

BlueDesign®

Graphical Engineering Tool

Hierarchical structure
up to 15 program modules
macros in any nesting depth

Generation of process graphics

Convenient function block editor

**Comprehensive function library with
integrated operator dialogs**
Controller, programmer, trends, alarms, logger, ...

Commissioning and simulation

- ❖ **Systematic creation of Engineerings without classical programming know-how**
- ❖ **Structuring with program modules and macros**
- ❖ **Up to 15 program modules (instances) in the main program**
- ❖ **Reusable macros in any nesting depth**
- ❖ **Integrated image mask editor for customized application displays**
- ❖ **Convenient function block editor**
- ❖ **Comprehensive function library**
- ❖ **Controller, programmer, trends, data logger, ...**
- ❖ **Offline commissioning, testing and simulation**
- ❖ **Debugging functions in BlueDesign® for testing the Engineering**
- ❖ **Simulation of device operation**
- ❖ **Import and export of global variables**
- ❖ **Continuous zoom**
- ❖ **Context-sensitive Help texts**
- ❖ **Comprehensive search functions**
- ❖ **The entire project can be saved in the device, complete with structure data and graphical displays**
- ❖ **Retrieval of the entire project from the device (reverse documentation)**

GENERAL

BlueDesign® is a modern, graphical tool for creating Engineerings for the compact automation unit KS 108 easy. The most important functions are:

- selecting, connecting, and parametrizing the required automation functions
- simulating device operation and functions as with the original equipment
- creating user-specific operating concepts
- on-site commissioning and troubleshooting

The latest version of BlueDesign® can be downloaded from www.pma-online.de under "Software".

BESCHREIBUNG

In principle, BlueDesign® consists of the following elements:

- **Function block editor**
With just a few mouse clicks, the function block editor is used to select the required functions and macro modules from the PMA function library, and position them on the worksheet.
Subsequently, the function blocks are connected to each other and to the process inputs/outputs on the screen.
Should a block have to be relocated, its connecting lines are redrawn automatically (autorouting).

- **Template designer**
in addition to the standard operating displays for controller, programmer, trends, alarms, etc (which are always available), the template designer permits the generation of any number of user and application-specific process graphics, operating pages, and menus.

In this way, optimally designed display and operating concepts can be implemented, supported by graphical representations of the processes (Bitmaps), which greatly increases transparency, operational safety, and response speed for the operating personnel.

- **Simulation and troubleshooting**
The KS 108 easy is simulated on the PC, complete with operating functions and displays. Inputs can be assigned, and output statuses displayed.

This enables all functions and operating menus to be tested in advance, and modifications carried out before hot commissioning.

- **Assistance for debugging**
Powerful debugging functions greatly reduce the testing time of new Engineerings during simulation and final commissioning in the plant:
 - Online parametrization of function blocks.
 - Versatile display and trend functions for process values.
 - Pre-defined values for function block inputs.
 - The KS 108 easy operating instructions are part of the Help system.

Structured Engineering

The function block editor provides various structuring aids for better layout transparency, for example:

- *Breakdown of the Engineering* in up to 15 programs, each of which runs in a selectable cycle and with adjustable priority.
 - *Macros* for embedding recurring and established functions with a practically unlimited nesting depth.
 - *Export and import of macros* permits the implementation of previously created and tested functions in other applications. Within a program or macro, arbitrary function blocks can be positioned anywhere on the worksheet, and 'wired' according to their function.
 - *The definition of variables* simplifies 'wiring' of comprehensive Engineerings, and provides access to global variables.
- Lists of variables* can be exported and imported in the form of text files. This enables them to be generated and modified with external text editors.

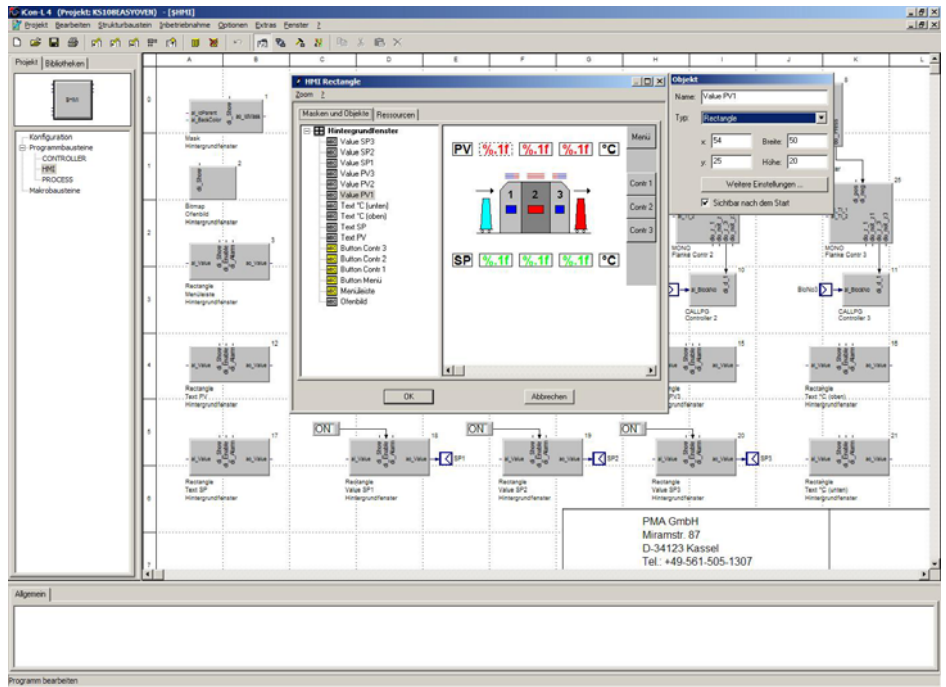


Fig.1: Part of an engineering with user-specific operating page

Function library

The library of the KS 108 easy contains a wide range of useful functions, such as:

- Controllers
- Programmer
- I/O connections
- Scaling
- Arithmetic
- Logics
- Trends
- Data logging
- Alarm processing
- Self-generated and imported macros

Simulation

By means of the integrated device simulation, it is possible to test and become familiar with the front panel operation as well as the functions of the new Engineering before the actual device is commissioned.

Debugging functions

In order to display variables and status values, it is possible to integrate various display elements such as analog value, bargraph, pointer indicator, and trend recorder directly in the Engineering. In addition, various switches and parameter modules are available for presetting process values and logical states. For improved transparency, we recommend combining the debug functions required for an Engineering in an own program module.

Online mode

If BlueDesign® is connected to a device or the simulation (online mode), all process variables and settings of the connected device can be displayed, monitored, changed, and recorded as a trend.

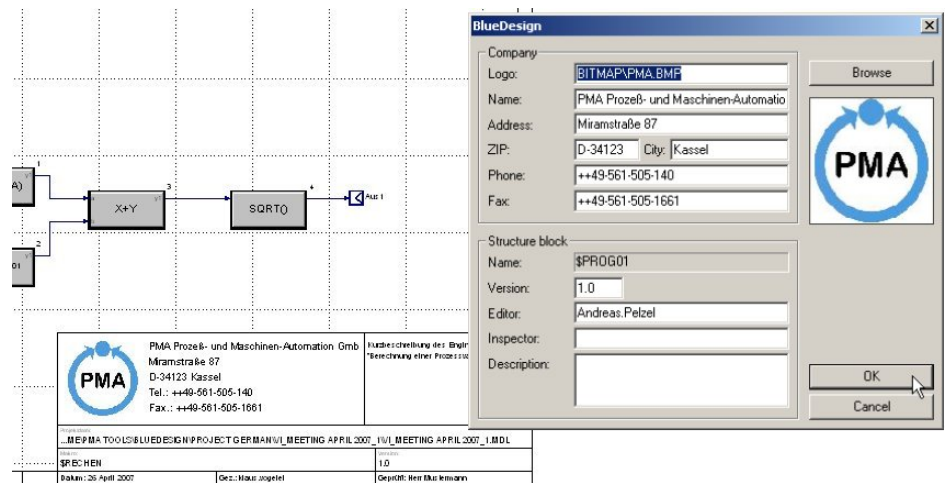


Fig.2: Layout of the worksheet

If an arbitrary connecting line of the Engineering is clicked with the mouse, the present value of the corresponding variable is displayed.

Help functions

Comprehensive online Help functions are provided for BlueDesign®.

Clicking the right-hand mouse key on a function block opens the associated context-sensitive description.

If the mouse is moved over a parameter field, a *Tooltip* is displayed, which contains a detailed description of the parameter and/or the preset value from a selection list.

During installation of BlueDesign®, the system manual with all the descriptions is also installed.

Upload / Download / Reverse documentation

When the Engineering is uploaded to the KS 108 easy, a packed project file with all the design parameters is also transferred, and saved in a non-volatile memory. This not only permits the Engineering to be downloaded from the device, e.g. for local modification, but also enables the accustomed layout and all the connections to be displayed as in the original worksheet – a valuable assistance for identification and orientation.

Print function

The main program as well as the program modules and macros are printed on respective worksheets.

Hereby, every worksheet has a header with project-related data (Fig. 2). For this, the address can be individually adapted, and even the company logo (Bitmap) included.

Similarly, the (parameter) settings of function blocks can be saved in a separate file, modified with a text editor, and printed.

Languages

At present, English and German are supported.

Supported equipment

Automation unit KS 108 easy

PREREQUISITES

Software

BlueDesign® runs under the operating systems MS Windows 2000, ME, NT4, and XP.

Hardware

- IBM-compatible PC with Pentium or AMD processor
- at least 512 Mbyte working memory
- hard disk with at least 150 Mbyte free capacity
- SVGA graphics card and a suitable monitor (1024 x 768 pixels)
- CD-ROM drive
- Mouse or similar pointer device
- Ethernet interface

Ordering data

License data (name & key) are delivered exclusively by electronic means (e-mail). The latest software version is available on our website:

www.pma-online.de/en/products/download.html#bluedesign

The following data are required for ordering:

- ✓ User's name
- ✓ Company name and address
- ✓ User's e-mail address

Graphical Engineering Tool BlueDesign® Expert

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Notes:

- The simulation is included in BlueDesign Expert.
- For getting acquainted, limited-period license numbers are available.
- During installation, the Engineering manual is also installed.

Accessories (to be ordered separately)

Ethernet switch (8 ports; for 'top-hat' rail mounting)

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