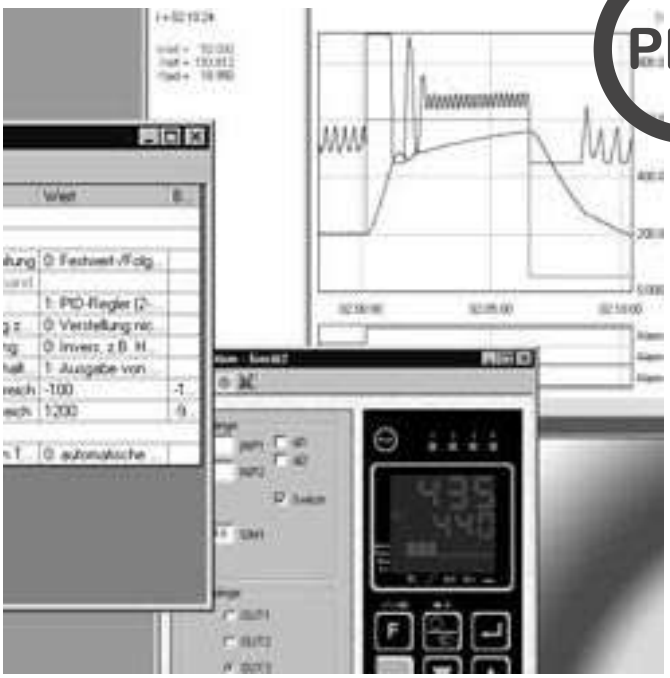


BlueControl®

Fast configuration

Reliable copying

Settings are tested with the integrated simulation

Archiving and documentation

Reduced commissioning time

Free downloader

GENERAL

BlueControl® is a powerful tool for setting parameters, simulation, commissioning, and diagnosing PMA's BluePort® devices as well as the KS 800 controller range, *rail line* equipment, and KS vario. The current version of BlueControl® is available at: http://www.pma-online.de

DESCRIPTION

The primary function of BlueControl® is parametrizing of control equipment with the assistance of plain texts, a clear structure, and online Help, thus enabling the numerous options to be selected quickly and safely. Hereby, all settings can be edited, copied, and saved.
If BlueControl® is linked with an active device (online mode), the most important process data and settings of the connected device can be monitored and changed, and the trend function also permits them to be recorded. The display is in real-time.

A completely risk-free procedure is provided by the detailed device and process simulation, primarily for testing control functions before commissioning, or for training purposes. This feature also permits the simulation of comprehensive functions and complex devices, without having to connect the device or process signals to the PC.

Moreover, special functions are offered for numerous device types and families. For the BluePort® range, the front panel operation and display can be modified extensively. For devices with the PROFIBUS-DP option, the variable bus accesses are defined via BlueControl®. The program editor provided in the "expert" BlueControl® version greatly simplifies the adjustments necessary for devices of the "programmer" type.

BlueControl® uses established MS Windows operating standards as well as the familiar operating elements and menu structures of MS Office programs.

Functionality	Mini	Basic	Expert
parameter and configuration setting	yes	yes	yes
controller and loop simulation	yes	yes	yes
download: transfer of an engineering to the controller	yes	yes	yes
online mode / visualization	SIM only	yes	yes
defining an application specific linearization	yes	yes	yes
configuration in the extended operating level	yes	yes	yes
upload: reading an engineering from the controller	SIM only	yes	yes
basic diagnostic functions	no	no	yes
saving data file and engineering	no	yes	yes
printer function	no	yes	yes
online documentation, help	yes	yes	yes
implementation of measurement value correction	yes	yes	yes
data acquisition and trend display	SIM only	yes	yes
wizard function	yes	yes	yes
extended simulation	no	no	yes
customer-specific default data-set	no	no	yes
program editor (KS 90-1 / 92-1 programmer only)	no	no	yes
Rail line system support	no	no	yes

VERSIONS

- Demo version: "BlueControl® Mini" for getting acquainted with BlueControl® via the simulation
- Basic version: Functions and access to special device functions that are not available via front-panel operation.
- Expert version: Provides additional special functions (see table at left "Functions of BlueControl® versions").

