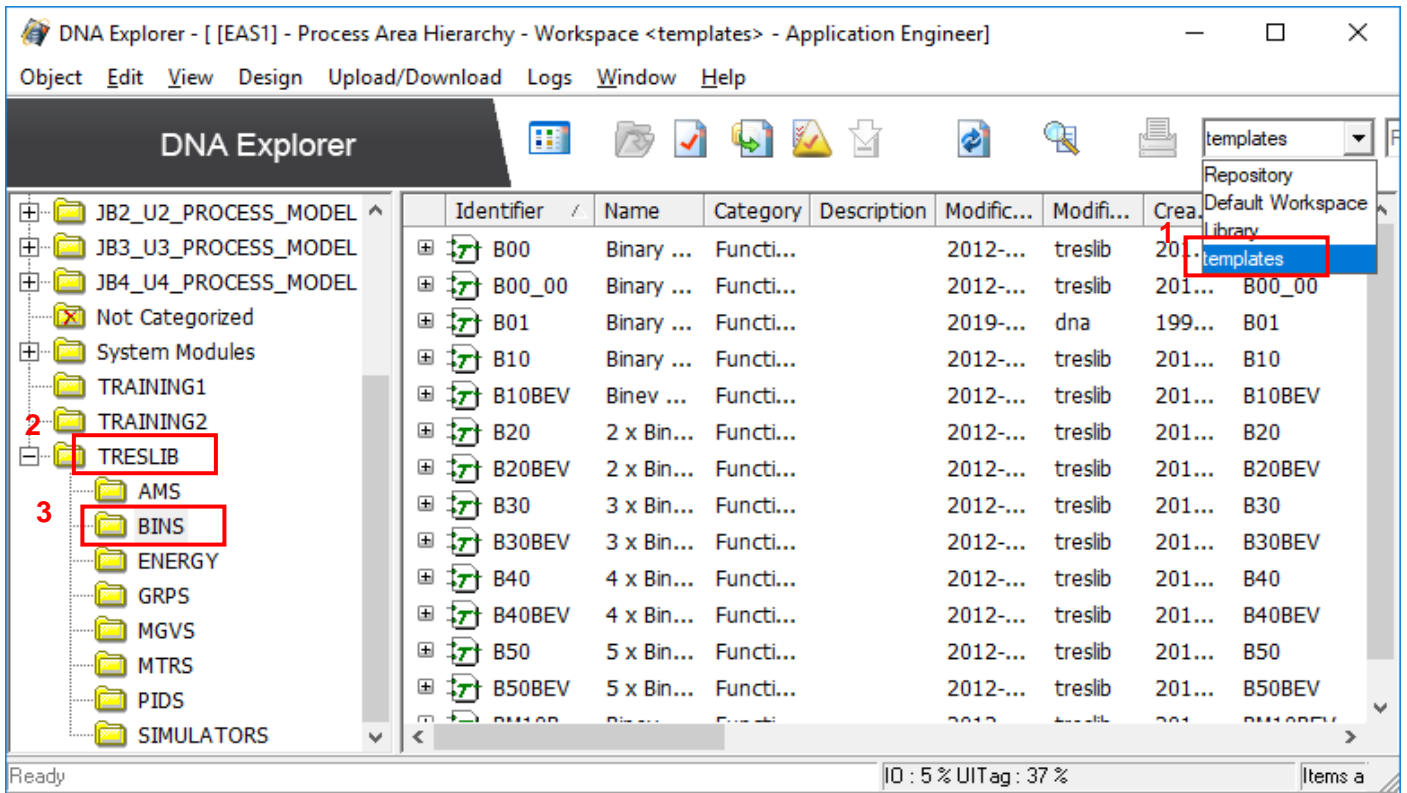


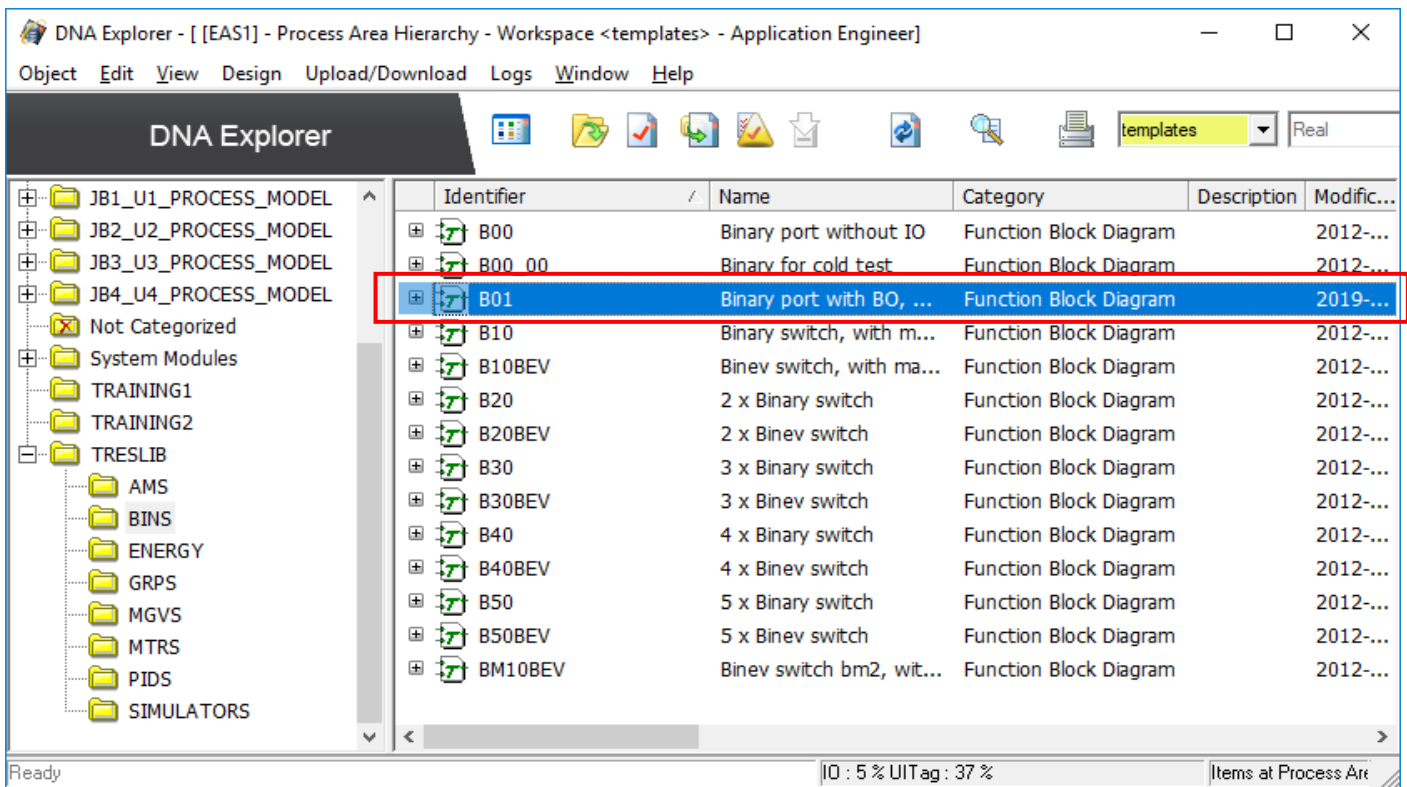
PROCESS CONTROL LAB MANUAL

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

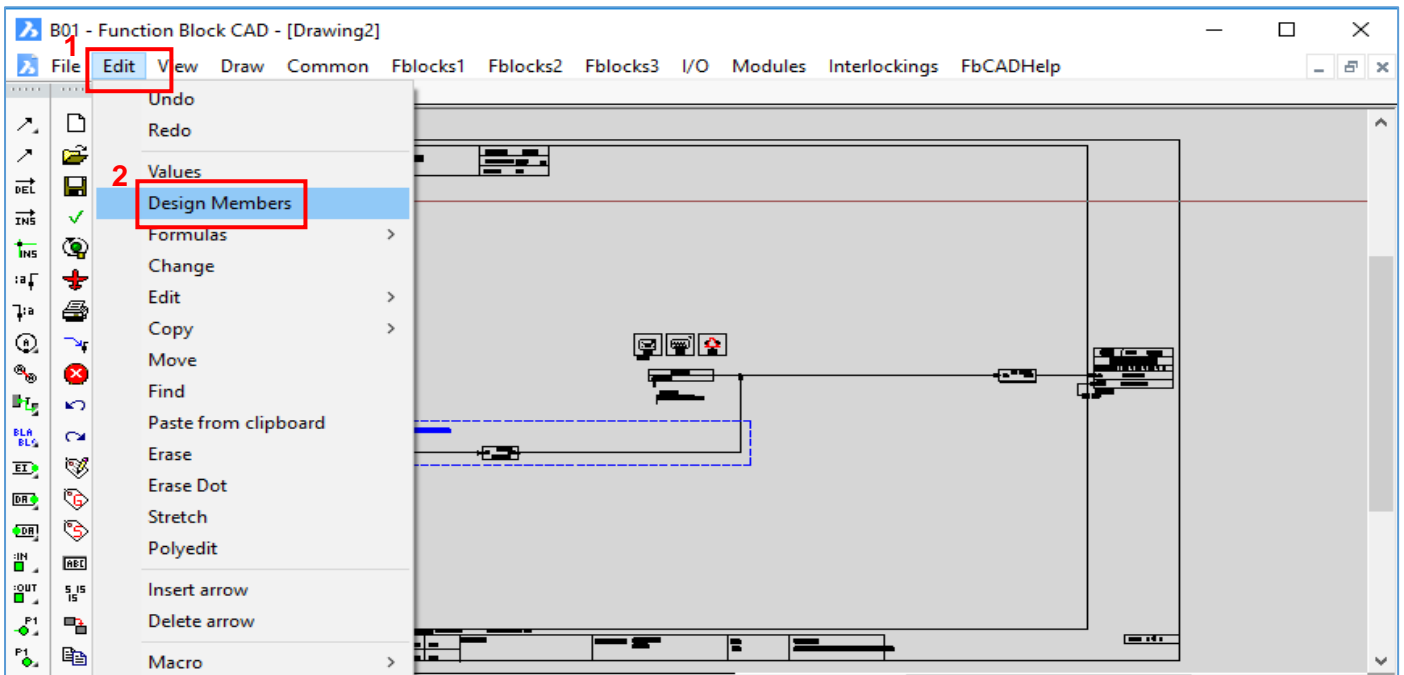
1. To open a template, change to templates workspace and browse to TRESLIB. Browse BINS for digital output templates.



