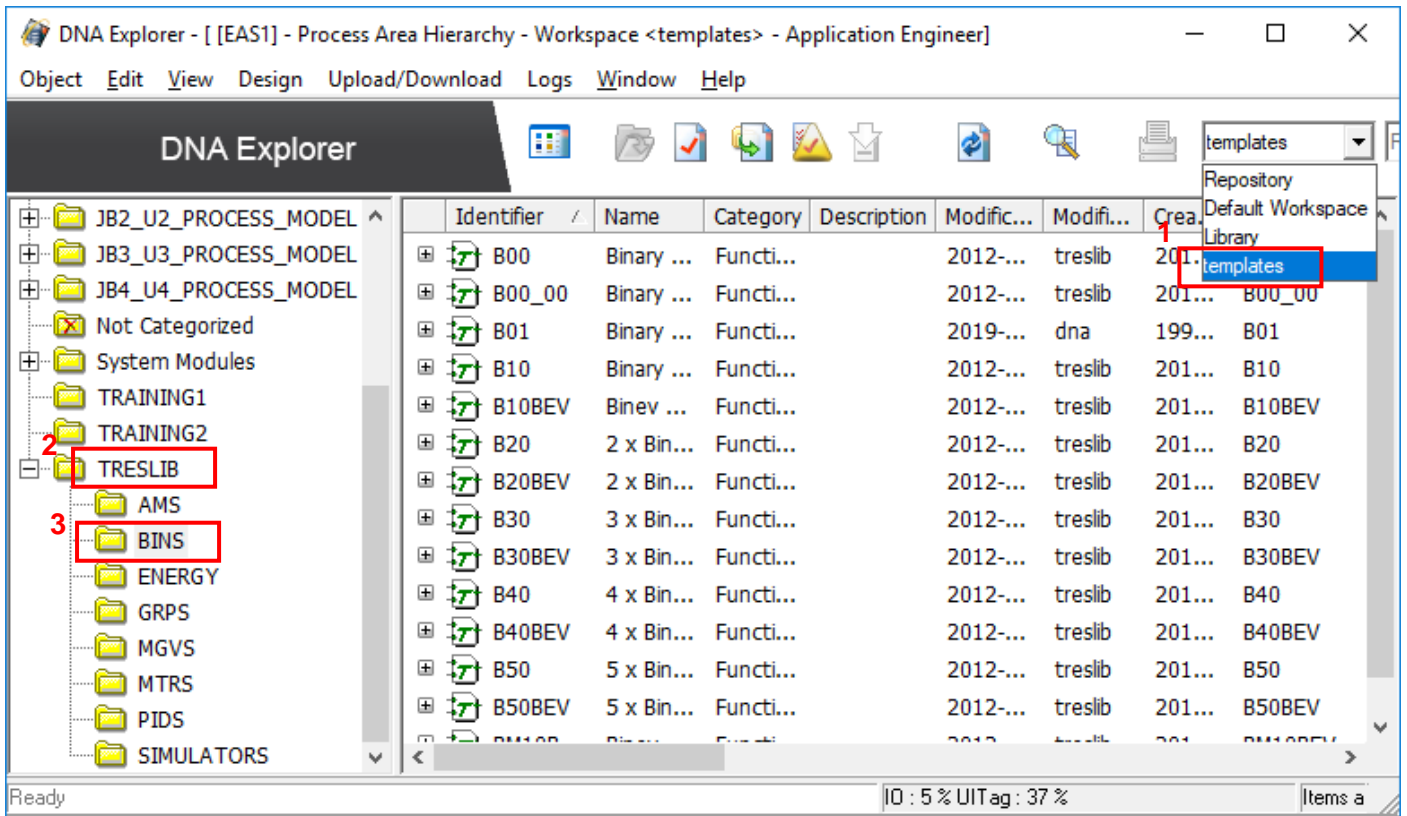


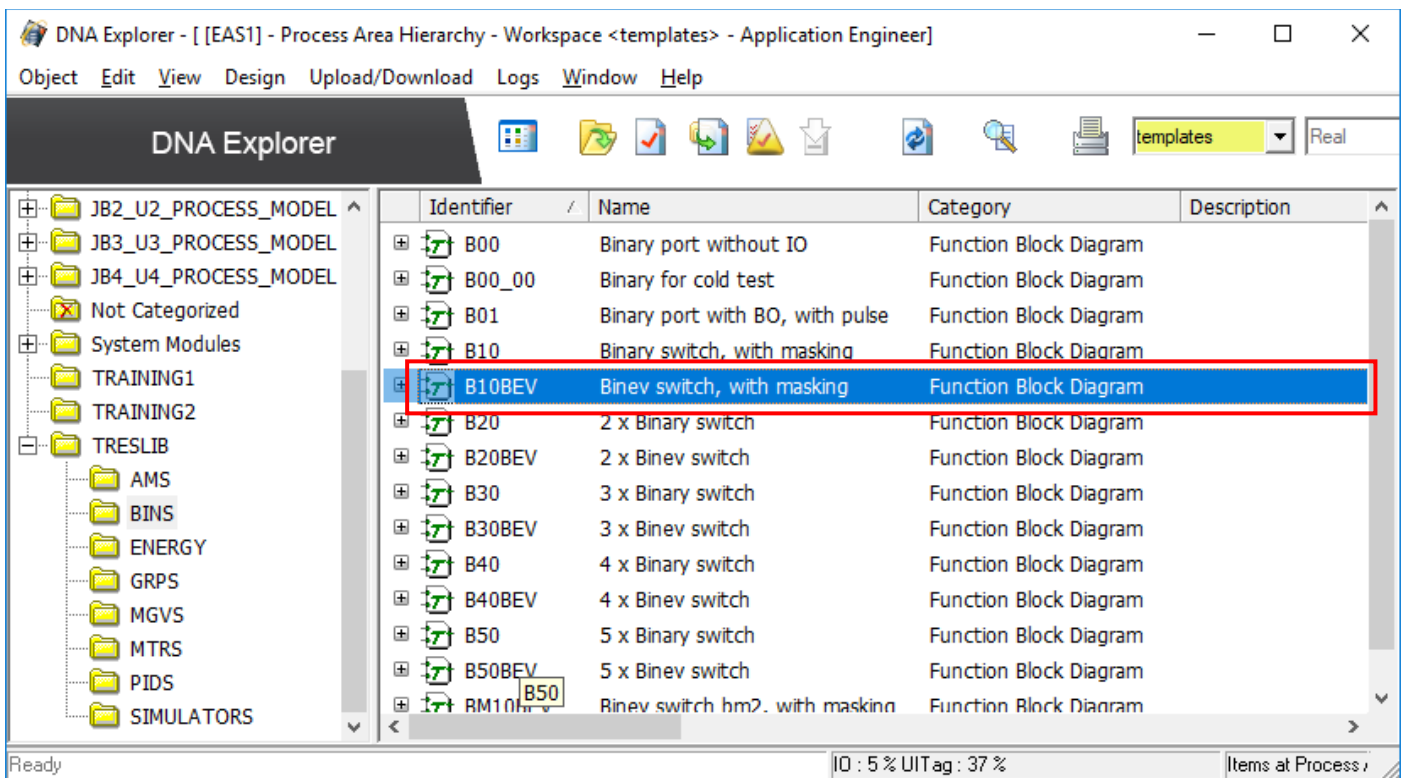
# **PROCESS CONTROL LAB MANUAL**

**TRAINING 1: Implement Valmet Template  
to generate I/Os system and logic (Digital  
Input)**

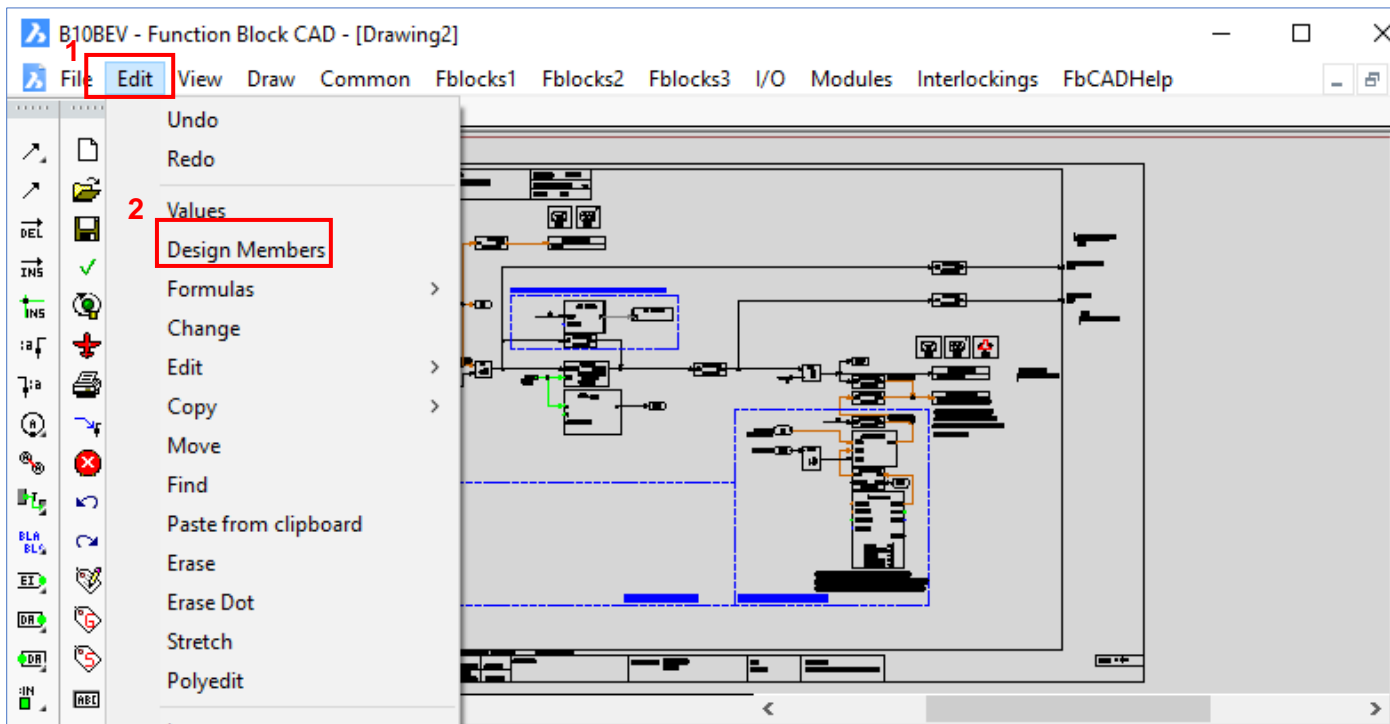
1. To open a template, change to templates workspace and browse to TRESLIB. Browse BINS for digital input templates.



2. Select the digital input (DI) templates with desired parameters. In this example, choose B10BEV template. Double click to open.



3. Create new DI application file. Template will be an application as soon as the template name changed. To change the parameter values, click Edit, then choose Design Members.



Parameters window will pop up. Default parameters are preferred except some that need to be changed according to the system requirement such as tag, I/O address and etc. For now, change the selected values to rename the template. Make sure that the changed values identify the respective I/O address.

Editing attributes of --DESIGNMEMBERS

Identifier	Prompt	Value
\$(DUMMY1)	LOOP	
\$(TAG)	TAG	B10BEV
\$(TEMPLATE)	TEMPLATE	B10BEV
\$(NAME20)	NAME20	BINEV
\$(PACKAGE)	PACKAGE	AP01
\$(EXE)	EXE	900
\$(ORDER)	EXECUTION ORDER	20
\$(CTRLROOM)	CTRLROOM	A1
\$(ALGROUP)	ALGROUP	11
\$(ALPRI)	ALARM PRIORITY	700
\$(GDDID_1)	GDDID_1	
\$(NAME14)	NAME14	BINEV
\$(NAME40_1)	NAME40_1	Binev switch, with masking
\$(NAME40_2)	NAME40_2	
\$(FDESCR)	PATH TO FUNC.DESCRPTION	
\$(SIMULATION)	CARDS ARE SIMULATED	0
\$(masking_used)	Masking is used (0=No/1=yes)	0
\$(mask_inv)	Invert masking 1=inv/0=not inv	0
\$(mask_delay)	Masking delay	15.0
\$(masktag_1)	Tag of masking loop	#
\$(masktext_1)	Text of masking loop	
\$(OTEXT0)	OTEXT0	OFF
\$(OTEXT1)	OTEXT1	ON
\$(H)	ALM(0=,1=ALM,2=MSG)	1
\$(ALTEXT)	ALM/MSG TEXT (15char)	LEVEL HIGH
\$(ALDELAY)	ALARM AND INDICATION DELAY	0
\$(CARD_INV)	INVERT CARD SIGNAL 1=INV/0=NOT INV	1
\$(ODTAG_1)	ODTAG_1	
\$(ODTEXT_1)	ODTEXT_1	
\$(ODTAG_2)	ODTAG_2	
\$(ODTEXT_2)	ODTEXT_2	
\$(ODTAG_3)	ODTAG_3	
\$(ODTEXT_3)	ODTEXT_3	
\$(ODTAG_4)	ODTAG_4	
\$(ODTEXT_4)	ODTEXT_4	
\$(ODTAG_5)	ODTAG_5	
\$(ODTEXT_5)	ODTEXT_5	
\$(DUMMY2)	DEVICE	
\$(DEVICETAG1)	DEVICETAG1	B10BEV

For example: Digital input at JB 2 using Channel 1. Software address = 2301. Then click OK.

