

PERTINAX2007

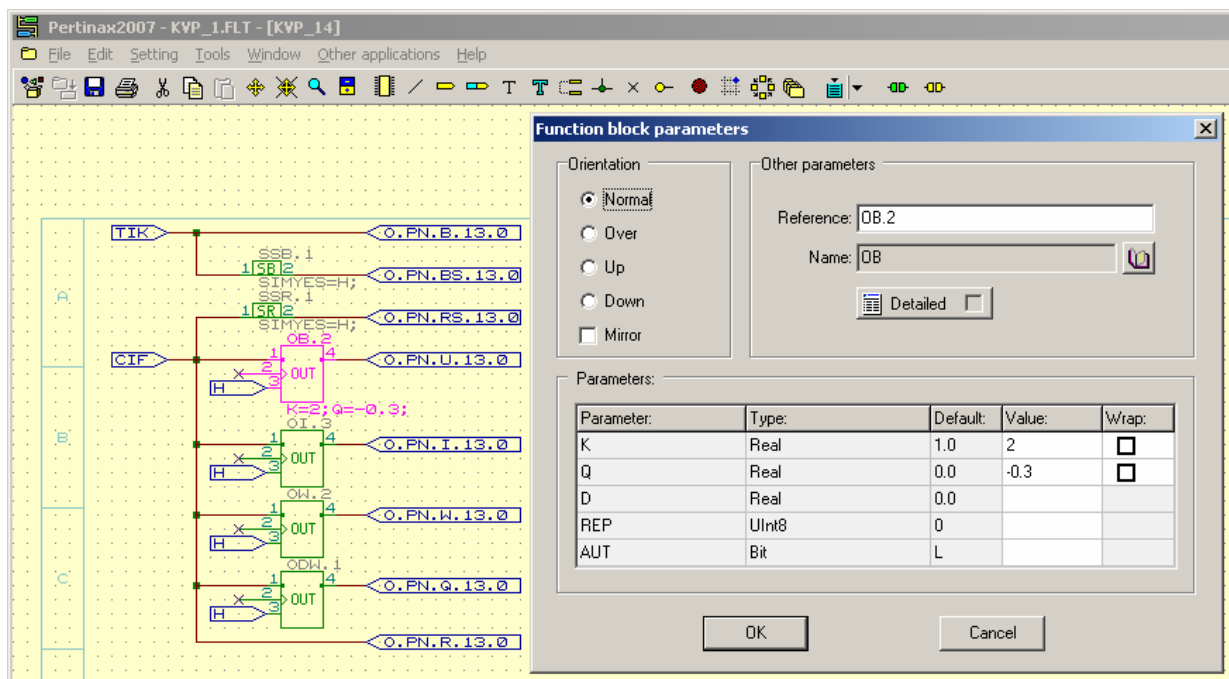
- unified programming application for ZAT systems
- basis of the system is a project, which comprises HW and SW and enables many cross checks at application creation
- management of system SW versions
- integration of system Primis 2000 for special applications
- support of integrated project database with export of associated links to higher-level systems
- easy applications programming by means of graphic objects (function blocks, ports)
- station interface defined through system drivers, each driver has its configurator for assignment of its features
- system is open concerning data and system communication
- algorithm simulation only in PC
- communication server supports routing of diagnostic frames (transfer through several types of communication)
- extensive diagnostic features (diagnostics of application SW, Web server)
- support of advanced SW and HW components (archiving, processor redundancy, Live Insertion rack)

DESCRIPTION

Pertinax2007 is own SW system developed by company ZAT a.s.

System Pertinax2007 is a basic SW tool for creation of application programs, their tuning and execution in real time. Pertinax2007 comes from already used versions of system Pertinax-IDE and it preserves its features and visual appearance. Pertinax2007 comprehends completely all the functions for process control level, this means it contains system, design, service and diagnostics SW for process stations of ZAT systems.

Integrated development environment of system Pertinax2007 operates under system Windows 2000/XP. Pertinax2007 enables complete project specification, which includes system configuration, application SW production, application transfer to target unit (PLC) and diagnostics and maintenance of running station.



Integrated environment of system Pertinax2007 has three modes (Editor, Simulator and Analyzer); one could simply switch each other. User SW is displayed in graphic form (function blocks) in the same way in all modes. Editor enables to create required functions and compile it into binary representation, Simulator could perform check of the functions by means of signals simulation without connected station, Analyzer operates with connected station and could transfer SW modules into the station (upload) or diagnose the station and transfer SW modules from the station (download).

System Pertinax2007 contains various integrated SW tools.

