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Engineering Course

CONTROL DRAWING

CONTROL DRAWING

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A. CONTROL DRAWING BUILDER (Overview)

The Control Drawing Builder is used to configure the basic control functions of the FCS. With the Control Drawing Builder, operations such as registering function blocks in the drawing file and determining the flow of data between function blocks can be performed graphically.

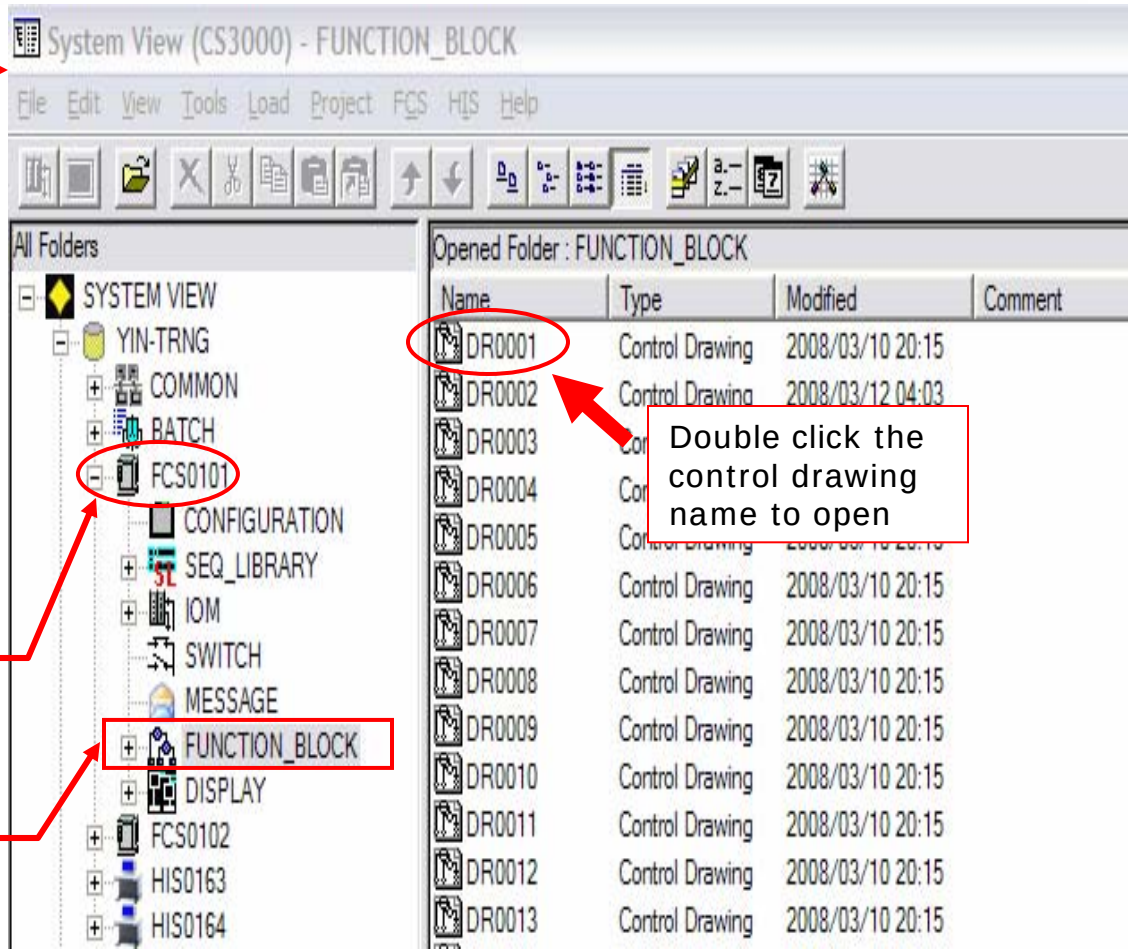
System View

To open the *Control Drawing Builder*, follow this step:

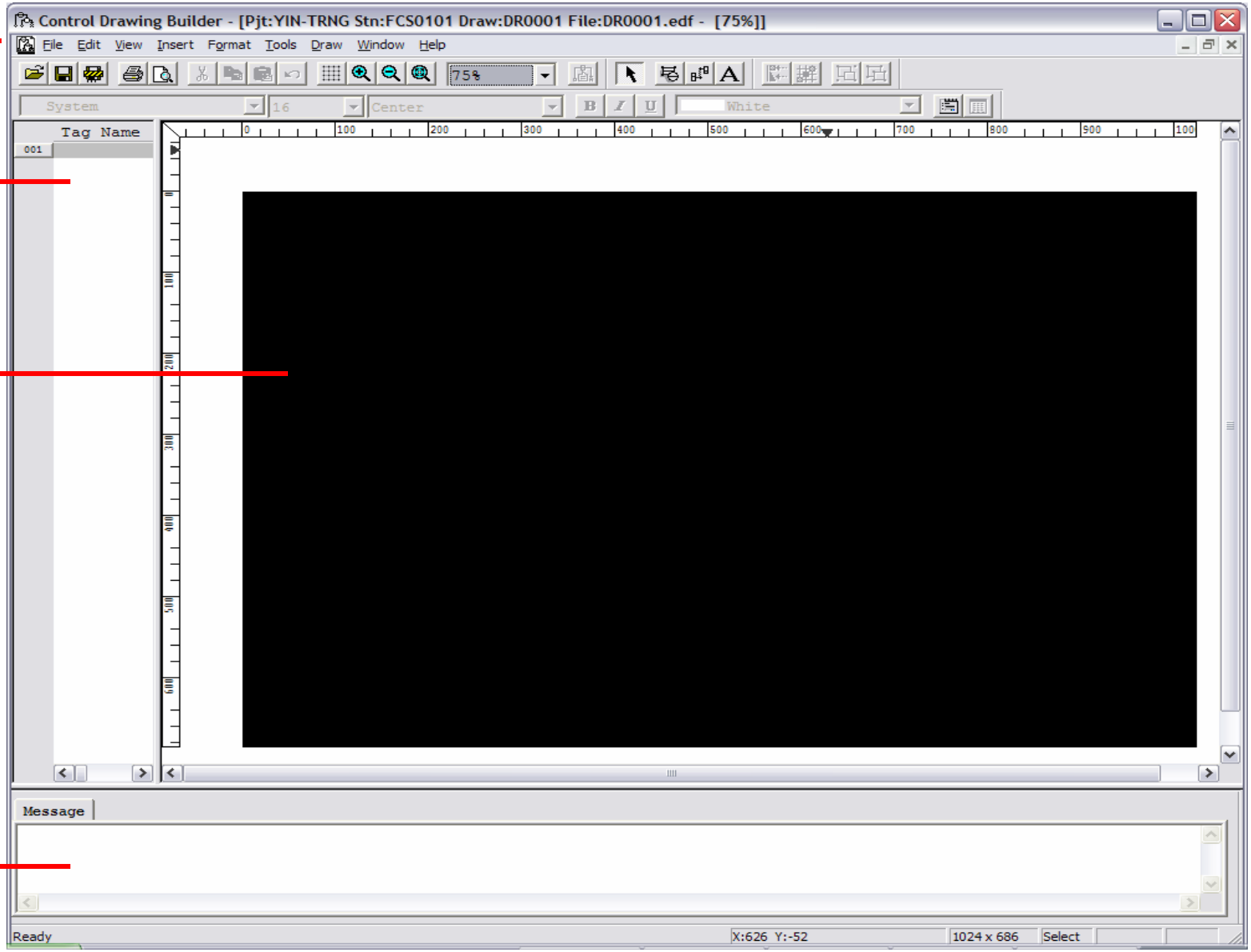
1. Open *System View*.
2. Expand the FCS folder (ex. *FCS0101*).
3. Select / highlight *Function Block* folder.
4. Double click the control drawing shown in the right pane.
   The control drawing is shown as *DR0001* up to DR0200.

Expand *FCS* folder

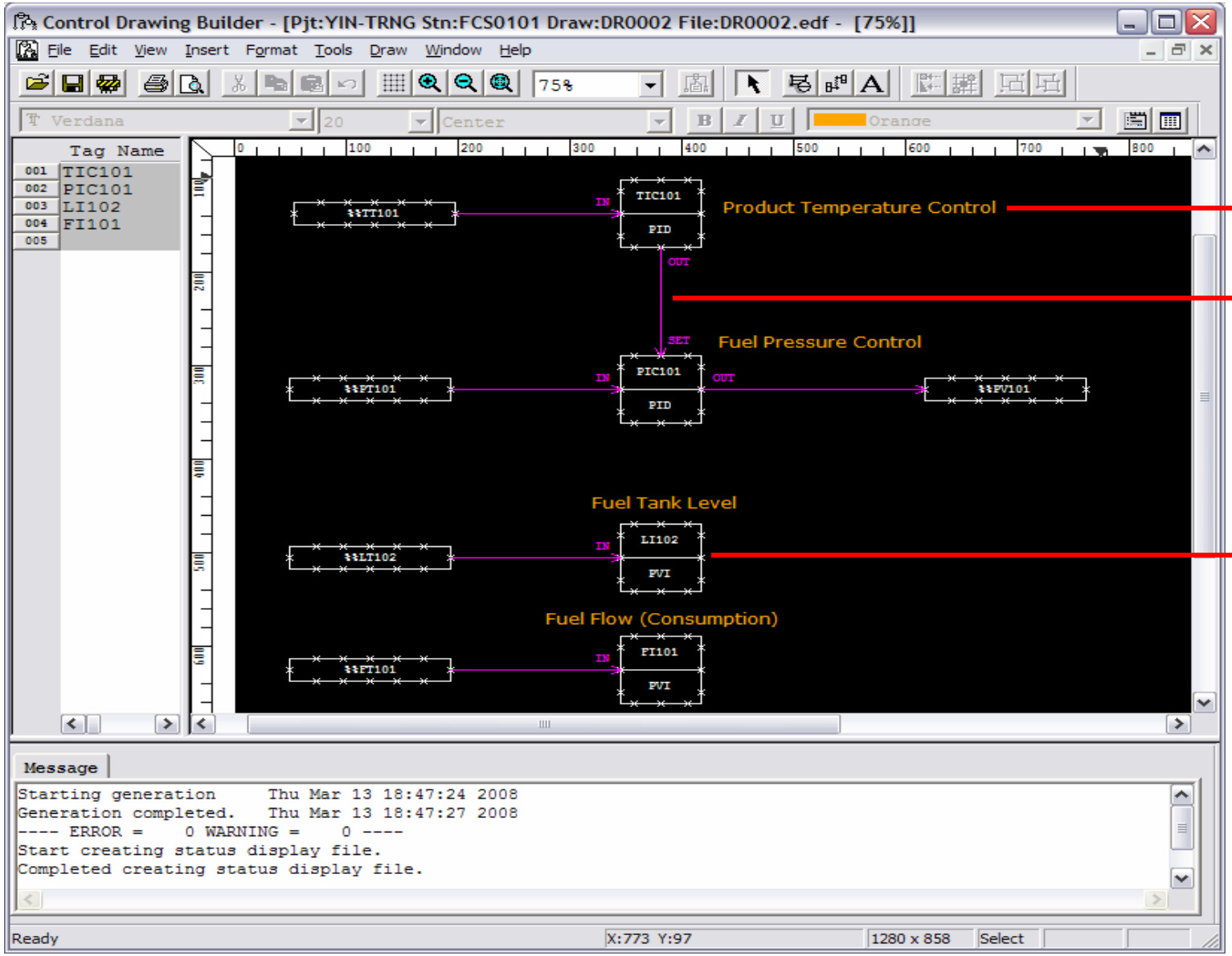
Highlight *Function Block* folder



A. CONTROL DRAWING BUILDER (Overview)



A. CONTROL DRAWING BUILDER (Overview)

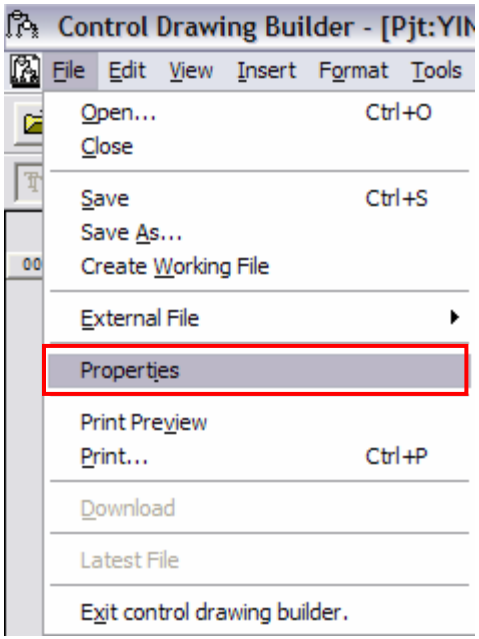


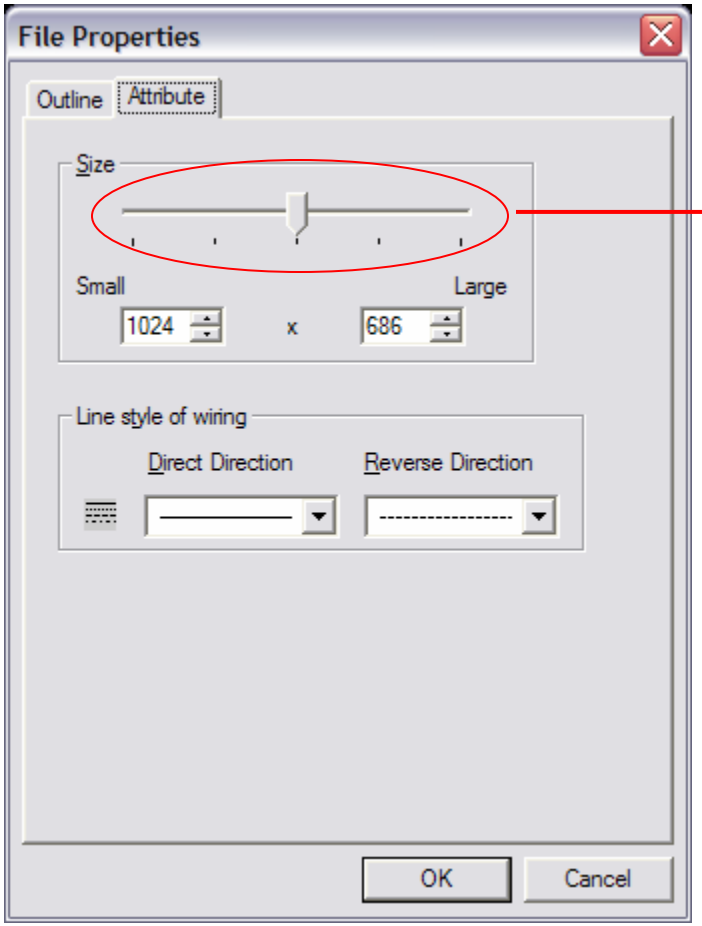
Text

Soft Wiring

Function Block Symbol

Changing the size of a control drawing





Slide this control slider to change the size of the control drawing.

2. Toolbar Buttons (1/2)


To open a control drawing file (*.sva – “saved as” file).


To save a control drawing file.


To create a working file.

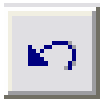

To print a control drawing.

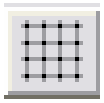

To show print preview.


To cut objects in control drawing (function block, text).

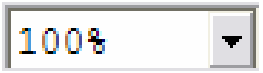

To copy objects in control drawing (function block, text).

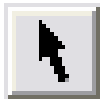

To paste objects in control drawing (function block, text).


To perform undo operation.

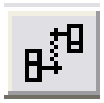

To show or hide grid.


To operate zooming functions.

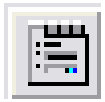



To change the cursor to selection mode.

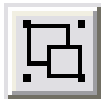

To open function block selection window.

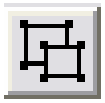

To do soft-wiring operation.

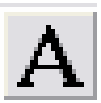

To open detailed parameters of a function block (*Edit Detail*).


To open property of a function block.


To open overview dialog box of control drawing.


To group objects in control drawing.


To ungroup objects in control drawing.


To insert text line.

2. Toolbar Buttons (2/2)

Text formatting tools:

To select fonts type.

To select font size.

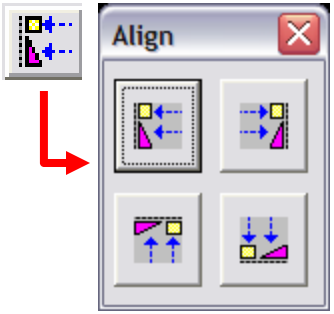
To select font display position.

Bold

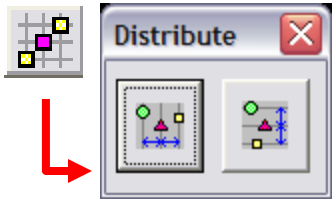
Italics

Underline

To select font color.



To perform function blocks position alignment.

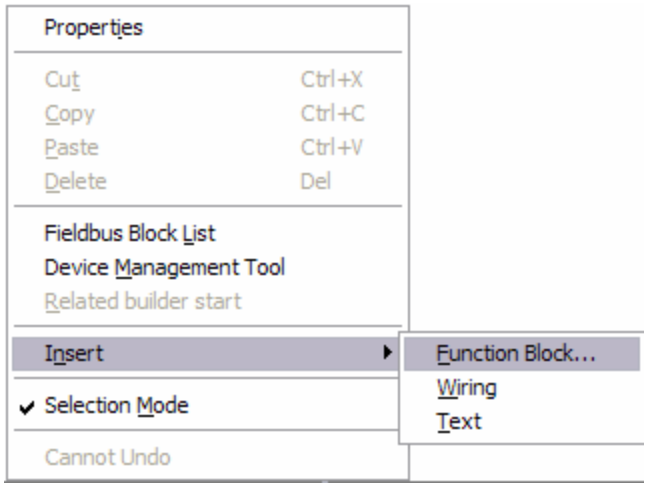


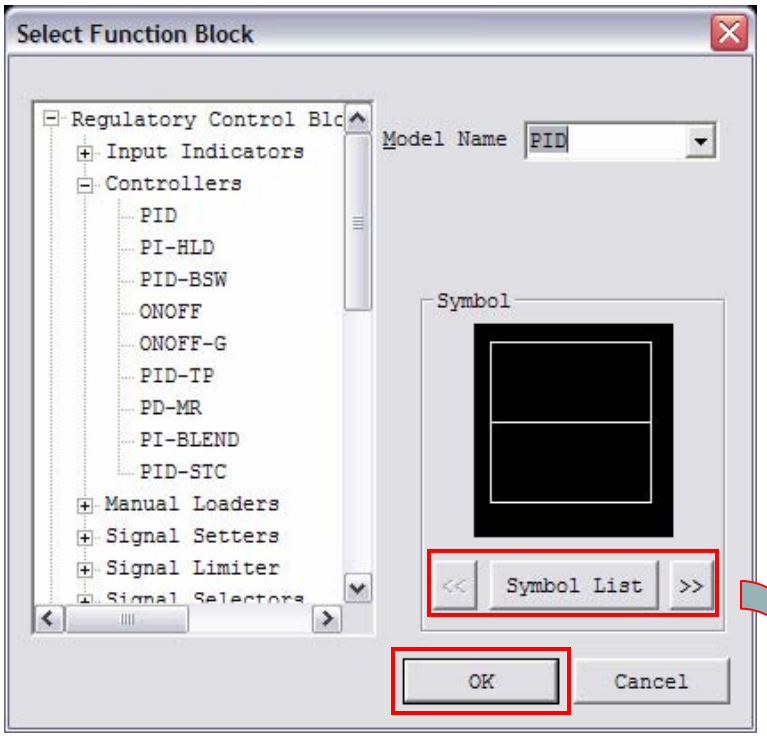
To perform function blocks distribution (space alignment)

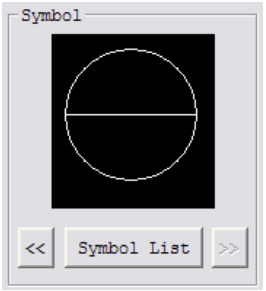
3. Registering Function Blocks (1/2)

Click this button to open function block selection window.

Or right-click on the control drawing area & select *Function Block…*



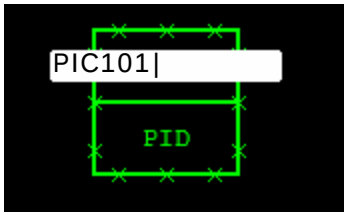


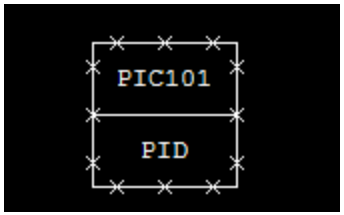


1. Select the function block model from function block category → sub-category → model name. (e.g. *Regulatory Control Blocks* → *Controllers* → *PID*)
   If you already know the function block model name, you can directly key in the name in the *Model Name* box.
2. You can select the preferred function block symbol by clicking << or >> or Symbol List button.
3. Click *OK* button.

3. Registering Function Blocks (2/2)

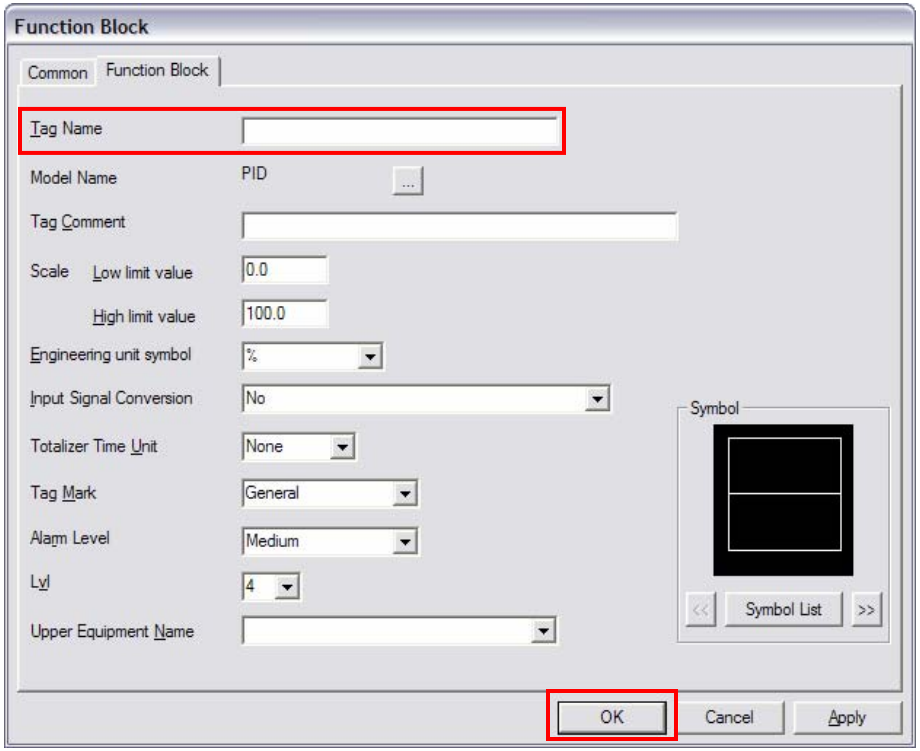
Click any point in control drawing area to place the function block. Type it tag number then press [*Enter*] button.





