

ABB Procontic Programming System

907 PC 332 Programming and Test Software

Software Registration Form / Individual License
General License Conditions for the Supply of
Computer Software upon Payment of a Non-
Recurring License Fee (ALCN) / Floppy Disks

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System – Specific Part
ABB Procontic T200

Order No.: GJPS 2044 00 R0202 b

System – Specific Part

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ABB Procontic T200 Language Description

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Library of Connection Elements
ABB Procontic T200

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Block Library Expansion
907 PB 360, PB 361 and PB 362

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Notes on completing the software registration forms

Please complete the software registration forms in full and using a typewriter or in block capitals. Please return the "Double" to ABB. Do not forget to sign the software registration forms!

The software registration form should contain the following information in order to prevent difficulties or delays in provision of software updates for you:

Licensee

Name or company:	Full company name
Department/Contact person/Phone:	Name of department, name and telephone number of the contact person
Address:	Street/road and number or P.O.Box, country code, postal code, town/city
Date of delivery: (as defined in ALCN 4.1)	Already completed (if you do not have this information, please enter the date of receipt)
Name/legally binding signature:	Name in block capitals and signature

Customer Hardware (PC)

Hardware manufacturer:	Manufacturer of the PC used (e.g. Compaq)
Type:	Precise type designation of the PC used (e.g. 80486DX, 33 MHz)

Software Product

Product name:	Designation of the software (e.g. 907 PC 331; already completed)
Version:	Version number (already completed)
Identification No.:	Identification No. of the software (already completed)
Serial No.:	Diskette creation date (e.g. 12.92 = Dec. 92; already completed)
ABB order No. or ABB office:	ABB order No. or ABB field office which supplied the software (already completed)
New software version should be offered according to ALCN 6.2:	State whether new software versions are to be offered in accordance with ALCN 6.2

Specification in accordance with Item 5.2 ALCN

General

The programming and test software 907 PC 33 serves to create programs for the ABB Procontic T200 and ABB Procontic CS31 programmable logic controllers (PLCs). An installation program that functions largely automatically installs the software package on the PC.

This specification is valid for 907 PC 331/332. Following table gives an overview of the different PLC systems and the pertinent software packages:

<i>PLC system</i>	<i>programmable with:</i>
ABB Procontic T200	907 PC 332
ABB Procontic CS31	907 PC 331

The programming and test software 907 PC 33 is executable on:

commercially available, IBM-compatible personal computers with the following technical features:

- at least 4 Mbyte RAM for optimum performance
- Hard disk drive
- Diskette drive, 3 1/2", 1.44 MB
- EIA RS-232 serial interface for the PLC system
- Parallel or second serial interface for printer
- MS-DOS operating system V5.0 or higher
- Optionally a mouse for fast cursor control

The programming and test software 907 PC 33 permits simple and economical programming of PLC programs in the following notations:

- ☐ Function block diagram (FBD)
- ☐ Ladder diagram (LD)
- ☐ Instruction list (IL)

Both symbolic and absolute program input is possible. The PLC program is supplemented by symbolic designators, long text and comment. Auxiliary and error messages that can be called at all times, and also a syntax check, facilitate program input. Program creation as an FBD or LD takes place in a joint editor. Therefore, elements from the FBD and LD can be mixed and can also be linked to each other.

Features

The scope of features and functions listed depends on individual PLCs' capabilities.

Menu prompting

- Modern, clearly-arranged menu interface employing pop-up menus
- Color display
- Fast selection of menu options by mouse or on the keyboard
- Calls of external programs at the DOS level directly from the menu (DOS shell)

Path information

- Input of a file name with the affiliated DOS path
- Display of the project overview in a file directory

Password protection

- Several access privilege levels

Modularization

- Handling of large projects
- Arrangement of projects in logical structures
- Subdivision into program and variable modules

FBD/LD editor

- Uniform editor for programming with graphic symbols as a function block diagram and as a ladder diagram
- Connection of ladder diagram networks with elements of the function block diagram

Extended IL editor

- Notation with symbols and long text in various forms
- Cursor control by mouse
- Selection of connection elements via a selection menu and using a mouse

Variable editor

- Complete list of all entered variables
- Selectable sorting according to absolute or symbolic variables
- Adoption and transfer of variable lists from and to any chosen word processing systems
- Provision and adoption of variable lists for specific CAD/CAE systems

