

IEC 61131-3

IEC 61131-3
AUTOMATION
SUITE

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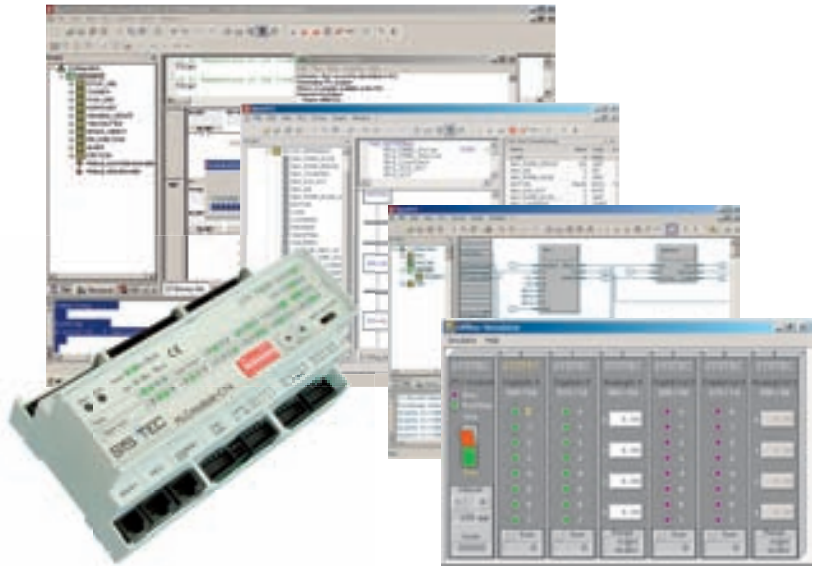
Order Information

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Why OpenPCS...

OpenPCS is the only IEC 61131-3 workbench certified for Portability Level by PLCopen. This documents the outstanding quality and performance.

SYS TEC
ELECTRONIC



OpenPCS - the genuine IEC 61131-3 Automation Suite

The combination of SYS TEC controls with infoteam OpenPCS gives a genuine IEC 61131-3 compliant controller.

CANopen enhanced OpenPCS

Take advantage of a seamless integration of all CANopen services and features, from network variables up to convenient function blocks for all CANopen services. When using OpenPCS with SYS TEC CANopen extension you benefit of a reliable and transparent data transmission without worrying about the communication process itself.

Network variables bring your process data into the application's scope. This makes exchange of process data as easy as just accessing local variables. This gives you the freedom to concentrate on the essentials; your application.

High-Performance - OpenPCS on SYS TEC controls

We know that speed is crucial for typical PLC applications. Thus SYS TEC controls provide highest performance on every module type. The OpenPCS programming environment features genuine Native Code Compilers as an additional compilation step to overcome any performance issues. Native code contains controller specific binary instructions that can be directly executed by the CPU. This gives the ultimate performance for high-speed applications.

No Hardware? Use Offline Simulation!

OpenPCS comes with an offline simulator to execute and debug programs no matter if any control hardware is available. The simulator runs on the same Windows PC as the programming system. Debug your

application before it goes to the real process and save valuable time when it comes to integration.

The integrated CANopen support allows for communication with your process, just as your normal control does.

OPC Server inclusive

OpenPCS comes with an OPC server providing direct communications to any connected controller, using RS232, CANopen or TCP/IP. The OPC Server complies with OPC 1.0a and OPC 2.0.

Key Applications

Medical instruments & lab equipment
Power generation & distribution
Safety systems & fail-safe control
Building control equipment
Motion control & drives, robotics
Simulation & diagnostic
Process optimization

- Complete and seamless integration of CANopen into the IEC 61131-3 programming environment
- Integrated OPC server for standardized connection of own applications
- Joint use of all 5 programming languages in one project
- Generation of rate-optimized native code for the target system
- Integrated offline simulator including complete CANopen support via various CAN interface hardware
- Access to PLC via RS 232, CAN-bus or Ethernet
- Extended debugging functionality (observing, setting/forcing of variables, breakpoints, execution in single-step/cycle)
- Reverse documentation of the source code from the PLC

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Enjoy IEC 61131-3 Programming

IL - Instruction List

The programming language IL is a textual, line-oriented language close to machine code, and therefore a most efficient language. Thus the graphical languages are mapped to IL.