To change the tag number or if you miss it, do the following:

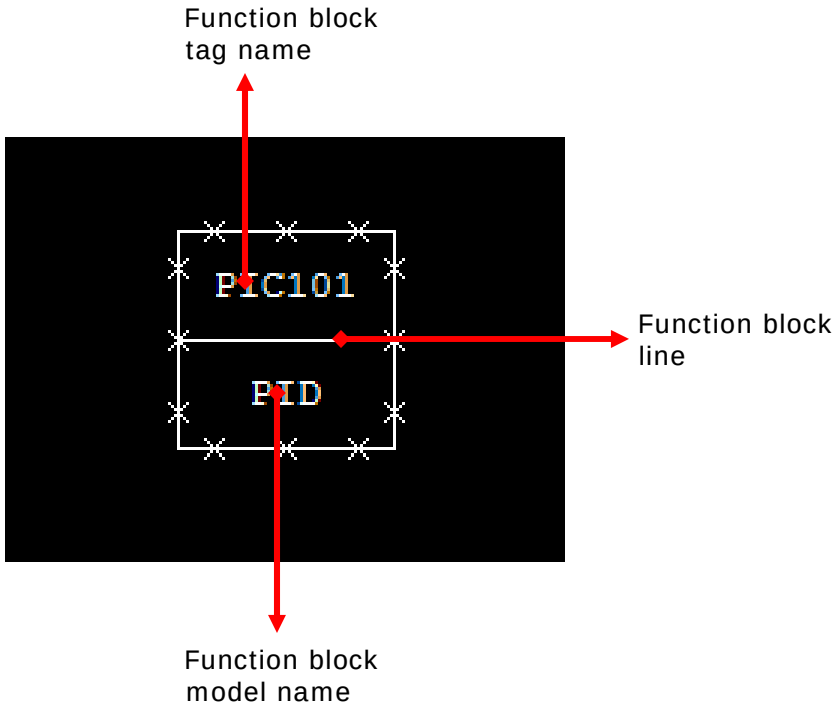
1. Select the function block (the function block selected will turn green).
2. Click the function block properties button.
3. Type the function block tag name in the *Tag Name* box.
4. Click *OK* button.



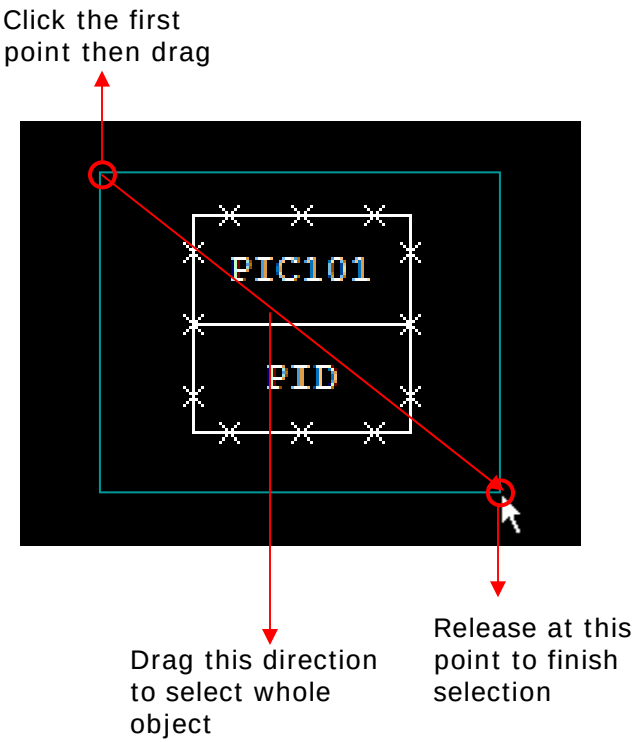
4. Selecting Object (1/2)

To select an object in the control drawing for editing, do one of the following method:

1. Single click on one these function block parts

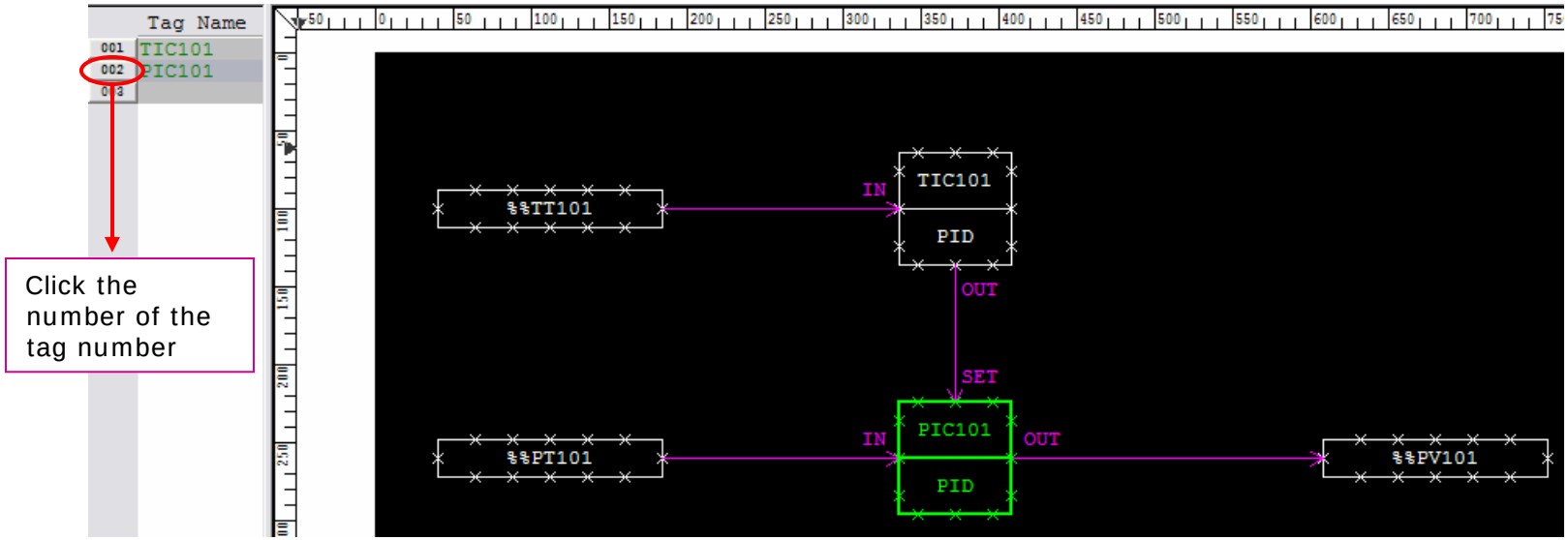


2. Drag the cursor diagonally surrounding the whole object(s)



4. Selecting Object (2/2)

3. Single click on the function block number from the *Tag Name List Pane*

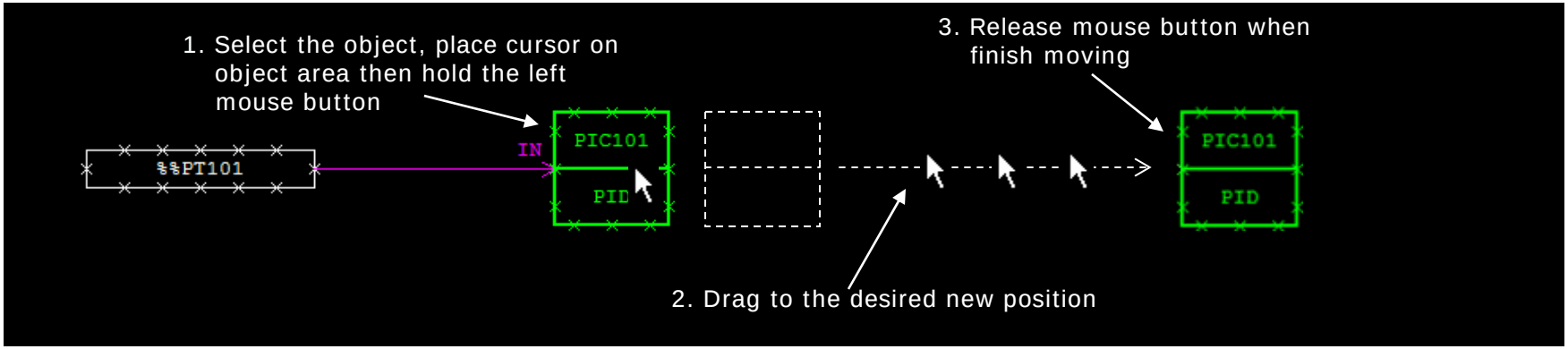


Note: Object turns **green** when selected

5. Moving Object

To move object(s) in the control drawing area:

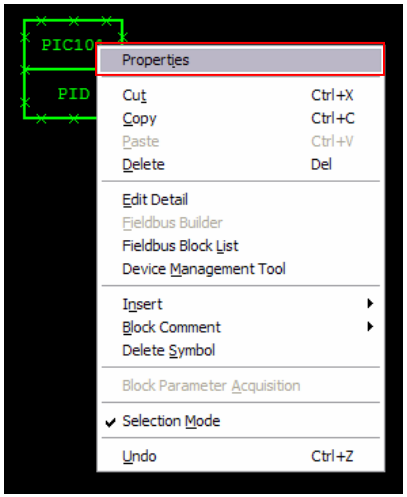
1. Select the object (objects will turn green when selected).
2. Click on the object area (line, tag name or function block model name) and hold.
3. Drag the object to the new place then release to finish moving.

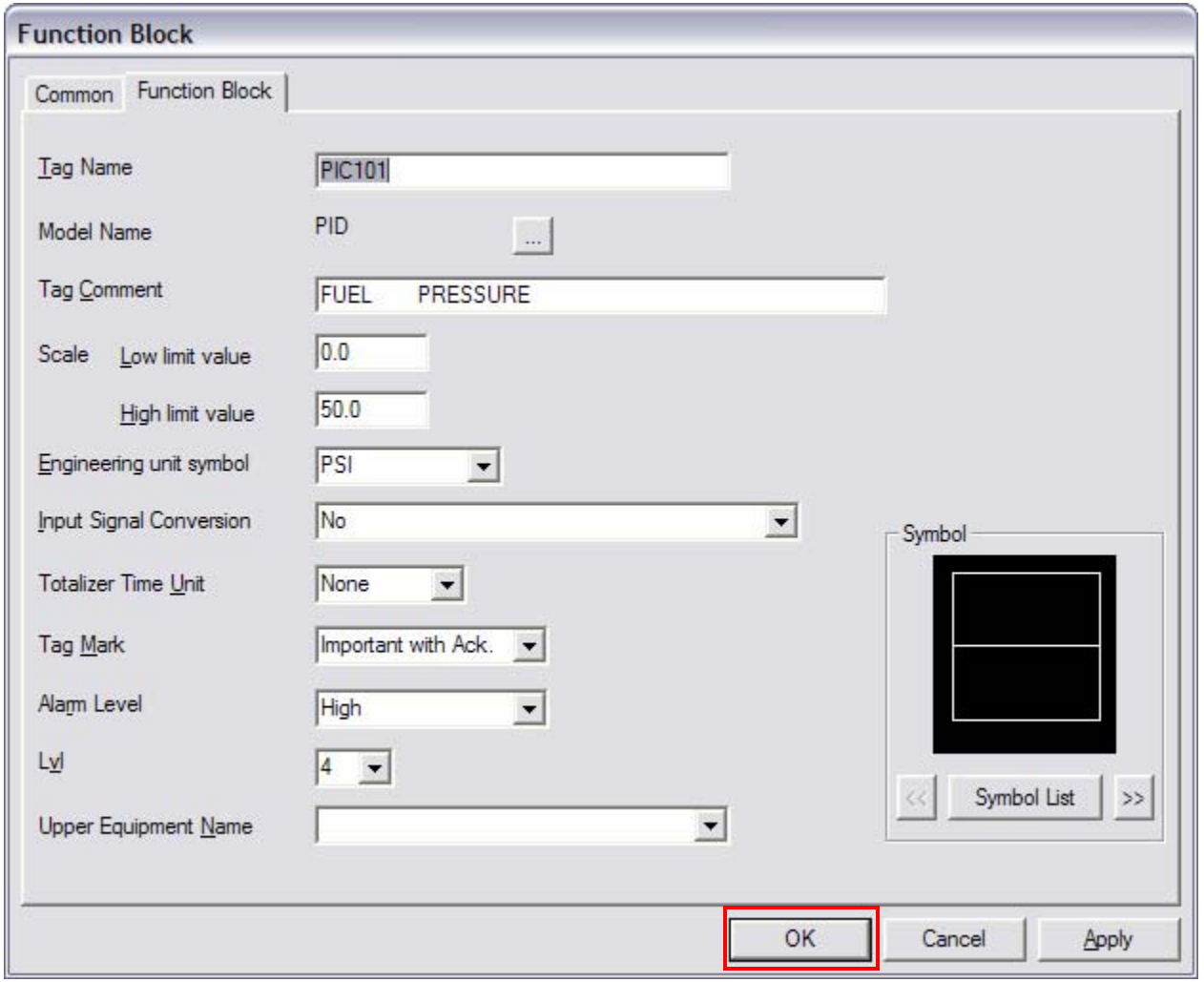


6. Setting The Parameters Of A Function Block (1/3)

To set ***basic*** parameters of a function block, do the following:

1. Select the function block (the function block selected will turn green).
2. Click the function block properties button (or right-click on the selected function block then select *Properties*).
3. Function block properties box will open. Fill in / edit the parameters.
4. Click *OK* button when editing is finished.

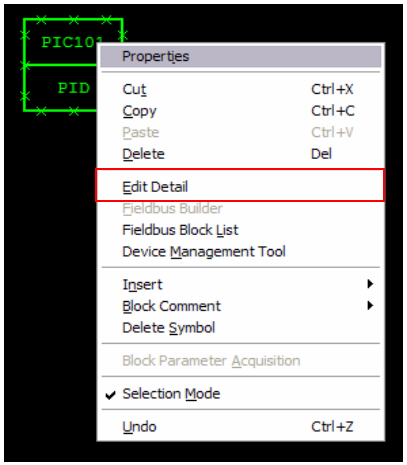


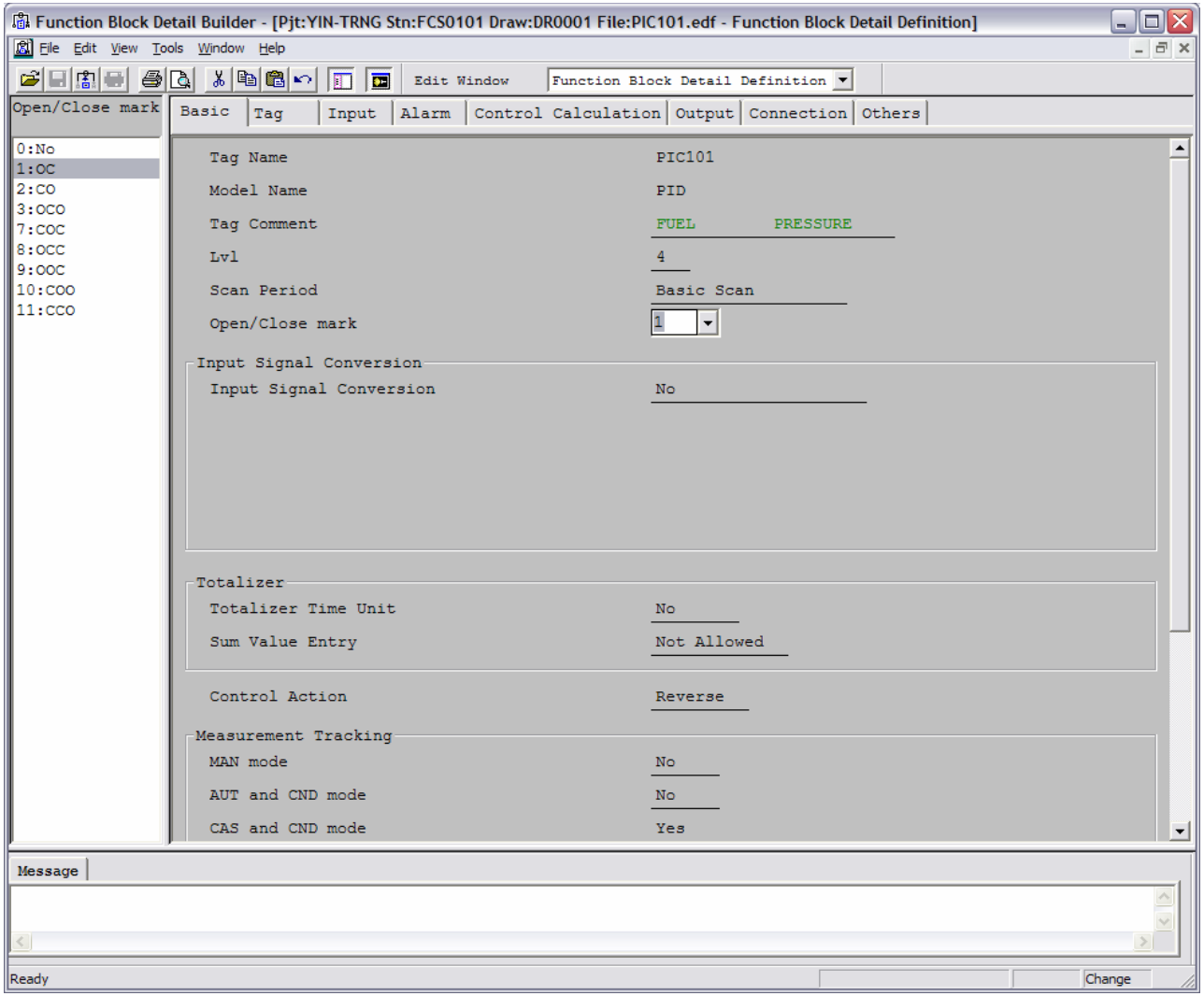


6. Setting The Parameters Of A Function Block (2/3)

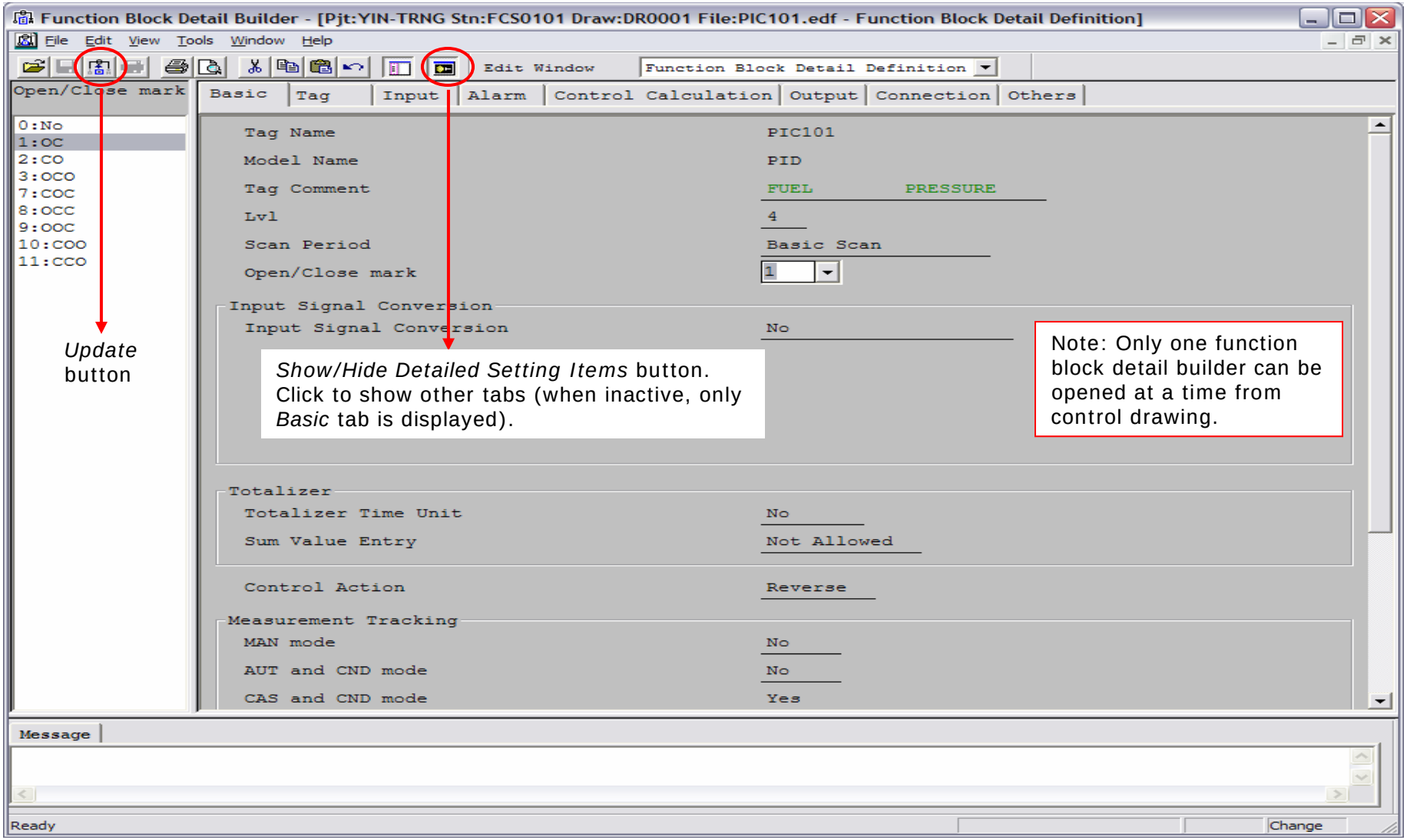
To set ***detailed*** parameters of a function block, do the following:

1. Select the function block (the function block selected will turn green).
2. Click the function block edit details button (or right-click on the selected function block then select *Edit Detail*).
3. Function block detailed properties box will open. Fill in / edit the parameters.
4. Click *Update* button when editing is finished. You may exit the editing mode afterwards by clicking  button





6. Setting The Parameters Of A Function Block (3/3)

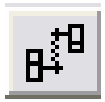


Update button

Show/Hide Detailed Setting Items button. Click to show other tabs (when inactive, only *Basic* tab is displayed).

Note: Only one function block detail builder can be opened at a time from control drawing.

7. Wiring Operation (1/5)



Click this button to perform wiring operation.

Every function block has connection terminals which are denoted by x (cross) marks on the function block symbol lines. To and from this terminals we can interconnect function blocks.