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



3. Create new DO 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)	-- I OOP -----	
\$(TAG)	TAG	B01
\$(TEMPLATE)	TEMPLATE	B01
\$(NAME20)	NAME20	BINARY LOOP
\$(PACKAGE)	PACKAGE	APUT
\$(EXE)	EXE	900
\$(CTRLROOM)	CTRLROOM	A1
\$(ALGROUP)	ALGROUP	11
\$(ALPRI)	ALARM PRIORITY	700
\$(GDID_1)	GDID_1	10.1
\$(NAME14)	NAME14	BINARY
\$(NAME40_1)	NAME40_1	Binary port with BO, with pulse
\$(NAME40_2)	NAME40_2	
\$(FDESCR)	PATH TO FUNC.DESCRPTION	
\$(OTEXT0)	OTEXT0	OFF
\$(OTEXT1)	OTEXT1	ON
\$(H)	ALM(0= ,1=ALM,2=MSG)	0
\$(ALTEXT)	ALM/MSG TEXT (15char)	ACTIVE
\$(MODE)	MODE SELECTION (HOLD=0/PULSE=1)	0
\$(PULSE)	PULSE LENGHT	3.0
\$(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	
\$(EXT_USED)	EXTERNAL INPUT USED (0/1)	1
\$(EXT)	EXTERNAL TAG	EXT
\$(EXT_TEXT)	EXTERNAL TEXT	EXT TEXT
\$(DUMMY2)	-- DEVICE -----	
\$(DEVICETAG1)	DEVICETAG1	PT_B01c

For example: Digital output at JB 2 using Channel 2 with no external input. Software address = 2312.
Click OK.

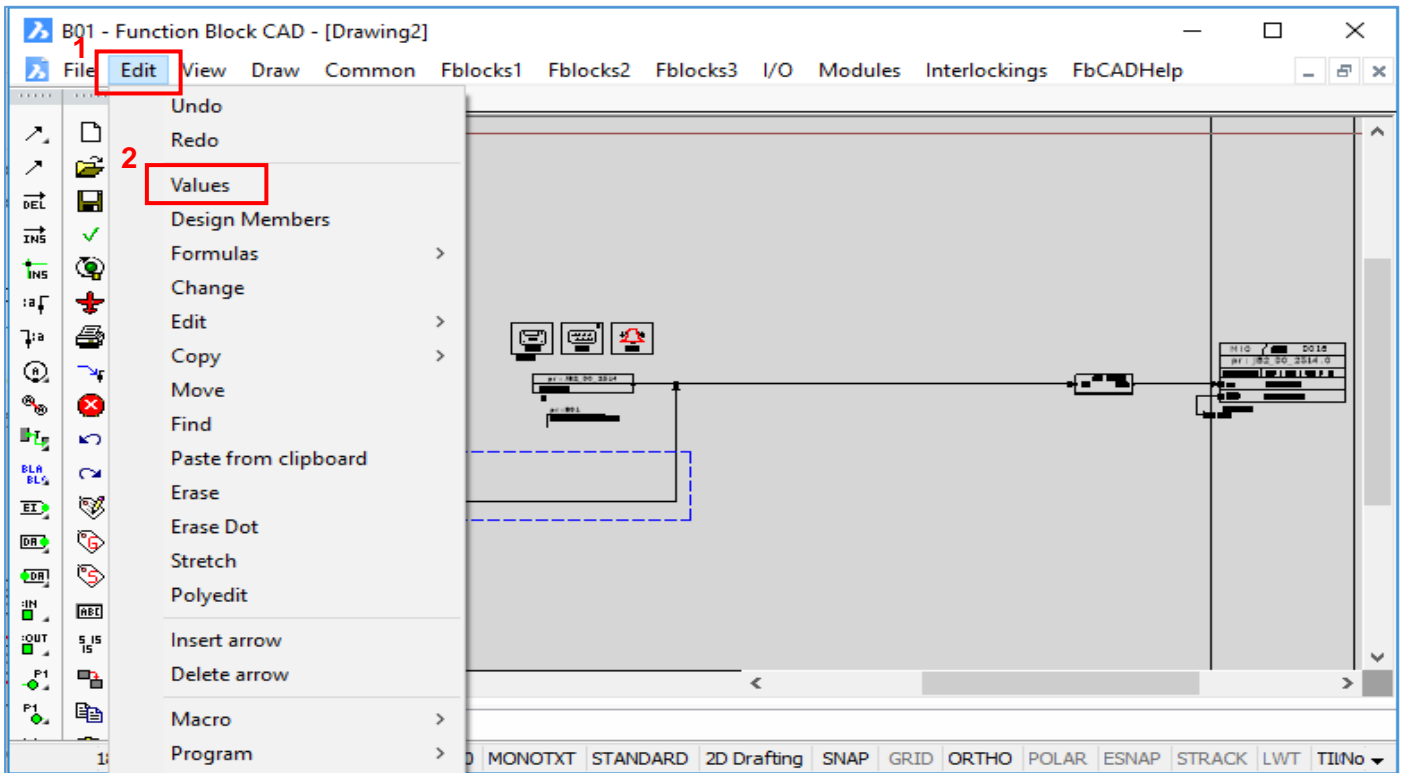
Editing attributes of --DESIGNMEMBERS

Identifier	Prompt	Value
\$(DUMMY1)	--LOOP-----	
\$(TAG)	TAG	JB2_DO_2312
\$(TEMPLATE)	TEMPLATE	B01
\$(NAME20)	NAME20	JB2 DO CH2
\$(PACKAGE)	PACKAGE	AP01
\$(EXE)	EXE	900
\$(CTRLROOM)	CTRLROOM	A1
\$(ALGROUP)	ALGROUP	11
\$(ALPRI)	ALARM PRIORITY	700
\$(GDID_1)	GDID_1	10.1
\$(NAME14)	NAME14	BINARY
\$(NAME40_1)	NAME40_1	JB2 DO CH2
\$(NAME40_2)	NAME40_2	
\$(FDESCR)	PATH TO FUNC.DESCRPTION	
\$(OTEXT0)	OTEXT0	OFF
\$(OTEXT1)	OTEXT1	ON
\$(H)	ALM(0=,1=ALM,2=MSG)	1
\$(ALTEXT)	ALM/MSG TEXT (15char)	ACTIVE
\$(MODE)	MODE SELECTION (HOLD=0/PULSE=1)	0
\$(PULSE)	PULSE LENGHT	3.0
\$(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	
\$(EXT_USED)	EXTERNAL INPUT USED (0/1)	0
\$(EXT)	EXTERNAL TAG	EXT
\$(EXT_TEXT)	EXTERNAL TEXT	EXT TEXT
\$(DUMMY2)	--DEVICE-----	
\$(DEVICETAG1)	DEVICETAG1	JB2_DO_2312