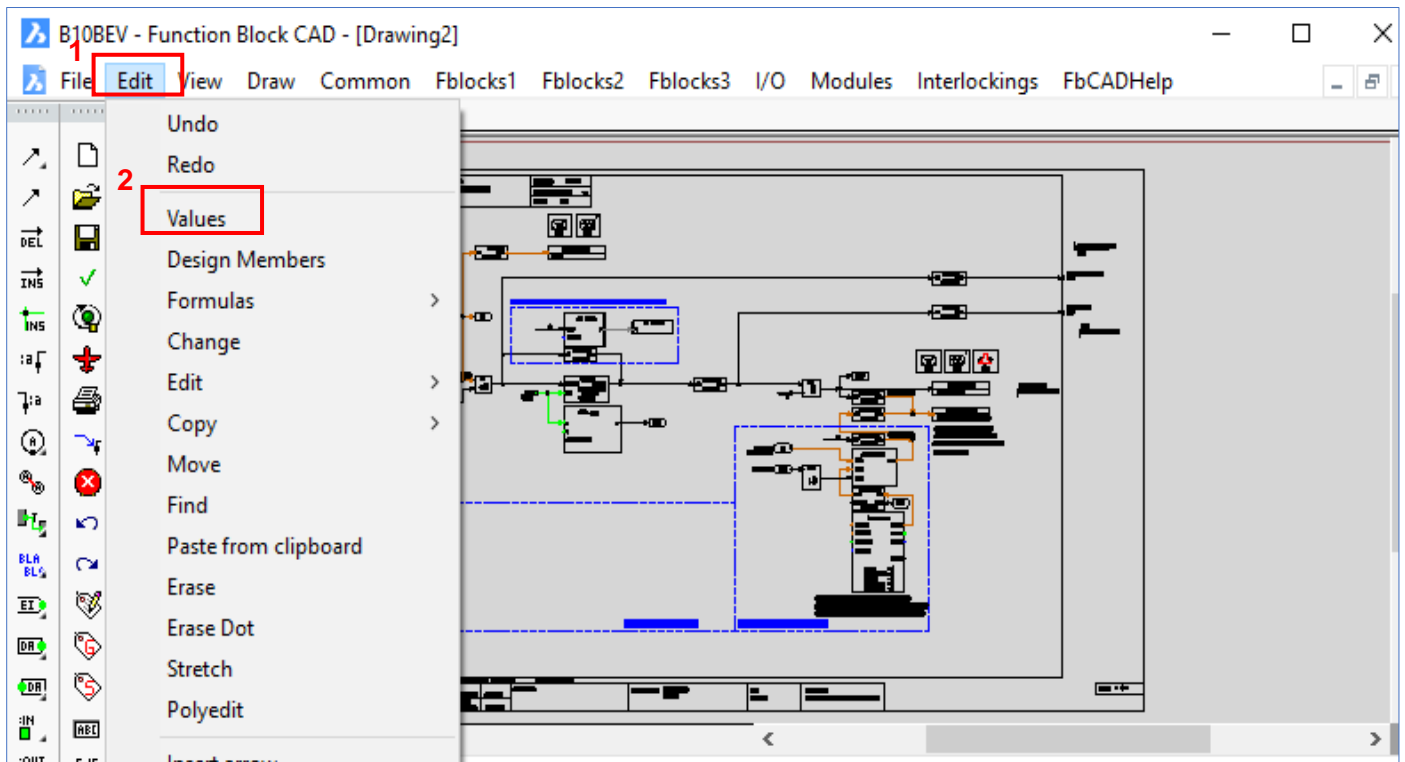
Editing attributes of --DESIGNMEMBERS

Identifier	Prompt	Value
\$(DUMMY1)	LOOP	
\$(TAG)	TAG	JB2_DI_2301
\$(TEMPLATE)	TEMPLATE	R10BEV
\$(NAME20)	NAME20	JB2 DI CH1
\$(PACKAGE)	PACKAGE	AP01
\$(EXE)	EXE	900
\$(ORDER)	EXECUTION ORDER	20
\$(CTRLROOM)	CTRLROOM	A1
\$(ALGROUP)	ALGROUP	11
\$(ALPRI)	ALARM PRIORITY	700
\$(GDID_1)	GDID_1	
\$(NAME14)	NAME14	RINEV
\$(NAME40_1)	NAME40_1	JB2 DI CH1
\$(NAME40_2)	NAME40_2	
\$(FDESCR)	PATH TO FUNC.DESCRPTION	
\$(SIMULATION)	CARDS ARE SIMULATED	0
\$(masking_used)	Masking is used (0=No/1=yes)	0
\$(mask_inv)	Invert masking 1=inv/0=not inv	0
\$(mask_delay)	Masking delay	15.0
\$(masktag_1)	Tag of masking loop	#
\$(masktext_1)	Text of masking loop	
\$(OTEXT0)	OTEXT0	OFF
\$(OTEXT1)	OTEXT1	ON
\$(H)	ALM(0= ,1=ALM,2=MSG)	1
\$(ALTEXT)	ALM/MSG TEXT (15char)	LEVEL HIGH
\$(ALDELAY)	ALARM AND INDICATION DELAY	0
\$(CARD_INV)	INVERT CARD SIGNAL 1=INV/0=NOT INV	0
\$(ODTAG_1)	ODTAG_1	
\$(ODTEXT_1)	ODTEXT_1	
\$(ODTAG_2)	ODTAG_2	
\$(ODTEXT_2)	ODTEXT_2	
\$(ODTAG_3)	ODTAG_3	
\$(ODTEXT_3)	ODTEXT_3	
\$(ODTAG_4)	ODTAG_4	
\$(ODTEXT_4)	ODTEXT_4	
\$(ODTAG_5)	ODTAG_5	
\$(ODTEXT_5)	ODTEXT_5	
\$(DUMMY2)	--DEVICE	
\$(DEVICETAG1)	DEVICETAG1	JB2_DI_2301

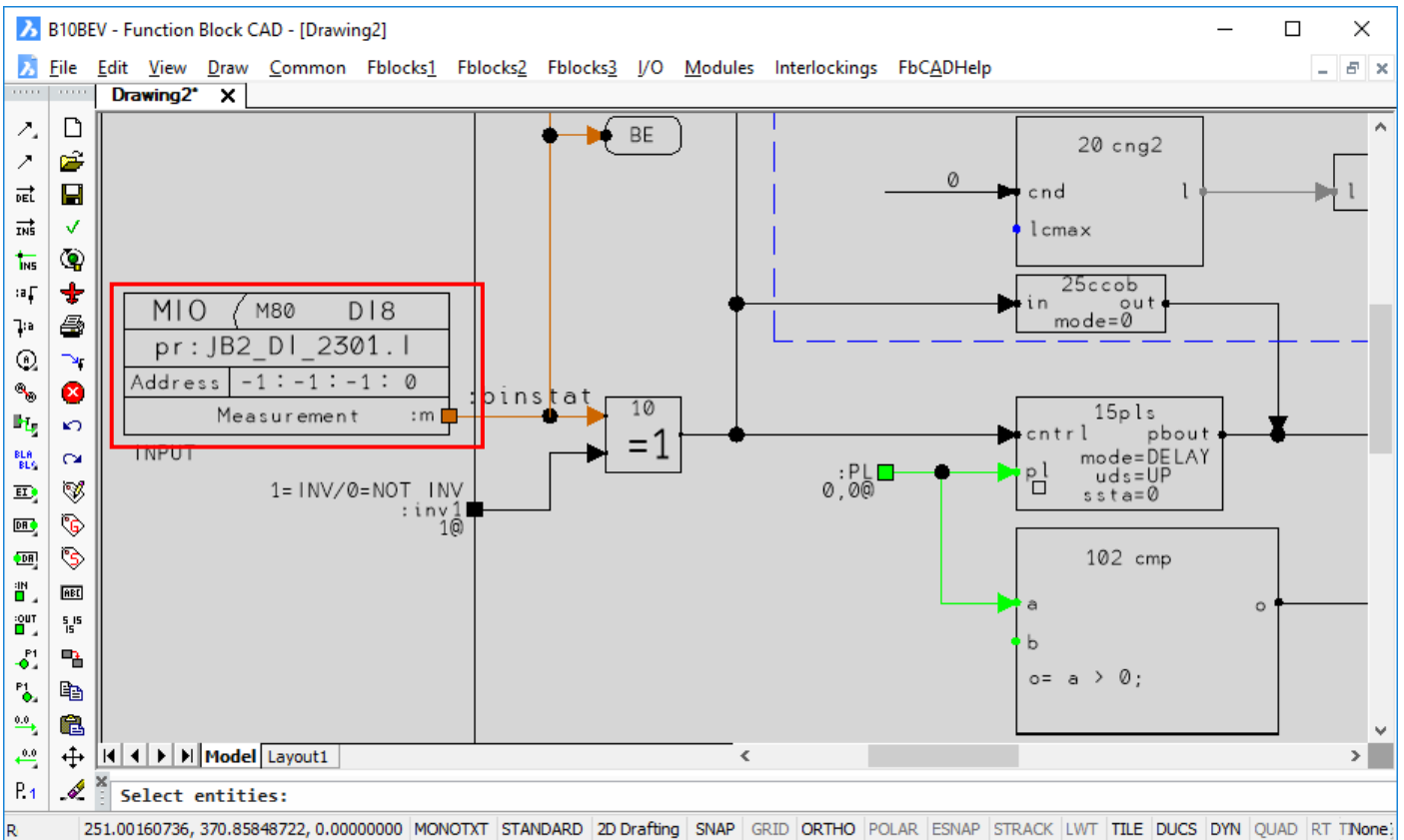
Show Formulas    Function formula:     Typehelp