Any connection terminal of a function block can be connected to any terminal of other function block.

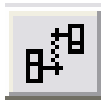
To interconnect function blocks by *Auto Wiring* do the following:

1. Click *Wiring* button.
2. Single click on the point of origin terminal then double click on the destination terminal.

To interconnect function blocks by *Manual Wiring* do the following:

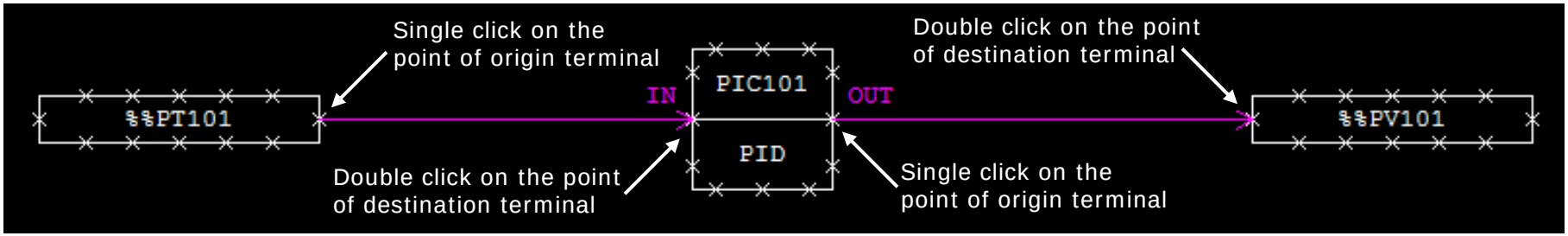
1. Click *Wiring* button.
2. Single click on the point of origin terminal, single click the next point(s) then double click on the destination terminal.

7. Wiring Operation (2/5)

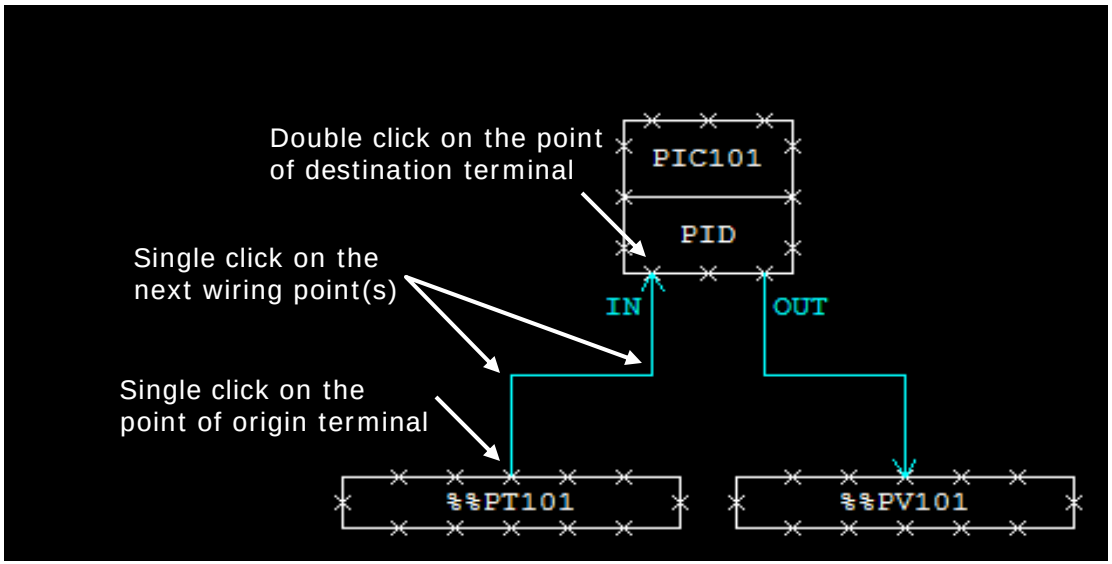


To do soft-wiring operation.

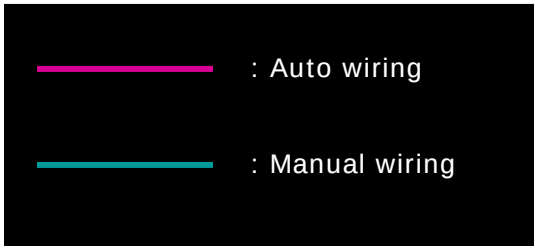
Auto Wiring



Manual Wiring

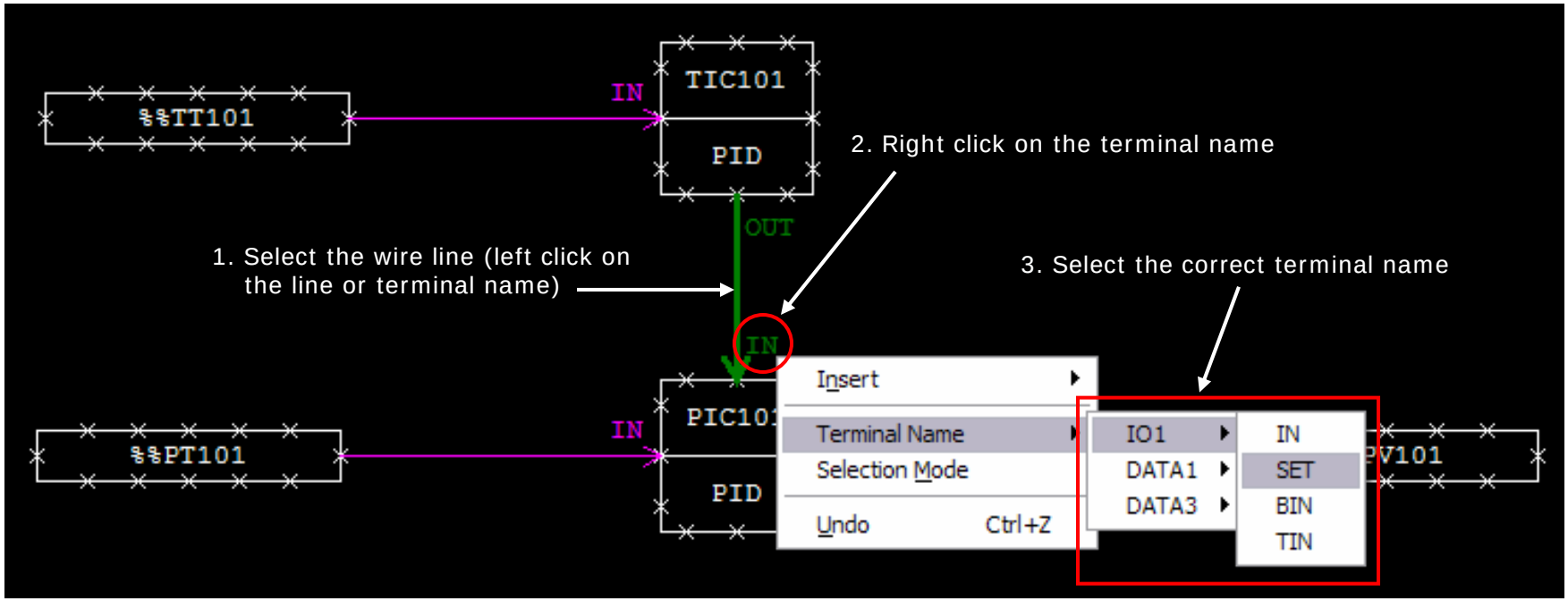


Legend



7. Wiring Operation (3/5)

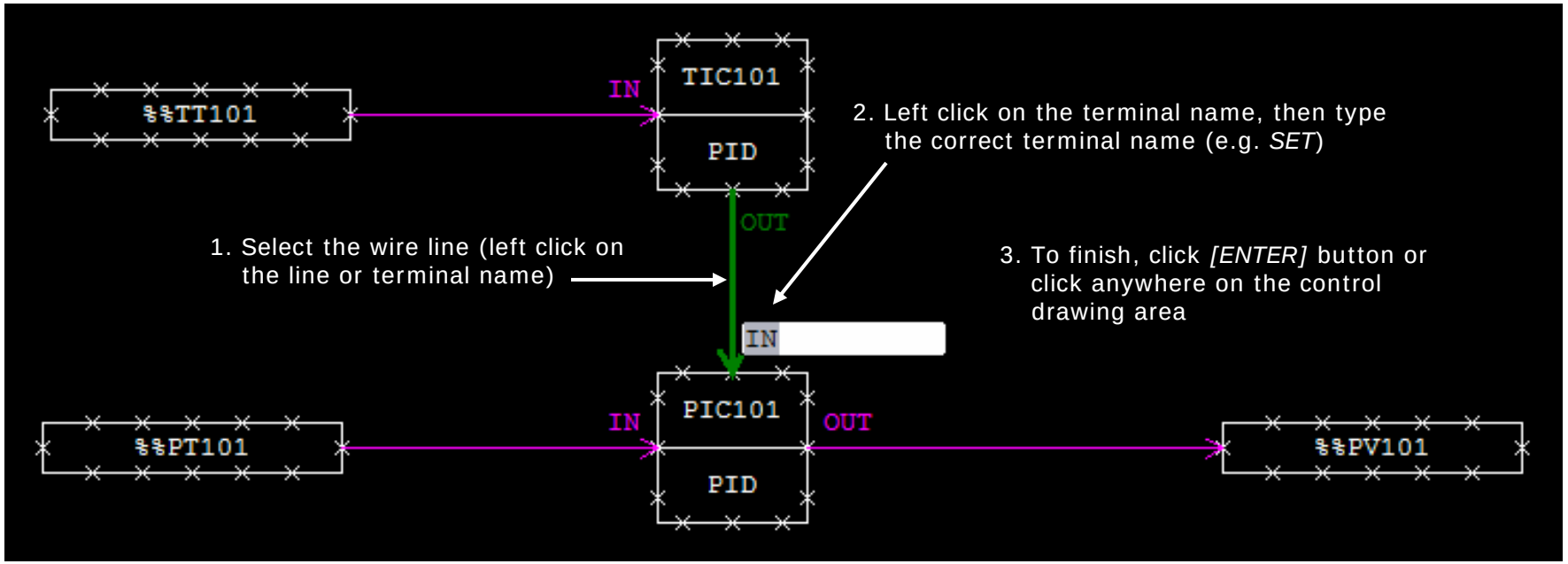
Changing Terminal Name (Method 1)



Note:
The soft-wire / terminal turns green when selected.

7. Wiring Operation (4/5)

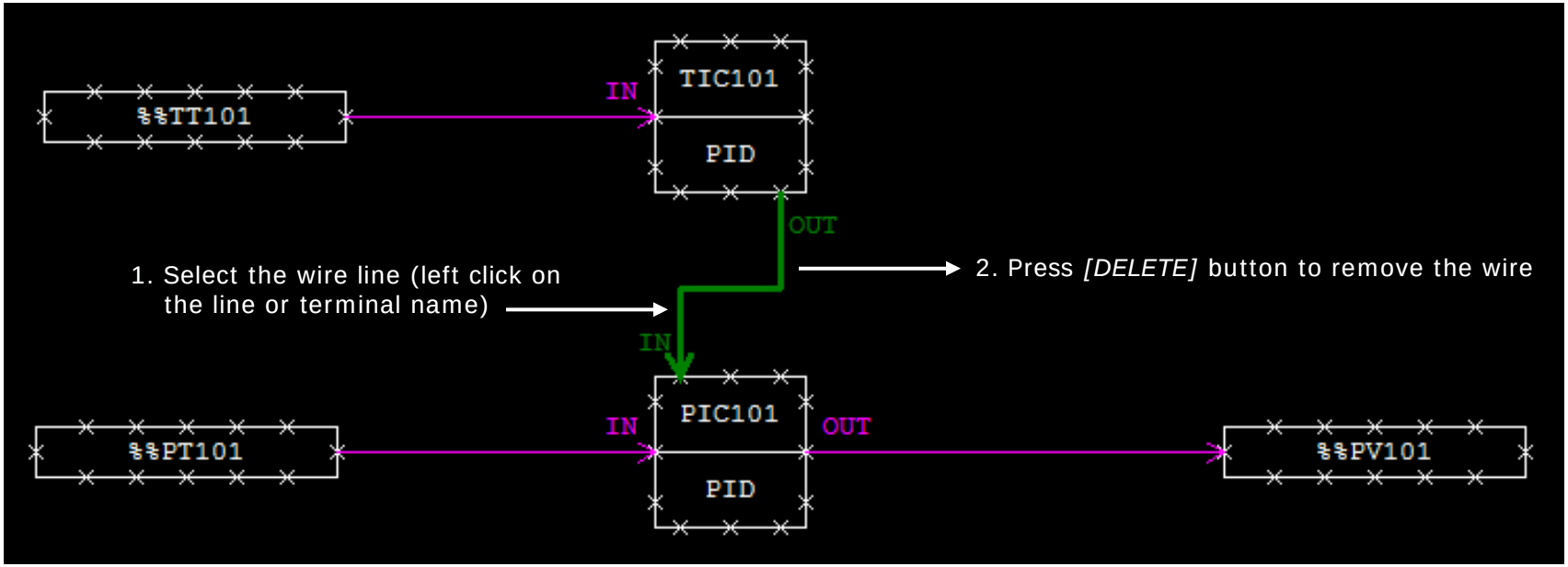
Changing Terminal Name (Method 2)



Note:
The soft-wire / terminal turns green when selected.

7.Wiring Operation (5/5)

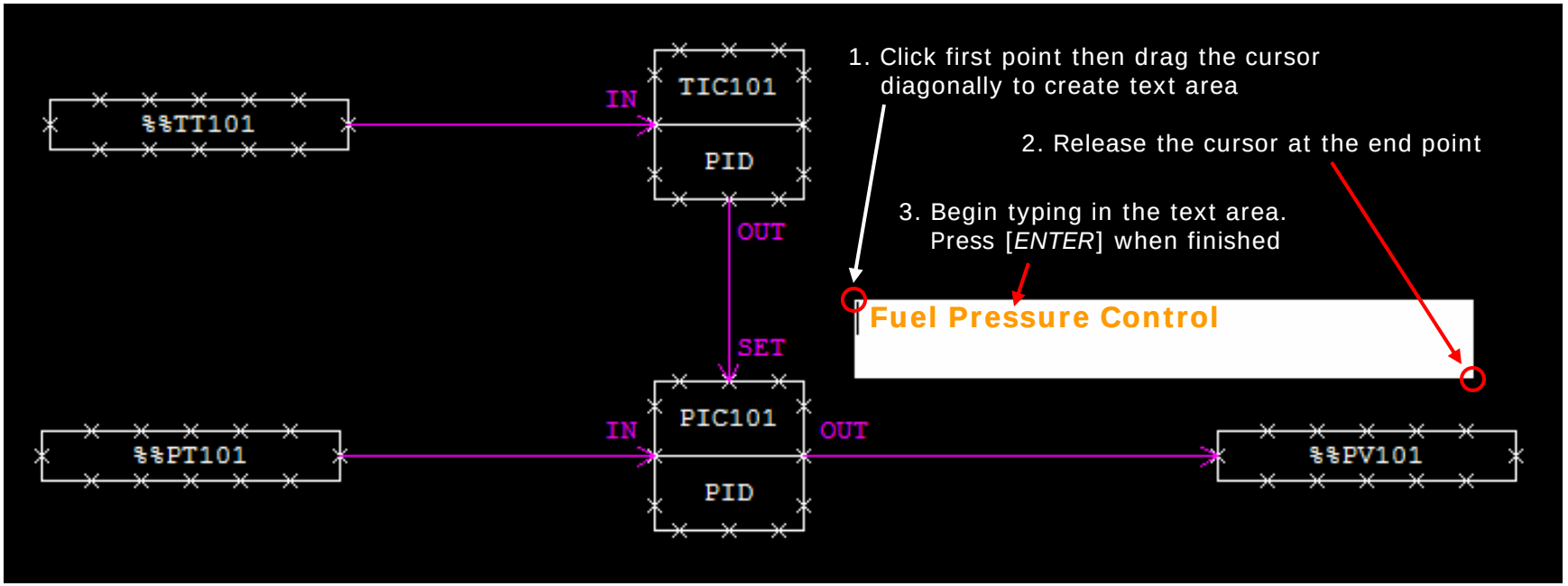
Deleting Line



Note:
The soft-wire / terminal turns green when selected.

8. Text Editing In Control Drawing (1/3)

Click this button to insert text line in the control drawing.

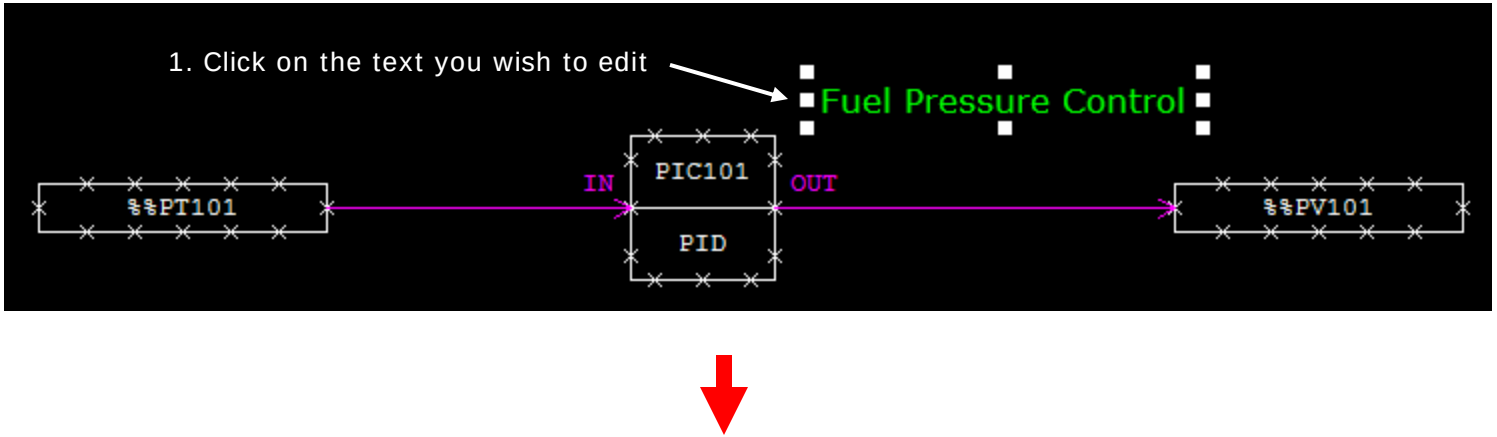


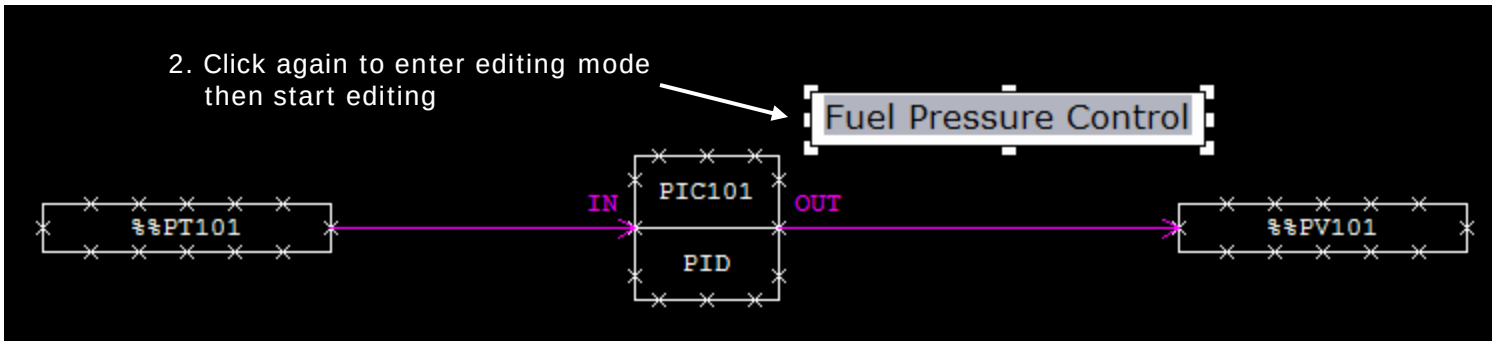
Note: Use text formatting tool to format the text for color, size, font type, etc)

8. Text Editing In Control Drawing (2/3)

To edit a text line, do two-step click:

1. Click on the text you want to edit.
2. Once again click on it.
3. Text line will be changed to editing mode. You may start editing the text. When finished, press [*ENTER*] button.

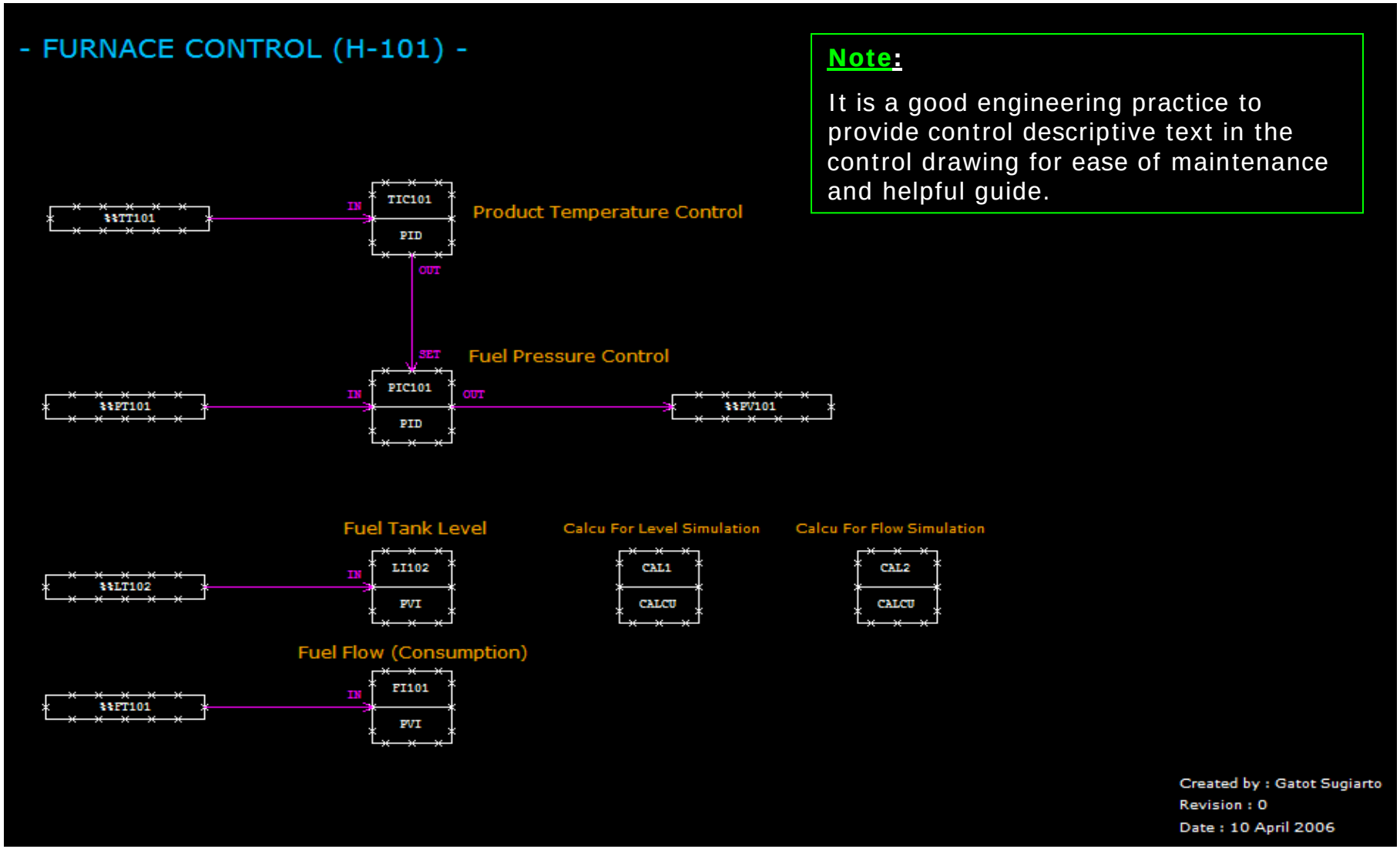




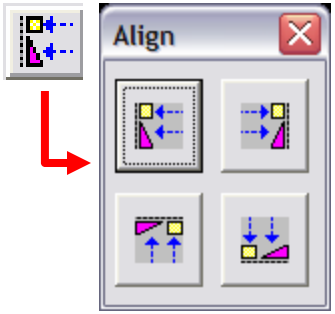
Note:

Two-step click is no double click!