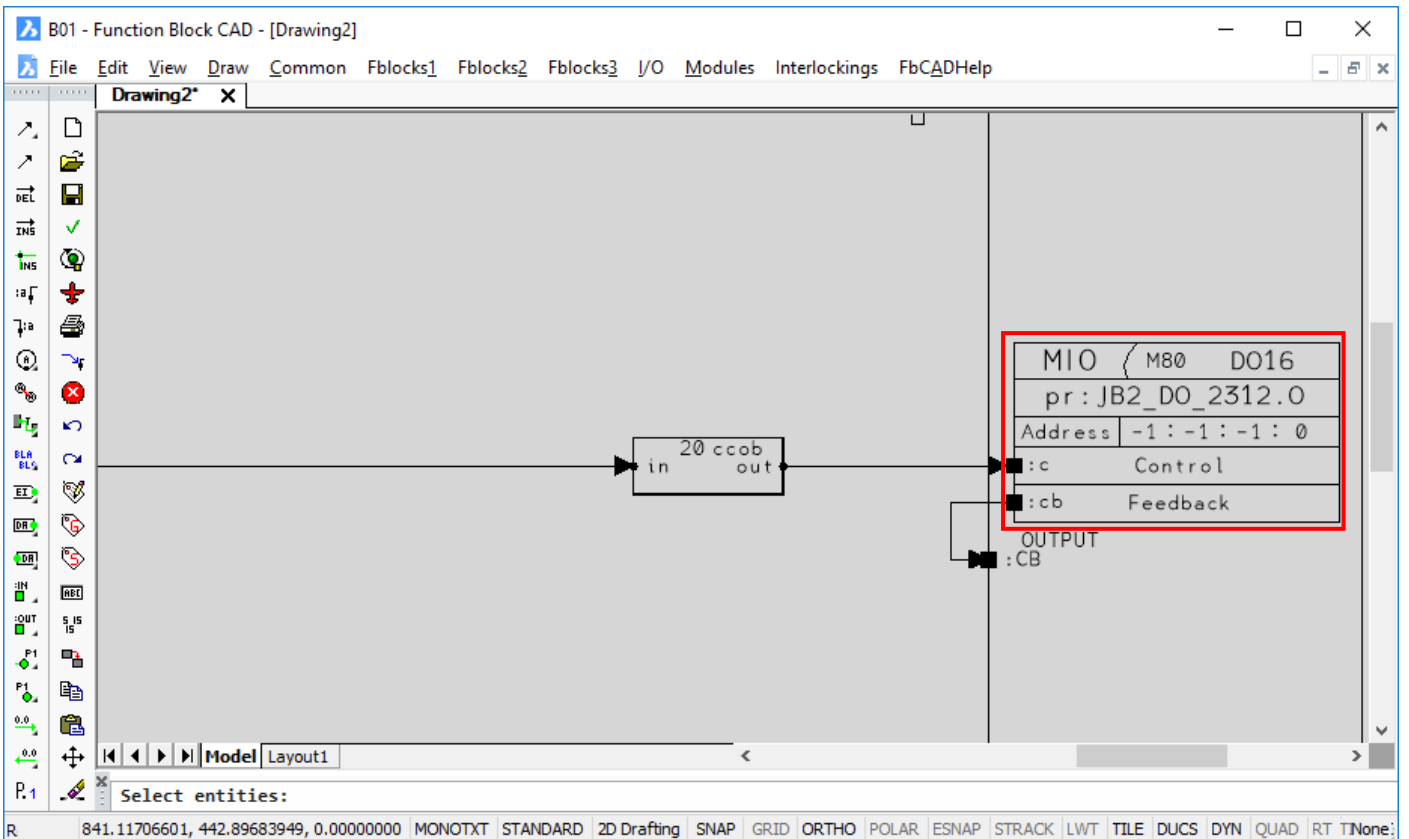
Show Formulas Function formula: Typehelp

+ - **OK** Cancel

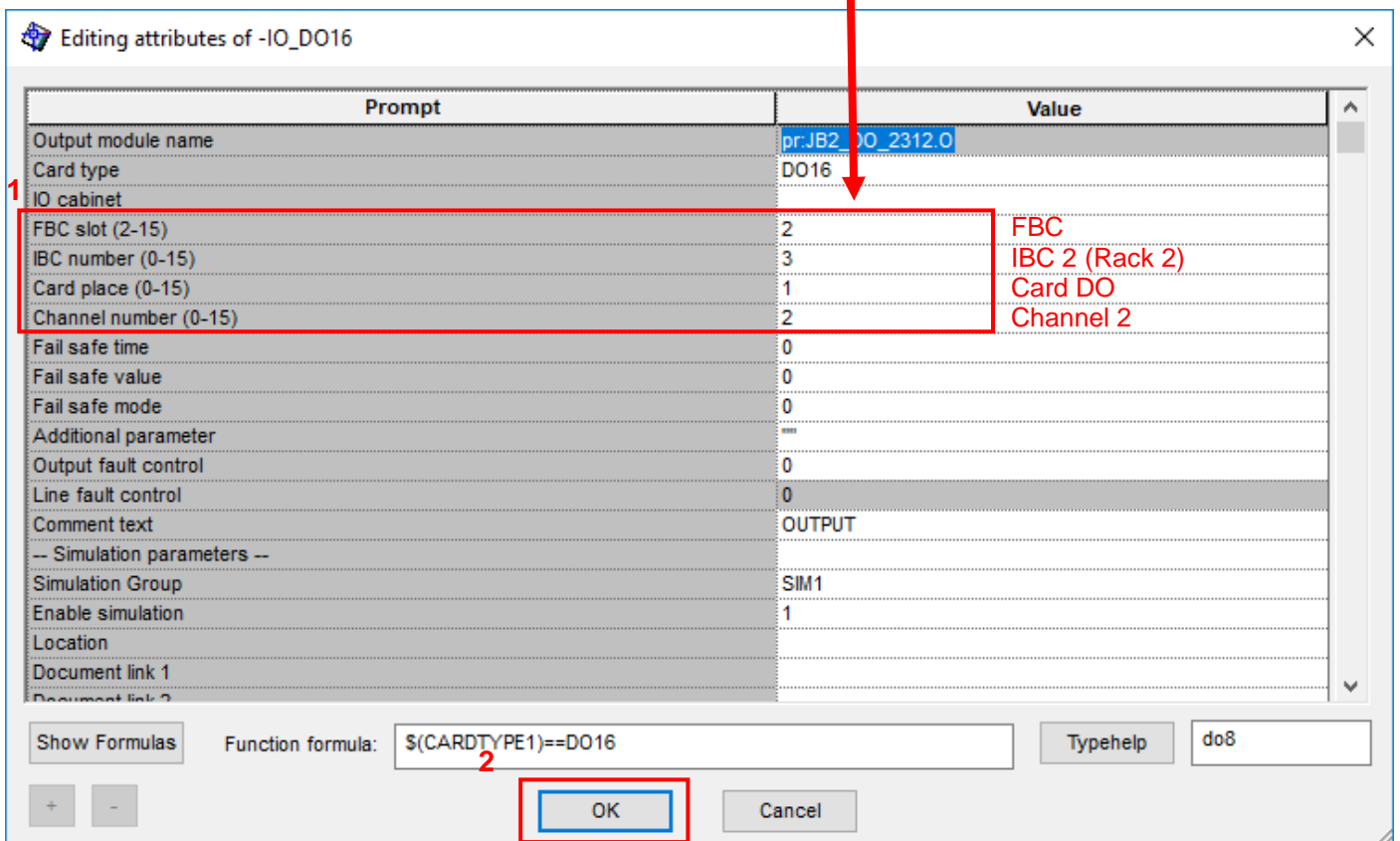
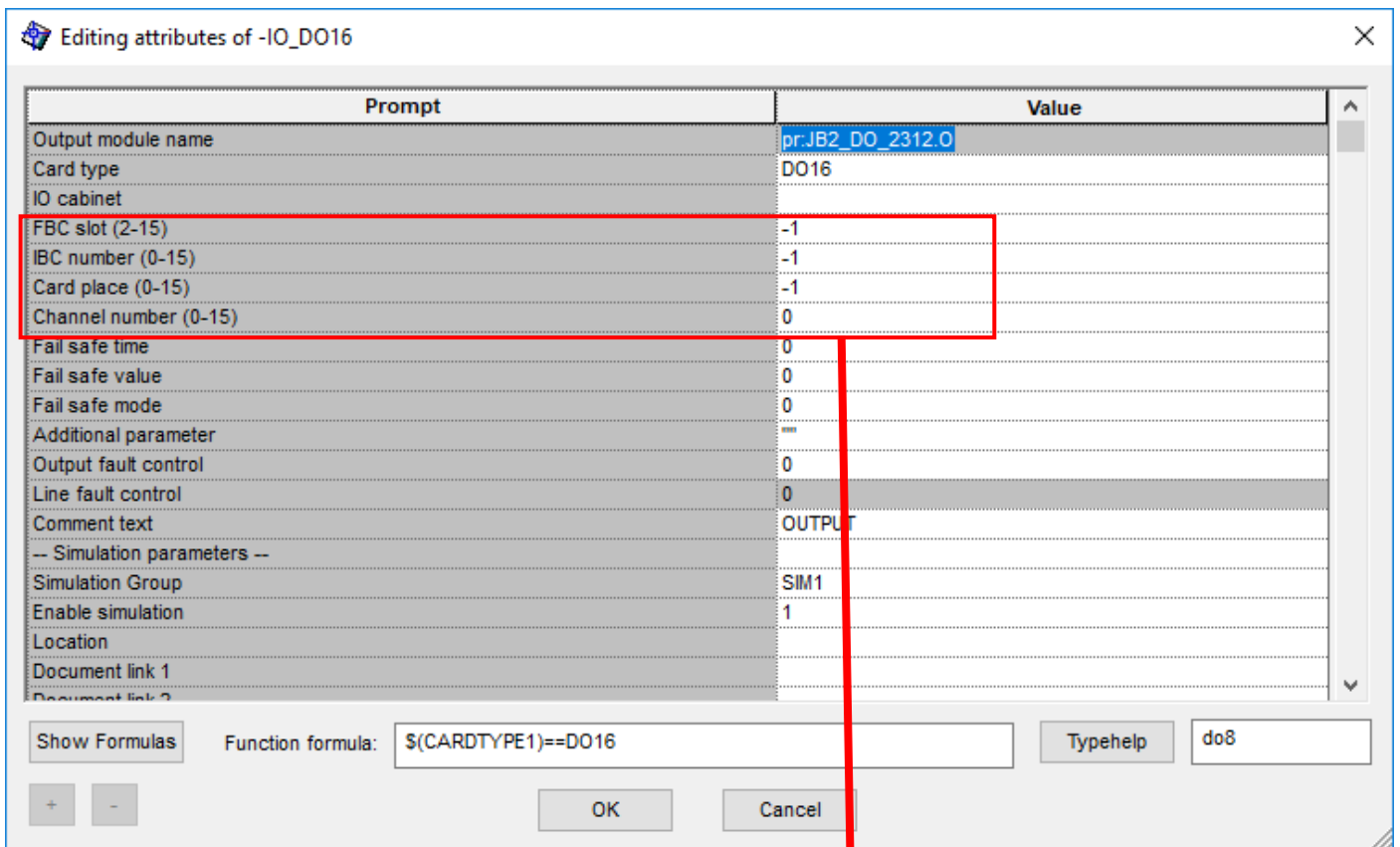
4. Change the new application file I/O address. To change the address, click Edit and choose Values.



