IBIS-R+

Configuration and parameter
setting software
for Digitric 500 and
Protronic 100/500/550

since version 1.00.350

Supplement to manual

42/62-50030Z1 EN

Rev. 01

ABB

Extension of the Commissioning

**Reading/Writing of variables in the editors of the free configuration**

For the sake of quick commissiong of projects with free configuration, directly access to the variables of a coupled controller in the editors of FBS and IL can be gained without having to state these in the value window of the commissioning feature.

There are 2 possibile selection methods:

Firstly, you can select a variable of your choice (with a simple click on the variable) and then call up the function "Read/write variables" in the "Edit" menu, in order to display the selected read value online.

After choosing the variable, the function key <F7> can also be used for accelerated selection.

The second possibility involves calling up this menu item or the accelerated selector without previously selecting a variable.
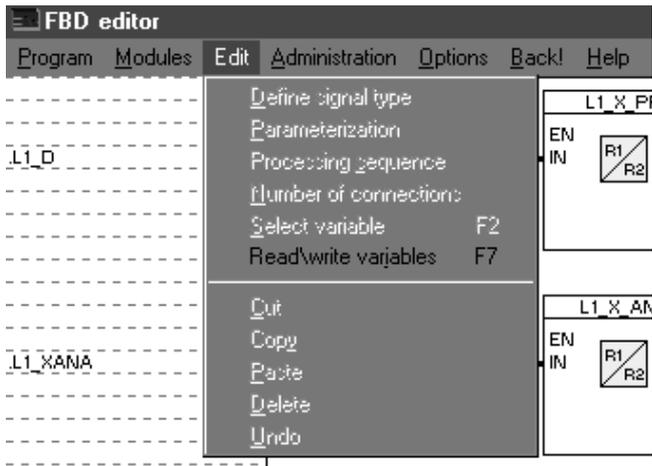
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In both cases, a window containing all variables used in the program - both user-defined and predefined - is displayed. The variable to be read online can be selected from this list. If a variable had been previously selected, this shall be displayed with its data type and online value. The contents of the window correspond to those in the window of the variable list for commissioning.

The value is constantly updated. Within the list, changing over to another variable is possible at any time. This selection can also be made using the <↑> and <↓> keys.
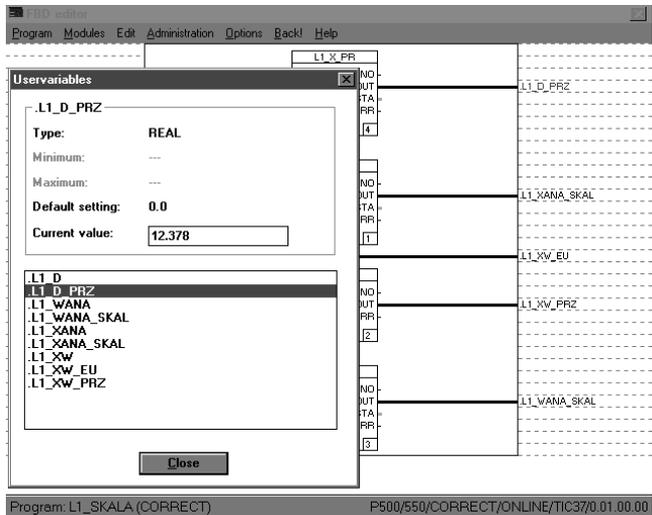
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Access to controller via modem

A modem connection can also be used to gain online access to the unit. With it, systems can also be commissioned without being on site. No PC is required on the controller side for this type of communication. The modem can be operated directly with the connected controllers. Should more than one controller be connected, the RS-232 interface of the modem must be adapted to match to RS-485 with the help of an adapter.

The telephone connection via modem can be established and controlled directly via IBIS_R+. Additionally, the IBIS_R+ also enables the application of a telephone directory.

In order to configure the modem connection, the "Communications Parameter" dialog must be called up.

In the field marked "Connections", indicate whether a modem can be used for obtaining the next online access by ticking off. This setting remains valid until the next change, if the dialog is terminated with [OK]. A modem connection can only be established via an apparatus equipped with an interface module. Modem ope-ration via the TTL interface is not possible.