8. Text Editing In Control Drawing (3/3)

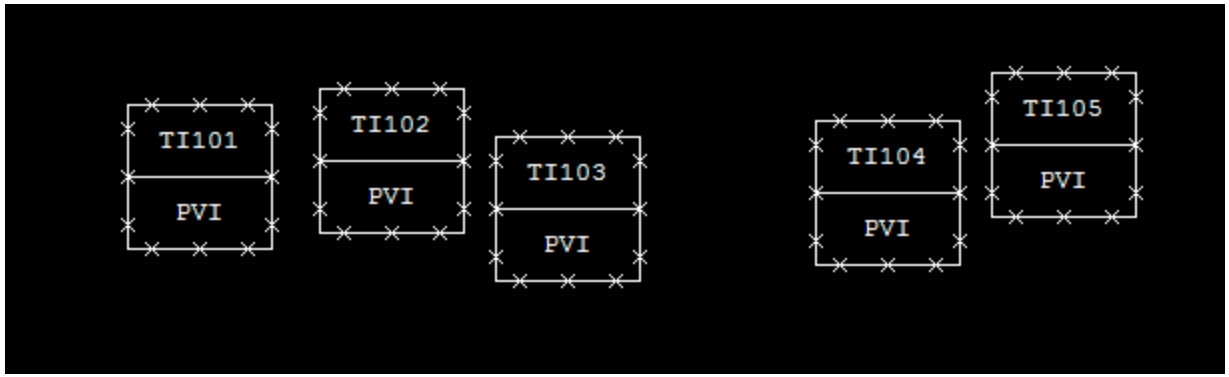


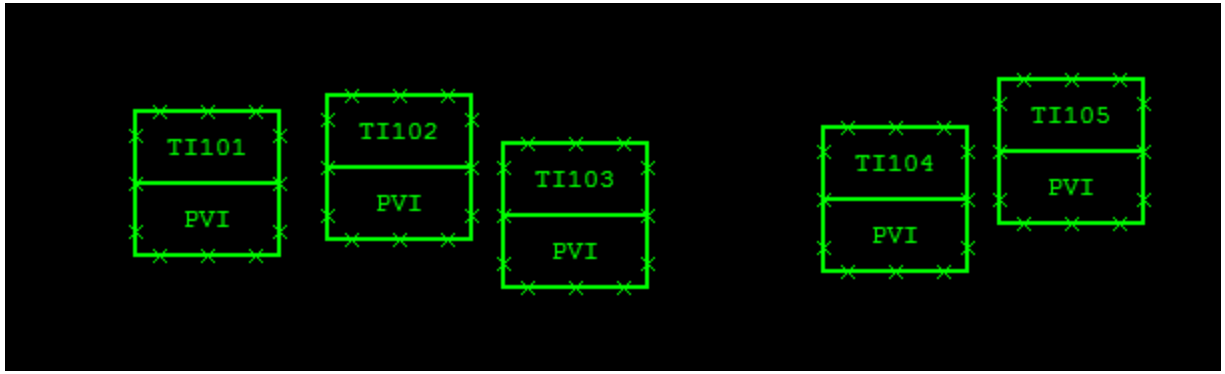
9. Aligning Objects In Control Drawing (1/3)



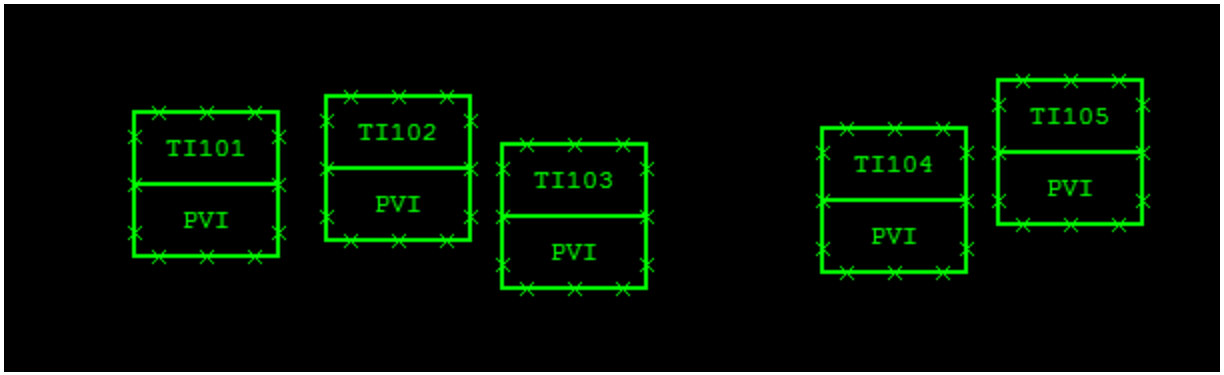
Click these buttons to perform function blocks position alignment.

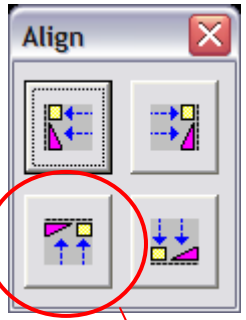
1. Select a group of function blocks to align.
2. Click the align button.
3. From the group of align button that pops up click the alignment orientation button.



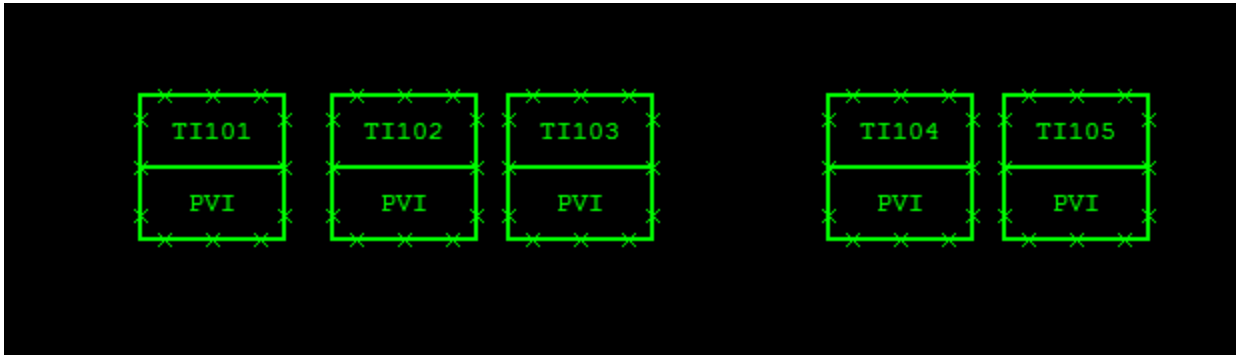


9. Aligning Objects In Control Drawing (2/3)





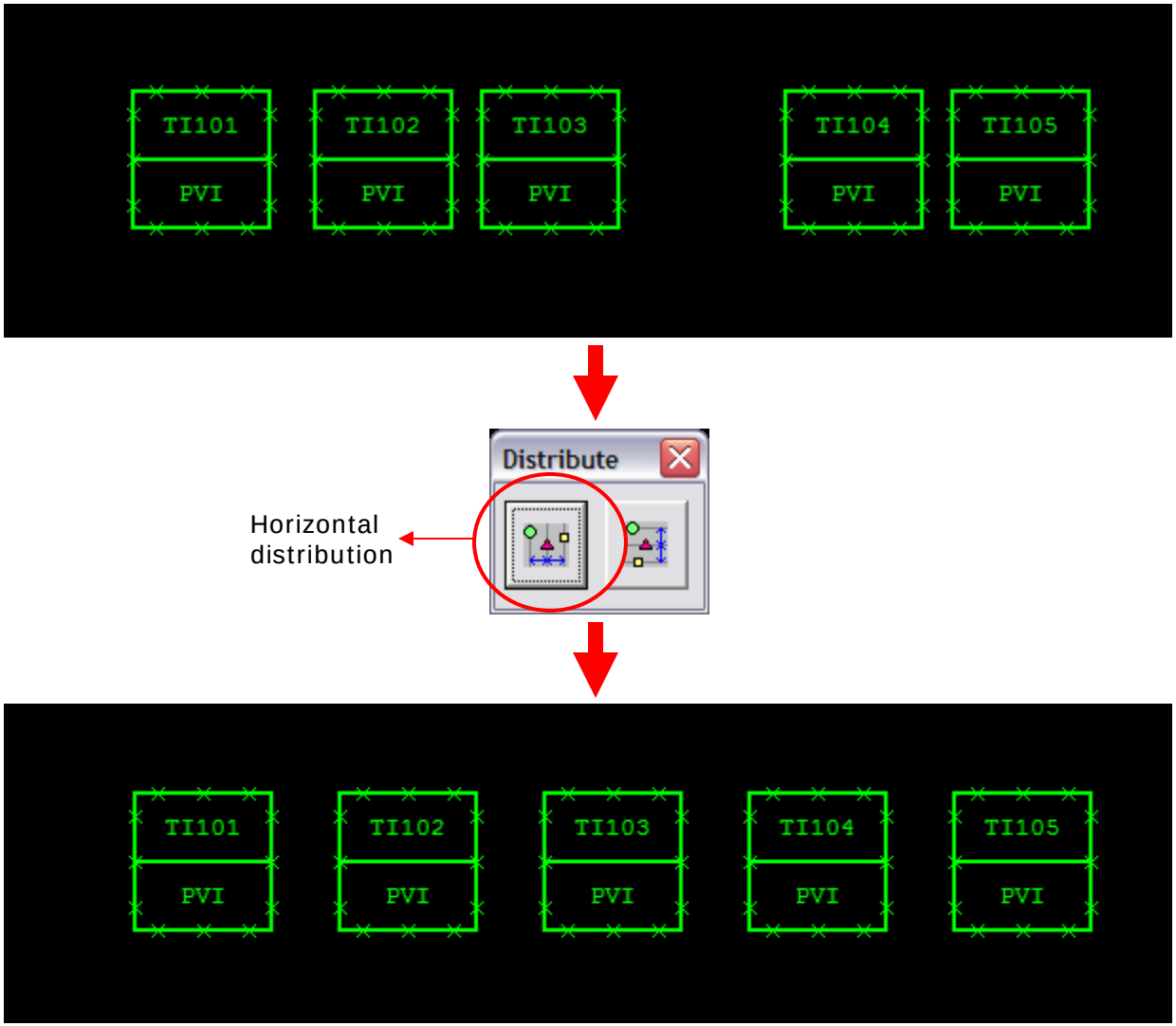
Top alignment



9. Aligning Objects In Control Drawing (3/3)

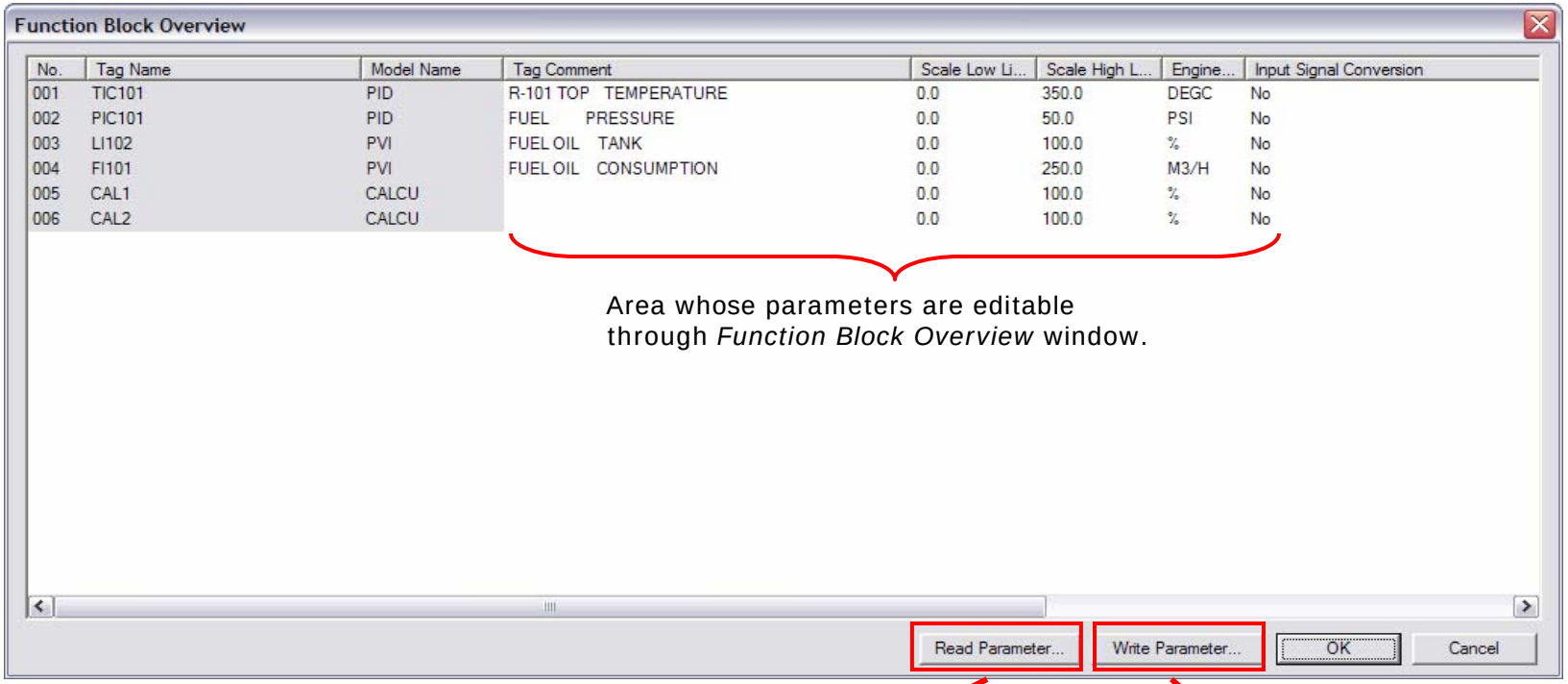
Click this button to perform function blocks distribution (space alignment)

1. Select a group of function blocks to distribute.
2. Click the distribute button.
3. From the group of distribute button that pops up click the alignment orientation button.



10. Function Block Overview Dialog

Click this button to open overview dialog box of control drawing.



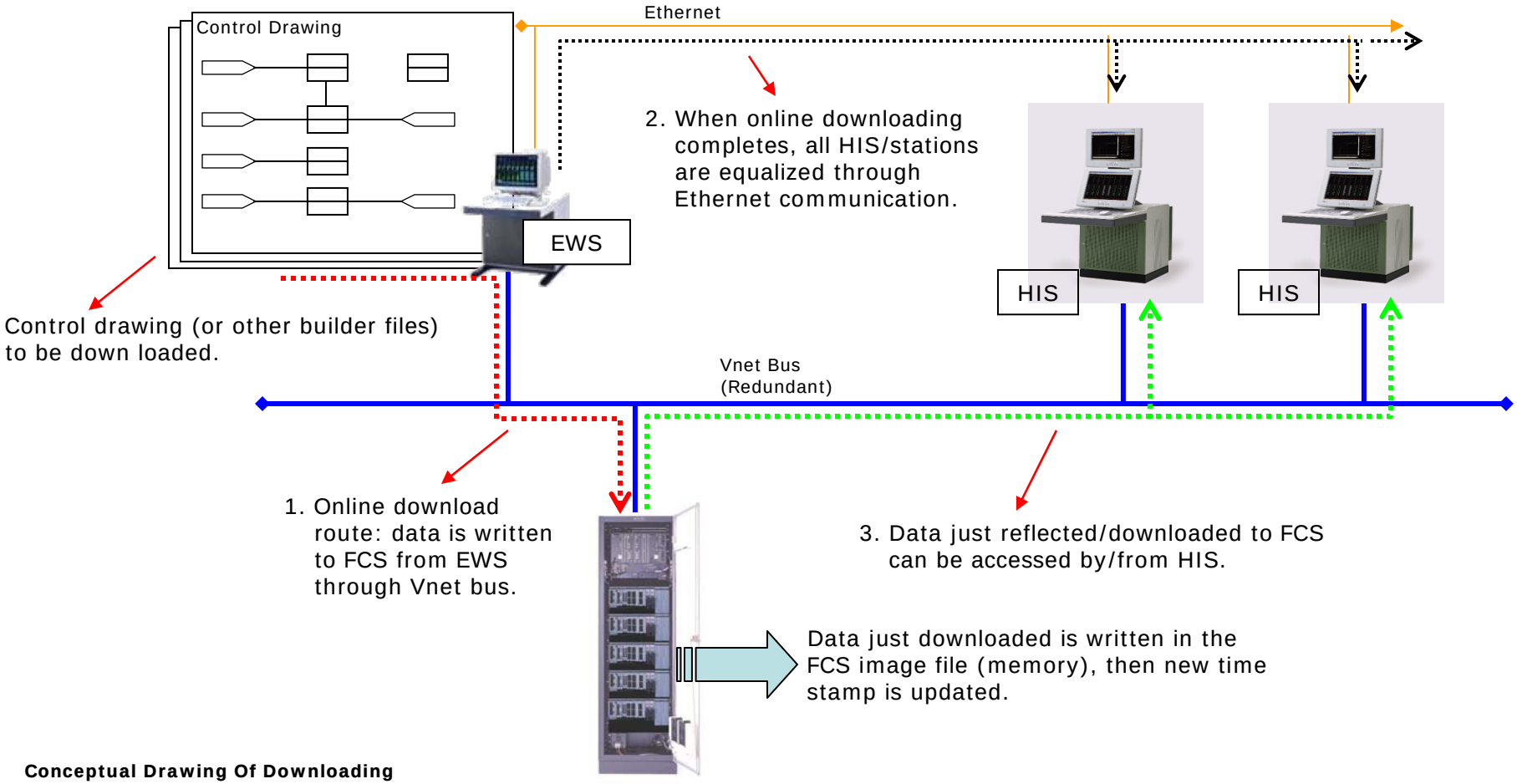
Area whose parameters are editable through *Function Block Overview* window.

Clicking this button will import parameters from a file (to replace the existing parameters with those of the file [*.csv]).

Clicking this button will export the existing parameters to a *.csv file.

11. Online Downloading The Control Strategy Into FCS (1/4)

Any changes made in the control drawing builder will not take effect until it is reflected to FCS by downloading. Most of downloading can be done on-line (i.e. without interrupting control being performed by FCS).

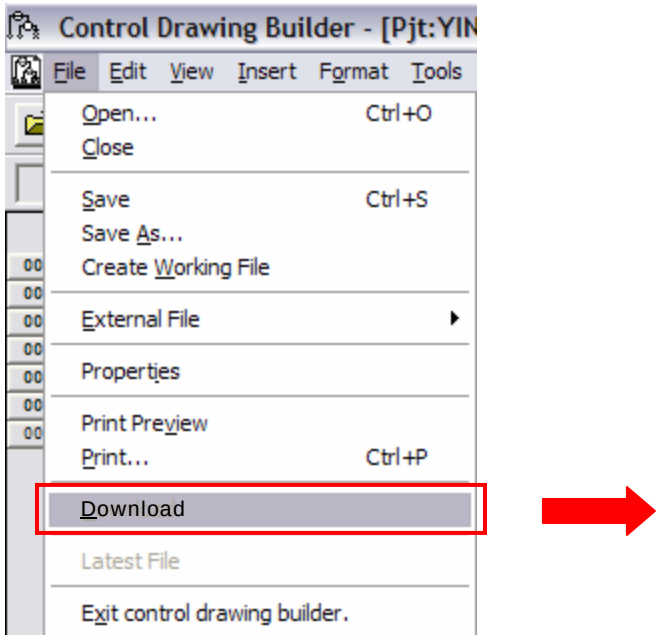


Conceptual Drawing Of Downloading

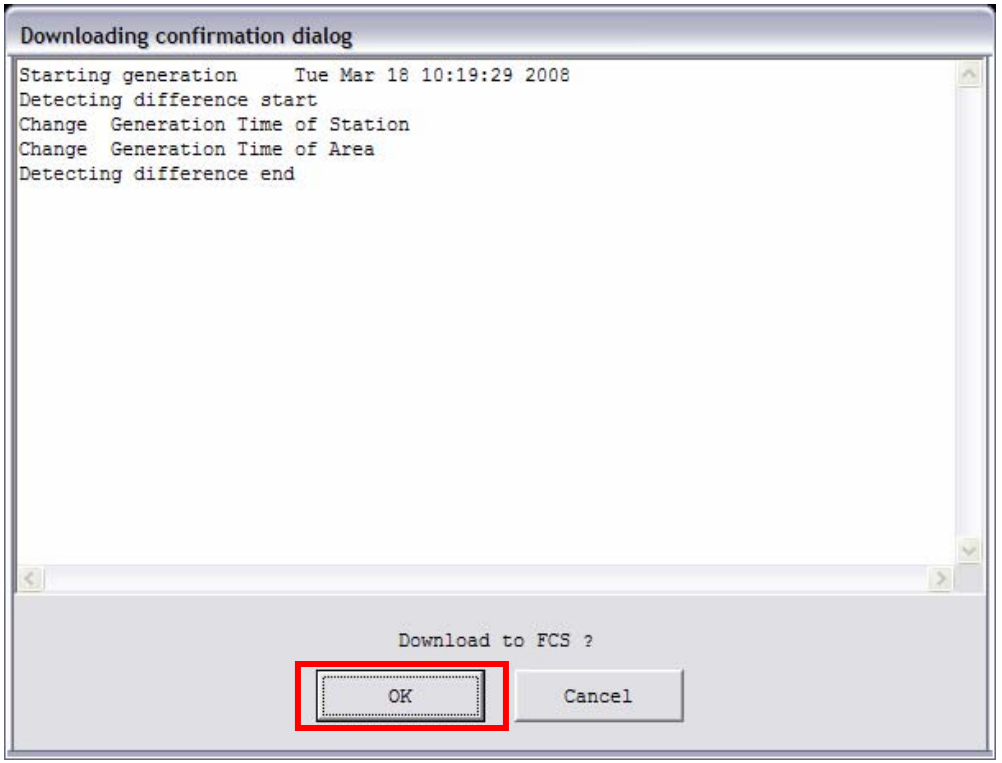
11. Online Downloading The Control Strategy Into FCS (2/4)

Do these step to perform online downloading of control drawing.