Project Manager serves for the system configuration. This includes HW specification (type of processor board, I/O board types and their addresses, types of communication boards and other possible special station interface) and SW setting (assignment of operating cycle value and other specific features for processor board e.g. archiving, types of communication protocols and concrete data definition of their transfer frames).

Communication server KoS2007 ensures communication with the station (data and system one). The server supports various types of communication. The server could communicate even through combinations of communication types.

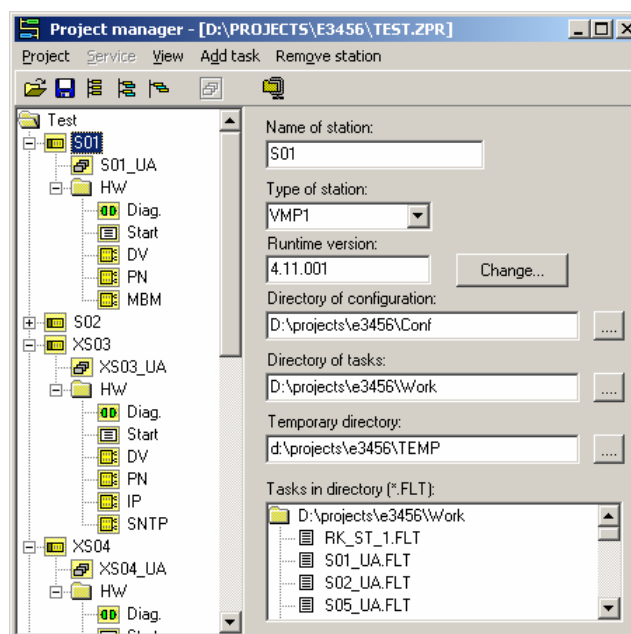
There is a short overview of features for the system Pertinax2007, detailed description is in User manual and Catalogue of function blocks for Pertinax2007.

FEATURES

Unified programming system. Pertinax2007 is used for all product sets of control boards ZAT, it is implemented for own boards and also for purchased ones (Kontron).

Comfort administration and documentation of project. The project is a basic element at application design. It comprises HW and SW. This enables to apply various cross checks at application SW creation. Pertinax2007 contains functions for work simplification with the project documentation.

Versions management. Pertinax 2007 has separated installation for development environment (IDE) and system SW (RunTime). The application enables to install more versions of RunTime versions at once and start any of them. Individual stations in given project could have assigned various RunTime versions in course of implementation.



Integration of system Primis 2000. Pertinax2007 enables to design and program (including upload into the station) system Primis for special applications.

Support of project database. Pertinax2007 could work with database files. This makes possible central administration for database of signals and associated links according to HW configuration. Also automatic generation of basis for higher-level control (operator stations) is possible.

Effective production of application SW. Programming is performed through language of graphic function blocks. Laying and interconnecting of single graphic objects (function blocks) forms required application behavior clearly and easily. Pertinax2007 offers sets of function block libraries, containing logic, arithmetic and special functions (e.g. regulators). Features of more complex blocks are modified by assigning of parameters into table with prepared name, type and default value. This increases facility of blocks for user.

Station interface - system drivers. All algorithm input and output signals (direct I/O from process, communication, terminals and special devices) are defined through drivers of given devices. Concrete features are assigned in configurators of single drivers. These inputs and outputs are represented by objects of port type in application SW. Port are interconnected with function blocks.

Extensive data communication possibilities. The system is open for:

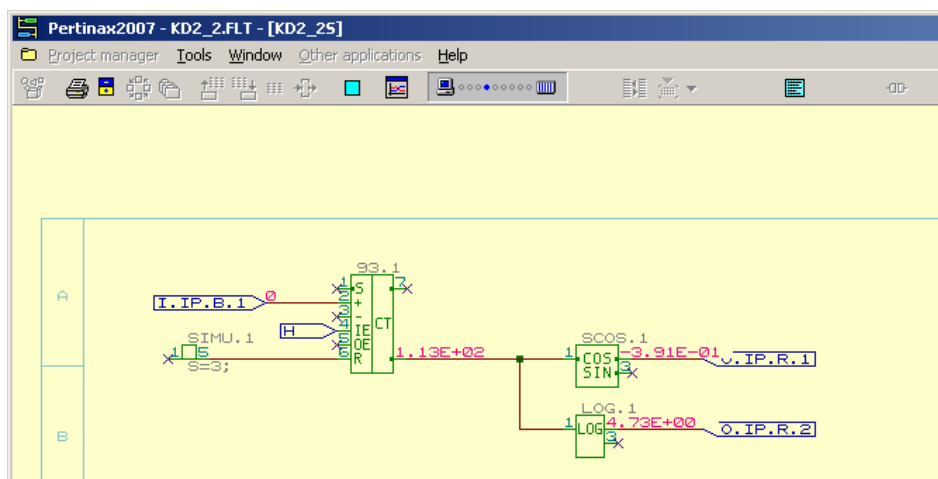
- common communication standards (Ethernet, Profibus, Modbus)
- remote communication (GPRS/GSM, line and radio modems, SMS)
- support of intelligent sensors and actuators (Profibus-DP, HART)
- support of special protocols (SPA Bus, M - bus, EN 60870-5-101, EN 60870-5-103)

Simulator. Pertinax2007 supports tuning of algorithm functionality directly in PC. User could switch between design drawings of application SW and Simulator, which shows values in marked algorithm points on the same drawings.