Text editor

- Input of any ASCII files, up to 255 characters per line

Comments

- Verbal description of networks or program segments

Segment plans

- Subdivision of programs into segment plans
- Simple management by segment plan name and segment plan number

Scope of functions

An extensive spectrum of commands is available for program creation:

- Syntax check of all variables
- Block commands
 - mark
 - delete
 - shift
 - copy
 - store
 - load
 - print
 - delete unused variables
- Search commands
 - according to sentence No.
 - according to word No.
 - according to variable
 - according to symbol
 - according to command
 - according to line number
 - repeat
 - according to segment plan
 - according to connection element
 - according to unassigned terminal
- Search and replace
- Insert
- Delete

ONLINE functions

Numerous ONLINE functions support the user during the commissioning phase, e.g.:

- Status display in
 - function block diagram
 - ladder diagram
 - instruction list
 - variable list
- Program
 - transfer
 - start
 - abort
 - stop
 - continuation
 - status

- Single cycle on/off
- Breakpoint
 - setting
 - display
 - deletion
- Triggering
 - time
 - variable
- Overwriting
- Jogging
- Forcing
- Modification of
 - time and counter setpoints
 - variable addresses
 - operators
 - operand identifiers
 - program parts to a limited extent

Moreover, selected variables can be combined in ONLINE lists and their statuses can be displayed.

Program documentation

Automatic program documentation embraces the following printed lists:

- function block diagram
- instruction list
- connection element library
- logic plan diagram
- ladder diagram
- variable list
- cross-reference list
- comment list
- ONLINE list
- text page
- data area
- modularization list
- total variable list
- total reference list
- system configuration

Outputs can be adapted to any printer.

Print format editor

A special print format editor allows you to add an individual header and footer to the respective lists. Specific data can also be included automatically in this header or footer, e.g. name of the project file, date and time.

FBD working aid

Input	Function
<F10>	Help
<Esc>	Exit menu
Block editing	
<Ctrl> -K-B	Mark start of block
<Ctrl> -K-K	Mark end of block
<Ctrl> -K-H	Delete block marking
<Ctrl> -K-Y	Delete block
<Ctrl> -K-W	Save block on hard disk
<Ctrl> -K-R	Load block from hard disk
<Ctrl> -K-C	Copy block
<Ctrl> -K-V	Move block
Searching	
<Ctrl> -Q-F-A	Search for variable
<Shift> <F8>	Search for CE
<Shift> <F7>	Search for not absolutely defined variable
<Shift> <F9>	Search for not occupied connection to CE
<Ctrl> -L	Repeat search
Insert/delete line/column/comments	
<Ctrl> -N	Insert line
<Ctrl> -Y	Delete line
<F2>	Insert column
<F1>	Delete column
<F5>	Insert comment line
<F6>	Delete comment line
Special functions	
<Space bar>	Display menu window
<Ctrl> -Z	Jump to single line variable editor
<F9>	Toggle variable/symbol input or display
<Shift> <F5>	Select CE
<Shift> <F6>	Error display
<Ctrl> <F3>	Display translated IL
<Ctrl> <F8>	Display CE documentation
<Ctrl> -Q-W	Generate all connections on left/right of the CE
<Alt> <F8>	Generate CE with connections
<Ctrl> -P	Variable display, display variable with symbol and long text, modifying not possible

Extended IL working aid

Input	Function
<F10>	Help
<Esc>	Exit menu
Block editing	
<Ctrl> -K-B	Mark start of block
<Ctrl> -K-K	Mark end of block
<Ctrl> -K-H	Delete block marking
<Ctrl> -K-Y	Delete block
<Ctrl> -K-C	Copy block
<Ctrl> -K-V	Move block
<Ctrl> -K-W	Save block on hard disk
<Ctrl> -K-R	Load block from hard disk
Searching	
<Ctrl> -Q-F-A	Search for absolute variable
<Ctrl> -Q-F-S	Search for sentence number
<Ctrl> -Q-F-W	Search for word number
<Shift> <F8>	Search for CE
<Shift> <F7>	Search for not absolutely defined variable
<Shift> <F9>	Search for not occupied connection
<Ctrl> -L	Repeat search
Inserting/deleting	
<Ctrl> -N	Insert line
<Ctrl> -Y	Delete line
	Comment texts must be preceded by a semicolon (;)
Special functions	
<Space bar>	Display menu window
<Ctrl> -Z	Jump to single line variable editor
<F1>	Invert CE parameter
<Shift> <F5>	Select CE
<Ctrl> <F8>	Display CE documentation
<Ctrl> -W	Convert number bases
<F3>	Translate extended IL (menu is displayed)
<Ctrl> <F3>	Display translated IL
<Shift> <F6>	Error display
<Ctrl> -P	Variable display, display variable with symbol and long text, modifying not possible