If a modem connection was ticked off in the given field, the "Modem" becomes activated. In it, a name for the system to be addressed should be selected from a list. This list represents a telephone directory. The appropriate telephone number and the name itself can be input or modified here. If a name or telephone number was input or modified, this can be stored in the telephone directory by pressing [Save subscriber]. Selected names can be deleted again from the telephone directory, including their corresponding numbers, by pressing [Delete subscriber].
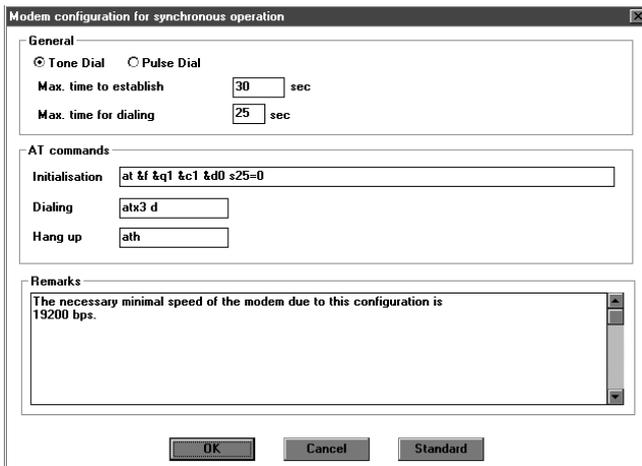
The H-288e made by Messrs Häussler has been set at the factory. If new settings are required for a different modem, this should be changed via [Configure modem]. The appropriate parameters for telephone dialing can also be set in the same way.

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The basic parameters for creating a telephone connection can be entered into the "General" field. The selection of either tone or pulse is determined by the type of telephone system used on the PC side. If the type used is unknown, contact the manufacturer. The "Maximum time for dialing" is the time required by the modem on the controller side to respond after the modem has been dialed, e.g. through a call for start-up via modem. If the modem responds, communication is exchanged between the modems on the type of data connection to be made. This must be achieved within the time frame "Maximum time for establishing a connection", otherwise the entire dialing exercise shall unsuccessful and subsequently be aborted.

In addition to the general parameters, the "AT command sequences" for controlling the modem on the PC side for initialization, dialing and engagement can be configured. These settings can be accepted into the INI file of IBIS_R+ by pressing [OK]. If modifications must be made in order to match to other modems, such modifications are normally indicated in the manual of the modem in question. For operation with IBIS_R+, a synchronous data operation must be configured.

The modem H-288e made by Messrs Häussler has been set at the factory. These settings can be called up at any time by pressing [Standard] in the input windows of the "AT command sequences", and the required inputs of the INI file can be overwritten by quitting the dialog with [OK].

Information required for operating the modem is also provided in the lower part of the dialog. The most important information is the maximum baud rate required for the modem. Since data is transmitted on the telephone line with a double baud rate for addressing the PC or controller, this fact must be taken into account when applying the IBIS_R+ and the controllers. The baud rate applied in the controller configuration for the RS-232 or RS-485 module and the baud rate set in the communications parameters of IBIS_R+ must be identical and less than or equal to half of the maximum permissible baud rate. When using modems with a maximum baud rate of 28.8 kBaud, this amounts to 9600 baud for the controller, since 14.4 kBaud is not available for selection.

The dialog for configuring the modem can be quit with [OK] - all modifications made shall be saved - or with [Cancel] - all modifications made shall be rejected.

If the modem is used for the uploading or downloading of controller information or for commissioning, there will be an automatic query as to if the established telephone connection should be maintained when quitting this program section. Yes means avoiding delays in making new connections. However, keeping the line means incurring extra telephone costs. If the connection is to be initially kept and interrupted later, this can be done in the program section called "Project management" via →Project→Close modem connection.

If modems are operated on transmission paths, the modem on the controller side should be configured before connections are established - normally before being supplied to the end user. The instructions on how to do this are supplied in the modem manual.