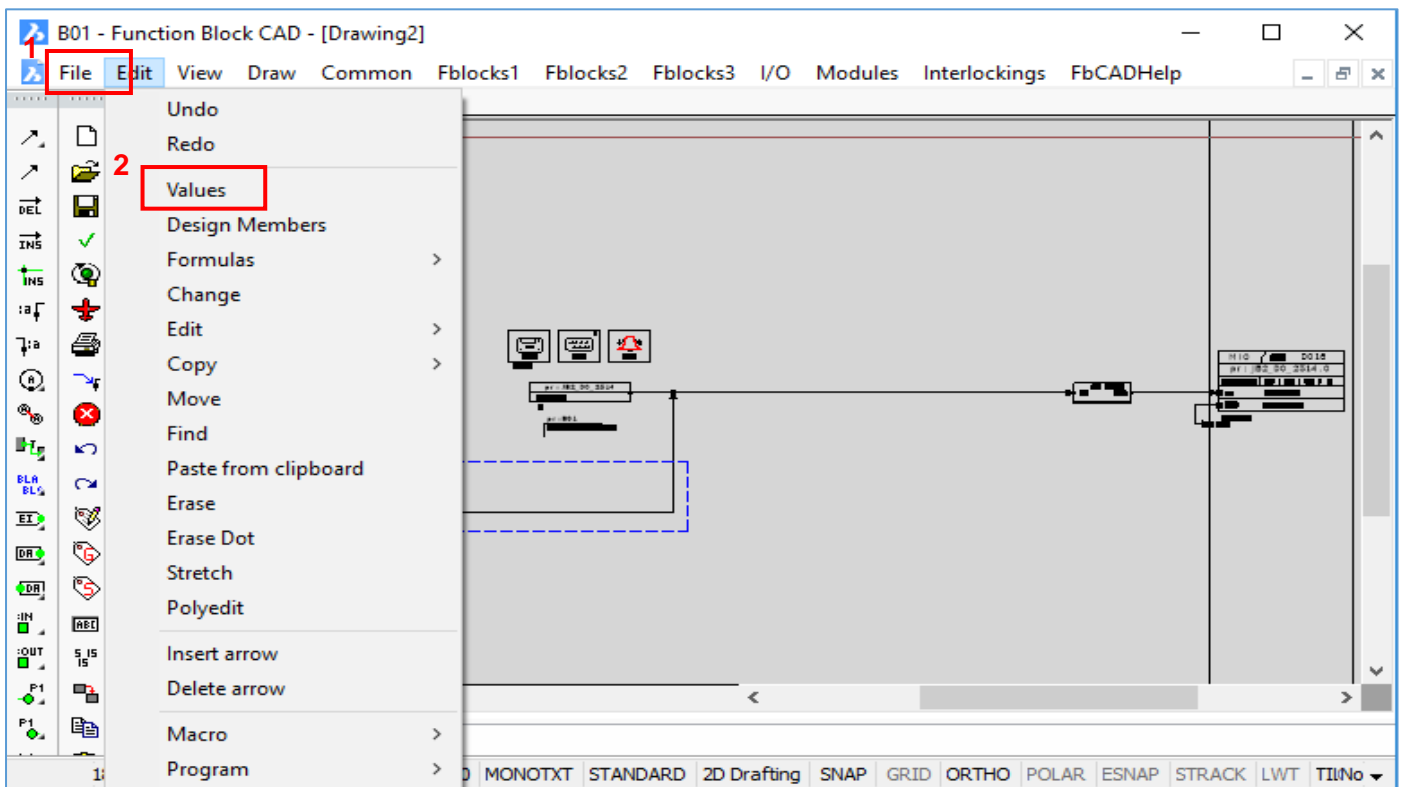
Then, click the I/O address box.



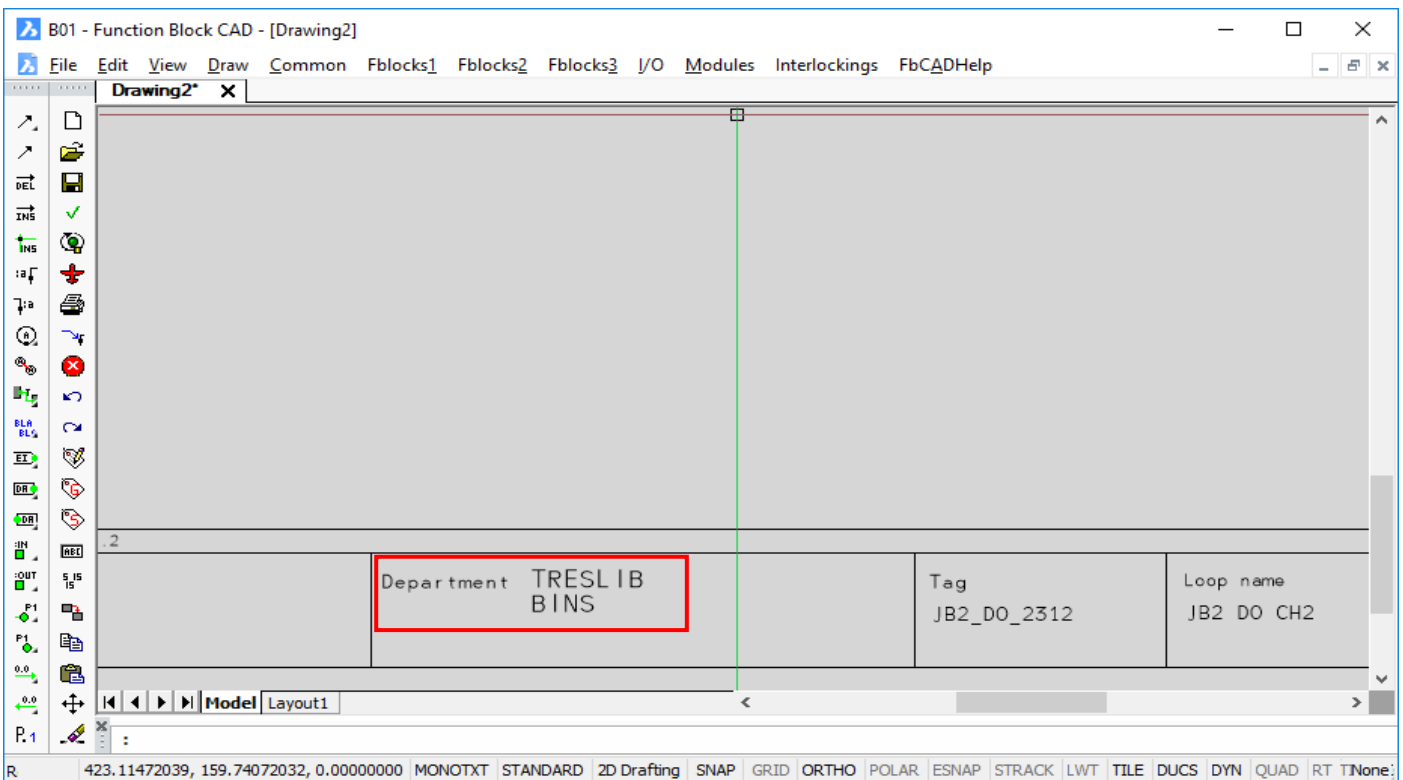
A parameter selection window will pop up. Default values are in preferred in the window. Only change values in the red box according to the respective I/O address. Then, click OK.



5. 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.