**Extended IL
working aid**

Input	Function
	ONLINE commands
<F4>	ONLINE on/off
<Alt>-1	Translate and send program changes (ONLINE off only)
<Alt>-2	Send program changes
<Alt>-3	Send program
<Alt>-4	Compare program
<Alt>-7	Release occupation
<Alt>-8	Reactivate old program
<Alt>-9	Replace variables
<Alt>-S	Start program
<Alt>-A	Abort program
<Alt>-H	Stop program
<Alt>-C	Continue program
<Alt>-O	Switch ONLINE list to ONLINE ON
<I>	Read and display PLC status
<V>	Return to 'Display variable status'
<T>	Status trigger to variable
<Alt>-M	Status trigger to time
<0> (zero)	Freeze status on screen
<A>	Status of selected variables on/off
<5>	Collect for status of selected variables
<6>	Save status to ONLINE list
<Z>	Single cycle on
<G>	Jog
<O>	ONLINE list editor
<1>	Collect for ONLINE list
	Set breakpoint
<Alt>-B	Delete breakpoint
<4>	Collect for overwrite
<U>	Overwrite single
<R>	Overwrite all
<3>	Collect for forcing
<F>	Force single
<E>	Force all
<Alt>-E	Disable forcing all
<Alt>-D	Read force values into ONLINE list
<D>	Select value display dec/hex/oct.; menu is displayed

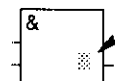
**FBD
working aid**

Input	Function
	ONLINE commands
<F4>	ONLINE on/off
<Alt>-1	Translate and send program changes (ONLINE off only)
<Alt>-2	Send program changes
<Alt>-3	Send program
<Alt>-4	Compare program
<Alt>-7	Release occupation
<Alt>-8	Reactivate old program
<Alt>-9	Replace variables
<Alt>-S	Start program
<Alt>-A	Abort program
<Alt>-H	Stop program
<Alt>-C	Continue program
<Alt>-O	Switch ONLINE list to ONLINE ON
<I>	Read and display PLC status
<V>	Return to 'Display variable status'
<T>	Status trigger to variable
<Alt>-M	Status trigger to time
<0> (zero)	Freeze status on screen
<A>	Status of selected variables on/off
<5>	Collect for status of selected variables
<6>	Save status to ONLINE list
<Z>	Single cycle on
<G>	Jog
<O>	ONLINE list editor
<1>	Collect for ONLINE list
	Set breakpoint
<Alt>-B	Delete breakpoint
<4>	Collect for overwrite
<U>	Overwrite single
<R>	Overwrite all
<3>	Collect for forcing
<F>	Force single
<E>	Force all
<Alt>-E	Disable forcing all
<Alt>-D	Read force values into ONLINE list
<X>	Toggle bit/word
<D>	Select value display dec/hex/oct.; menu is displayed
<F9>	Shift variable display, absolute/symbolic
<Ctrl>-P	Variable display, display variable with symbol and long text, modifying not possible

Call CE

1. Position the cursor at the required position
 2. Enter CE name on the keyboard
 3. Press the <Enter key>
- or
1. Position the cursor at the required position
 2. Call the CE menu: Press <Shift> <F5>
 3. Select the CE and press the <Enter key>

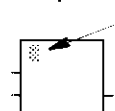
Move CE

- 
1. Position the cursor within the CE
 2. Press the <Enter key>
 3. Position the cursor at the required position and press the <Enter key>

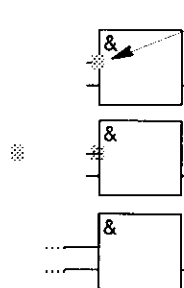
Delete CE

1. Position the cursor within the CE
2. Press the <Enter key> twice

Swap CE

- 
1. Position the cursor on the CE name
 2. Enter the new CE name or select it in the CE menu
 3. Press the <Enter key>

Generating connections

- 
1. Position the cursor on the input or output
 2. Press the <Enter key>
 3. Position the cursor on the left
 4. Press <Ctrl> - Q - W

Notes:

You can also press the <Left mouse button> instead of the <Enter key>.