+   -

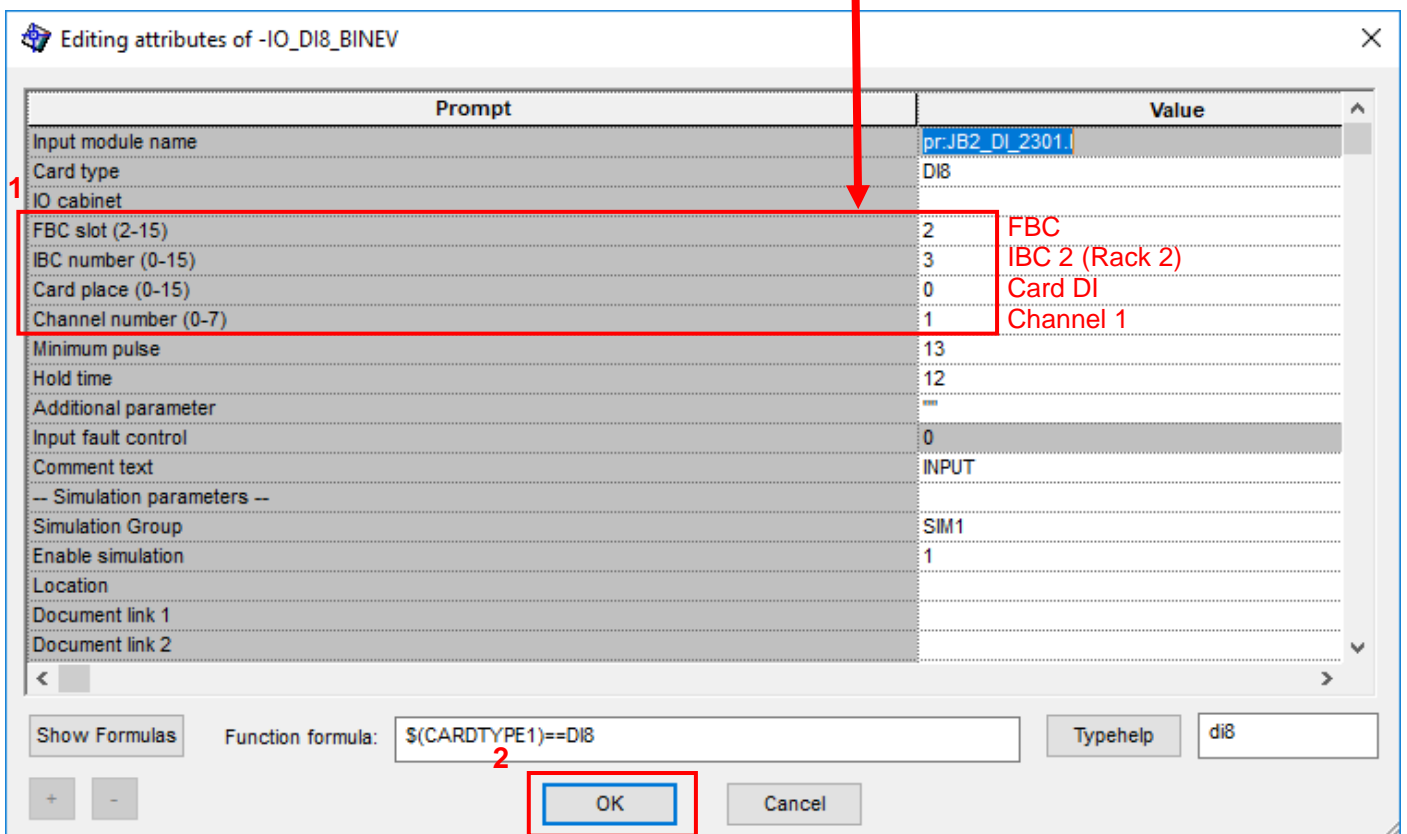
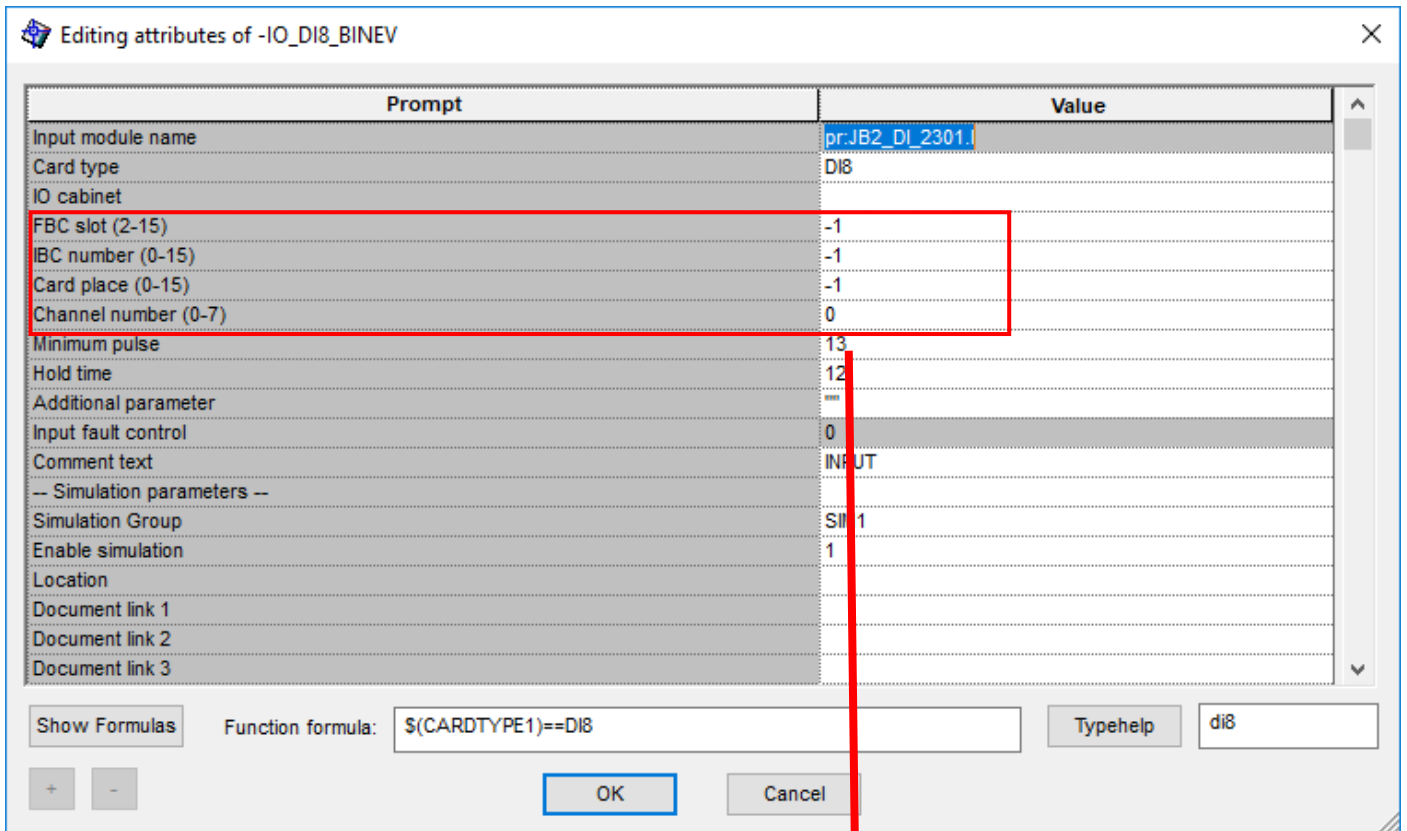
4. Change the new application file I/O address. To change the address, click Edit and choose Values.



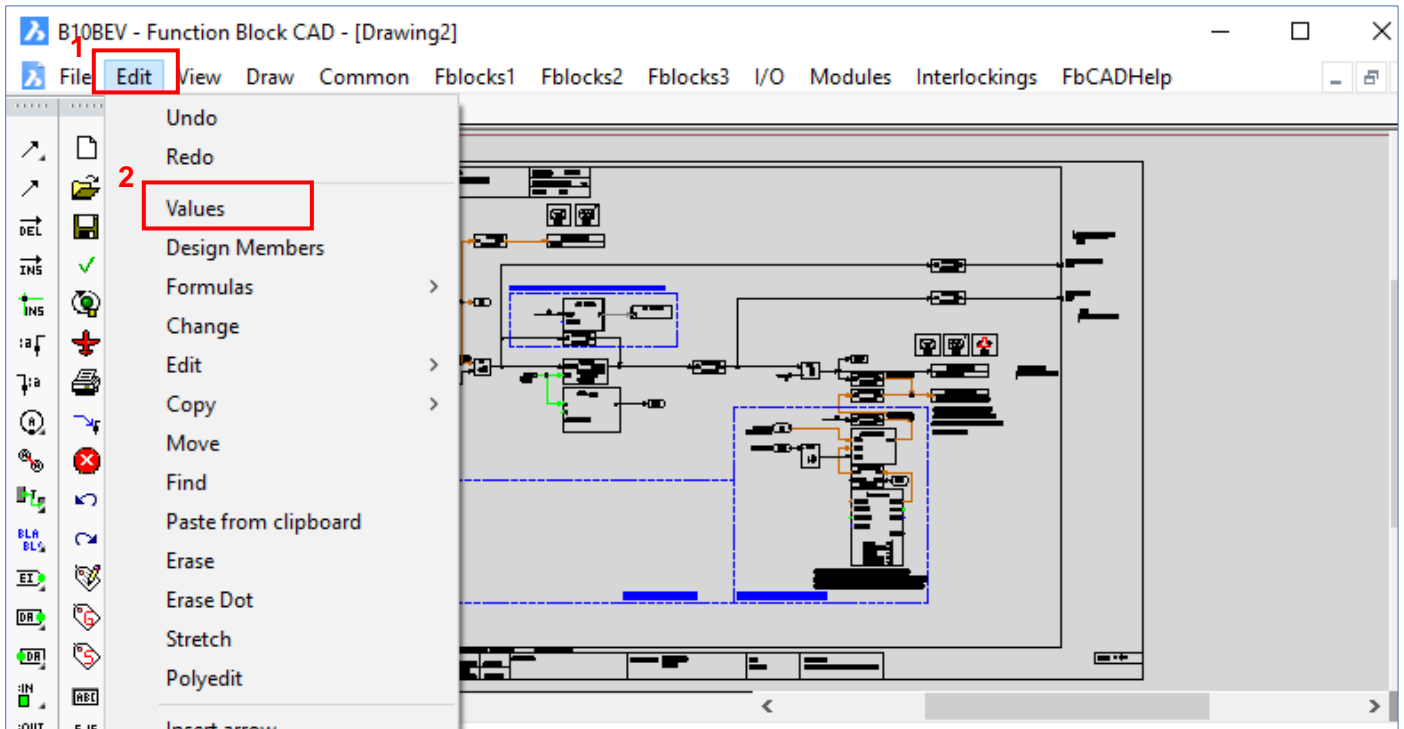
Then, click the I/O address box.



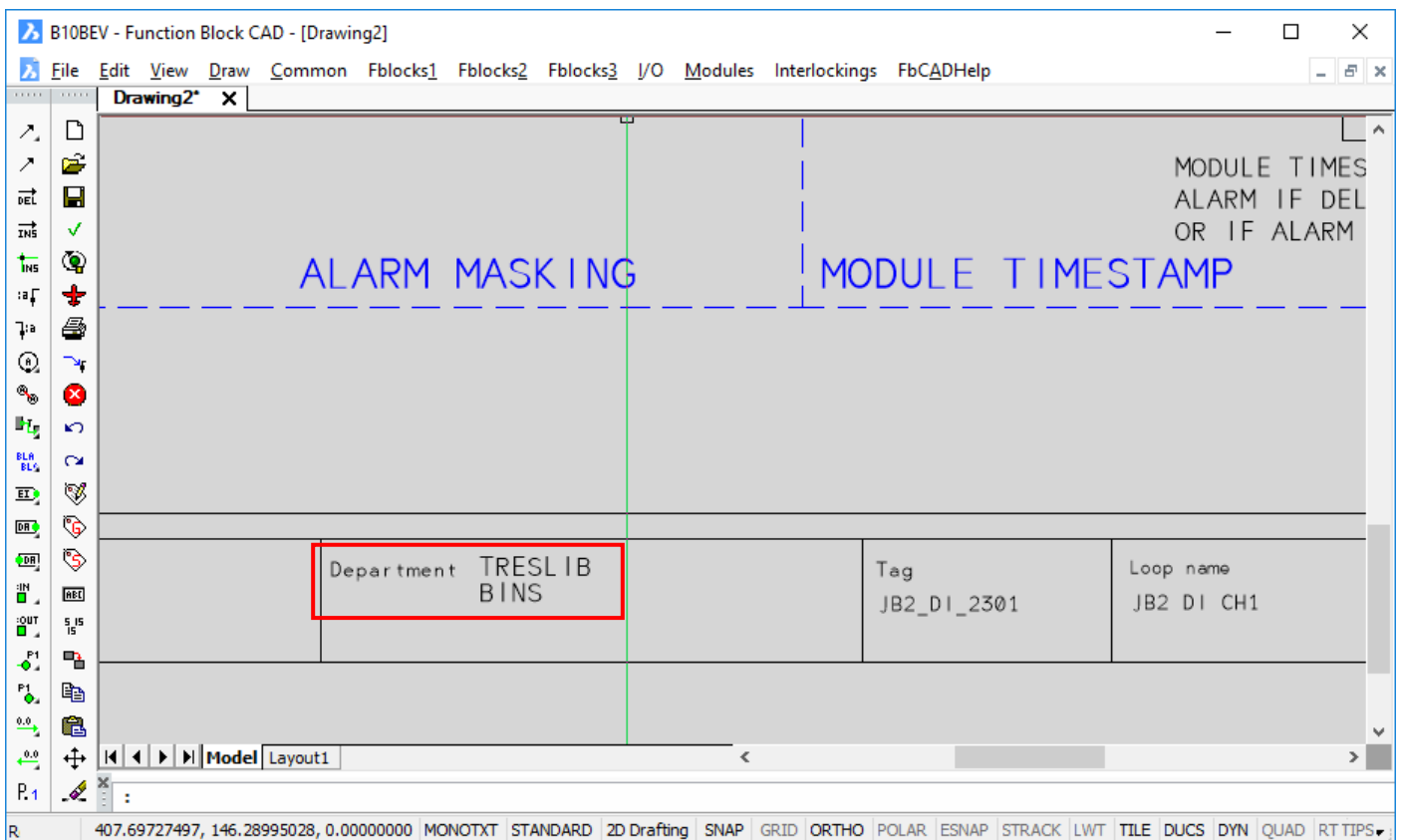
A parameter selection window will pop up. Default values are in preferred in the window. Only change values in the red box according to the respective I/O address. Then, click OK.