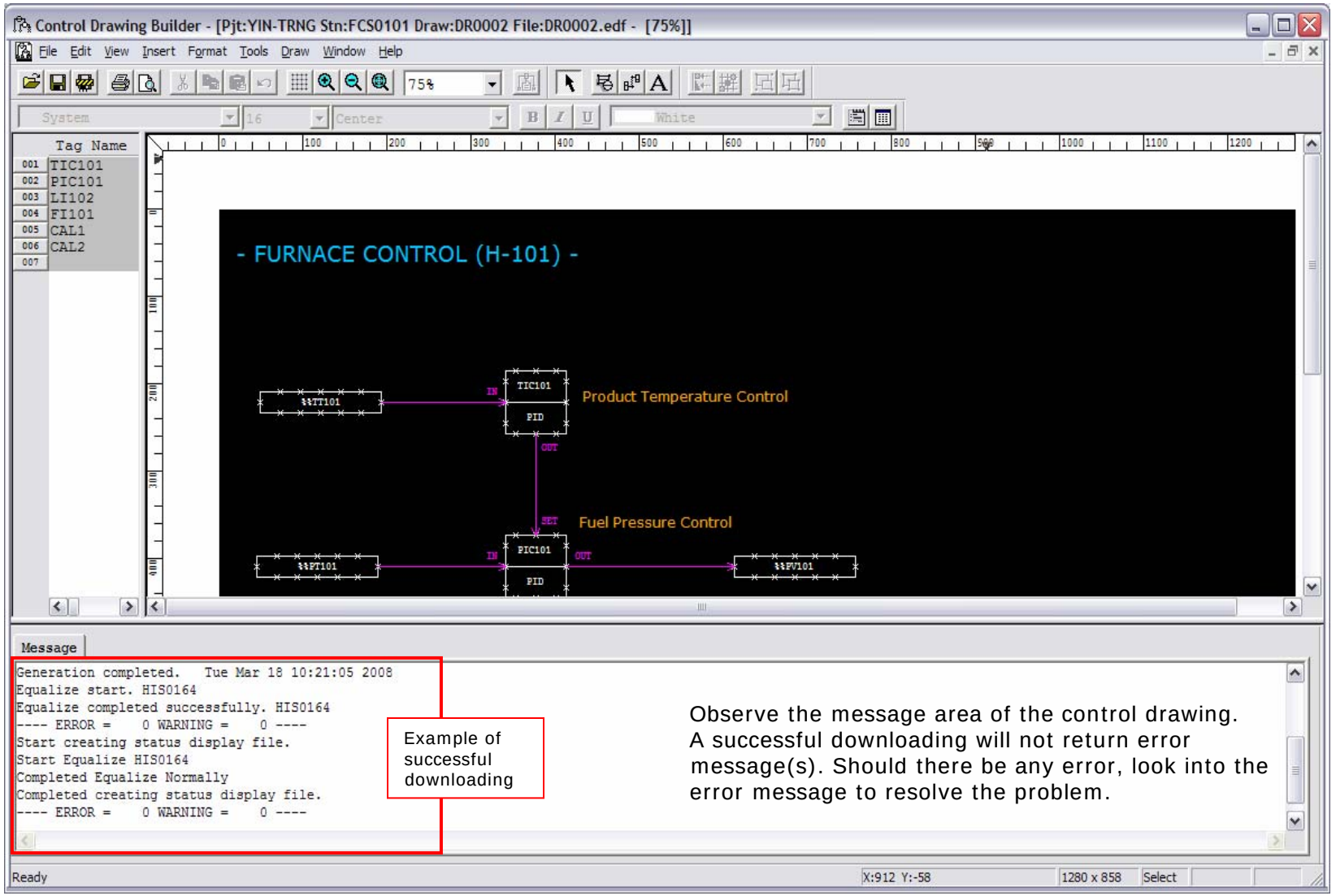
1. From the control drawing menu bar, click *File*.
   Click *Download* from the pull down menu.



2. Click *OK* button of the downloading confirmation dialog window to proceed with downloading process.



11. Online Downloading The Control Strategy Into FCS (3/4)

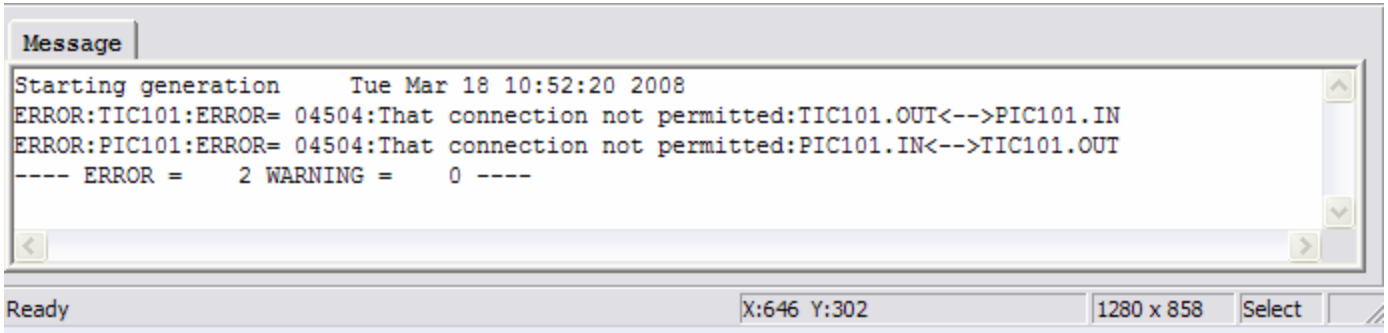


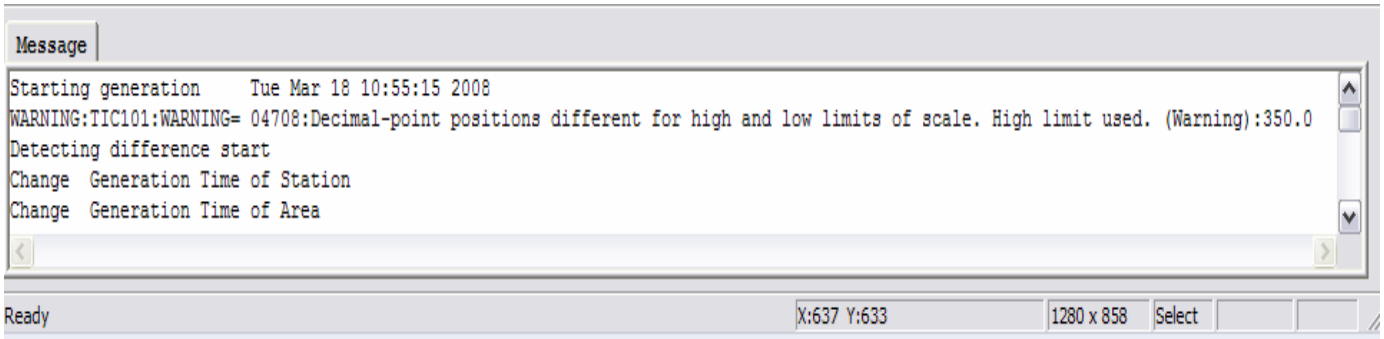
Example of successful downloading

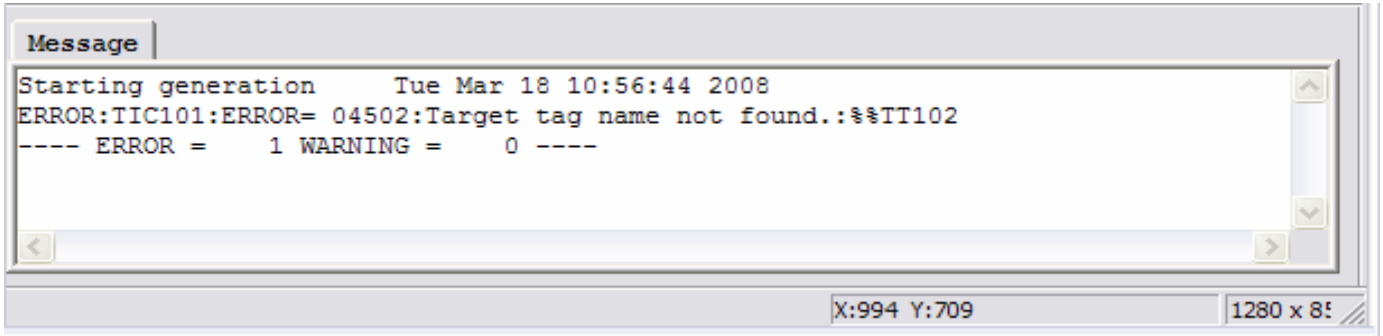
Observe the message area of the control drawing. A successful downloading will not return error message(s). Should there be any error, look into the error message to resolve the problem.

11. Online Downloading The Control Strategy Into FCS (4/4)

On the right hand side are example of error or warning message generated during downloading process.







C. LIST OF FUNCTION BLOCKS

Block type	Model	Name
Input Indicator Block	PVI	Input Indicator Block
	PVI-DV	Input Indicator Block with Deviation Alarm
Controller Block	PID	PID Controller Block
	PI-HLD	Sampling PI Controller Block
	PID-BSW	PID Controller Block with Batch Switch
	ONOFF	Two-Position ON/OFF Controller Block
	ONOFF-E	Enhanced Two-Position ON/OFF Controller Block (*1)
	ONOFF-G	Three-Position ON/OFF Controller Block
	ONOFF-GE	Enhanced Three-Position ON/OFF Controller Block (*1)
	PID-TP	Time-Proportioning ON/OFF Controller Block
	PD-MR	PD Controller Block with Manual Reset
	PI-BLEND	Blending PI Controller Block
	PID-STC	Self-Tuning PID Controller Block
Manual Loader Block	MLD	Manual Loader Block
	MLD-PVI	Manual Loader Block with Input Indicator
	MLD-SW	Manual Loader Block with Auto/Man SW
	MC-2	Two-Position Motor Control Block
	MC-2E	Enhanced Two-Position Motor Control Block (*1)
	MC-3	Three-Position Motor Control Block
	MC-3E	Enhanced Three-Position Motor Control Block (*1)
Signal Setter Block	RATIO	Ratio Set Block
	PG-L13	13-Zone Program Set Block
	BSETU-2	Flow-Totalizing Batch Set Block
	BSETU-3	Weight-Totalizing Batch Set Block
Signal Limiter Block	VELLIM	Velocity Limiter Block
Signal Selector Block	SS-H/M/L	Signal Selector Block
	AS-H/M/L	Auto-Selector Block
	SS-DUAL	Dual-Redundant Signal Selector Block
Signal Distributor Block	FOUT	Cascade Signal Distributor Block
	FFSUM	Feed-Forward Signal Summing Block
	XCPL	Non-Interference Control Output Block
	SPLIT	Control Signal Splitter Block
Alarm Block	ALM-R	Representative Alarm Block
Pulse Count Input Block	PTC	Pulse Count Input Block

C. LIST OF FUNCTION BLOCKS

Block type	Model	Name
YS Instrument Block	SLCD	YS Controller Block
	SLPC	YS Programmable Controller Block
	SLMC	YS Programmable Controller Block with Pulse-Width Output
	SMST-111	YS Manual Station Block with SV Output
	SMST-121	YS Manual Station Block with MV Output Lever
	SMRT	YS Ratio Set Station Block
	SBSD	YS Batch Set Station Block
	SLCC	YS Blending Controller Block
	SLBC	YS Batch Controller Block
	STLD	YS Totalizer Block
FOUNDATION fieldbus Faceplate Block (*2)	FF-AI	FOUNDATION fieldbus Analog Input Block
	FF-DI	FOUNDATION fieldbus Discrete Input Block
	FF-CS	FOUNDATION fieldbus Control Selector Block
	FF-PID	FOUNDATION fieldbus PID Control Block
	FF-RA	FOUNDATION fieldbus Ratio Block
	FF-AO	FOUNDATION fieldbus Analog Output Block
	FF-DO	FOUNDATION fieldbus Discrete Output Block
	FF-OS	FOUNDATION fieldbus Output Splitter Block
	FF-SC	FOUNDATION fieldbus Signal Characterizer (Totalizer) Block
	FF-IT	FOUNDATION fieldbus Integrator Block
	FF-IS	FOUNDATION fieldbus Input Selector Block
	FF-MDI	FOUNDATION fieldbus Multiple Discrete Input Block
	FF-MDO	FOUNDATION fieldbus Multiple Discrete Output Block
	FF-MAI	FOUNDATION fieldbus Multiple Analog Input Block
	FF-MAO	FOUNDATION fieldbus Multiple Analog Output Block
	FF-SUNV	Simple Universal Block

C. LIST OF FUNCTION BLOCKS

Block type	Model	Name
Arithmetic Calculation Block	ADD	Addition Block
	MUL	Multiplication Block
	DIV	Division Block
	AVE	Averaging Block
Analog Calculation Block	SQRT	Square Root Block
	EXP	Exponential Block
	LAG	First-Order Lag Block
	INTEG	Integration Block
	LD	Derivative Block
	RAMP	Ramp Block
	LDLAG	Lead/Lag Block
	DLAY	Dead-Time Block
	DLAY-C	Dead-Time Compensation Block
	AVE-M	Moving-Average Block
	AVE-C	Cumulative-Average Block
	FUNC-VAR	Variable Line-Segment Function Block
	TPCFL	Temperature and Pressure Correction Block
	ASTM1	ASTM Correction Block: Old JIS
	ASTM2	ASTM Correction Block: New JIS
Logic Operation Block (*1)	AND	Logical AND Block
	OR	Logical OR Block
	NOT	Logical NOT Block
	SRS1-S	Set-Dominant Flip-Flop Block with 1 Output
	SRS1-R	Reset-Dominant Flip-Flop Block with 1 Output
	SRS2-S	Set-Dominant Flip-Flop Block with 2 Output
	SRS2-R	Reset-Dominant Flip-Flop Block with 2 Output
	WOUT	Wipeout Block
	OND	ON-Delay Timer Block
	OFFD	OFF-Delay Timer Block
	TON	One-Shot Block (rising-edge trigger)
	TOFF	One-Shot Block (falling-edge trigger)
	GT	Comparator Block (greater than)
	GE	Comparator Block (greater than or equal)
	EQ	Equal Operator Block
	BAND	Bitwise AND Block
	BOR	Bitwise OR Block
	BNOT	Bitwise NOT Block

C. LIST OF FUNCTION BLOCKS

Block type	Model	Name
Sequence Table Block	ST16	Sequence Table Block
	ST16E	Rule Extension Block
Logic Chart Block	LC64	Logic Chart Block
SFC Block	_SFCSW	3-Position Switch SFC Block
	_SFCPB	Pushbutton SFC Block
	_SFCAS	Analog SFC Block
Switch Instrument Block	SI-1	Switch Instrument Block with 1 Input
	SI-2	Switch Instrument Block with 2 Inputs
	SO-1	Switch Instrument Block with 1 Output
	SO-2	Switch Instrument Block with 2 Outputs
	SIO-11	Switch Instrument Block with 1 Input and 1 Output
	SIO-12	Switch Instrument Block with 1 Input and 2 Outputs
	SIO-21	Switch Instrument Block with 2 Inputs and 1 Output
	SIO-22	Switch Instrument Block with 2 Inputs and 2 Outputs
	SIO-12P	Switch Instrument Block with 1 Input, 2 One-Shot Outputs
	SIO-22P	Switch Instrument Block with 2 Inputs, 2 One-Shot Outputs
	SI-1E	Enhanced Switch Instrument Block with 1 Input (*1)
	SI-2E	Enhanced Switch Instrument Block with 2 Inputs (*1)
	SO-1E	Enhanced Switch Instrument Block with 1 Output (*1)
	SO-2E	Enhanced Switch Instrument Block with 2 Outputs (*1)
	SIO-11E	Enhanced Switch Instrument Block with 1 Input and 1 Output (*1)
	SIO-12E	Enhanced Switch Instrument Block with 1 Input and 2 Outputs (*1)
	SIO-21E	Enhanced Switch Instrument Block with 2 Inputs and 1 Output (*1)
	SIO-22E	Enhanced Switch Instrument Block with 2 Inputs and 2 Outputs (*1)
	SIO-12PE	Enhanced Switch Instrument Block with 1 Input, 2 One-Shot Outputs (*1)
	SIO-22PE	Enhanced Switch Instrument Block with 2 Inputs, 2 One-Shot Outputs (*1)
Sequence Auxiliary Block	TM	Timer Block
	CTS	Software Counter Block
	CTP	Pulse Train Input Counter Block
	CI	Code Input Block
	CO	Code Output Block
	RL	Relational Expression Block
	RS	Resource Scheduler Block
Valve Monitoring Block	VLVM	Valve Monitoring Block

C. LIST OF FUNCTION BLOCKS

Block type	Model	Name
Analog Faceplate Block	INDST2	Dual-Pointer Indicating Station Block
	INDST2S	Dual-Pointer Manual Station Block
	INDST3	Triple-Pointer Manual Station Block
Sequence Faceplate Block	BSI	Batch Status Indicator Block
	PBS5C	Extended 5-Pushbutton Switch Block
	PBS10C	Extended 10-Pushbutton Switch Block (*1)
Hybrid Faceplate Block	HAS3C	Extended Hybrid Manual Station Block

Block type	Model	Name
Unit Instrument	_UTSW	3-Position Switch-Type Unit Instrument
	_UTPB	5-Pushbutton-Type Unit Instrument
	_UTAS	Analog-Type Unit Instrument
Non-Resident Unit Instrument	_UTSW-N	Non-Resident Unit Instrument with Three-Position Switch
	_UTPB-N	Non-Resident Unit Instrument with Five-Pushbutton Switch
	_UTAS-N	Analog Non-Resident Unit Instrument
Operation	OPSBL	SEBOL-Type Operation
	OPSFC	SFC-Type Operation
	OPSFCP1	SFC-Type Operation with Floating-Data Parameters
	OPSFCP2	SFC-Type Operation with Character-Data Parameters
	OPSFCP3	SFC-Type Operation with Floating/Character-Data Parameters
	OPSFCP4	SFC-Type Operation with Integer/Character-Data Parameters
	OPSFCP5	SFC-Type Operation with Floating/Integer-Data Parameters

C. LIST OF FUNCTION BLOCKS

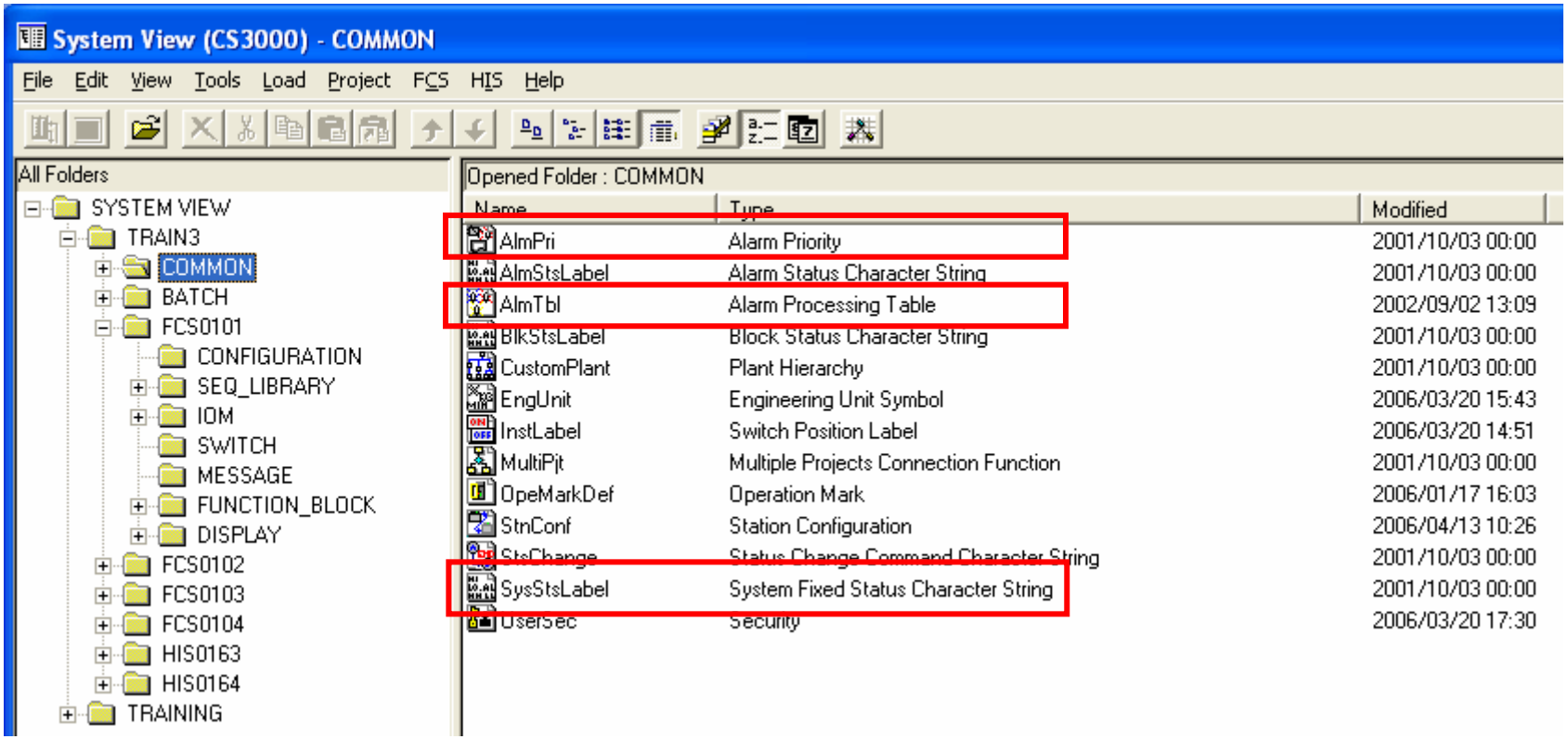
Block type	Model	Name
Valve Pattern Monitor (*1)	VPM64	64-Data Valve Pattern Monitor
	VPM128	128-Data Valve Pattern Monitor
	VPM256	256-Data Valve Pattern Monitor
	VPM512	512-Data Valve Pattern Monitor
	VPM64A	64-Data Valve Pattern Monitor with Alarm
	VPM128A	128-Data Valve Pattern Monitor with Alarm
	VPM256A	256-Data Valve Pattern Monitor with Alarm
	VPM512A	512-Data Valve Pattern Monitor with Alarm