Operation of programmer parameters

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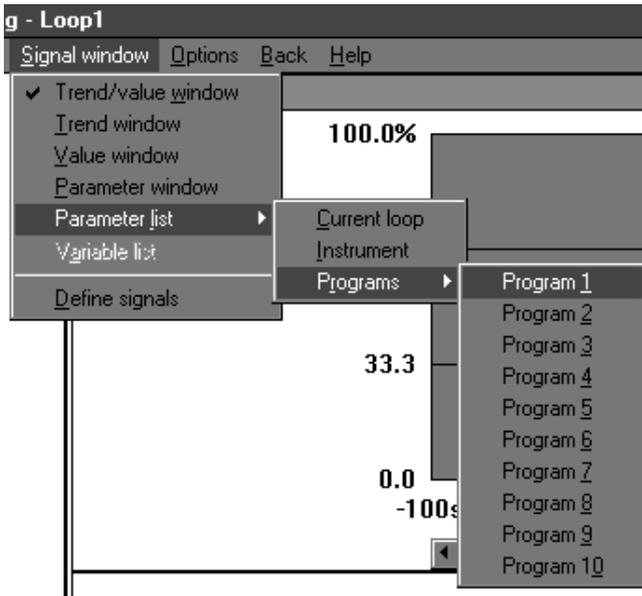
During commissioning, the list of parameters of the respective program for the programmer can be called up for parameter inputs, in addition to the parameters of the just selected control loops or of the unit, with →*Signal window*→*Parameter list*→*Programs*. Following this, the usual dialog with which parameter lists can be selected and modified is displayed, the appropriate values being then transmitted to the coupled controller.

Up and downloading

During display of the process sequences for the uploading and downloading of projects, a motioned graphic is windowed.

New predefined variables

Newly predefined variables are introduced with the library 3.5.0. These are variables of the data type INT and variables for the display of alarm pointers in the bar diagrams of Protronic 550.

Name of variable	Significance
.INT_01 .INT_02 to .INT_32	Variables (INT) for interconnecting customer-specific data are provided in the free configuration. Since the variables can be addressed via the Modbus-RTU and Profibus-DP protocols, these can be employed by systems to gain access to Protronic 500/550 and Digitric 500 data which cannot be numerically processed in REAL.
.L1_GWMAX_GRAPH	Contains the normed value (REAL) of the upper (maximum) alarm threshold for the bar diagram with number 1 of Protronic 500. This represents the control variable, except in the case of ratio control. Value range: 0.0...1.0.
.L1_GWMIN_GRAPH	Contains the normed value (REAL) of the lower (minimum) alarm threshold for the bar diagram with number 1 of Protronic 500. This represents the control variable, except in the case of ratio control. Value range: 0.0 ... 1.0.
.L1_VGWMAX	Contains the value (REAL) of the upper (maximum) alarm value pointer in physical units for the ratio in the case of ratio control. When using ratio control and depicting the actual ratio as bar diagram, this value is displayed as an alarm value pointer via .L1_GWMAX_GRAPH.
.L1_VGWMIN	Contains the value (REAL) of the lower (minimum) alarm value pointer in physical units for the ratio in the case of ratio control. When using ratio control and depicting the actual ratio as bar diagram, this value is displayed as an alarm value pointer via .L1_GWMIN_GRAPH.

.L1_XGWMAX	Contains the value (REAL) of the upper (maximum) alarm value pointer in physical units for the first used maximum alarm value of the control variable.
.L1_XGWMIN	Contains the value (REAL) of the lower (minimum) alarm value pointer in physical units for the first used minimum alarm value of the control variable.
.L1_YGWMAX	Contains the value (REAL) of the upper (maximum) alarm value pointer in physical units for the first used maximum alarm value of the output variable. The alarm value pointer would be windowed for alarm value used in the bar diagram bearing the number 3. Value range: -5.0...105.0.
.L1_YGWMIN	Contains the value (REAL) of the lower (minimum) alarm value pointer in physical units for the first used minimum alarm value of the output variable. The alarm value pointer would be windowed for alarm value used in the bar diagram bearing the number 3. Value range: -5.0...105.0.