- Change the new application file process area. To change the process area, click Edit and choose Values.



Then, click the department box.



Parameters window will pop up. Change the process area from TRESLIB-BINS to TRAINING1. Then click OK.

The screenshot shows a window titled "Editing attributes of -ADMINM". It contains a table with two columns: "Prompt" and "Value". The table lists various attributes and their current values. A red box highlights the "PROCESS AREA 1" row, which currently has the value "TRESLIB BINS". A red arrow points from this box down to the second screenshot. At the bottom of the window, there are buttons for "Show Formulas", "Function formula:", "Typehelp", "+", "-", "OK", and "Cancel".

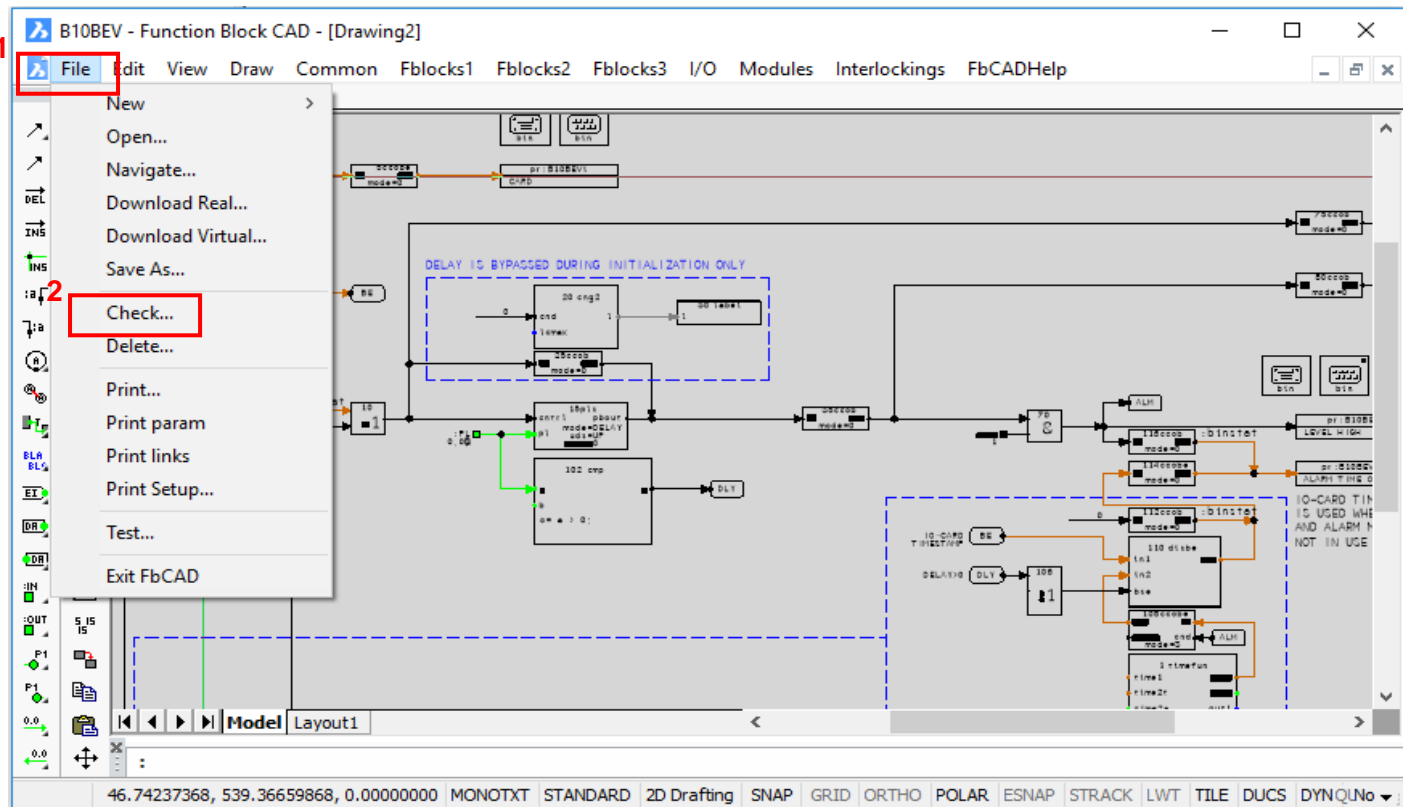
Prompt	Value
LOOP TAG	JB2_DI_2301
LOOP NAME (FIELD 1)	JB2 DI CH1
LOOP NAME (FIELD 2)	
LOOP STATUS	complete
NAME OF PLANNER	B10BEV
DATE OF PLANNING	11-05-01 12:00
NAME OF MODIFIER	treslib
DATE OF MODIFICATION	12-07-02 15:22
PROCESS AREA 1	TRESLIB BINS
PROCESS AREA 2	
PROCESS AREA 3	
PROCESS AREA 4	

The screenshot shows the same window as above, but with the "PROCESS AREA 1" value changed to "TRAINING1". A red box highlights this new value, with a red arrow pointing to it from the first screenshot. A red number "1" is placed to the left of the "TRAINING1" value. At the bottom, the "OK" button is highlighted with a red box and a red number "2".

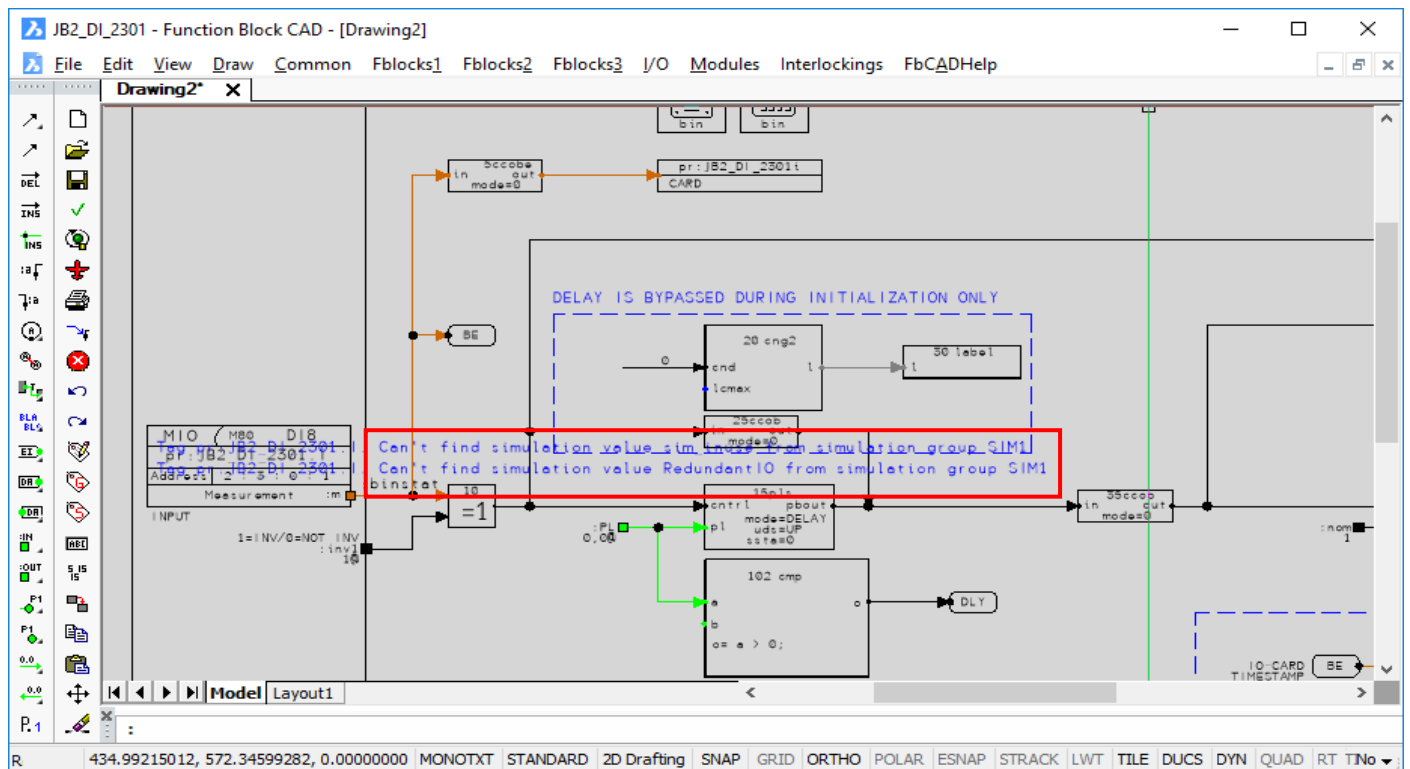
Prompt	Value
LOOP TAG	JB2_DI_2301
LOOP NAME (FIELD 1)	JB2 DI CH1
LOOP NAME (FIELD 2)	
LOOP STATUS	complete
NAME OF PLANNER	B10BEV
DATE OF PLANNING	11-05-01 12:00
NAME OF MODIFIER	treslib
DATE OF MODIFICATION	12-07-02 15:22
PROCESS AREA 1	TRAINING1
PROCESS AREA 2	
PROCESS AREA 3	
PROCESS AREA 4	



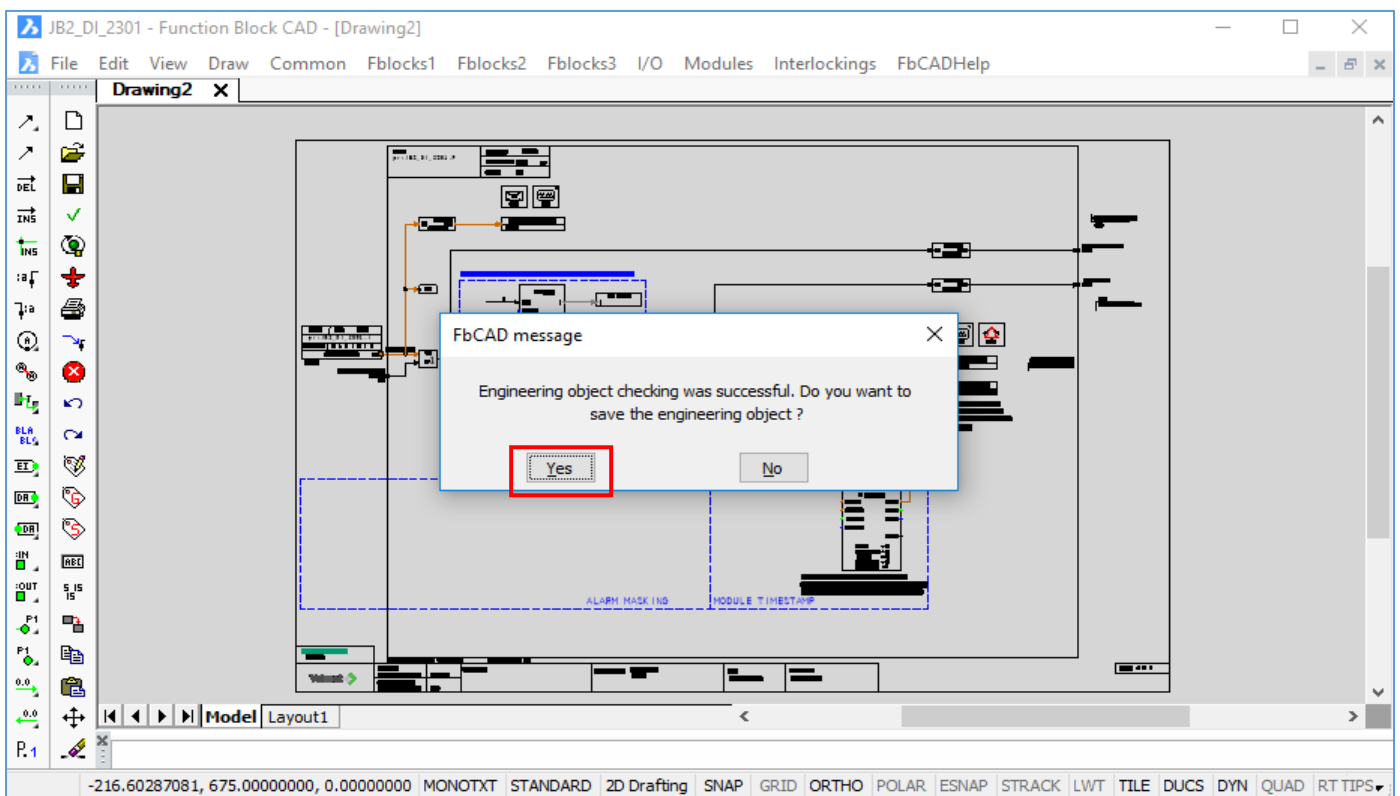
- To save the new application, click File and choose Check. Created application must be check in repository before downloaded to avoid any error.