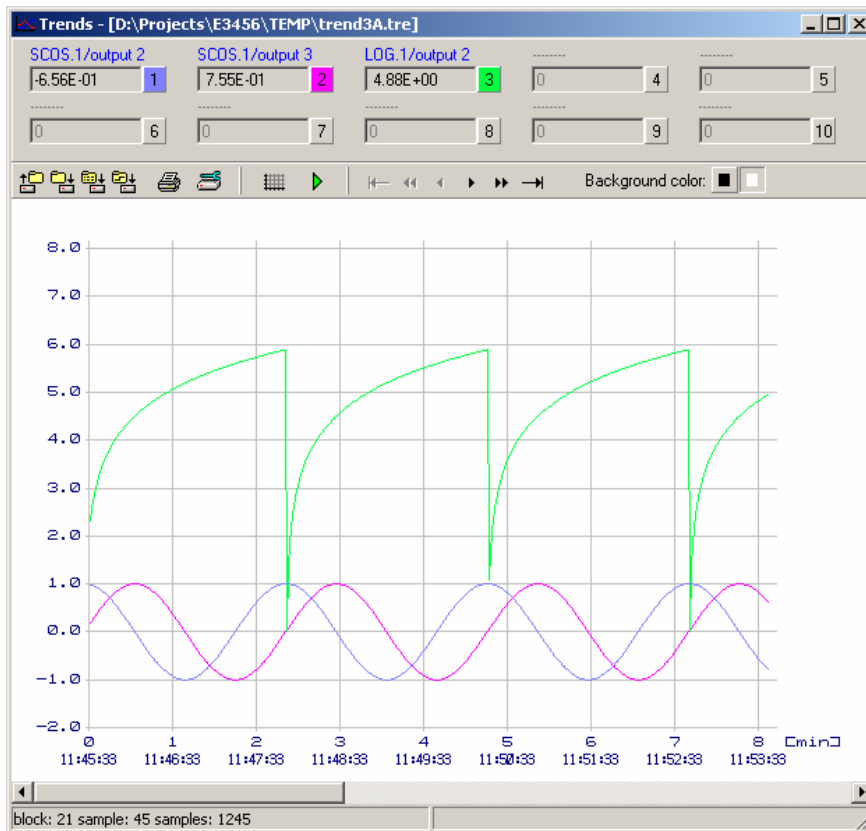
Communication server. Pertinax 2007 contains communication server KoS2007, which ensures system communication with the station. One could define various types of station connection with service PC:

- local (though serial line) always
- central (from engineering station) by means of common communication standards
- remote (modem)

Communication server could apply even combinations of some connection types (e.g. conversion serial line, Ethernet, Profibus).



Diagnostics of application SW. This SW diagnostics comprises display of current values and display of trends. To display values, user switches between editor of application SW and diagnostics, in which values in marked algorithm points could be watched on the same drawings. Selected values could be also displayed as trends in graphs with x-axis of real time.



Web server. Special diagnostic application run in control board. Web server supports communication (through protocol HTTP) with PC, where is installed web client only. Diagnostic data of the station up to the level of single inputs are provided in Web server pages. The server in special mode enables even remote setting of outputs. Access to the server could be protected by user password.

Advanced communication abilities.

- bump-less reload of algorithms
- remote setting of function block parameters
- on-line simulation of input signals (algorithm inputs could be set by SW within the scope of their type range)

Archive. Pertinax2007 ensures archiving of selected algorithm values in backup memory of controlled boards. When using e.g. I/O boards ZAT-DV, one could archive inputs with resolution up to 1 ms. The archive is preserved even after control board feeding loss. User access to archive is provided by ArcView2007, which ensures archive data reading, display, searching and export.

Synchronization of real time. Station real time synchronization is performed automatically through NTP server. Pertinax2007 gives also possibility for manual setting of station time from PC.

Advanced HW functions. Pertinax2007 contains SW modules, which enables the system operation in special HW configurations:

- redundancy of control board
- racks with possibility of board exchange during operation (Live Insertion)