ST - Structured Text

The programming language Structured Text (ST) is a higher level programming language with a syntax similar to PASCAL. It is ideally suited to solve extensive tasks. Besides the traditional means of PLC programming, ST provides powerful control and data structures to solve even complex problems in the field of algorithmic data processing or process optimization. Syntax highlighting according to the IEC 61131-3 specifications help you to detect typing errors on input. Breakpoints combined with test and commissioning watch variable lists eases debugging of your application. See your ST code being executed "step by step" at the control of your fingertips like you already may know from doing it day by day in your PC's development environment.

LD - Ladder Diagram

The Ladder editor combines traditional US Ladder with the improvements in software structure from IEC 61131-3. This unique combination of features allows users to write more efficient applications, significantly easier to maintain than monolithic ladder programs. Control relays allow merging of similar networks and a straightforward implementation of safety features. Besides on-the-spot editing of symbols, comments and addresses, context-sensitive menus allow for fast insertion of previously defined symbols. Spelling errors in symbol names are detected by a background syntax check, which automatically highlights and underlines errors. The Ladder editor is designed for usage with mouse and the keyboard. Auto scrolling keeps the cursor visible and in focus. It also comes with general support of cut and paste as well as undo and redo. Online monitoring of the power flow in networks shows the state of the contacts involved and the results of logic at a glance. Spotting an error is easy, fast and reliable.

FBD - Function Block Diagram

The function block editor is the tool for re-use of predefined functionality encapsulated in function blocks. Drag and drop function blocks anywhere on the workspace. On insertion blocks the interactive editor makes room if necessary and rearranges connections automatically. Define the data-flow easily by connecting the function blocks. Due to the integrated auto-routing feature, your schematics always look fine and clearly arranged. No long winded manual drawing or re-drawing of lines, no line-crossed blocks, all connections are routed through channels between the function blocks even when moving an already connected block to a new location. FBD supports application design in a structured way. Once all the algorithms and functionality have been implemented and encapsulated within function blocks, they are ready to get configured by data and control flow between function block instances.

SFC - Sequential Function Chart

SFC is perfectly suitable to model complex program structures like state-machines in a well-structured way. The SFC editor is used to design the structure of a PLC program by describing the execution order of discrete logical program steps. Steps can be processed sequentially and in parallel. Transitions are the conditions, which must be fulfilled before proceeding from one step to the next. Ease of use was the ultimate requirement when the user interface was designed. Execution logics and calculation of conditions for steps and transitions are described individually using embedded IL editors. Context-sensitive menus make easy the change the properties of steps and transitions. The correctness of the edited SFC chart is verified permanently. Plausibility checks are performed before the insertion of transitions and steps. That makes it easy to create unambiguous and well performing SFC programs straightforward. Online monitoring highlights the steps currently executed to enable monitor program execution.

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Accelerate your start!

OpenPCS Starter Kit

The OpenPCS Starter Kit makes possible your quick and uncomplicated entry into the world of automation. Using OpenPCS, you have everything that you expect from a modern programming environment. With OpenPCS Starter Kit you don't get merely an insular solution, but a solid base. Extension with CANopen I/O devices is possible at any time. The PLCmodule-C14 as a proven and modular extendable PLC is decisive for an open CANopen-based automation structure.



Highlights

- A price-effective complete package containing all hardware and software components for easy entry into IEC 61131-3 programming
- Step-by-step instruction for easy and step wise commissioning
- Full version of the OpenPCS programming system
- Extensive Documentation including Program examples and Quick start instructions
- PLCmodule-C14 with two independently utilizable CANopen interfaces
- Program-download and access to the PLC via the CAN-bus
- USB-CANmodule for access to the CAN-bus is included in the supply package.

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