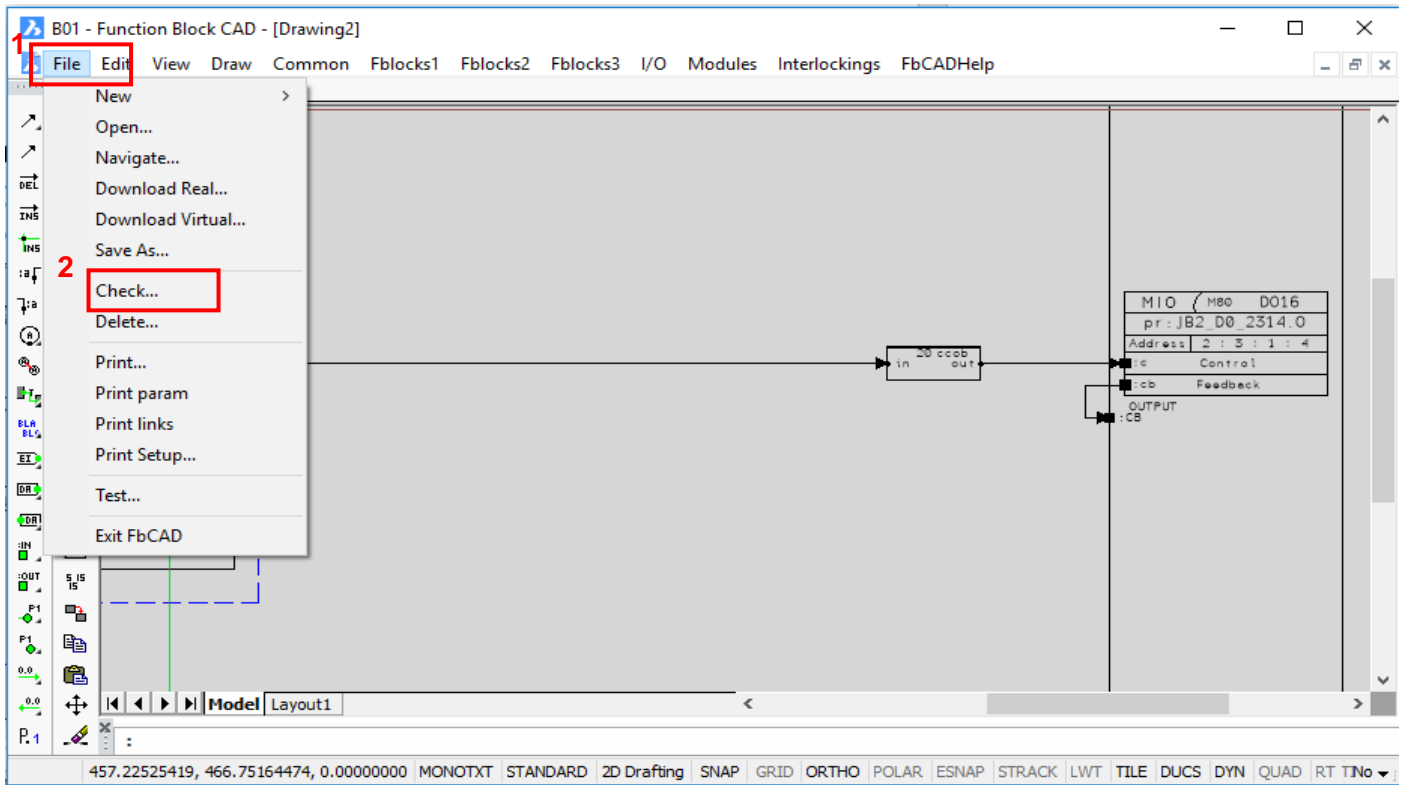
The screenshot shows a window titled "Editing attributes of -ADMINM". It contains a table with two columns: "Prompt" and "Value". The "Value" column for "PROCESS AREA 1" is "TRESLIB BINS", which is highlighted with a red box. A red arrow points from this box down to the next screenshot. At the bottom, there are buttons for "Show Formulas", "Function formula:", "Typehelp", "+", "-", "OK", and "Cancel".

Prompt	Value
LOOP TAG	JB2_DO_2312
LOOP NAME (FIELD 1)	JB2 DO CH2
LOOP NAME (FIELD 2)	
LOOP STATUS	complete
NAME OF PLANNER	B01
DATE OF PLANNING	93-11-15 10:23
NAME OF MODIFIER	dna
DATE OF MODIFICATION	19-04-25 12:07
PROCESS AREA 1	TRESLIB BINS
PROCESS AREA 2	
PROCESS AREA 3	
PROCESS AREA 4	

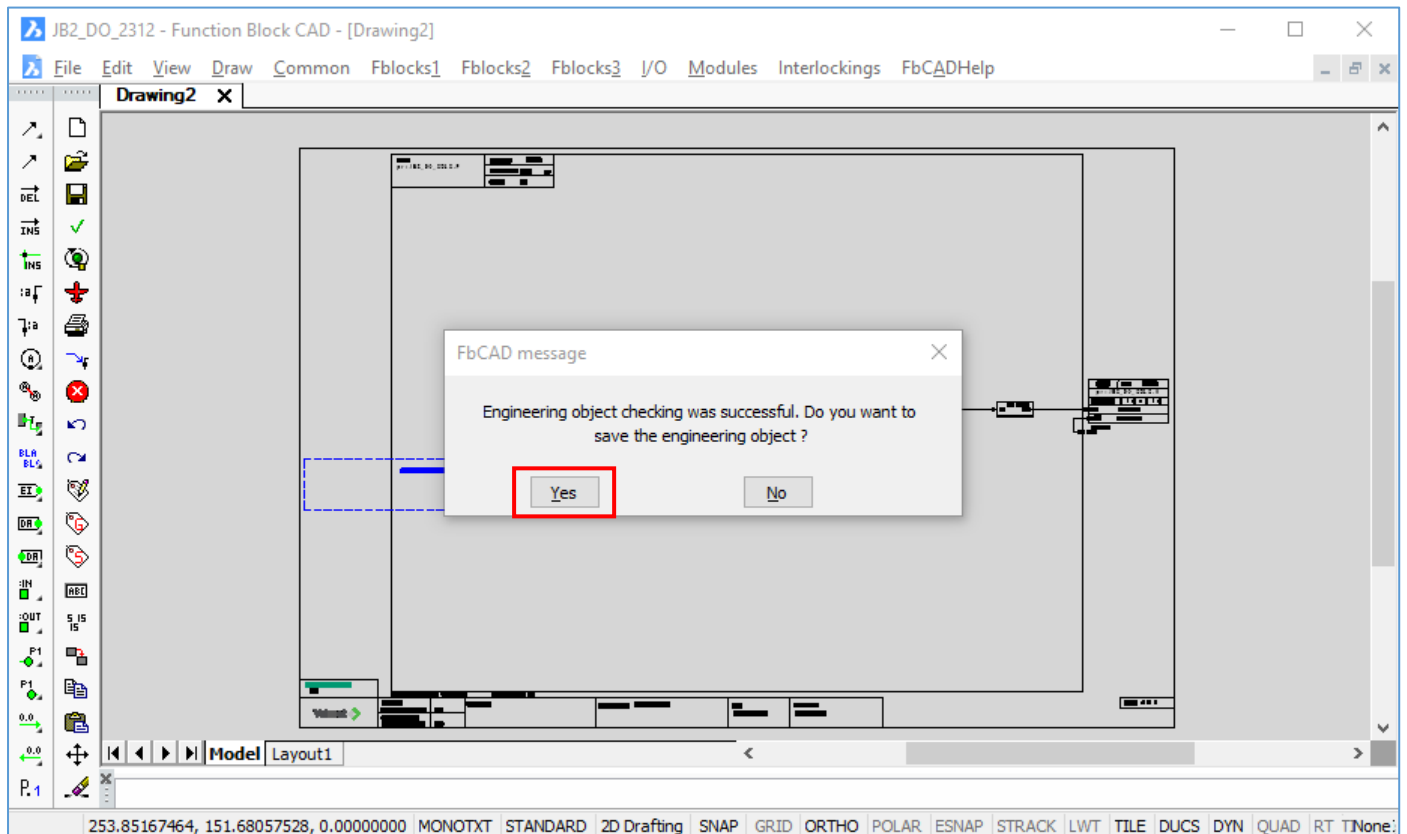
The screenshot shows the same window as above, but the "Value" for "PROCESS AREA 1" is now "TRAINING1", highlighted with a red box. A red arrow from the previous screenshot points to this box. A red number "1" is next to the "DATE OF MODIFICATION" row. At the bottom, the "OK" button is highlighted with a red box and has a red number "2" next to it.

Prompt	Value
LOOP TAG	JB2_DO_2312
LOOP NAME (FIELD 1)	JB2 DO CH2
LOOP NAME (FIELD 2)	
LOOP STATUS	complete
NAME OF PLANNER	B01
DATE OF PLANNING	93-11-15 10:23
NAME OF MODIFIER	dna
DATE OF MODIFICATION	19-04-25 12:07
PROCESS AREA 1	TRAINING1
PROCESS AREA 2	
PROCESS AREA 3	
PROCESS AREA 4	

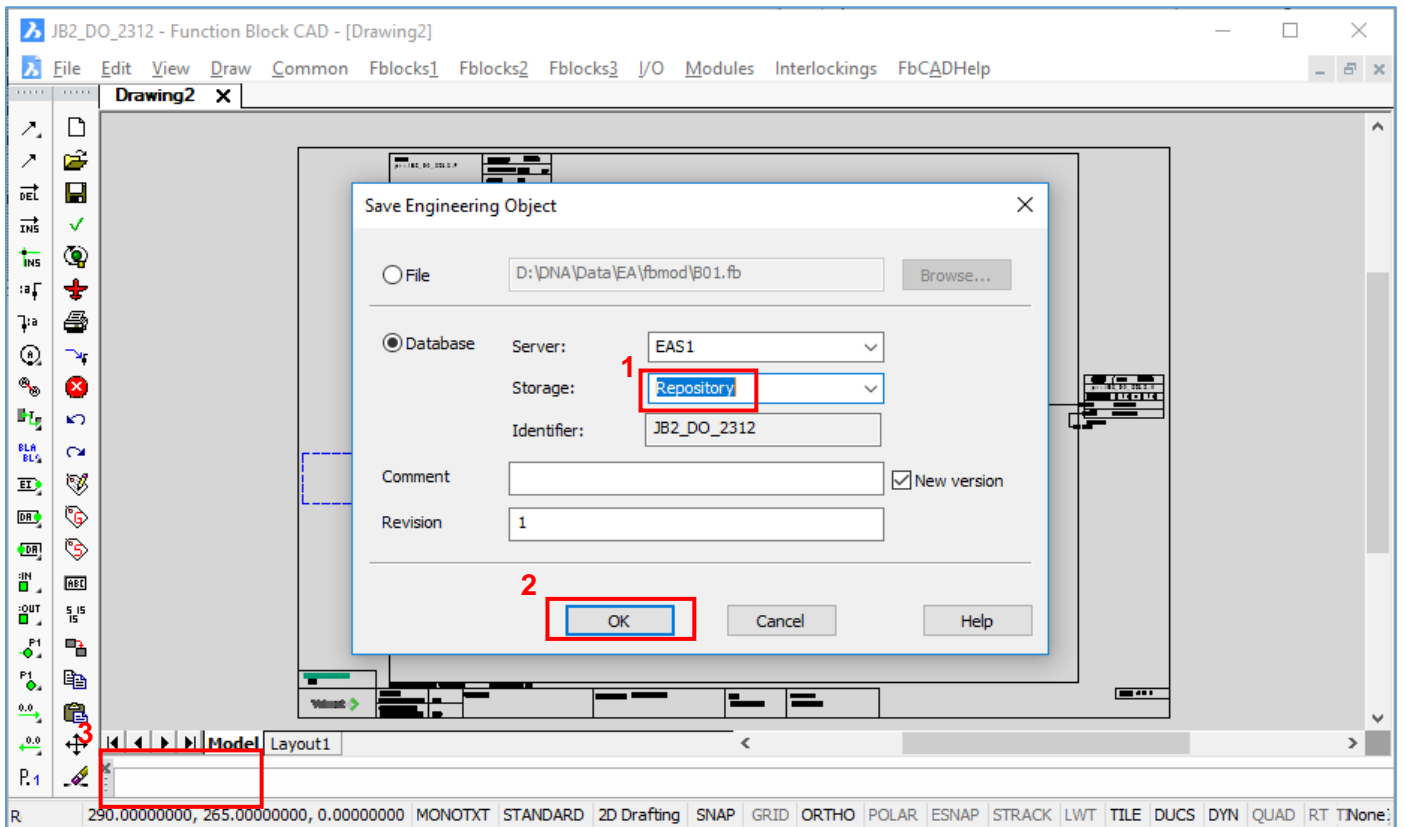
6. To save the new application, click File and choose Check. Created application must be check in repository before downloaded to avoid any error.