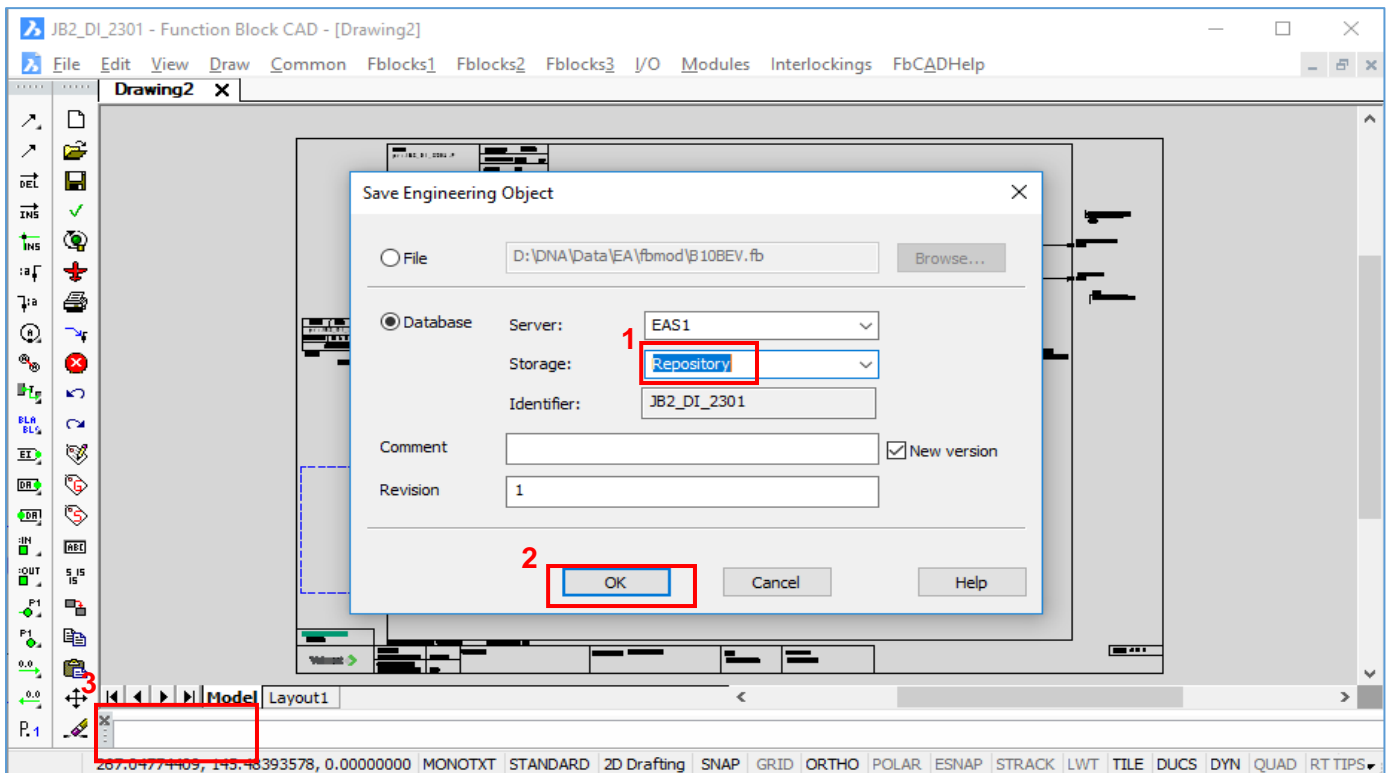
If there is error, a message will appear as shown below and checking is unable.



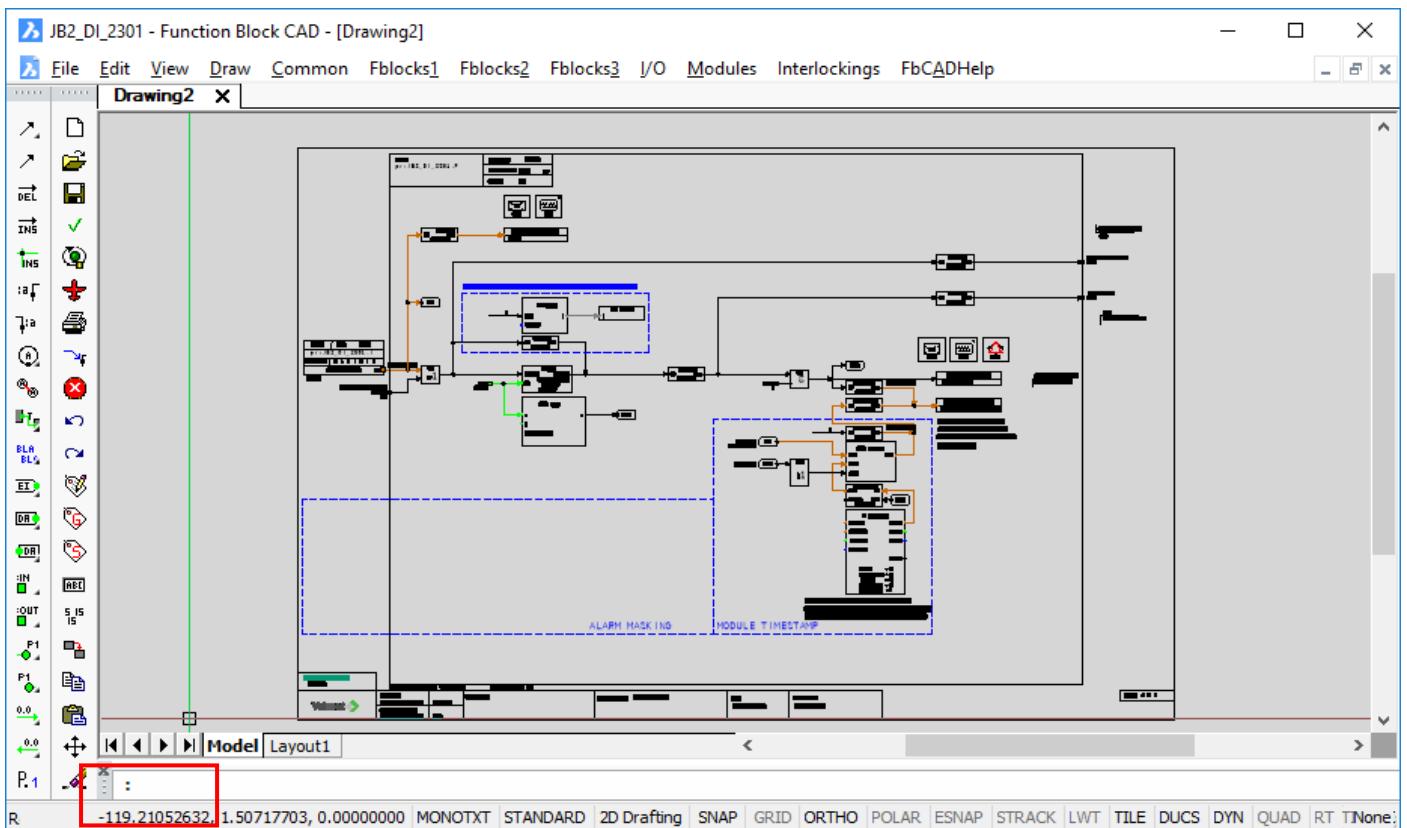
7. If there is no error occur, message to save the engineering object will pop up. Click Yes.



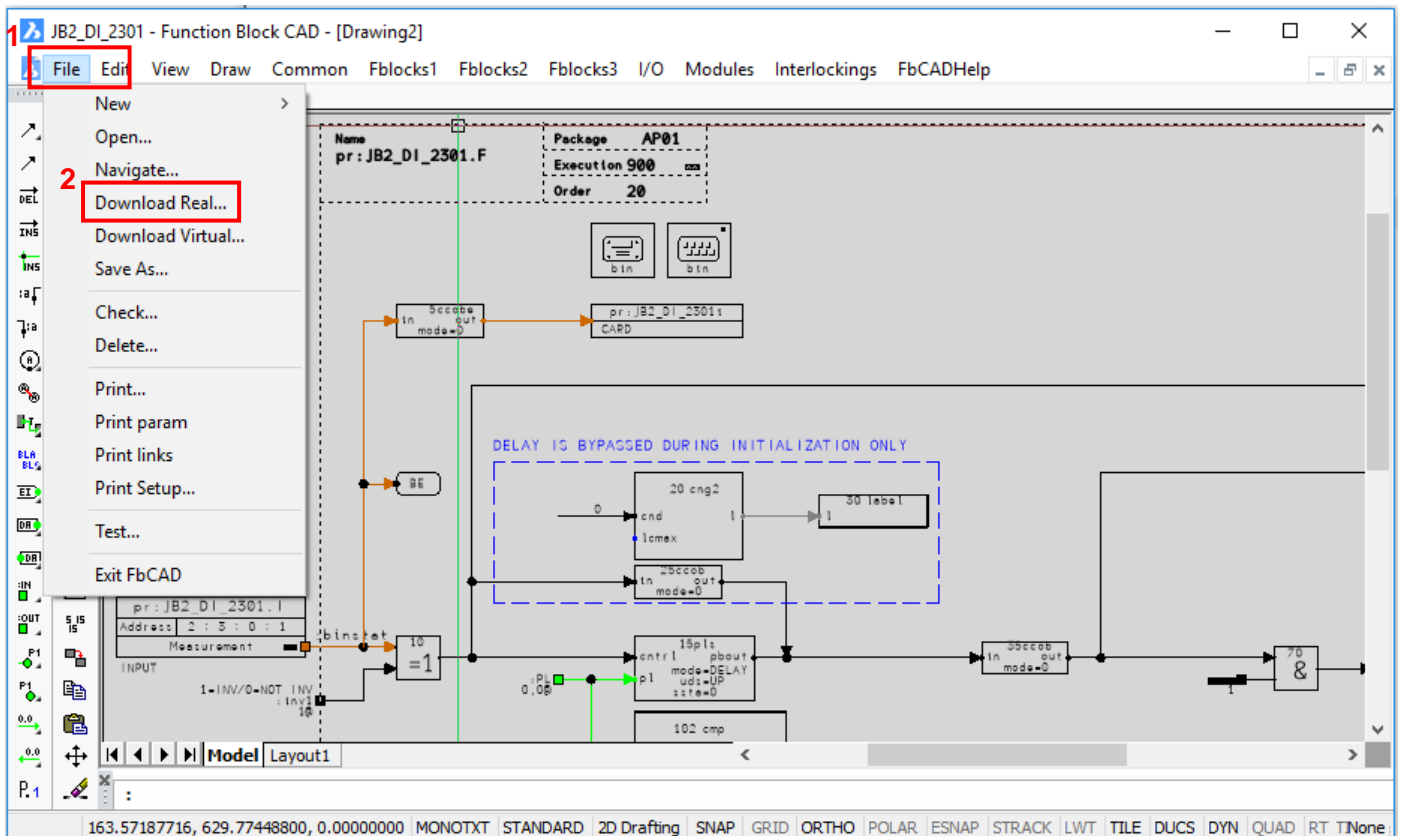
Another window will pop up. Change the storage location from templates to repository. Then, click OK. Wait until the colon symbol to reappear.