Comparison of functions provided by the BlueControl® versions:
Mini <–> Basic <–> Expert
Which version offers which functions?

FUNCTIONS

Parametrizing: The primary task of BlueControl®

Configuration und parameters can be adjusted in a simple manner, uploaded to the device, read out of the device, and saved.

Wizard for controller tuning

The Wizard for controller tuning provides a quick entry into the use of BlueControl®. The most important adjustment options are summarized on just a few display screens.

Online Help

BlueControl® comes with comprehensive online Help facilities, which explain all the windows, menus, functions, and symbols.

Furthermore, the online Help can be called directly for every adjustable parameter.

The Help system includes a search function.

Parameter Help (tool tips)

Moving the mouse over a data field (parameter field) in the "Parameter adjustment" window, a tool tip is displayed, which contains a precise description of the parameter or of the adjusted value in the case of selection lists (see Fig. 1).

Visibility of operation, Extended Operating Level

In addition, devices with front-panel operation offer the possibility of adapting the appearance and the operating functions, e.g. to simplify operation. For this, individual parameters or even entire parameter menus can be shown/hidden, or in the case of BluePort® devices, they can be assigned to the "Extended Operating Level" for fast access.

Note: These adaptations are only possible via BlueControl® – not in the device itself.

Upload / Download

Upload: transferring (writing) the data from the PC or simulation into the external device.

Download: fetching (reading) the data from the external device into the PC or simulation.

The function "Device information" is used to read the technical data from the external device. These data include device type, operating version, order no., and extras.

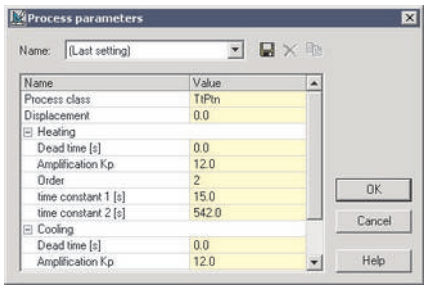
Simulation

The built-in device simulation permits the front operating elements as well as the inputs/outputs to be displayed. Hereby, the simulation takes the input scaling into account, as well as switching via digital inputs, device behaviour in case of a fault, and adjusted limit values.

Moreover, the adjustable process simulation is connected automatically to the outputs of the simulated device. The process simulator permits various processes to be represented, using all conventional models.

For example, apart from the standard PMA process (2nd-order Tu/Tg model), the Expert version offers processes with adjustable dead time (Ptn), as a Laplace representation, or as a differential equation, also in a state space display.

Fig. 2: Parameter window for adjusting the loop parameters to simulate a real process



Furthermore, an adjustable disturbance0 can be applied to the process simulation. Hereby, various disturbance types are selectable (e.g. ramp, noise, sinewave, or pulse), the disturbance entry point (input or output signal), and its amplitude and frequency.

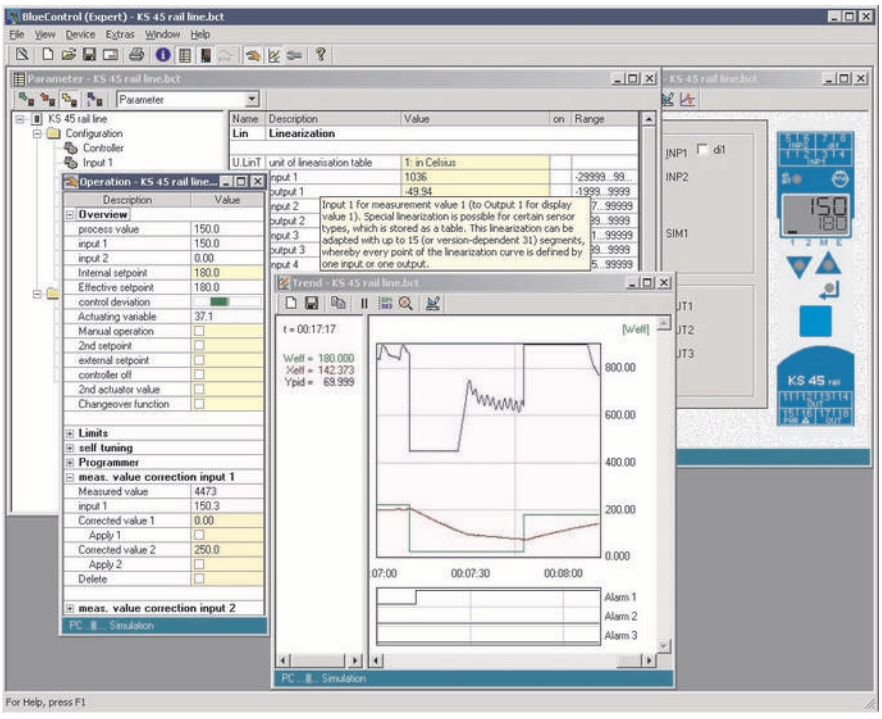
To accelerate the simulation along a correct time axis, there is a "Turbo" function. Also, for a closer look, there is a "Pause" function.