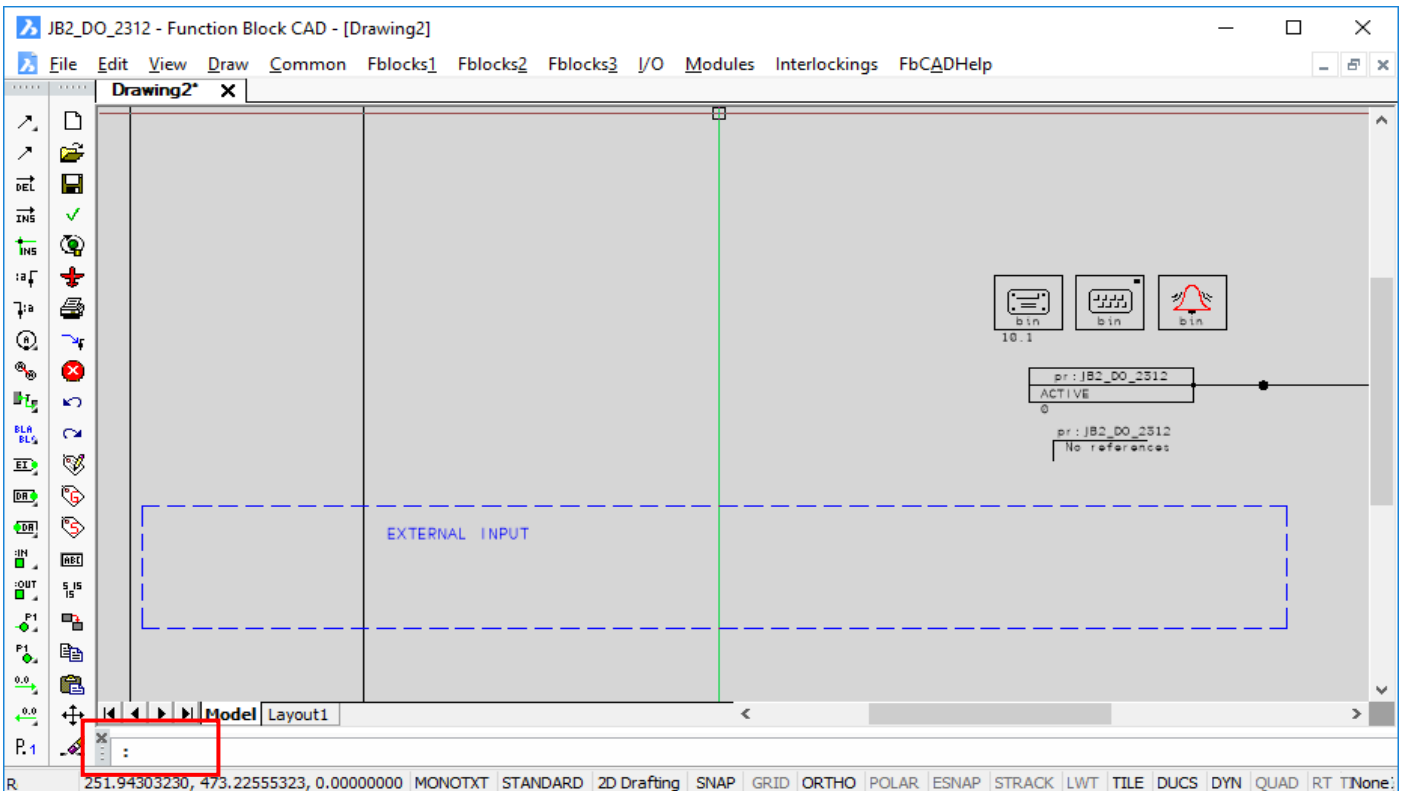
7. If there is no error occur, message to save the engineering object will pop up. Click Yes.



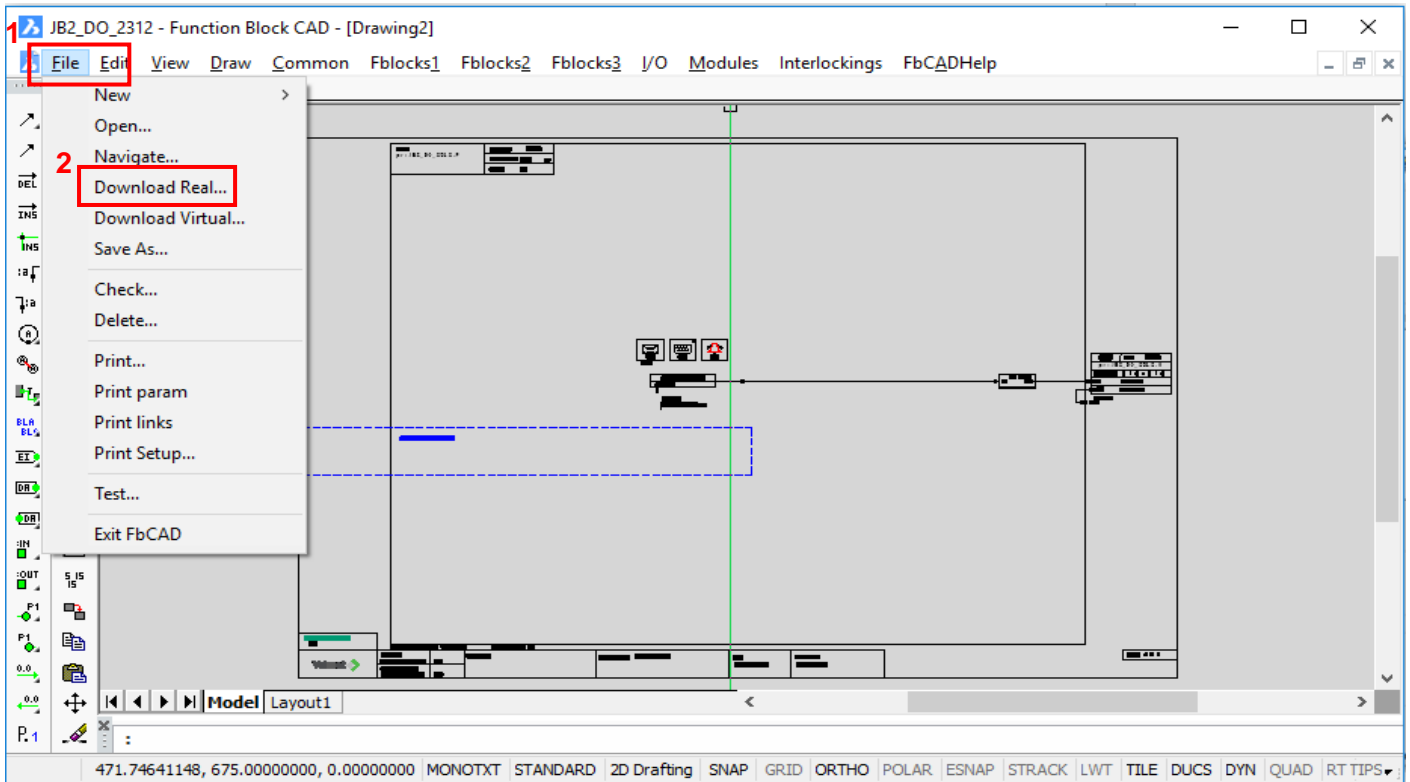
Another window will pop up. Change the storage location from templates to repository. Then, click OK. Wait until the colon symbol to reappear.