Block type	Model	Name
Off-Site Block (*1)	FSBSET	Batch Set Control Block
	BLEND	Blending Master Control Block

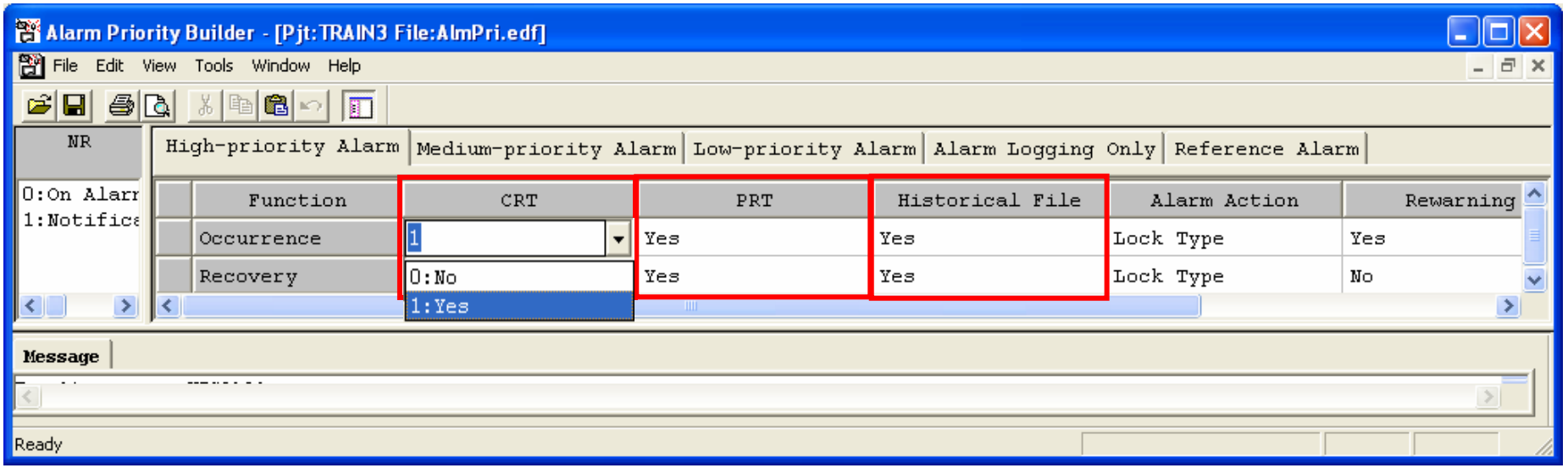
C. LIST OF FUNCTION BLOCKS

Block type	Function block model
Regulatory Control/ Calculation	PVI, PVI-DV PID, PI-HLD, PID-BSW, ONOFF, ONOFF-E, ONOFF-G, ONOFF-GE, PID-TP, PD-MR, PI-BLEND, PID-STC MLD, MLD-PVI, MLD-SW, MC-2, MC-2E, MC-3, MC-3E RATIO, PG-L13, BSETU-2, BSETU-3 VELLIM SS-H, SS-M, SS-L, AS-H, AS-M, AS-L, SS-DUAL FOUT, FFSUM, XCPL, SPLIT PTC ADD, MUL, DIV, AVE SQRT, EXP, LAG, INTEG, LD, RAMP, LDLAG, DLAY, DLAY-C AVE-M, AVE-C, FUNC-VAR, TPCFL, ASTM1, ASTM2 SW-33, SW-91, DSW-16, DSW-16C, DSET, DSET-PVI SLCD, SLPC, SLMC, SMST-111, SMST-121, SMRT, SBSD, SLBC, SLCC, STLD FF-AI, FF-DI, FF-CS, FF-PID, FF-RA, FF-AO, FF-DO, FF-OS, FF-SC, FF-IT (*1) FF-IS, FF-MDI, FF-MDO, FF-MAI, FF-MAO, FF-SUNV (*1)
Sequence	ST16, ST16E, LC64
Switch Instrument	SI-1, SI-2, SO-1, SO-2, SIO-11, SIO-12, SIO-21, SIO-22, SIO-12P, SIO-22P SI-1E, SI-2E, SO-1E, SO-2E, SIO-11E, SIO-12E, SIO-21E, SIO-22E, SIO-12PE, SIO-22PE
Sequence Auxiliary-1	TM, CTS, CTP, CI, CO
General-Purpose Calculation	CALCU, CALCU-C
Faceplate	INDST2, INDST2S, INDST3, PBS5C, PBS10C, BSI, HAS3C
Logic Operation	AND, OR, NOT, SRS1-S, SRS1-R, SRS2-S, SRS2-R WOUT, OND, OFFD, TON, TOFF, GT, GE, EQ, BAND, BOR, BNOT
Sequence Auxiliary-2	ALM-R, RL, RS, VLVM
Batch Data	BDSET-1L, BDSET-1C, BDSET-2L, BDSET-2C, BDA-L, BDA-C
SFC Block	_SFCSW, _SFCPB, _SFCAS
Operation	OPSBL, OPSFC OPSFCP1, OPSFCP2, OPSFCP3, OPSFCP4, OPSFCP5
Unit Instrument	_UTSW, _UTPB, _UTAS _UTSW-N, _UTPB-N, _UTAS-N
Off-Site Block	FSBSET, BLEND

Project Common



Alarm Priority

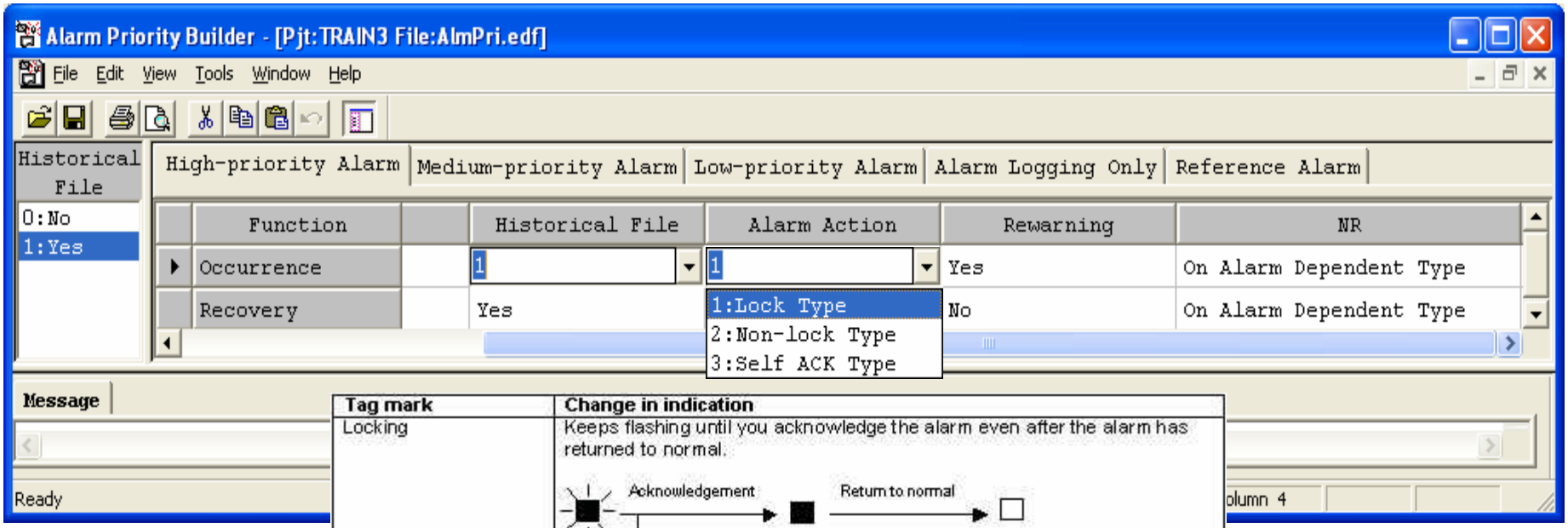


Designate in the Alarm Priority Builder whether or not the status change is to be displayed in a window upon occurrence of the alarm or upon recovery of the system.

Designate in the Alarm Priority Builder whether or not the status change is to be printed out to a printer upon occurrence of the alarm or upon recovery of the system.

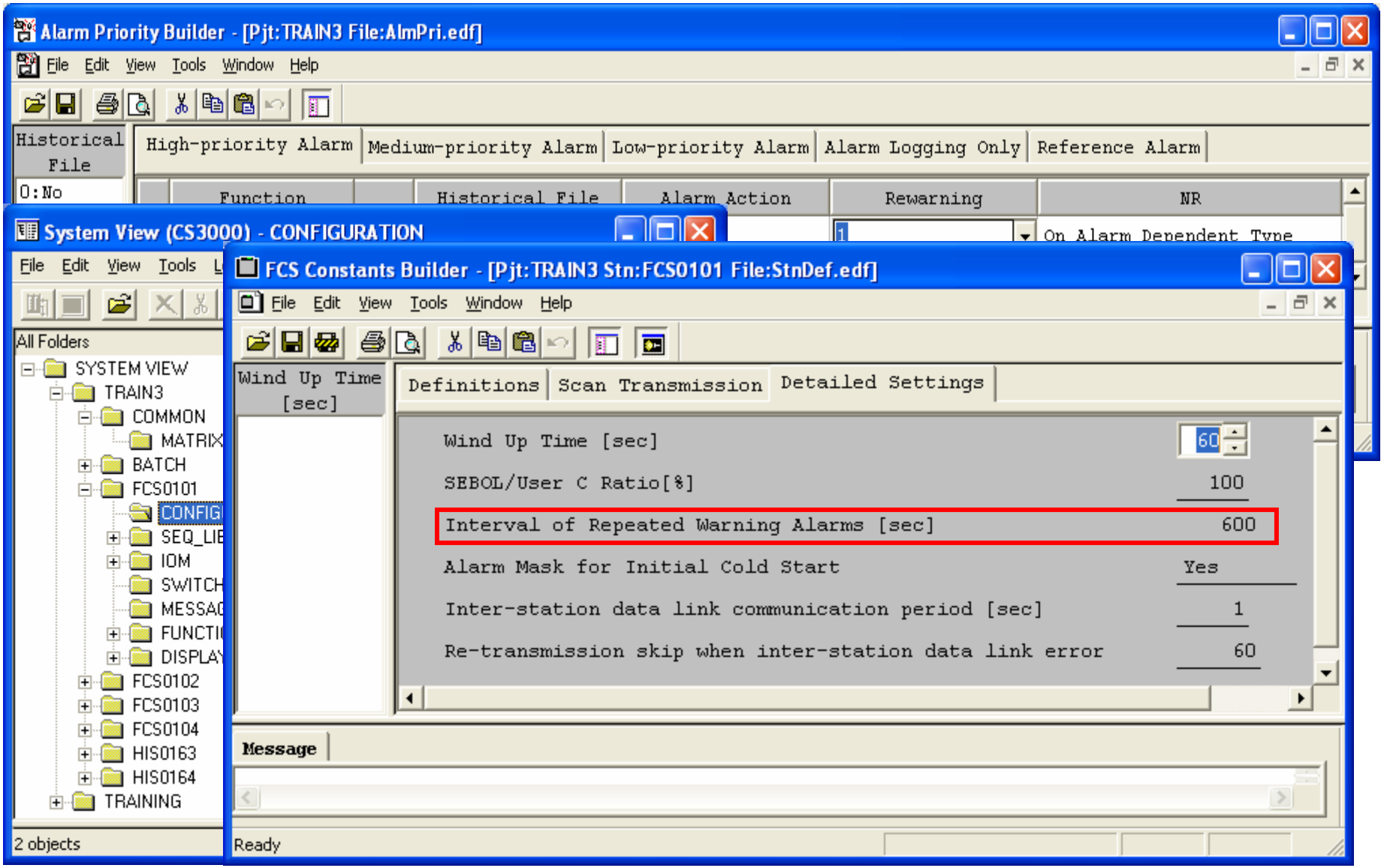
Designate in the Alarm Priority Builder whether or not the status change is to be logged in a historical message save file upon occurrence of the alarm or upon recovery of the system. A message logged in a historical message save file can be displayed in a Historical Message Report window.

Alarm Priority

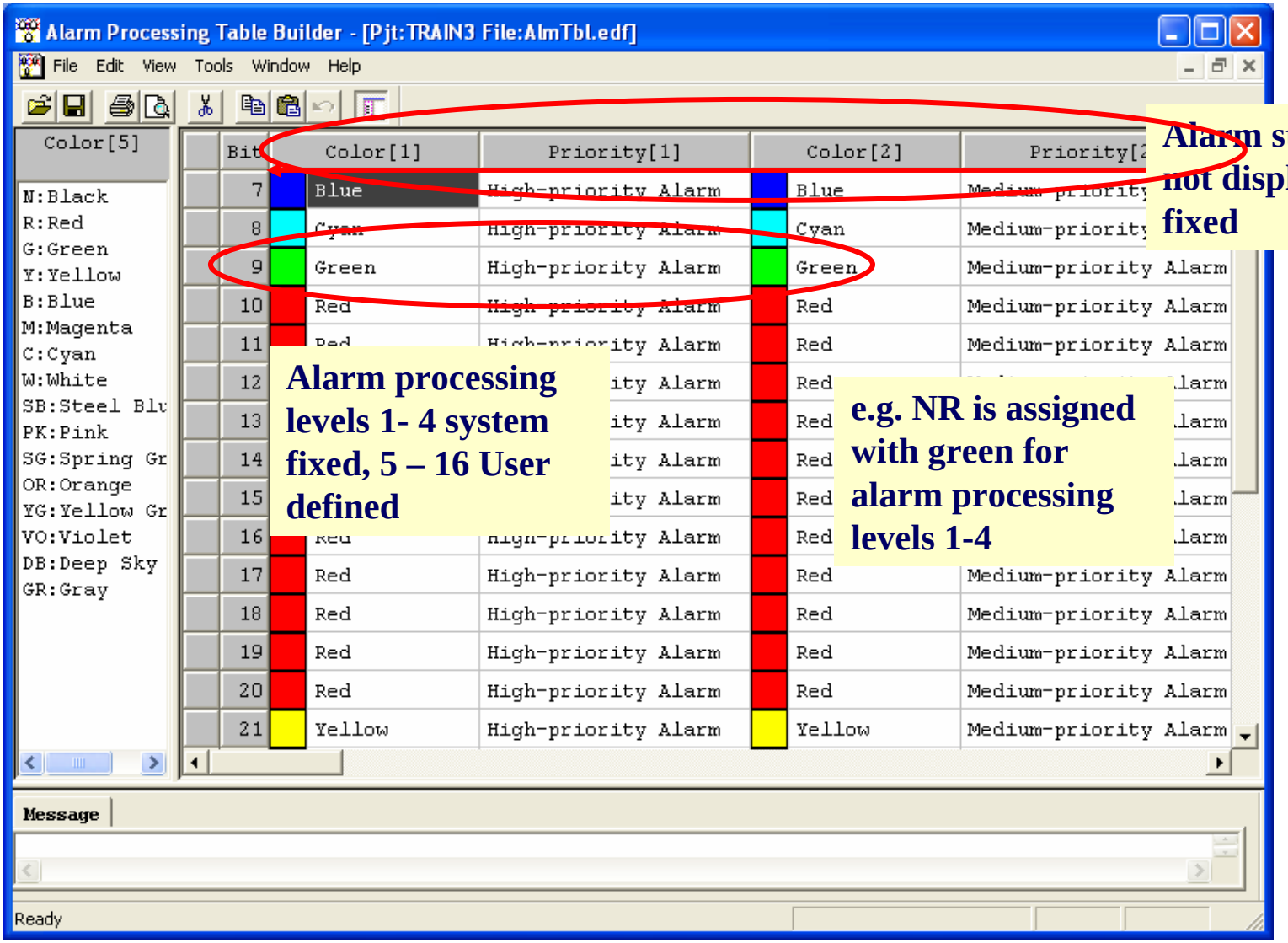


Tag mark	Change in indication
Locking	Keeps flashing until you acknowledge the alarm even after the alarm has returned to normal. Acknowledgement → Return to normal Return to normal → Acknowledgement (Acknowledgement of alarm occurrence)
Non-locking	Turns back to normal color when the alarm returns to normal irrespective of your acknowledgement. Acknowledgement → Return to normal Return to normal
Self acknowledgement	No flashing and turns to the alarm color when the self-acknowledgement function is activated. Self-acknowledgement → Return to normal

Alarm Priority



Alarm Processing Table

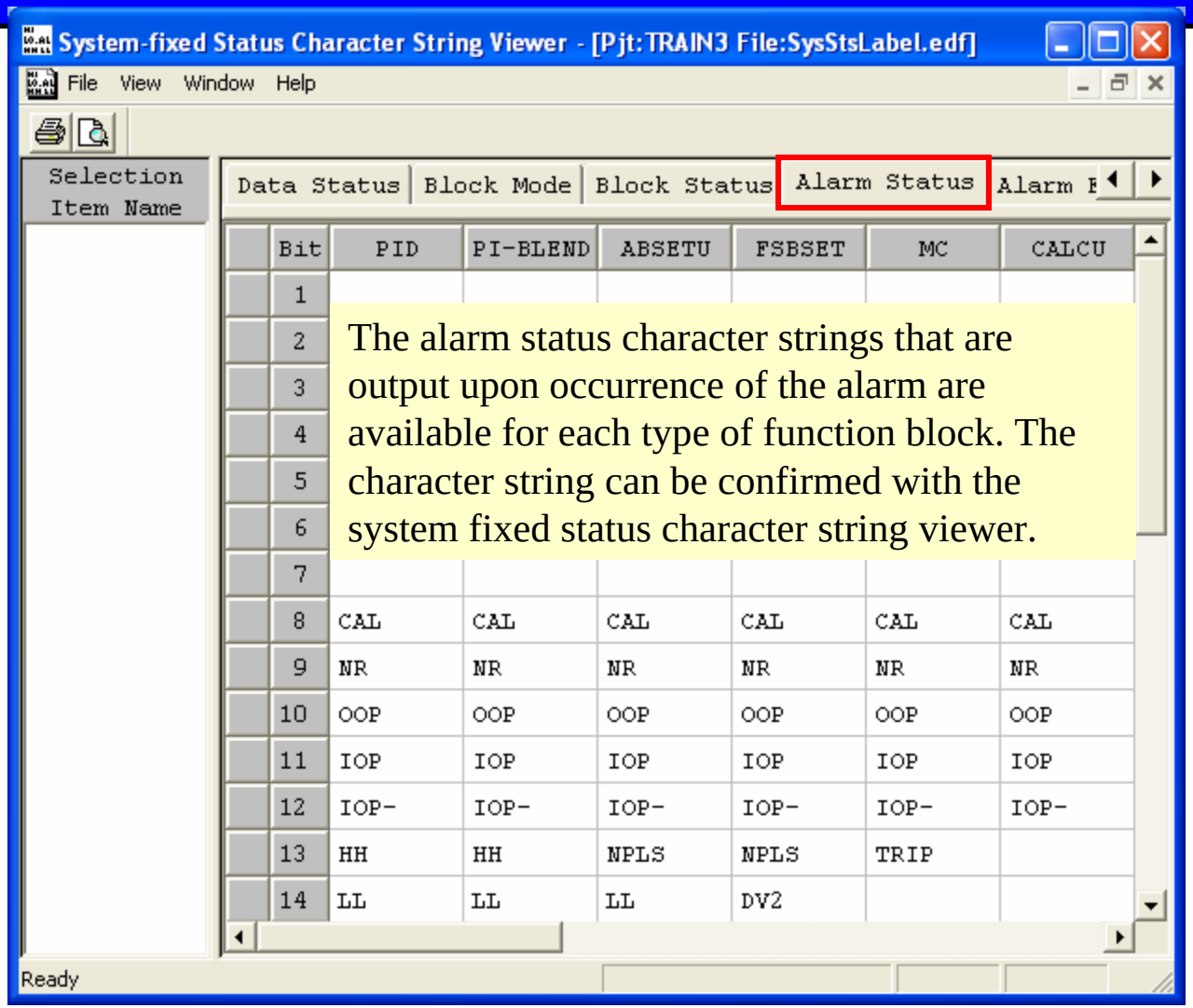


Alarm status bit 1 – 6 not displayed, system fixed

Alarm processing levels 1- 4 system fixed, 5 – 16 User defined

e.g. NR is assigned with green for alarm processing levels 1-4

System-fixed Status Character String



Bit	PID	PI-BLEND	ABSETU	FSBSET	MC	CALCU
1						
2						
3						
4						
5						
6						
7						
8	CAL	CAL	CAL	CAL	CAL	CAL
9	NR	NR	NR	NR	NR	NR
10	OOP	OOP	OOP	OOP	OOP	OOP
11	IOP	IOP	IOP	IOP	IOP	IOP
12	IOP-	IOP-	IOP-	IOP-	IOP-	IOP-
13	HH	HH	NPLS	NPLS	TRIP	
14	LL	LL	LL	DV2		

The alarm status character strings that are output upon occurrence of the alarm are available for each type of function block. The character string can be confirmed with the system fixed status character string viewer.