This is also true for the alarm value pointer of the control loops 2, 3 and 4, as far as variables .L2_GWMAX_GRAPH to .L4_YGWMIN are concerned.

The alarm value pointers for the bar diagram number 1 are faded out when both .Lx_XGWMAX and .Lx_VGWMAX accept the value 100000.0 as the upper alarm value pointer. This is true for the lower alarm value pointer when both variables .Lx_XGWMIN and .Lx_VGWMIN accept the value -100000.0.

Should any of the variables have a value which is not equal to the stated control value, the alarm value pointer mark shall be displayed.

This also applies to the alarm value pointers of the bar diagram number 3 for the control variable. However, everything refers to the variables .Lx_YGWMAX and .Lx_YGWMIN.

Extension of the standard generation of alarm pointers

With the introduction of the alarm value pointers for the control variable, actual ratio and output variable in the library 3.5.0 this means they are integrated into the standard generation routine. Compared to library 3.4.0 this would lead to a change of the FBD programs Lx_GRENZ4 and the introduction of new FBD programs Lx_GW550. In accordance with the list configuration therefore, the variables to be used for Protronic 550 have been correctly assigned to the alarm value pointers.

If a configuration from a library 3.4.0 is to be exported or accepted earlier, it is recommended to add an interconnection of the new variables. Unused maximum alarm value pointers should then be set to 100000.0 and the minimum alarm values to -100000.0.

Fading out bar diagrams

When applying the firmware for Protronic 500/550, Digitric 500 or higher, using library 3.5.0, the bar diagrams for the control variable, the set point and the output variable can be faded out (dark) individually.

To enable this, the value of variables .Lx_XANA_SKAL, .Lx_WANA_SKAL and .L1_PID_Y_OUT must be set lower than or equal to -100.0.

Library management

Beginning with the IBIS_R+ Version 1.00.0350, it is also possible to use the library 3.4.0 to configure controllers equipped with a firmware version current enough to match a new library.

However, only the functionality of library 3.4.0 in the new controllers are utilizable, but not the extended functionality which led to the new library 3.5.0.

New modules such as the Profibus-DP slave or the frequency input module cannot be configured with it, since unknown to the library 3.5.0, even if the configured unit could process these. In like manner, the new variables introduced with the library 3.5.0 cannot be used.

Use of dongles

In this new version the dongle is only required for conducting verification. With it, list configurations for the control of internal wirings leading to the free configuration can be converted.

It is also possible to edit and store free configurations without dongles.

Extension of documentation

Foot of drawing

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The documentation module provides the possibility to display bit-maps in the plotted windows (Windows *.BMP).

This can be done by using →*Project*→*Project-head*→*Edit drawing footer* in the project manager or →*Edit*→*Head*→*Drawing footer* in the project tree to fill the existing 3 fields with the required information. It is in these fields, as suggested in the figure, that the name of a bitmap can be input. In order to differentiate the text input, prefix the name with #.

Since no absolute directory path can be stated, the bitmaps used are taken from the directory \IBIS_R(P)\ BITMAPS. This directory is generated automatically upon installing the software. Please store all used bitmaps in the aforementioned directory before generating a documentation. If a required bitmap is not stored in this directory, the bitmap name with preceeding "#" is printed instead.