Delete marking: <Ctrl> - J

Input Function

- | | |
|-------|-----------|
| <F10> | Help |
| <Esc> | Exit menu |

Block editing

- | | |
|----------------|---------------------------|
| <Ctrl> - K - B | Mark start of block |
| <Ctrl> - K - K | Mark end of block |
| <Ctrl> - K - H | Delete block marking |
| <Ctrl> - K - Y | Delete block |
| <Ctrl> - K - W | Save block on hard disk |
| <Ctrl> - K - R | Load block from hard disk |
| <Ctrl> - K - I | Import variables |
| <Ctrl> - K - E | Export variables |

Searching

- | | |
|--------------------|------------------------------|
| <Ctrl> - Q - F - A | Search for absolute variable |
| <Ctrl> - Q - F - S | Search for unused variable |
| <Ctrl> - L | Repeat search |

Inserting/deleting

- | | |
|------------|-------------|
| <Ctrl> - N | Insert line |
| <Ctrl> - Y | Delete line |

Special functions

- | | |
|--------------------|---|
| <Space bar> | Display menu window |
| <F2> | Define initial cursor position |
| <F9> | Toggle sorting according to variable/symbol |
| <Ctrl> - W | Convert number bases |
| <Ctrl> - Q - A - W | Replace variable range |

Variable
editor
working aid

Input Function

ONLINE commands

<F4> ONLINE on/off

<Alt> -S Start program

<Alt> -A Abort program

<Alt> -H Stop program

<Alt> -C Continue program

<Alt> -O Switch ONLINE list to ONLINE ON

<I> Read and display PLC status

<V> Return to 'Display variable status'

<T> Status trigger to variable

<Alt> -M Status trigger to time

<0> (zero) Freeze status on screen

<A> Status of selected variables on/off

<5> Collect for status of selected variables

<6> Save status to ONLINE list

<Z> Single cycle on

<G> Jog

<O> ONLINE list editor

<1> Collect for ONLINE list

<4> Collect for overwrite

<U> Overwrite single

<R> Overwrite all

<3> Collect for forcing

<F> Force single

<E> Force all

<Alt> -E Disable forcing all

<Alt> -D Display force values

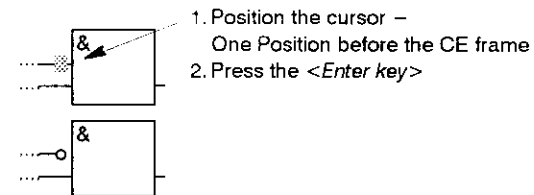
Working aid
General

Input Special functions

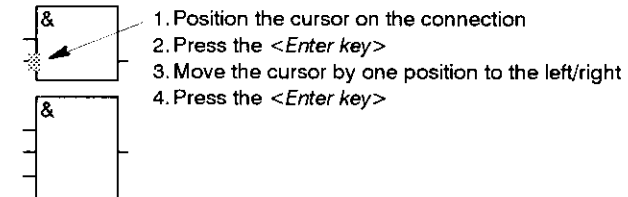
<Ctrl> -U Loading data files
You can always load a data file
by using <Ctrl> -U when data
names are asked for.

FBD
CE handling
working aid

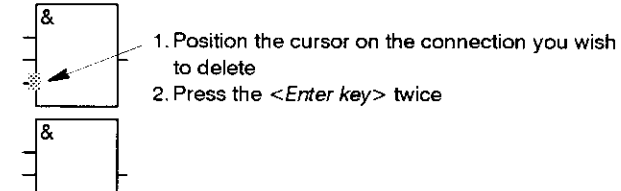
Inverting a connection



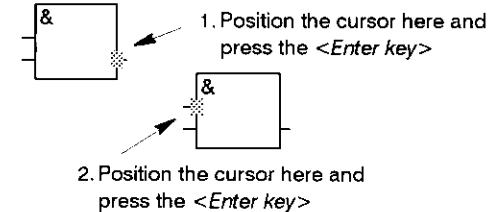
Duplicating a connection



Deleting a connection



Generating a connection



Deleting a connection