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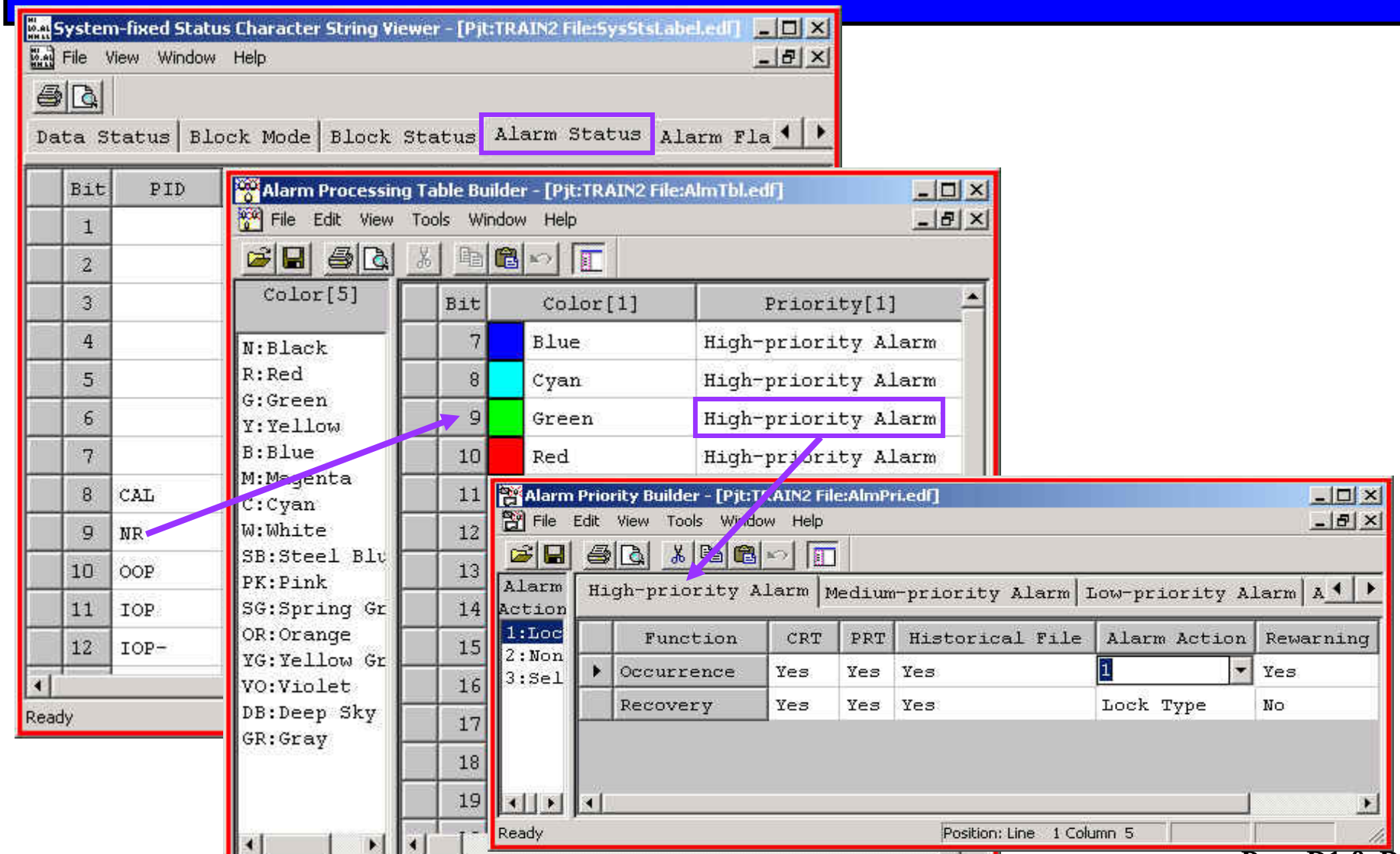
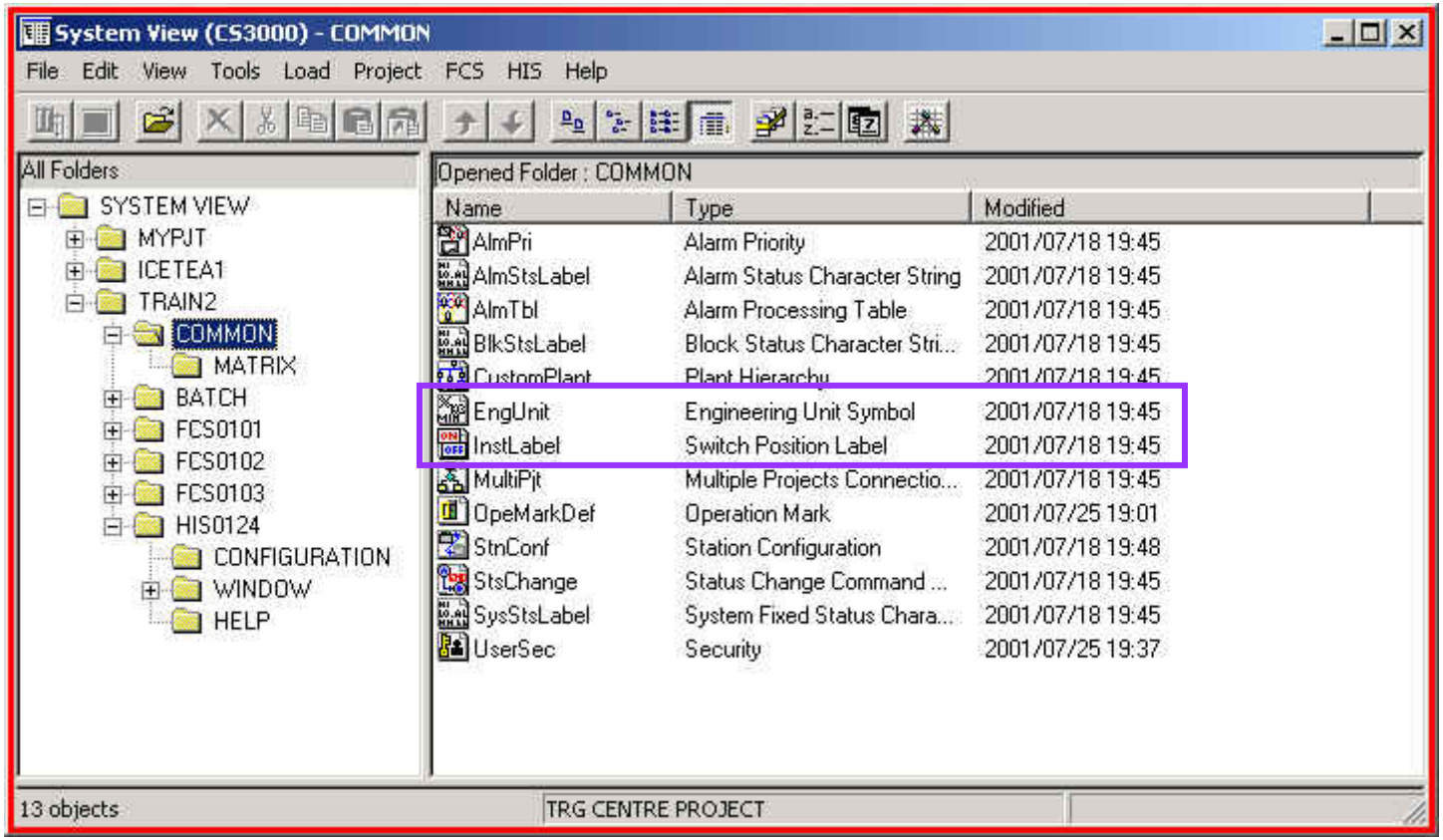
Page D-9 & D-10

Page D3

System-fixed Status Character String/ Alarm Processing Table/ Alarm Priority

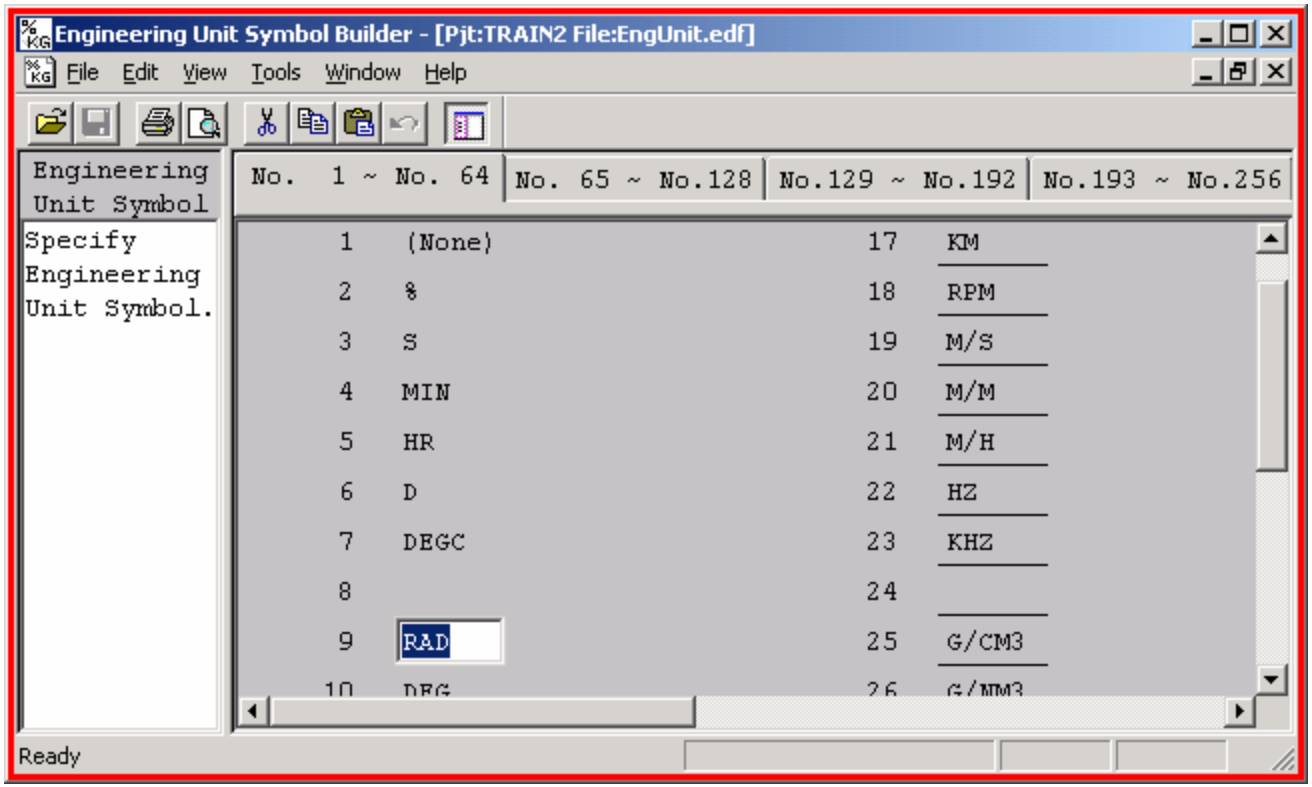


Project Common



Engineering Unit

Up to 256 engineering unit symbols can be used for one project.

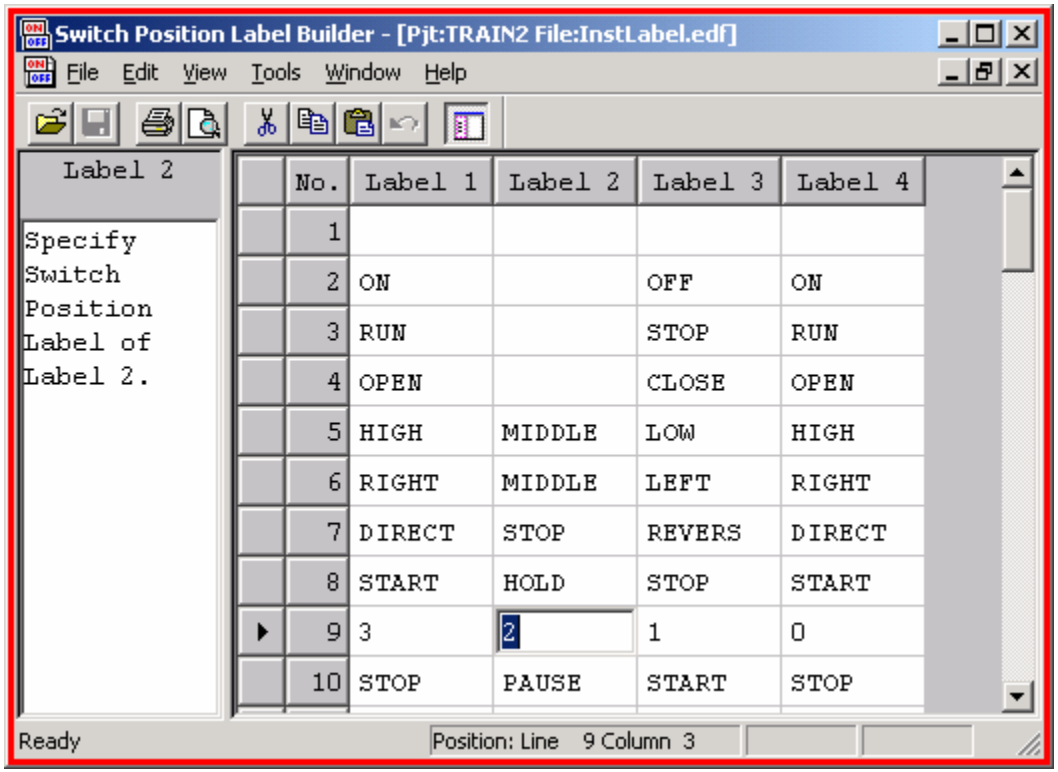


One engineering unit symbol can be defined with up to six alphanumeric characters and it is case-sensitive

Nos.1 to 8 cannot be changed or deleted. Default values are predefined for Nos.9 to 126.

Switch Position Label

Up to 64 switch position labels can be used for one project.
Switch position labels Nos.1 and 2 cannot be changed or deleted.
Default values are predefined for Nos.3 to 13.



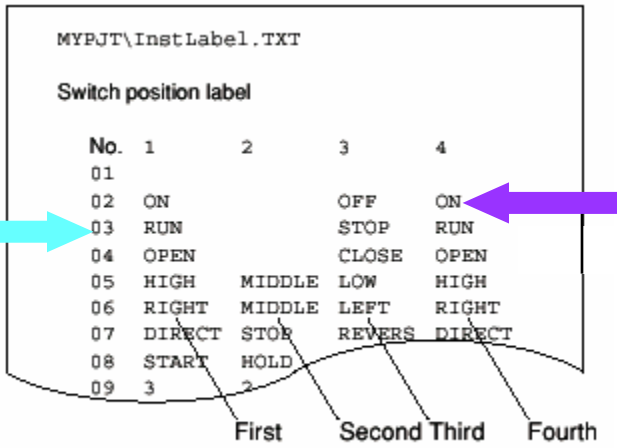


Figure Label for Switch Position List

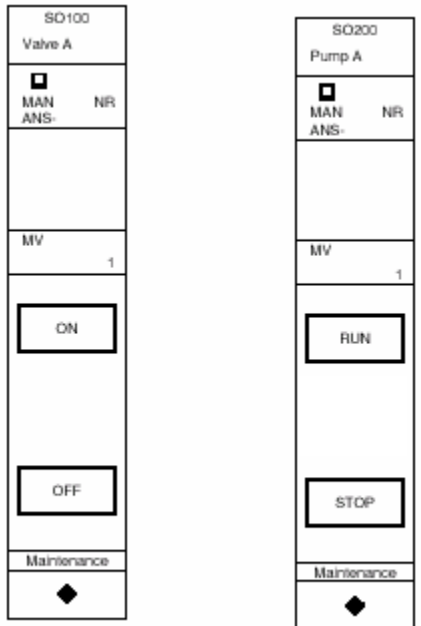
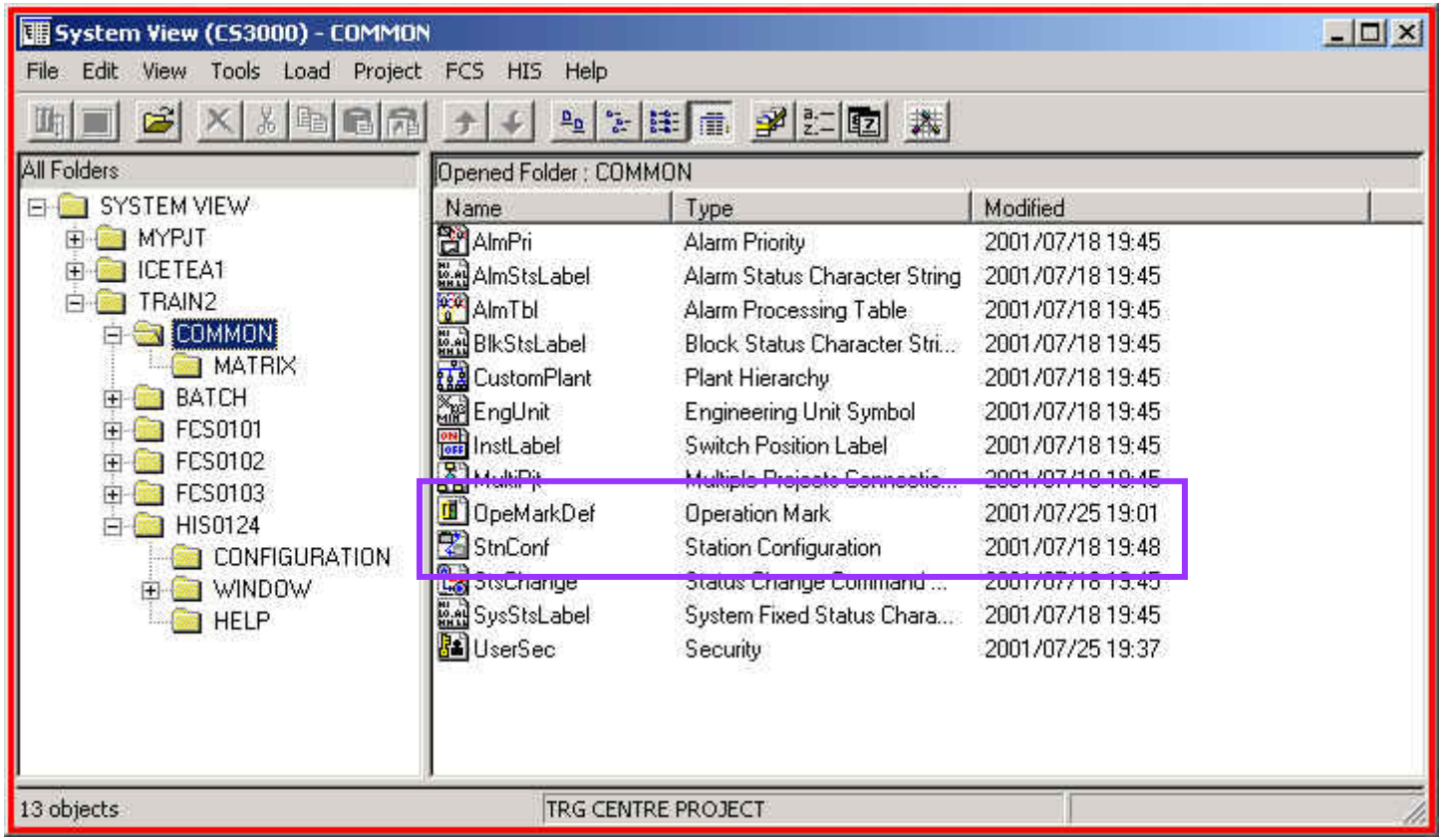


Figure Label for Switch Position 1

Figure Label for Switch Position 2

Page D13 & D14

Project Common



Operation Mark

Attaching operation mark may temporarily change the write access right on the block during plant operation. There are 64 operation marks available for configuration.