Online operation

The "Connect" mode provides the possibility to monitor and adjust the most important process values. Setpoints can be defined, and switchovers can be triggered. Moreover, the self-tuning function can be started and the result is displayed.

The finishing touch is provided by the trend graphics for device and simulation, enabling the quality of the loop to be assessed at a glance.

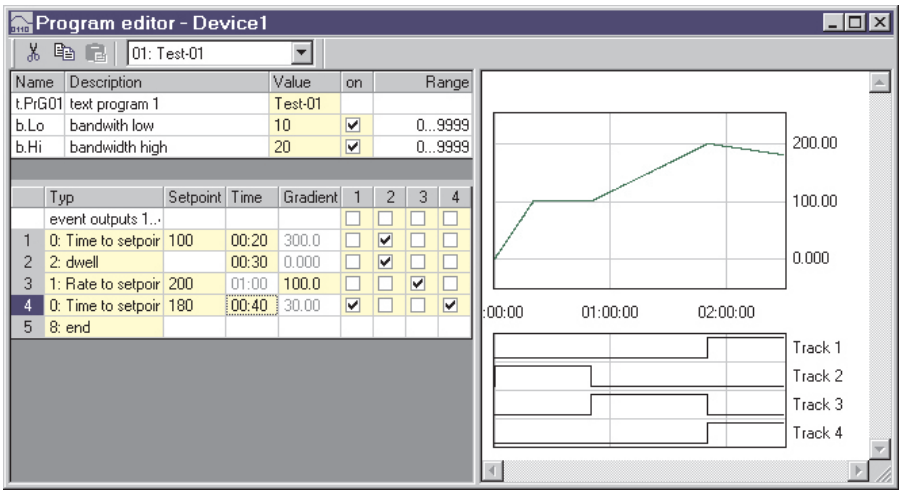
Fig.1: BlueControl® user interface with online operation, trend display, parameter dialog with tooltip, and device simulation



Program editor

For the controllers KS 90-1 programmer and KS 92-1 programmer, the Expert version of BlueControl® contains a program editor, which greatly simplifies the adjustment of the programmer (see Fig. 3).

Fig. 3: Program editor with graphical program display



Wizard for rail line

The Wizard provides convenient entry and editing of a *rail line* system's configuration.

System configuration and connection Wizard for KS vario

The Wizard provides convenient entry and editing of the internal connections of a KS vario system. Hereby, the basic module and the selected system modules are assembled and configured.

Export of a download list

All data and Modbus addresses that are downloaded to an external device can also be exported in the form of an Excel-compatible CSV file (text file).

Linearization export/import

The data of the user-defined linearization for the inputs can be exported as a CSV file, e.g. for subsequent import into another project.

Print function

The print function offers various options for printing selected information from the large amounts of available data. Apart from general data such as project information, this also includes special data from the individual device family, e.g. the connecting diagram of a BluePort® controller.

Trend

Trend recording permits data from the simulation or from the device to be displayed graphically.

The trend display is in real-time.
The display contains a time axis (relative = starting from the time of connection, or absolute = historical) and the measured values in the form of numeric data.

Analog values are displayed as curves, and digital data are shown in the format of a logic analyser.