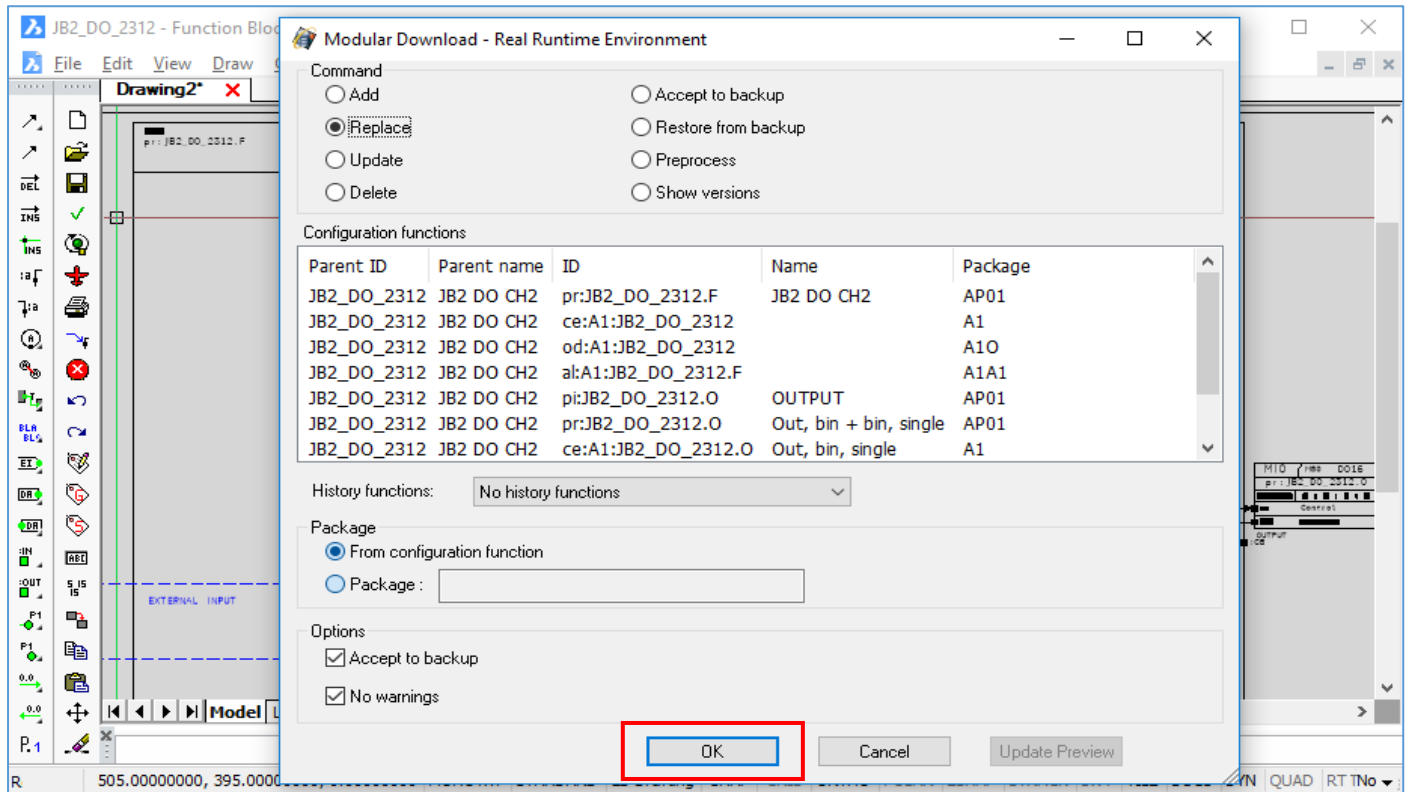
The colon symbol reappears to indicate the saving process is completed.



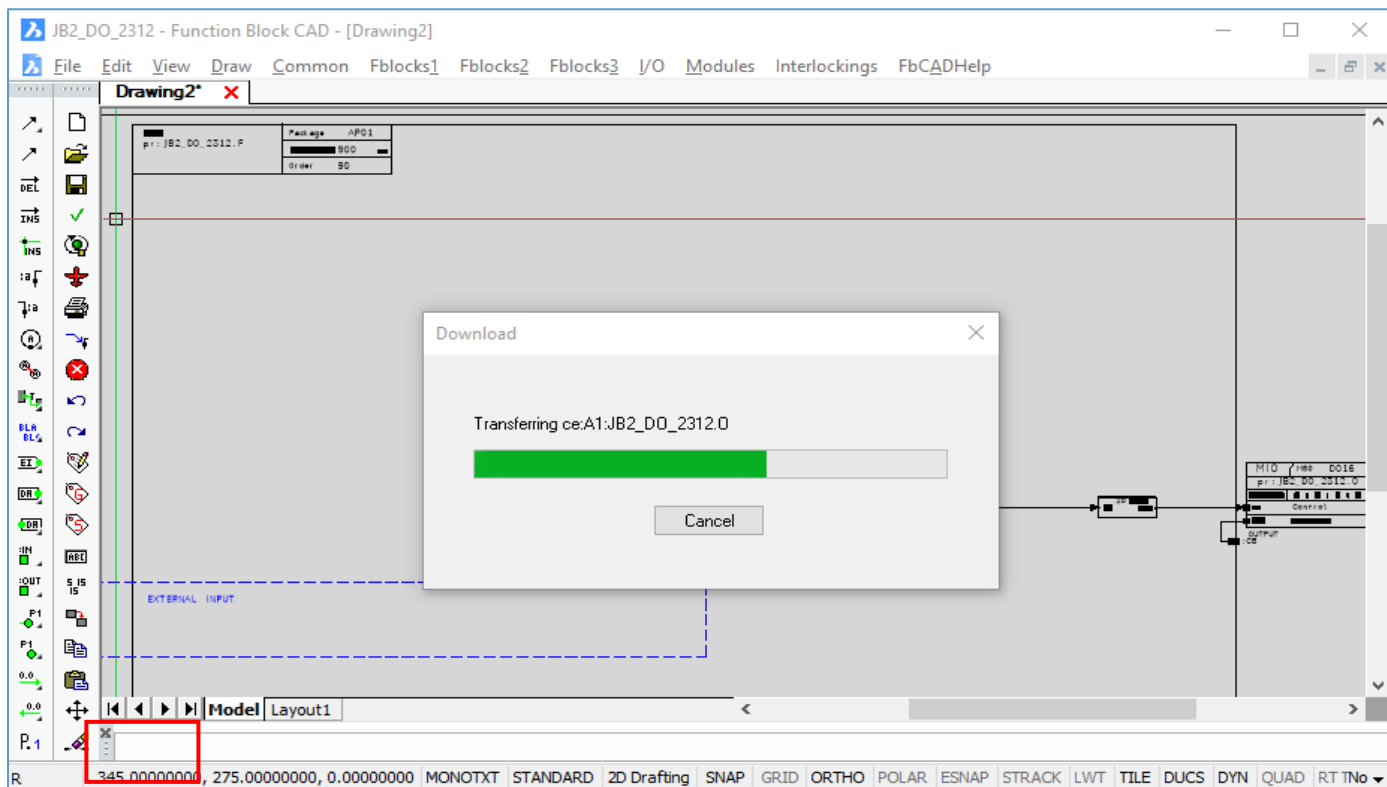
8. Then download the file.



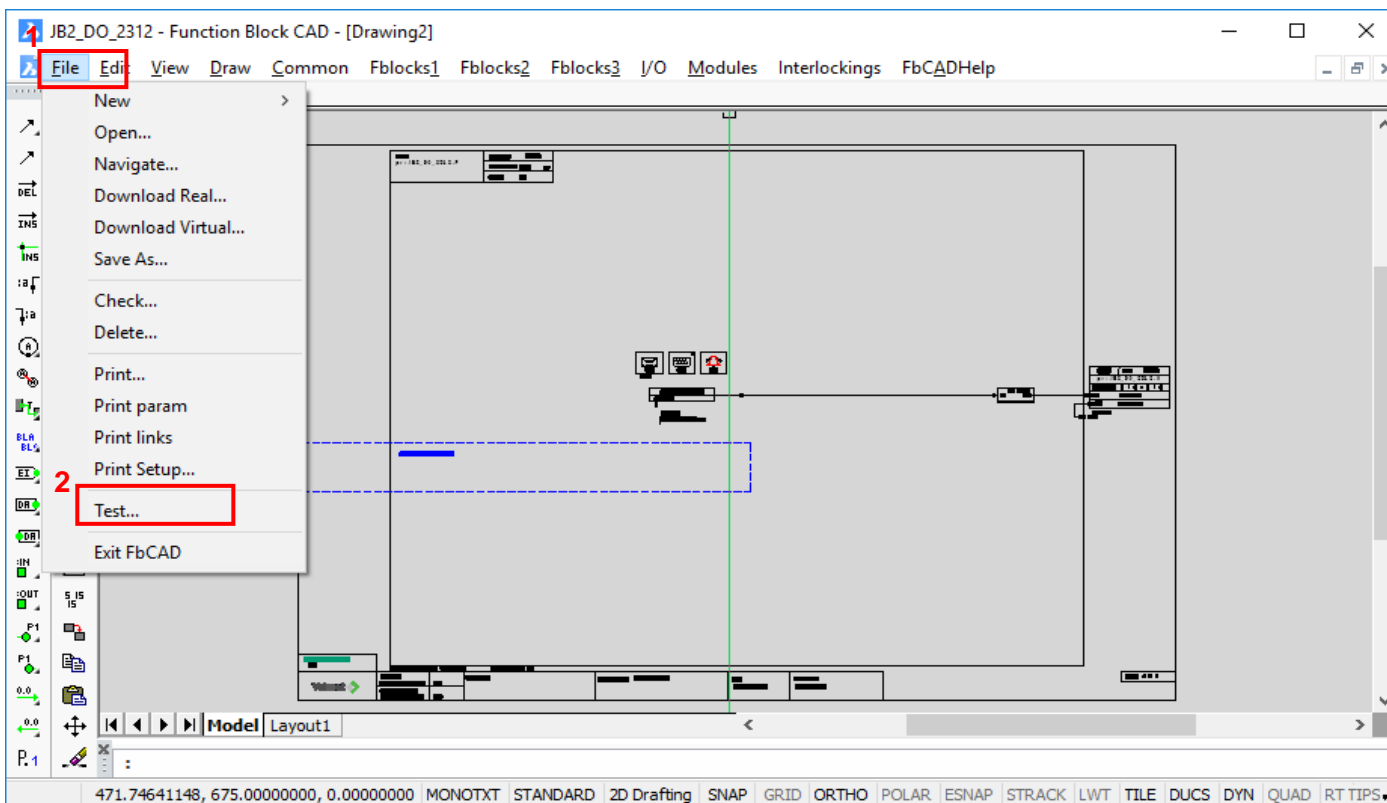
A download window will pop up. Click OK.