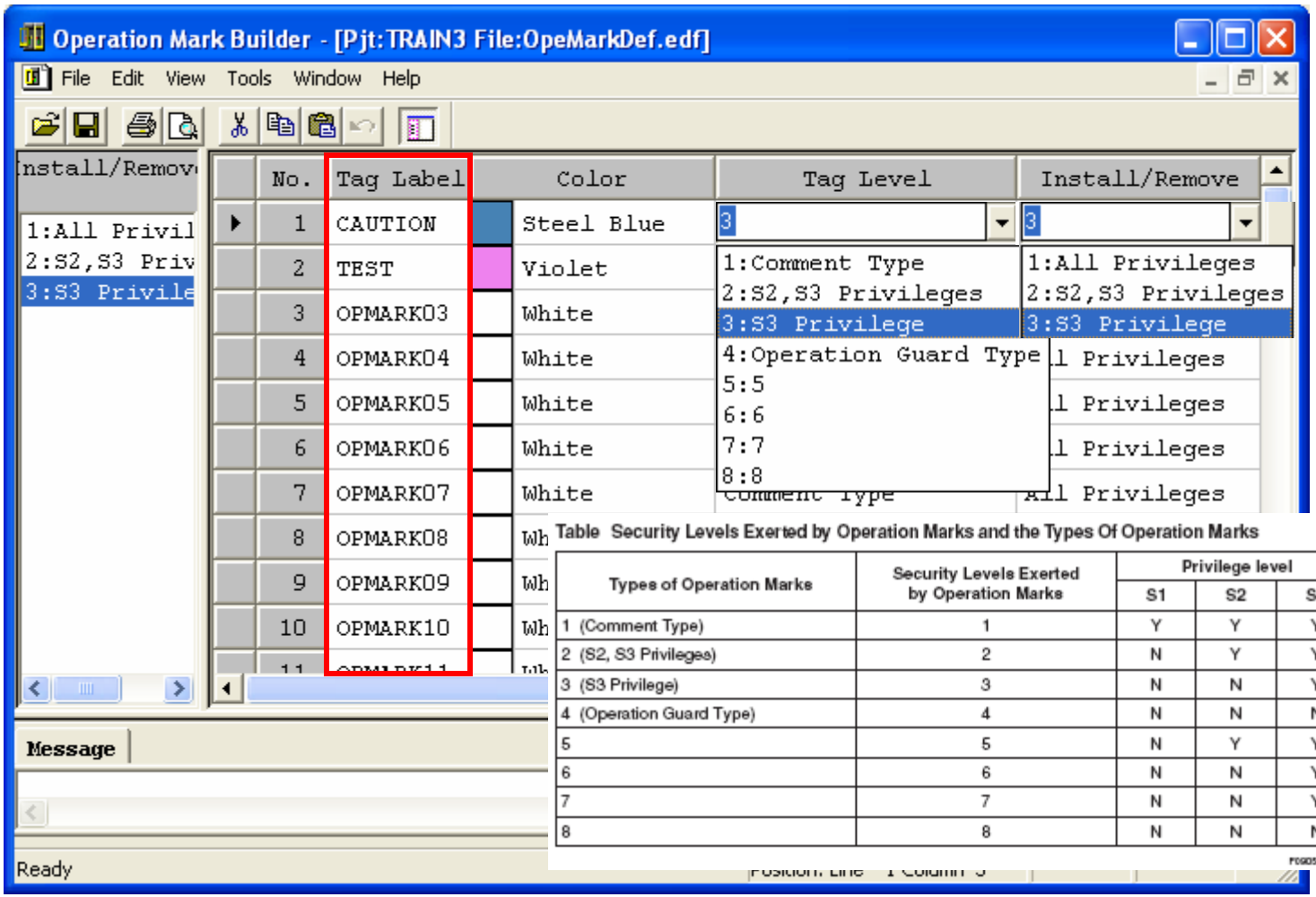


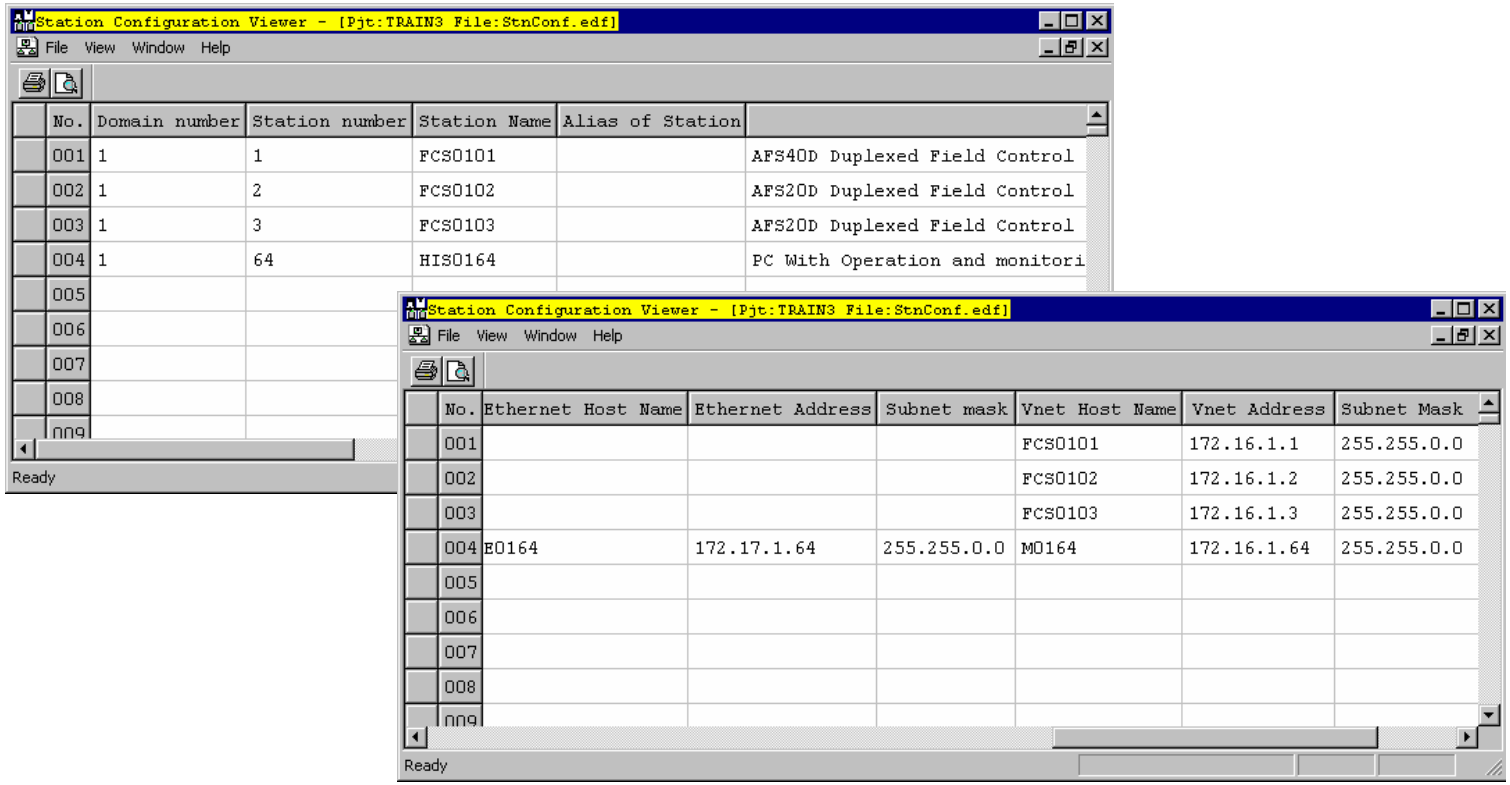
Table Security Levels Exerted by Operation Marks and the Types Of Operation Marks

Types of Operation Marks	Security Levels Exerted by Operation Marks	Privilege level		
		S1	S2	S3
1 (Comment Type)	1	Y	Y	Y
2 (S2, S3 Privileges)	2	N	Y	Y
3 (S3 Privilege)	3	N	N	Y
4 (Operation Guard Type)	4	N	N	N
5	5	N	Y	Y
6	6	N	N	Y
7	7	N	N	Y
8	8	N	N	N

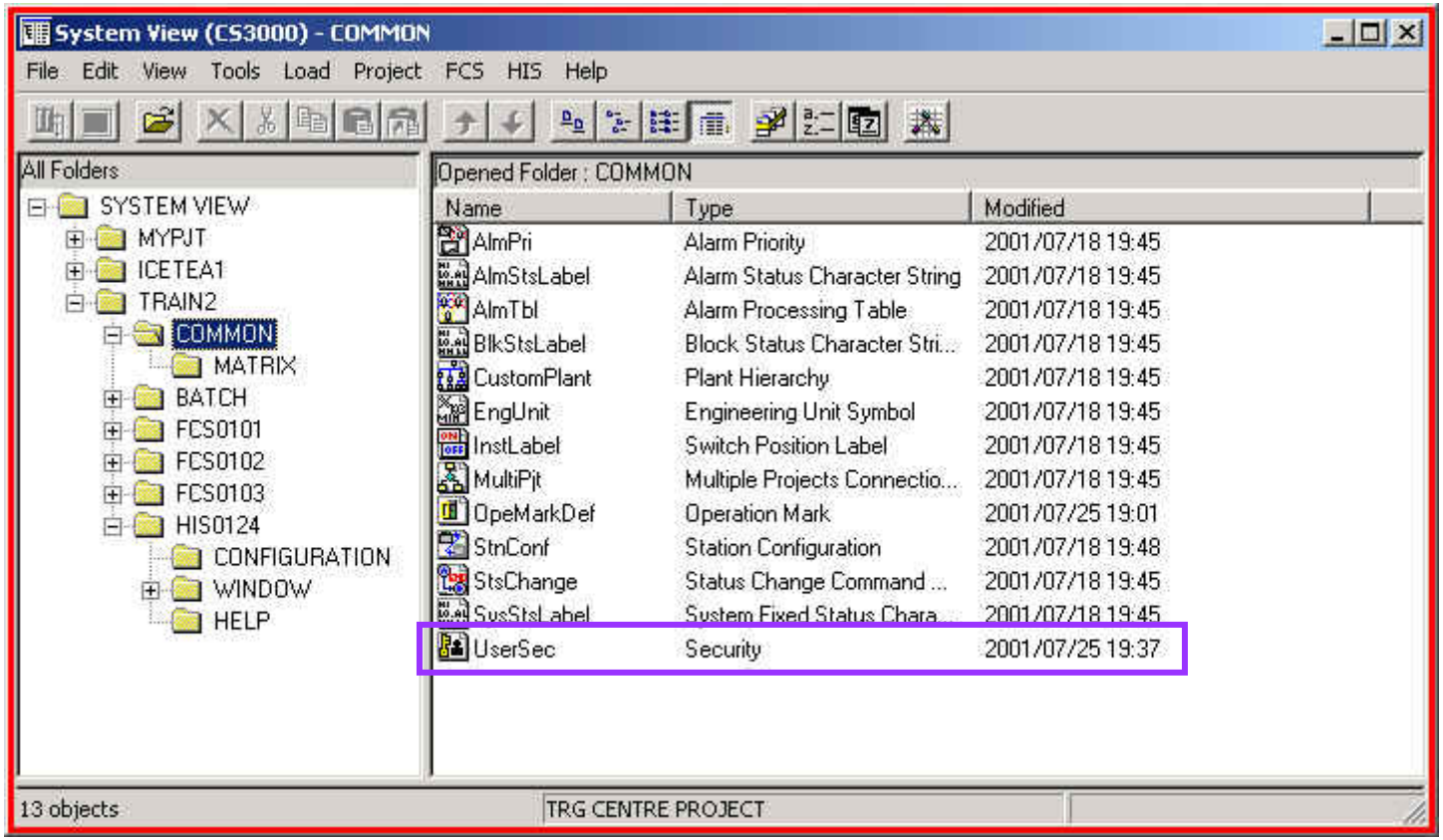
8 characters can be entered as the text on the label (string)

Page D17 to D19

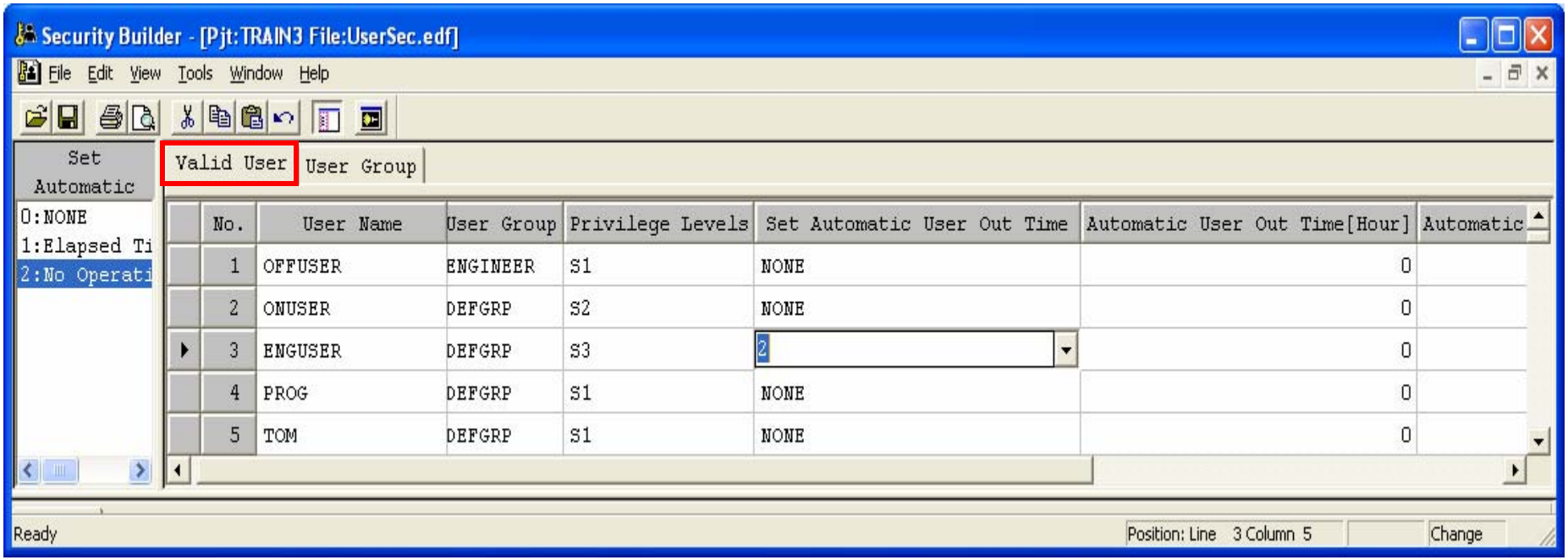
Overview of the station configured for the project.



Project Common



User Security



Valid User:

User Name
User Group
Privilege Levels

Set Automatic User Out Time
Automatic User Out Time [Hour]
Automatic User Out Time [Minute]

Comment

User Name

Each user name must be unique, consisting of eight alphanumeric characters or fewer and is not case-sensitive.

Up to 250 users can be defined for CS 3000 system.

Table Default User Names

User name	Privilege level	User group	Description
OFFUSER (*1)	S1	DEFGRP	User name for monitoring data
ONUSER	S2	DEFGRP	User name for operation and monitoring data
ENGUSER	S3	DEFGRP	User name for maintenance
PROG (*2)	S1	DEFGRP	User name for accessing data from a user program
TESTUSER	S3	DEFGRP	User name for conducting a virtual test

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*1: When the user group for OFFUSER is changed to NONEGRP and the HIS is started, the operation and monitoring will be disabled.
*2: User cannot user-in as PROG.

User Group

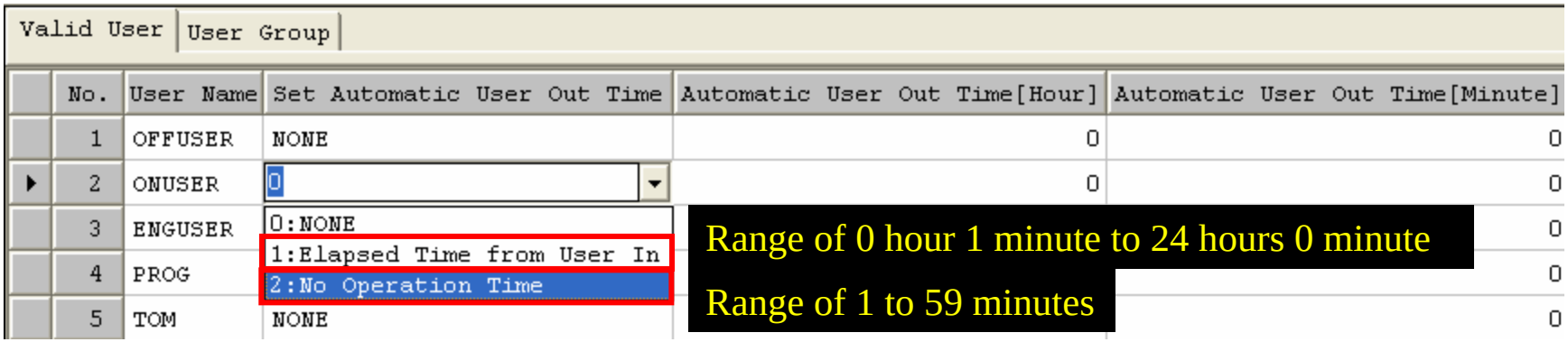
The users are classified into groups based on their operation and monitoring authorities. Each group is called user group.

Each user group name must be unique and in 8 or less alphanumeric characters. 50 user groups may be assigned to one project for CS 3000.

Table Default User Group

User group name	Monitoring scope	Operation and monitoring scope	Window scope	Confirmation operation scope	Messaging scope	Description
DEFGRP	ALL	ALL	ALL	ALL	ALL	Authorized to operate and monitor all control stations and windows connected in the same Control Bus.
NONEGRP	NONE	NONE	NONE	NONE	NONE	Not authorized to operate and monitor any control station and window connected in the Control Bus.

Set Automatic User Out Time



User may be automatically user-out under the following optional conditions:

- **Automatically User-Out Due to No Operation Timeout**

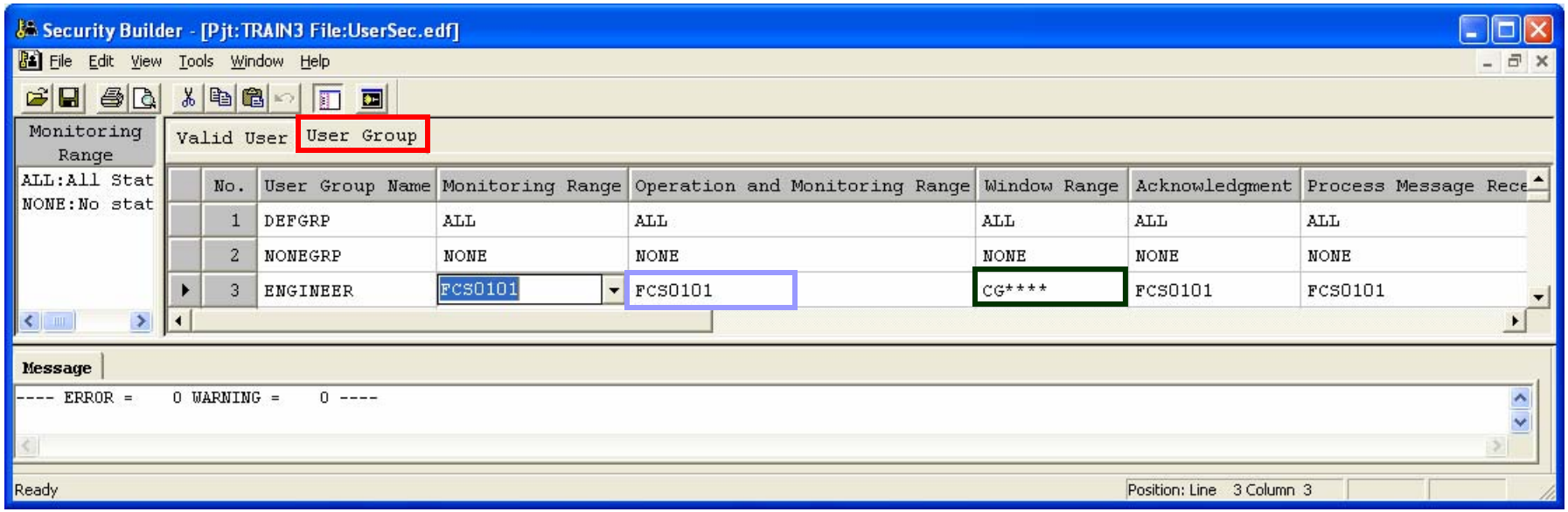
If the keyboard or the mouse has not been touched for a designated time period, the user is automatically user-out.

- **A Certain Time Elapsed since User-In**

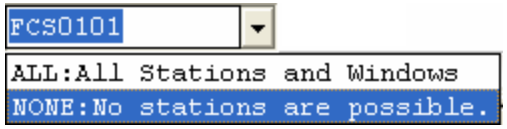
User may be automatically user-out after a certain time elapsed since the user-in.

By default, Automatic User-Out is not activated. OFFUSER is not subject to Automatic User-Out.

User Group



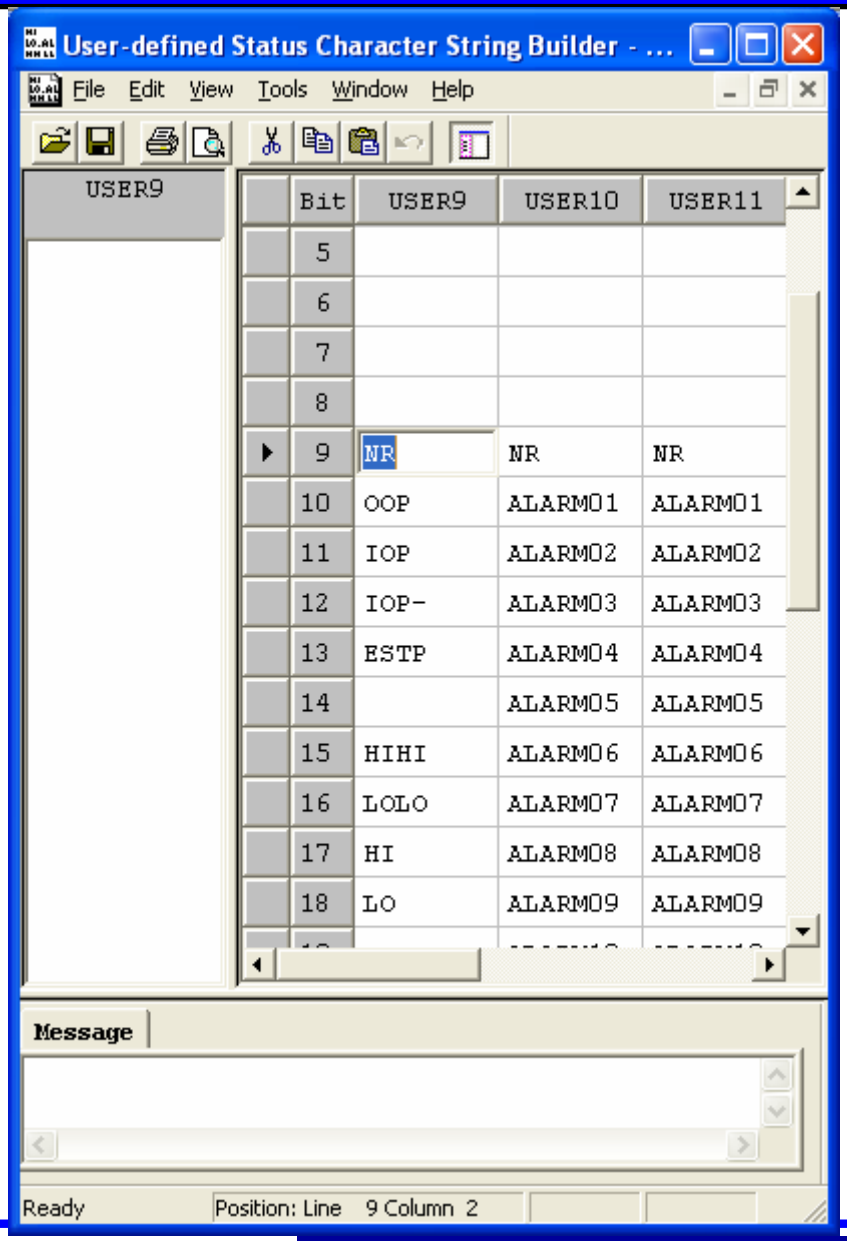
Monitoring Range	Operation and Monitoring Range
Window Range	Acknowledgment
Process Message Receiving	System Alarm Receiving
Exclude Operation	Exclude Operation and Monitoring
Exclude Acknowledgment	Exclude Process Message
Exclude System Alarm	Comment



Specify a plant hierarchy name/ station name.

When setting operation and monitoring rights on designated station names or window names, the wild card character " * " can be used instead of part or all characters in a character string.

User-defined Status Character String



The function blocks that can use the alarm status character strings designated here are faceplate blocks, SFC blocks, and unit instruments. There is a table reserved for each of these function blocks, used for designating the alarm status character strings. The figure below shows the relationship between the alarm status character string and the bit position (default) for each function block:

Table Alarm Status Character String Definition (Default)

For bit position	For faceplate block	For SFC block	For unit instrument	For bit position	For faceplate block	For SFC block	For unit instrument
	USER9	USER10	USER11 to USER16		USER9	USER10	USER11 to USER16
1				17	HI	ALARM08	ALARM08
2				18	LO	ALARM09	ALARM09
3				19		ALARM10	ALARM10
4				20		ALARM11	ALARM11
5				21	DV+	ALARM12	ALARM12
6				22	DV-	ALARM13	ALARM13
7				23		ALARM14	ALARM14
8				24		ALARM15	ALARM15
9	NR	NR	NR	25	TRP	ALARM16	ALARM16
10	OOP	ALARM01	ALARM01	26	SCBL	ALARM17	ALARM17
11	IOP	ALARM02	ALARM02	27	INT	ALARM18	ALARM18
12	IOP-	ALARM03	ALARM03	28	ERR	ALARM19	ALARM19
13	ESTP	ALARM04	ALARM04	29	DISC	ALARM20	ALARM20
14		ALARM05	ALARM05	30	BLCK	ALARM21	ALARM21
15	HIHI	ALARM06	ALARM06	31		ALARM22	ALARM22
16	LOLO	ALARM07	ALARM07	32	CNF	ALARM23	ALARM23
				33			

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Thanks!

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