Trend functions are: zoom, pause, measurement scale for precise evaluation, scaling and inscription of the Y axes, copying into the clipboard, saving in the Excel-compatible CSV format, opening of stored trends.

BluePort® maintenance manager

For the devices of the BluePort® range, the diagnostic function provides access to the data in the maintenance manager. Error lists can be read out and reset, and the status of counters for operating hours or the switching cycles of output relays can be displayed.

Communication via Modbus, Profibus, or Ethernet

For this, the device offers an interface in the front panel and at the rear.
Devices are connected to the PC via:

- a COM port (COM1...COM8),
- the Profibus interface (PROFIBUS 1...PROFIBUS 4) via a Siemens or Hilscher card, or
- via an Ethernet interface.

Other functions

Adaptation of the BlueControl® user interface is possible.
The current Engineering can be transmitted as an e-mail directly out of BlueControl®.
Supported languages: English, German, French, Italian, Czech.

SUPPORTED EQUIPMENT

(also see Ordering Data)
BluePort® range, including KS 40-1, KS 50-1, KS 90-1, Digital 280-1, etc.
KS 800 range
KS vario
rail line range, including CI 45, KS 45, TB 45, etc.

PREREQUISITES

Software

BlueControl® runs under the operating systems MS Windows 95, 98, ME, NT4, 2000 and XP.

Hardware

The following minimum hardware components are required:

- IBM-compatible PC with Pentium processor
- at least 32 Mbyte working memory
- hard disk with at least 64 Mbyte free capacity
- VGA graphics card and a suitable monitor
- Floppy disk drive or CD-ROM drive
- Mouse or similar pointer device
- Serial interface or USB adapter for connecting external devices

ORDERING DATA

BlueControl® Mini, multi-language
BlueControl® Basic, multi-language
BlueControl® Expert, multi-language

Ordering options

The Mini version is available as a free download package.
The Basic and Expert versions are available on CD, and are activated by entering a license number.

Licenses are valid for an unlimited time.
Purchase of a license includes all (future) updates. Updates can be downloaded from our website.
If you specify an e-mail address when purchasing your license, you will be notified automatically about updates.

The following licenses are available:

BLUEPORT® DEVICES

BlueControl® KS 40/50/90 Basic	9407-999-11001
BlueControl® KS 40/50/90 Expert	9407-999-11011

Supported equipment:
KS 40-1 universal, KS 41-1 universal, KS 42-1 universal, KS 40-1 burner, TB 40-1, KS 50-1 universal, KS 50-1 TCont, KS 90-1 advanced, KS 90-1 programmer, KS 92-1 advanced, KS 92-1 programmer, Digital 280-1

KS 800 RANGE

BlueControl® KS 800/816 Basic	9407-999-09101
BlueControl® KS 800/816 Expert	9407-999-09141
BlueControl® MT 816 Basic	9407-999-09311

Supported equipment: KS 800, KS 816

KS VARIO DEVICES

BlueControl® KS vario Basic	KSVC-109-10001
BlueControl® KS vario Expert	KSVC-109-10011

Supported equipment: KS vario

RAIL LINE DEVICES

BlueControl® *rail line* Basic	9407-999-12001
BlueControl® *rail line* Expert	9407-999-12011

Supported equipment: CI 45 *rail line*, KS 45 *rail line*, TB 45 *rail line*, RL 45 *rail line* system

All of the above licenses (for the respective Expert versions) are combined in one:

BlueControl® Universal license	9407-999-19011

Supported equipment: all devices supported by BlueControl®

Ordering data for adapters:

Adapters are required for the connection between an external device and the PC. The following adapters are available:

BluePort®, KS 800 range, *rail line*

PC adapter for the BluePort® front interface	9407-998-00001
USB serial converter (USB to RS 232)	9407-998-00081
Converter RS 232 to RS 422/485, galv. isolated	ADAM-4520-D

KS vario

RS 232 interface cable for BlueControl®	KSVC-109-00101
USB serial converter (USB to RS 232)	9407-998-00081
Converter RS 232 to RS 422/485, galv. isolated	ADAM-4520-D

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