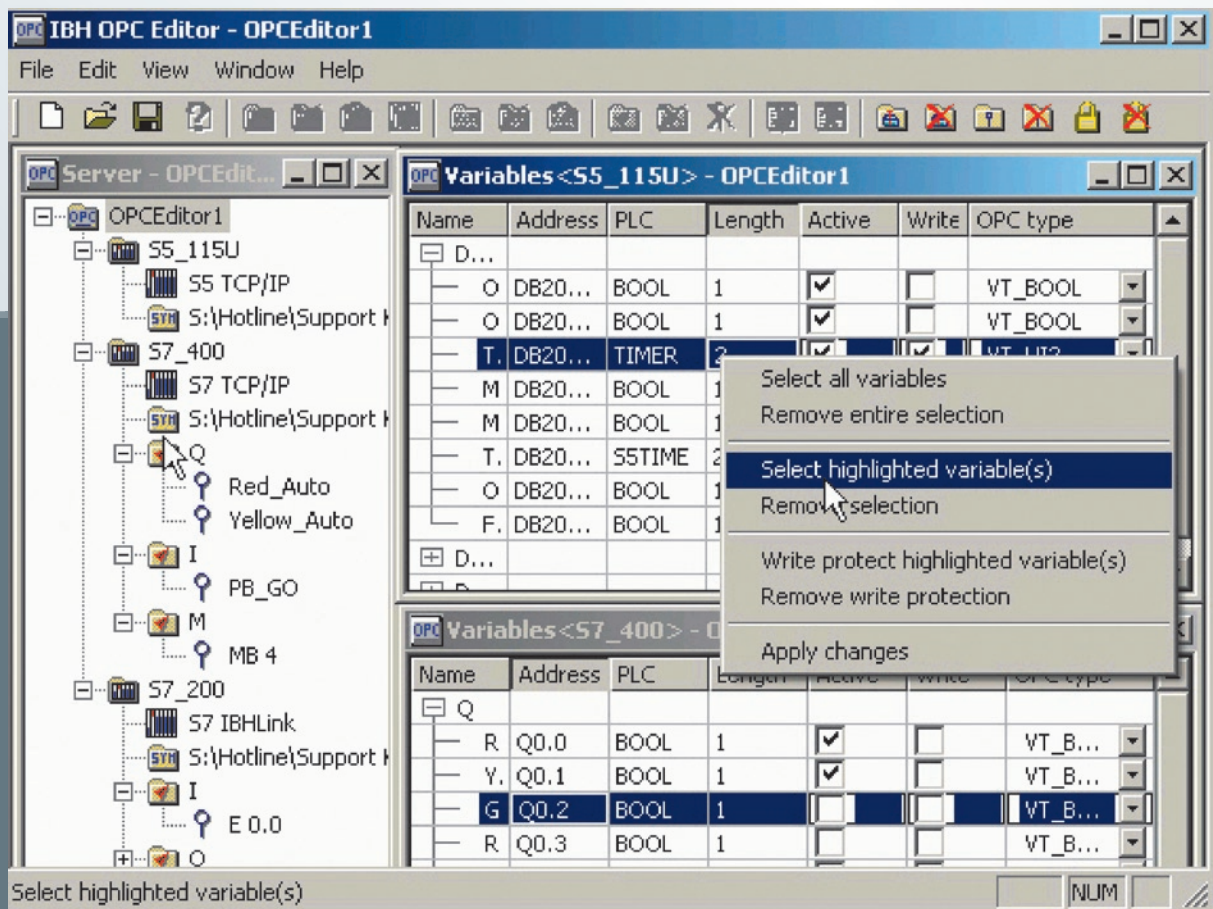
S5/S7 Interfaces

IBH Link S7++

If a S7-200®, S7-300® or S7-400® has to be connected with a PC via Ethernet, the normal way is to take a CP/Communication processor. IBH*softec* has a more flexible solution: *IBH Link S7++*. If you want to connect your PC via Ethernet just take the *IBH Link S7++*. The *IBH Link S7++* is a very small gateway integrated in a Sub D connector.

The *IBH Link S7++* replaces the well known *IBH Link S7* and *IBH Link S7* CrossOver.

Additional features:
- 16 PC-connections at the same time
- 32 MPI®/DP-connections at the same time
- Automatic Baudrate-detection
- RFC1006
- RJ45-Plug with autodetect integrated
- PG(PU)-Connector
- Diagnostic LEDs
- Power supply from the MPI®/DP interface
- Connection also to passive nodes with power supply via integrated 24V connector

IBH Link S7 Plus

If a S7-200®, S7-300® or S7-400® has to be connected with a PC via Ethernet, the normal way is to take a CP/Communication processor. IBH*softec* has a more flexible solution: *IBH Link S7 Plus*. If you want to connect your PC via Ethernet just take the *IBH Link S7 Plus*. The *IBH Link S7 Plus* is a small gateway. The *IBH Link S7 Plus* offers the same features like the well known *IBH Link S7*.

Additional features:
- 6 PC-connections at the same time
- PROFIBUS MPI®-Plug with PG(PU)-Connector
- RJ45-Plug integrated
- Connection also to passive nodes
- rail mount
- Diagnostic LEDs
- Galvanic separation

USB-S7-Adaptor MPI®, DP, PPI

The USB-S7-Adaptor MPI®, DP, PPI is an USB interface to the MPI®/PPI or DP-Bus converter for programming software or HMI. The USB-S7-Adaptor MPI®, DP, PPI has a 1.2m long MPI® connecting cable, which can be directly plugged into the programming socket of the CPU or to any other node in the MPI® network. The LCD Display shows the transmisson rate and MPI®/DP address.

The housing of the USB-S7-Adaptor MPI®, DP, PPI contains a type "B" USB socket. The Adaptor can be connected to the PC via the USB cable supplied. The USB-S7-Adaptor MPI® is powered from the PC. The USB-S7-Adaptor MPI®, DP, PPI can be used at any node in the MPI® bus. A driver for Windows® 98/2000/XP is supplied.

IBH Link S5

As an alternative solution, IBH*softec* has recently introduced the *IBH Link S5* for connecting a S5 PLC with a PC. The *IBH Link S5* is compact and robust Ethernet-converter within a 15-pin Sub-D-housing for a connection via a switch, a hub or even directly to a PC with a common network adaptor. The used protocol is the standard TCP/IP protocol. In this way, the user can benefit from all the advantages of Ethernet like remote maintenance via a standard router or VPN-connections (Virtual Private Network). Likewise, a direct connection to the Internet is possible. All required drivers for the STEP® 5 software from Siemens and for *S5 for Windows®* are included.
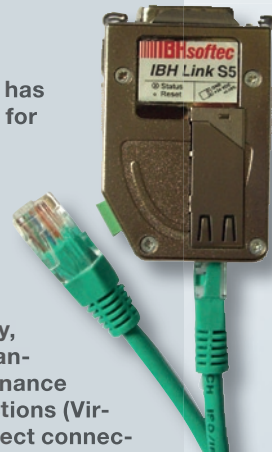
IBH USB-S5-Adaptor

Interfaces the PC USB Port with the 15 pin AS511 Interface port of the PLC. The 15 pin connector housing is made from solid metal and contains the complete electronics. The *IBH USB-S5-Adaptor* takes it's power supply from the USB port of the PC. It is an active cable, no power supply from the PLCs programming port is required. A Constant Current apdater is not needed for this reason. The *IBH USB-S5-Adaptor* can be used with *S5 for Windows®*, the *IBH OPC Server* and STEP®5 (Drivers for Windows® 2000, XP and Vista are included).

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