List configuration

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The documentation of the list configuration offers the possibility to print out only deviations or modifications from the factory set-ting. This enables the compilation of a very abridged and concise documentation, which only contains data on the most important and modified catalogs.

```
  Device configuration

Remote operation
B04-Q01: Remote operation: 4 -    LOCAL+REMOTE

Alarm treatment
B10-Q01: Text/Alarm display: 1 -    on the front panel

Set Module type
B12-Q01: Slot 1: 15 -    mA/mA 2-fold galv. isolated
B12-Q02: Slot 2: 2 -    Interface RS-232/485

Communication
B30-P01: Modbus-Address: 17
B30-Q02: Baud rate: 8 -    38400

  Configuration loop 1

Input signal connection
B03-Q06: Display PV,SP: 1 -    with 1 decimal place
B03-P08: Scale end PV,SP: 150,00
B03-P17: Analog scale end: 70,000

  Configure AI

Analog input 01
B01-Q01: Select signal: 5 -    Pt100 3-wire
B01-Q02: Signal conditioning: 14 -    Pt100 -200..200 °C
B01-Q03: Eng. unit: 3 -    °C
B01-P05: Scale start: -200.0
B01-P06: Scale end: 200,00

Analog input 12
B12-Q01: Select signal: 2 -    4..20mA

  Configure binary I/O

binary-input/output 04
B04-Q01: Select signal: 3 -    Binary output, operating current
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This type of documentation can also be used for making long documentations, whose question and response texts are also to be printed out.
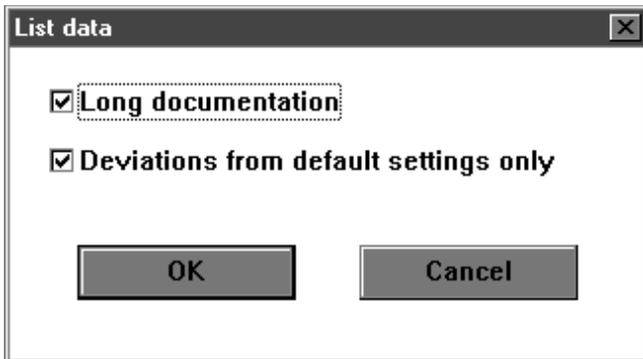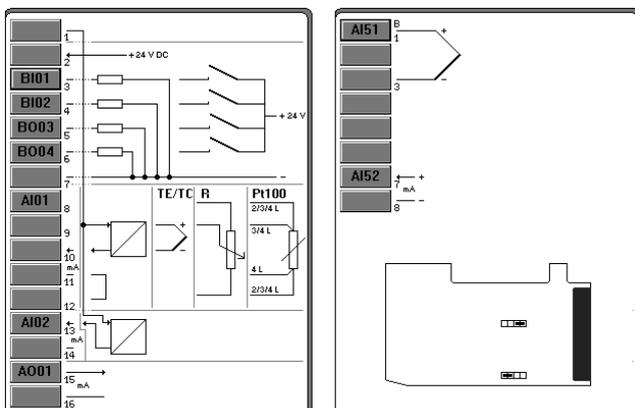
In order to utilize these possibilities, select "Deviations from default settings only" from the list data of the documentation module.
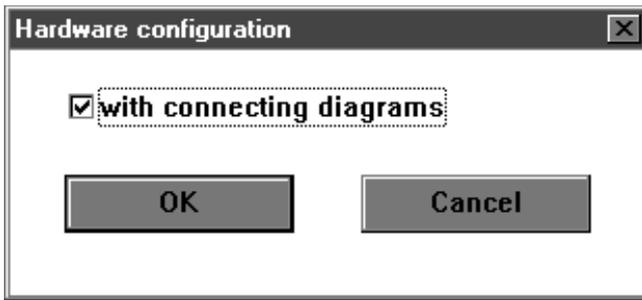

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Hardware configuration

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The documentation of the hardware configuration also permits the printout of interconnected displays stored in the hardware configurator for the modules, instead of a simple display of a unit's listed configured modules.

In order to utilize this possibility, use the hardware assignment to select "with connecting diagrams" in the documentation module.

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Using IBIS_*R*+ with Windows 95

When using Windows 95 to download a configuration, an error message to the tune that parts of the configuration ("Domains") are not fully loaded could be displayed.

This error can only be remedied by changing the basic settings of the used COM interface in the system control.

By following the steps below, the basic settings can be so modified that the reported error can be prevented.

[Start]
→*Settings*
→*Control Panel*
Double click "System"
→*Device Manager*
Swing open *Ports* (COM and LPT) with [+]
Double click the used COM interface
→*Port-Settings*
→*Advanced*

Read the descriptive text in the displayed dialog and set the transmit buffer to "low" (1). Upon completing the dialog, the error normally ceases to occur when downloading.

Subject to technical changes.

ABB