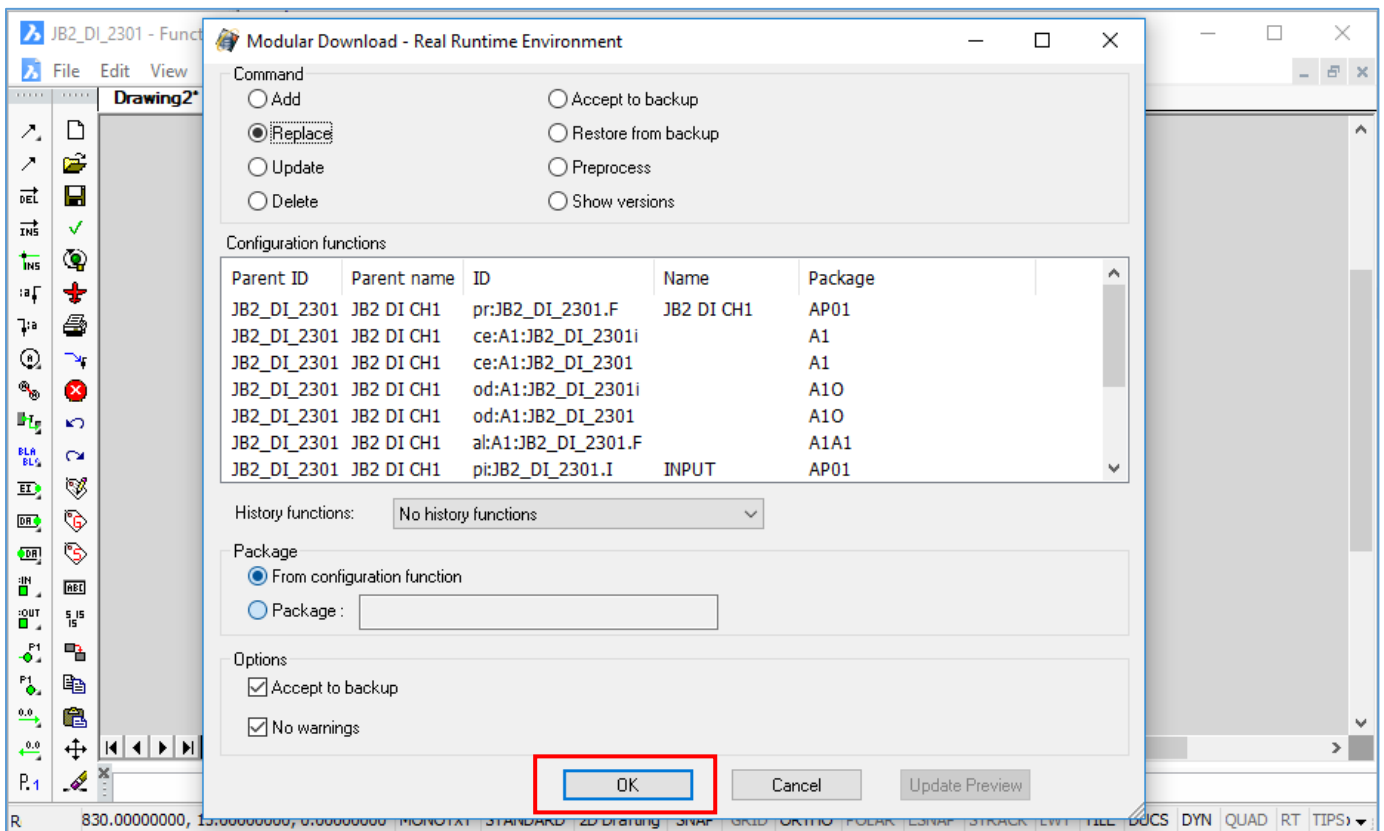
The colon symbol reappears to indicate the saving process is completed.



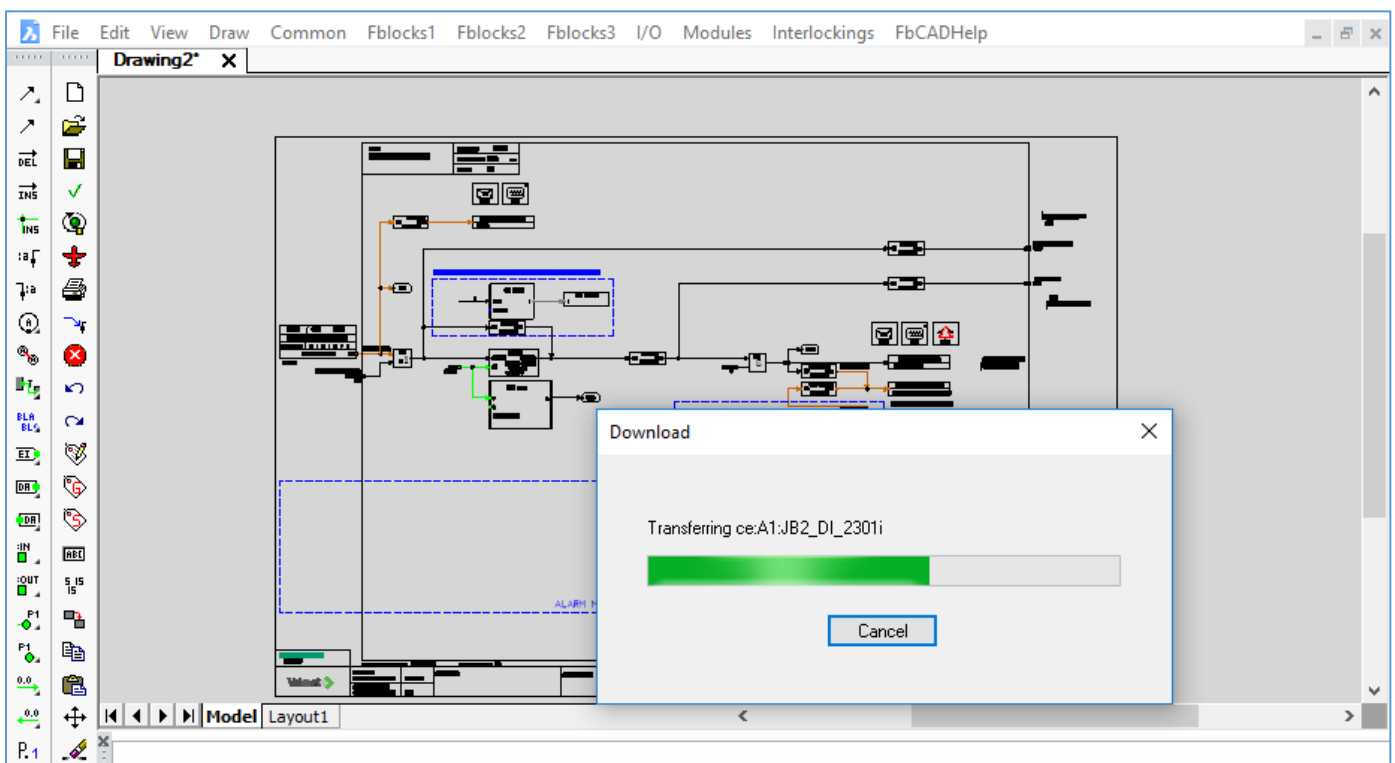
8. Then download the file.



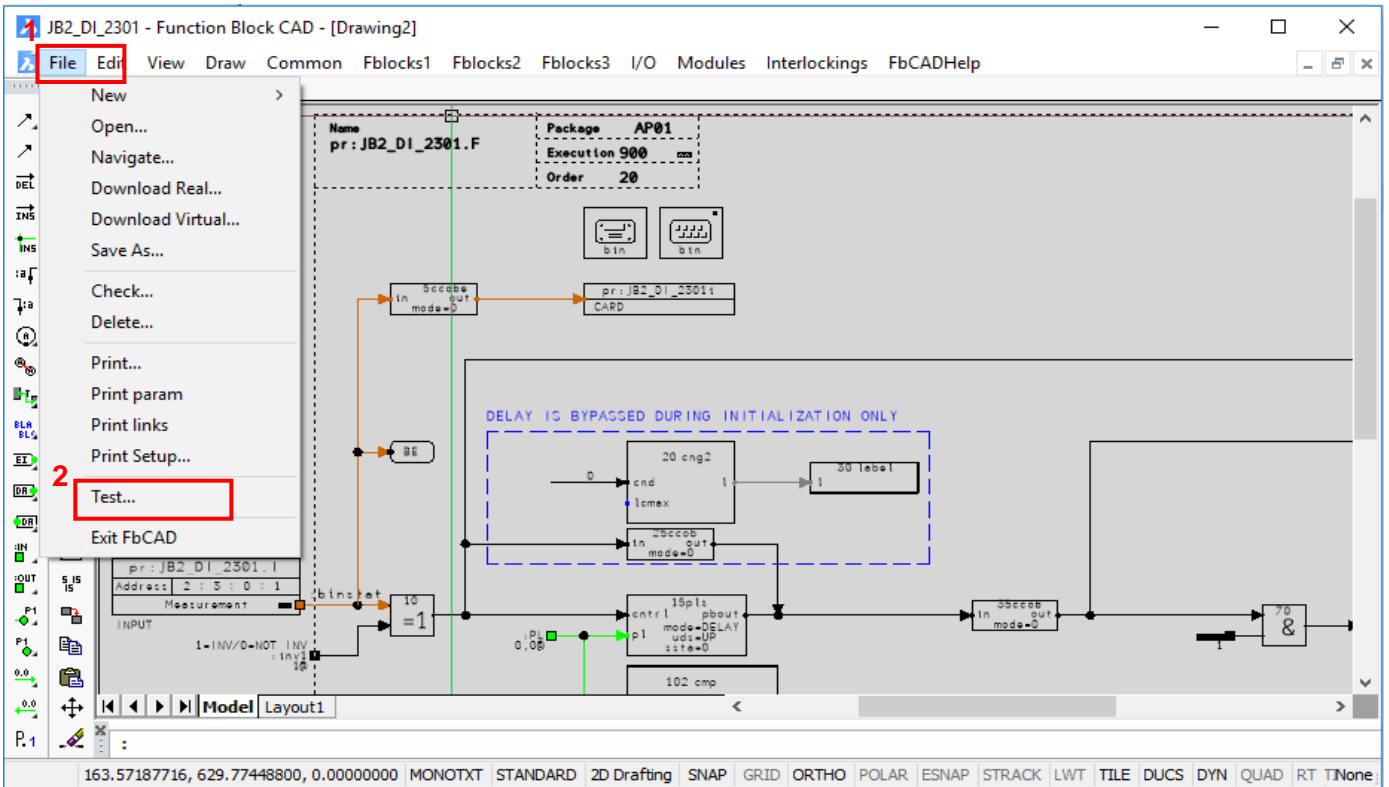
A download window will pop up. Click OK.



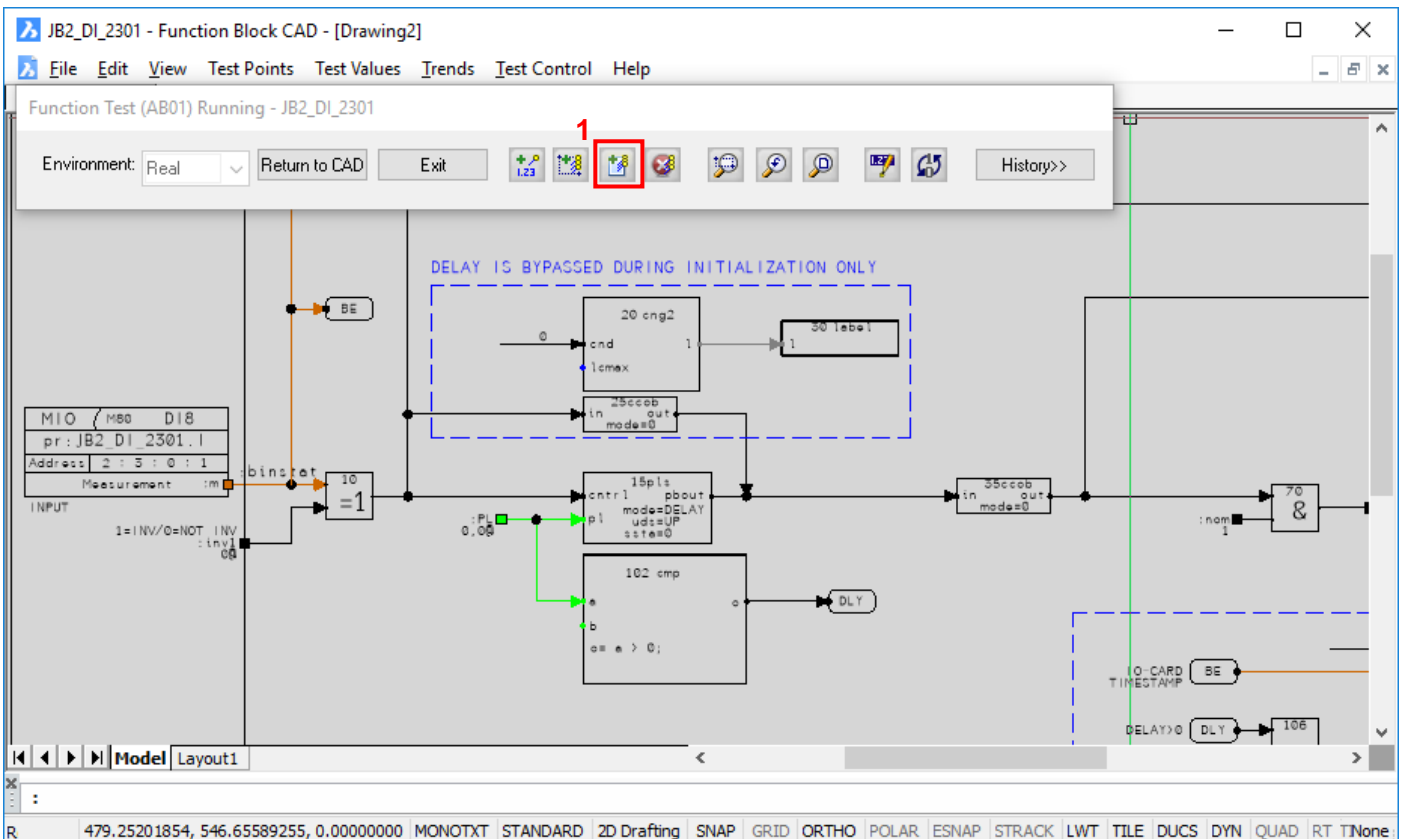
Download is processing. The colon symbol at the bottom will reappears when the download process is completed.



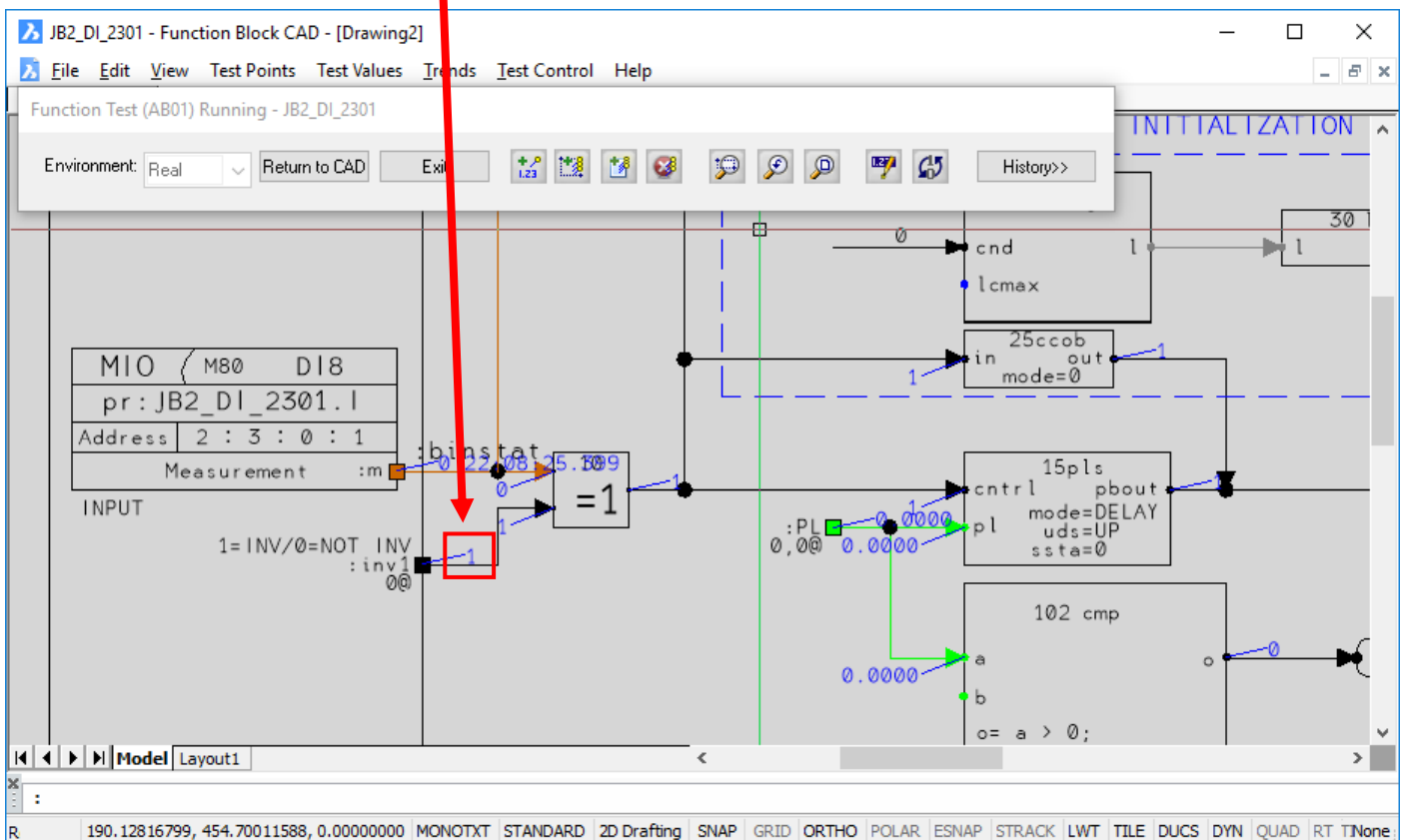
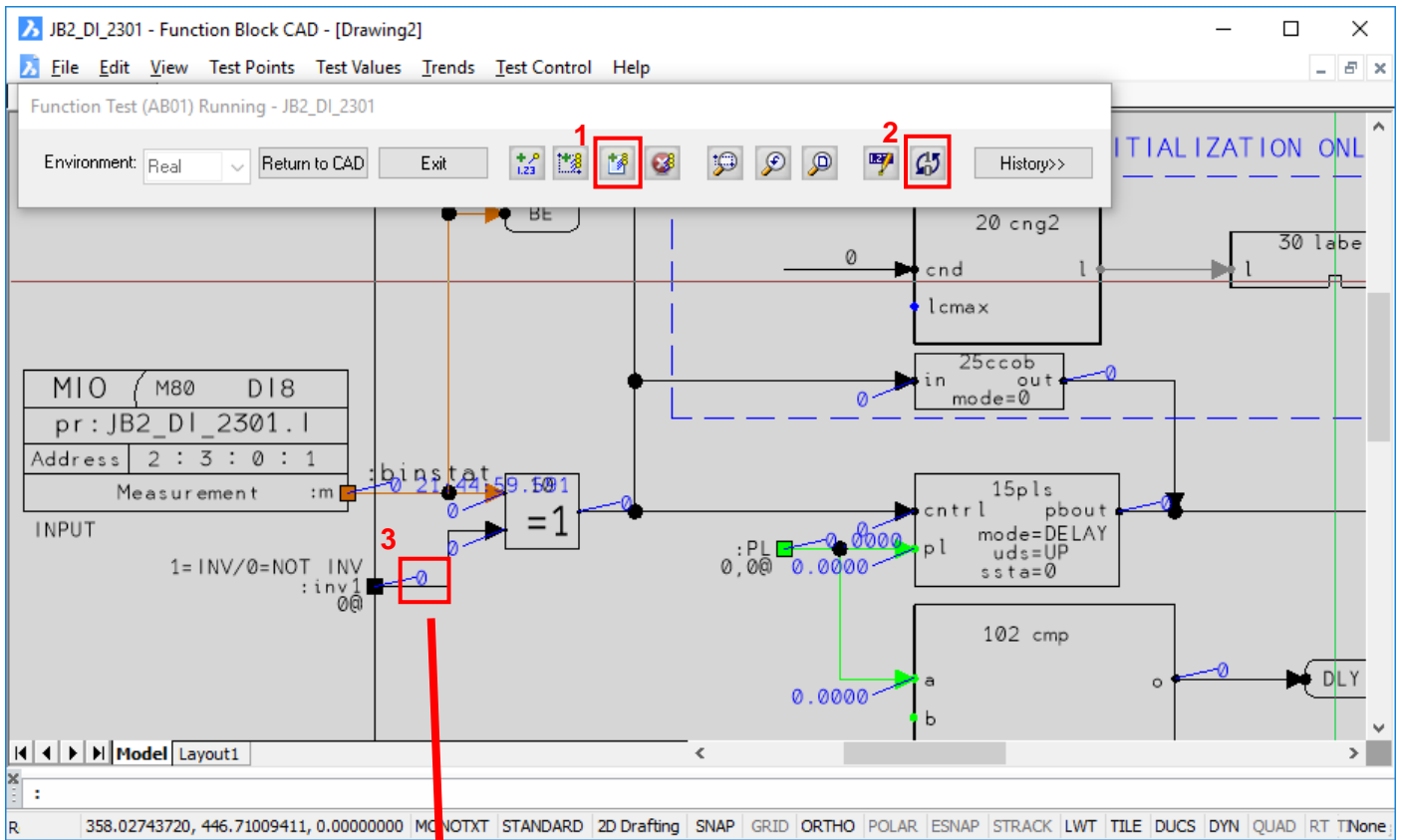
- To test the control application, click File and select Test. The test function shows function block diagram with live values from the running environment.



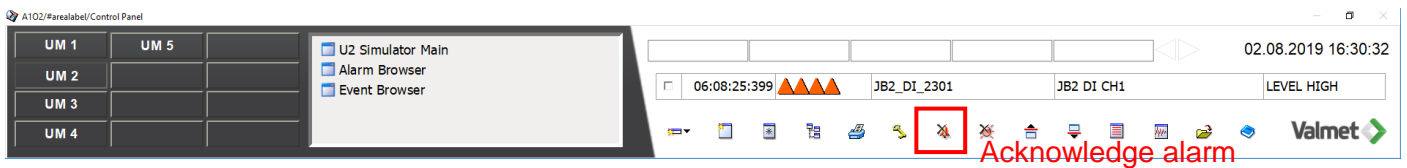
New function toolbar will appear. Insert all test point to current page by clicking number 1 tool.



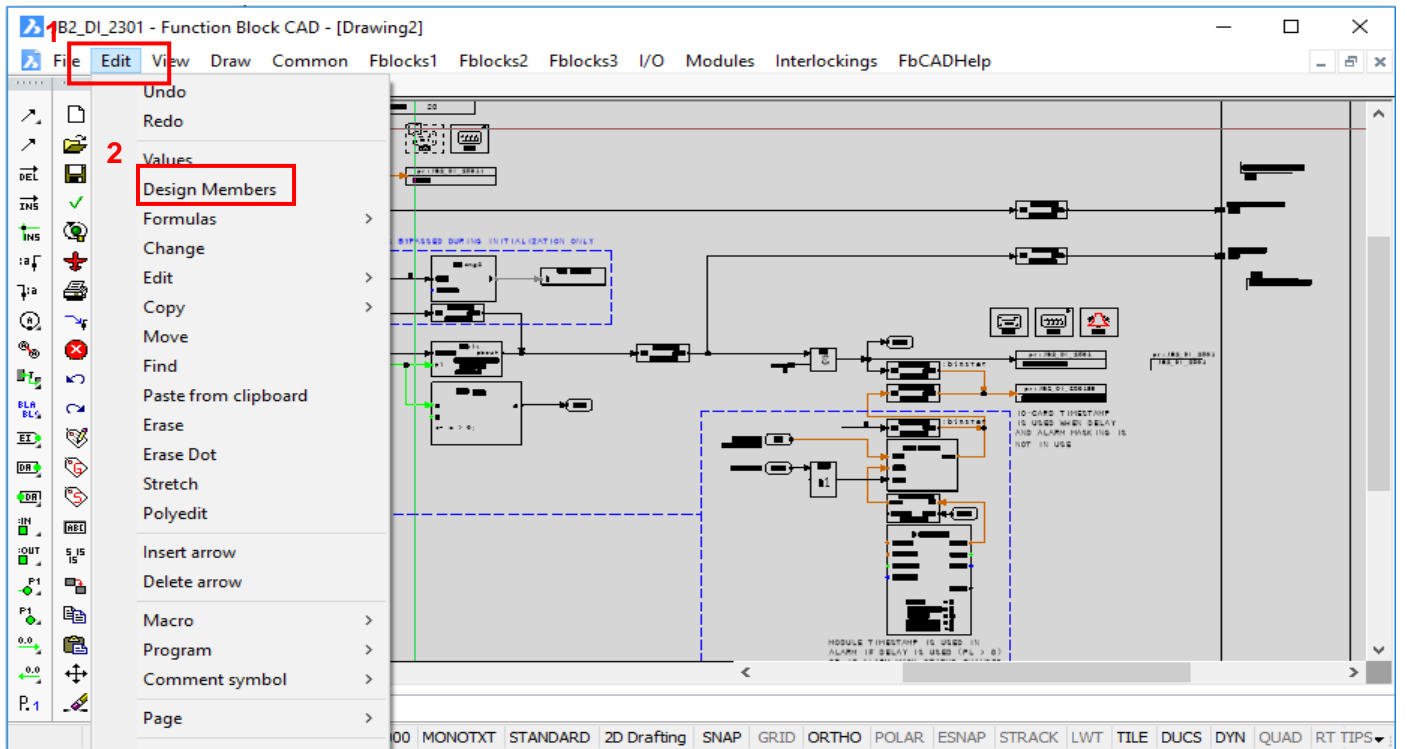
All test points will appear on the current page as shown below. To change the binary test point, click tool number 2. Then click the test point. The value will be changed into 1.



Test point = 1 indicates alarm is triggered. Selects the tool below to acknowledge alarm.



10. Test with inversion.



11. Change the invert card signal into 1 to indicate that there is inversion for the input system.

Editing attributes of --DESIGNMEMBERS

Identifier	Prompt	Value
\$(DUMMY1)	---LOOP-----	
\$(TAG)	TAG	JB2_DI_2301
\$(TEMPLATE)	TEMPLATE	B10BEV
\$(NAME20)	NAME20	JB2 DI CH1
\$(PACKAGE)	PACKAGE	AP01
\$(EXE)	EXE	900
\$(ORDER)	EXECUTION ORDER	20
\$(CTRLROOM)	CTRLROOM	A1
\$(ALGROUP)	ALGROUP	11
\$(ALPRI)	ALARM PRIORITY	700
\$(GDID_1)	GDID_1	
\$(NAME14)	NAME14	BINEV
\$(NAME40_1)	NAME40_1	JB2 DI CH1
\$(NAME40_2)	NAME40_2	
\$(FDESCR)	PATH TO FUNC DESCRIPTION	
\$(SIMULATION)	CARDS ARE SIMULATED	0
\$(masking_used)	Masking is used (0=No/1=yes)	0
\$(mask_inv)	Invert masking 1=inv/0=not inv	0
\$(mask_delay)	Masking delay	15.0
\$(masktag_1)	Tag of masking loop	#
\$(masktext_1)	Text of masking loop	
\$(OTEXT0)	OTEXT0	OFF
\$(OTEXT1)	OTEXT1	ON
\$(H)	ALM(0= ,1=ALM,2=MSG)	1
\$(ALTEXT)	ALM/MSG TEXT (15char)	LEVEL HIGH
\$(ALDELAY)	ALARM AND INDICATION DELAY	0
\$(CARD_INV)	INVERT CARD SIGNAL 1=INV/0=NOT INV	0
\$(ODTAG_1)	ODTAG_1	
\$(ODTEXT_1)	ODTEXT_1	
\$(ODTAG_2)	ODTAG_2	
\$(ODTEXT_2)	ODTEXT_2	
\$(ODTAG_3)	ODTAG_3	
\$(ODTEXT_3)	ODTEXT_3	
\$(ODTAG_4)	ODTAG_4	
\$(ODTEXT_4)	ODTEXT_4	
\$(ODTAG_5)	ODTAG_5	
\$(ODTEXT_5)	ODTEXT_5	
\$(DUMMY2)	---DEVICE-----	
\$(DEVICETAG1)	DEVICETAG1	JB2_DI_2301

Show Formulas    Function formula:     Typehelp

+   -       

Editing attributes of --DESIGNMEMBERS

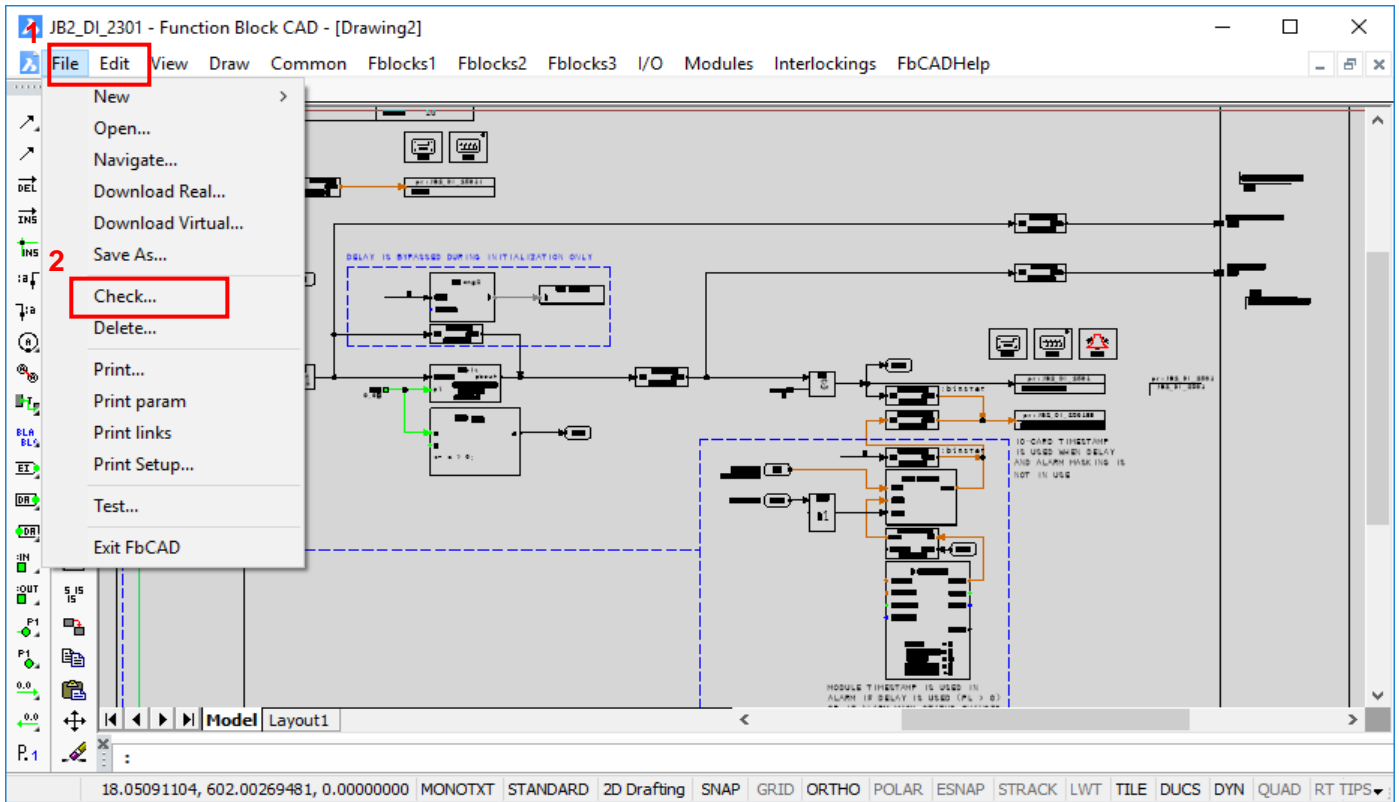
Identifier	Prompt	Value
\$(DUMMY1)	---LOOP-----	
\$(TAG)	TAG	JB2_DI_2301
\$(TEMPLATE)	TEMPLATE	B10BEV
\$(NAME20)	NAME20	JB2 DI CH1
\$(PACKAGE)	PACKAGE	AP01
\$(EXE)	EXE	900
\$(ORDER)	EXECUTION ORDER	20
\$(CTRLROOM)	CTRLROOM	A1
\$(ALGROUP)	ALGROUP	11
\$(ALPRI)	ALARM PRIORITY	700
\$(GDID_1)	GDID_1	
\$(NAME14)	NAME14	BINEV
\$(NAME40_1)	NAME40_1	JB2 DI CH1
\$(NAME40_2)	NAME40_2	
\$(FDESCR)	PATH TO FUNC DESCRIPTION	
\$(SIMULATION)	CARDS ARE SIMULATED	0
\$(masking_used)	Masking is used (0=No/1=yes)	0
\$(mask_inv)	Invert masking 1=inv/0=not inv	0
\$(mask_delay)	Masking delay	15.0
\$(masktag_1)	Tag of masking loop	#
\$(masktext_1)	Text of masking loop	
\$(OTEXT0)	OTEXT0	OFF
\$(OTEXT1)	OTEXT1	ON
\$(H)	ALM(0= ,1=ALM,2=MSG)	1
\$(ALTEXT)	ALM/MSG TEXT (15char)	LEVEL HIGH
\$(ALDELAY)	ALARM AND INDICATION DELAY	0
\$(CARD_INV)	INVERT CARD SIGNAL 1=INV/0=NOT INV	1
\$(ODTAG_1)	ODTAG_1	
\$(ODTEXT_1)	ODTEXT_1	
\$(ODTAG_2)	ODTAG_2	
\$(ODTEXT_2)	ODTEXT_2	
\$(ODTAG_3)	ODTAG_3	
\$(ODTEXT_3)	ODTEXT_3	
\$(ODTAG_4)	ODTAG_4	
\$(ODTEXT_4)	ODTEXT_4	
\$(ODTAG_5)	ODTAG_5	
\$(ODTEXT_5)	ODTEXT_5	
\$(DUMMY2)	---DEVICE-----	
\$(DEVICETAG1)	DEVICETAG1	JB2_DI_2301

Show Formulas    Function formula:     Typehelp

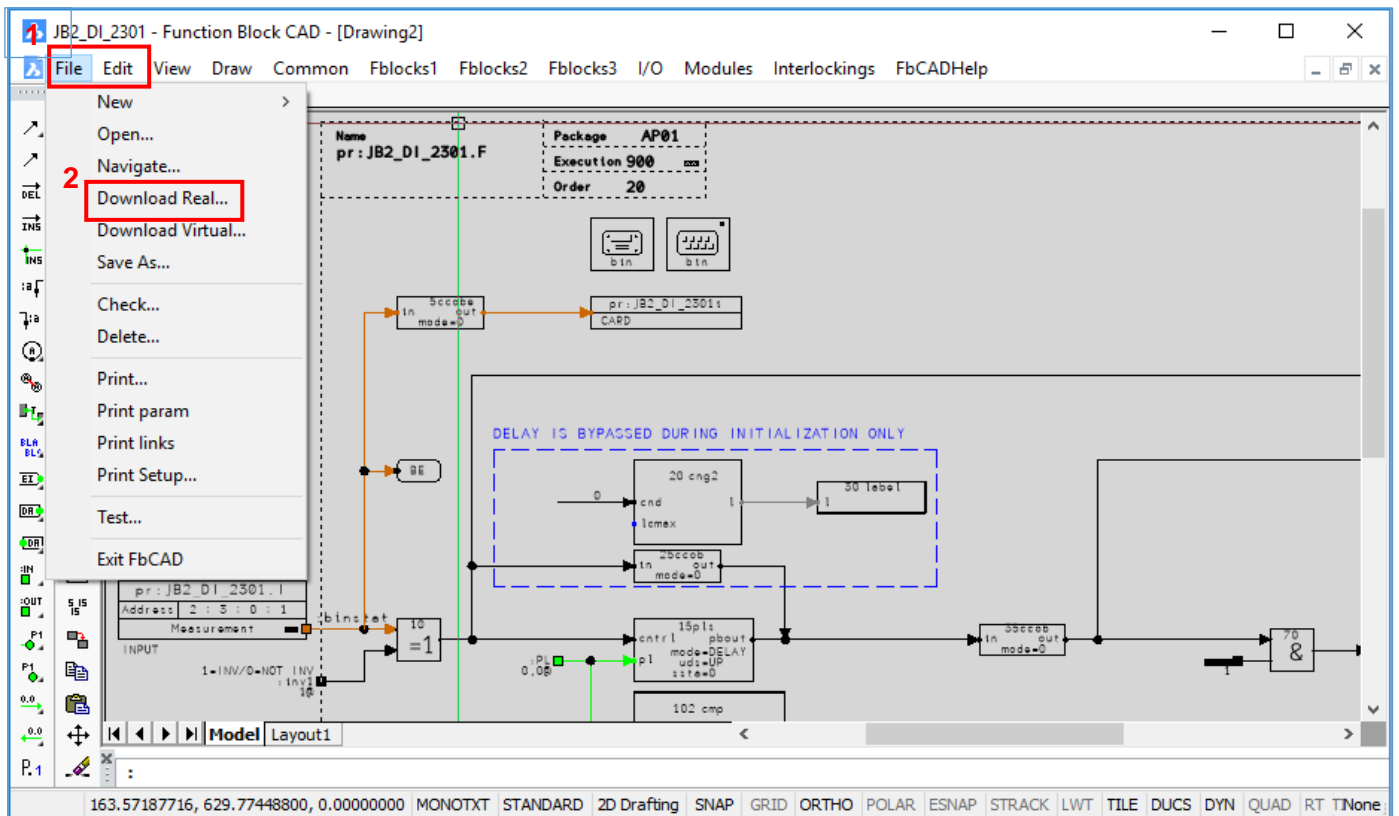
+   -



12. Check.



13. Download. When the download process is completed, the alarm will automatically trigger as the application signal is inverted.



14. To view the running environment, open the test function toolbar.