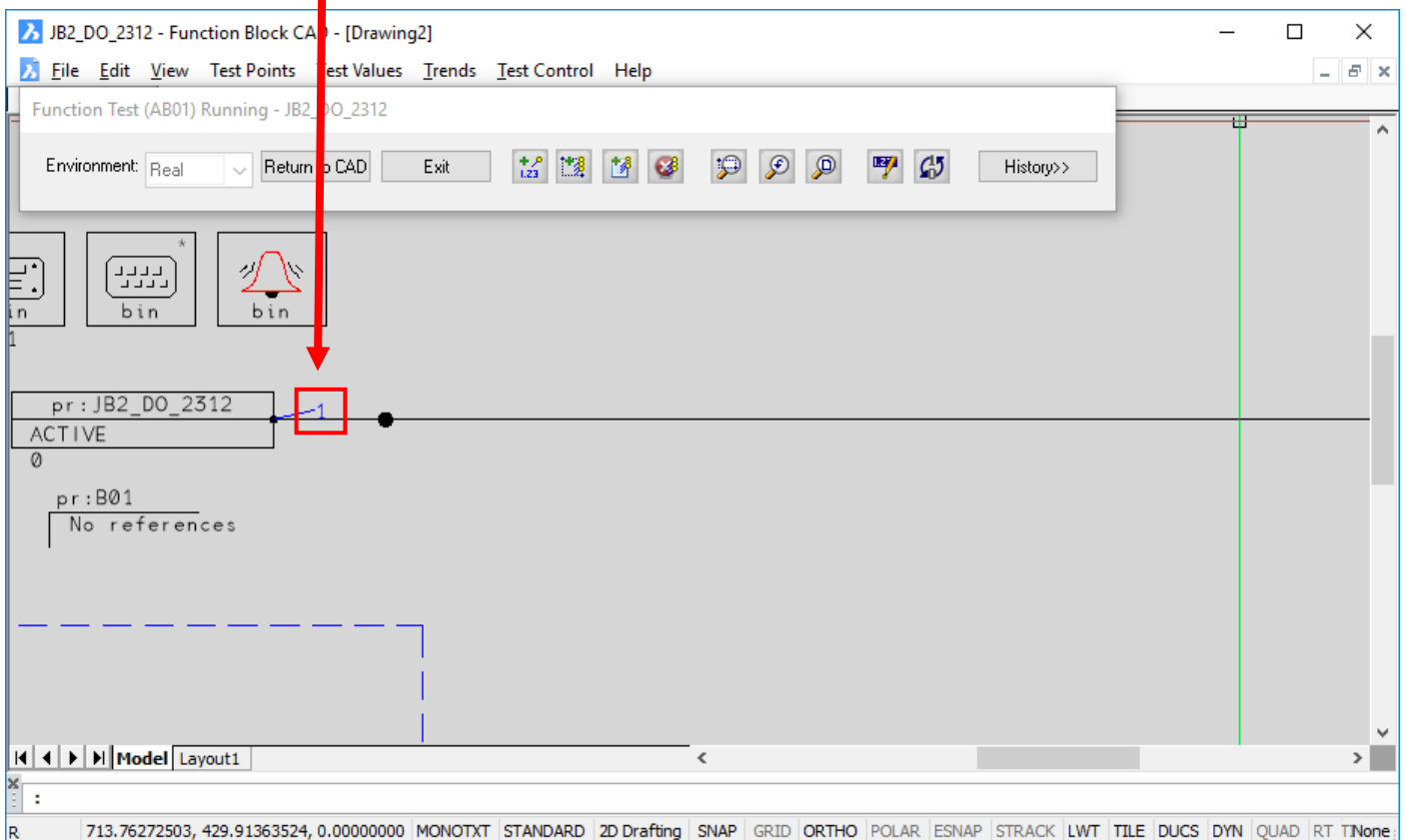
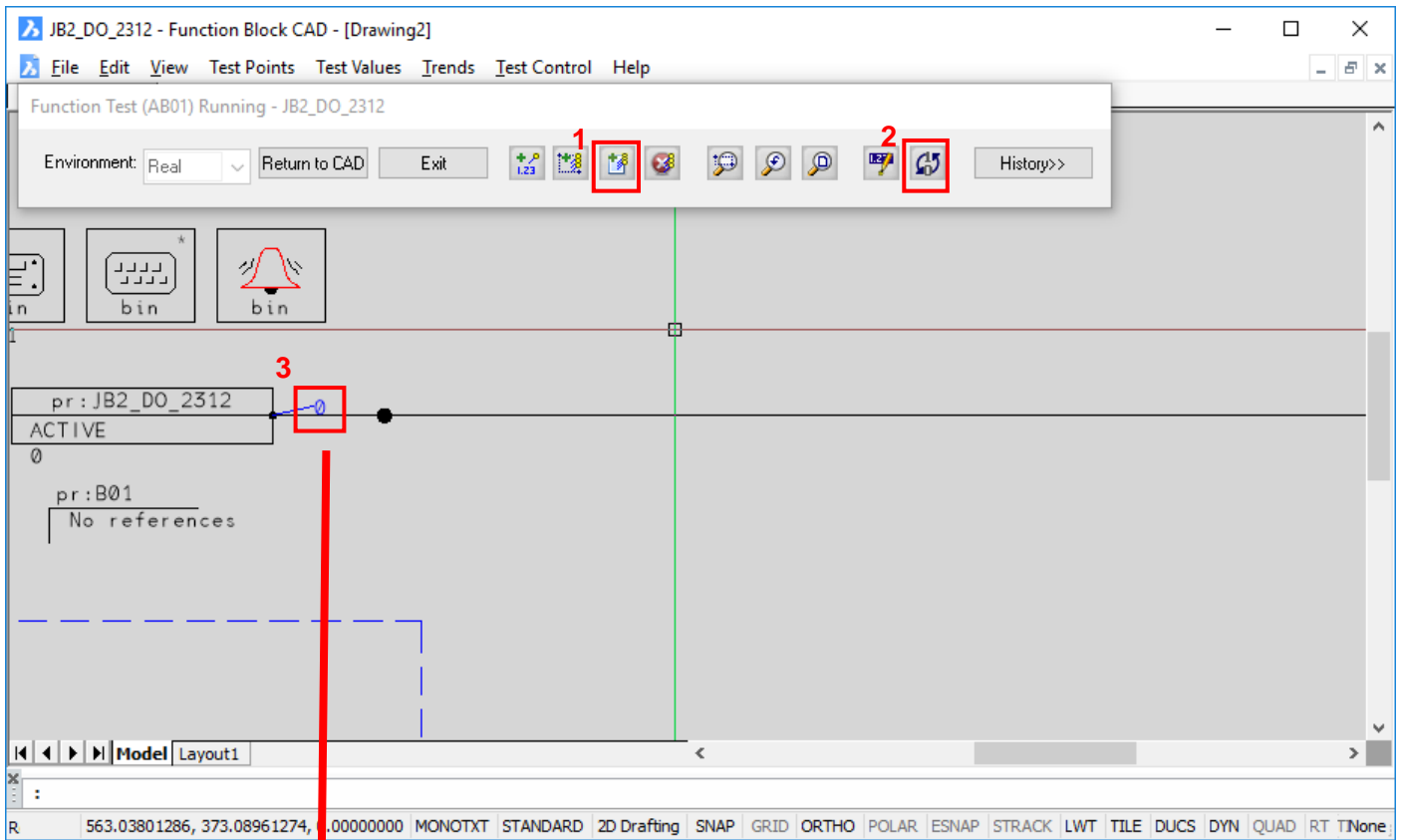
Download is processing. The colon symbol at the bottom will reappears when the download process is completed.



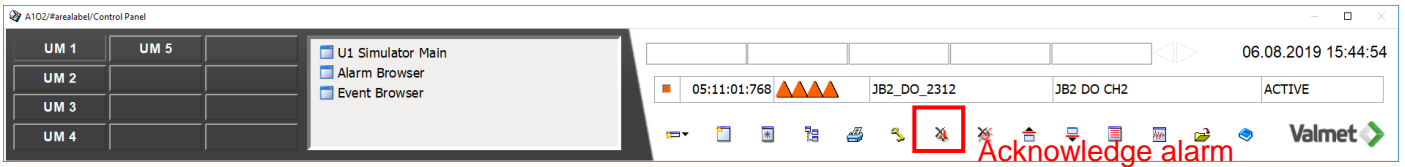
9. To test the control application, click File and select Test. The test function shows function block diagram with live values from the running environment.



New function test toolbar will appear. Change the test value to current page by following the provided steps.



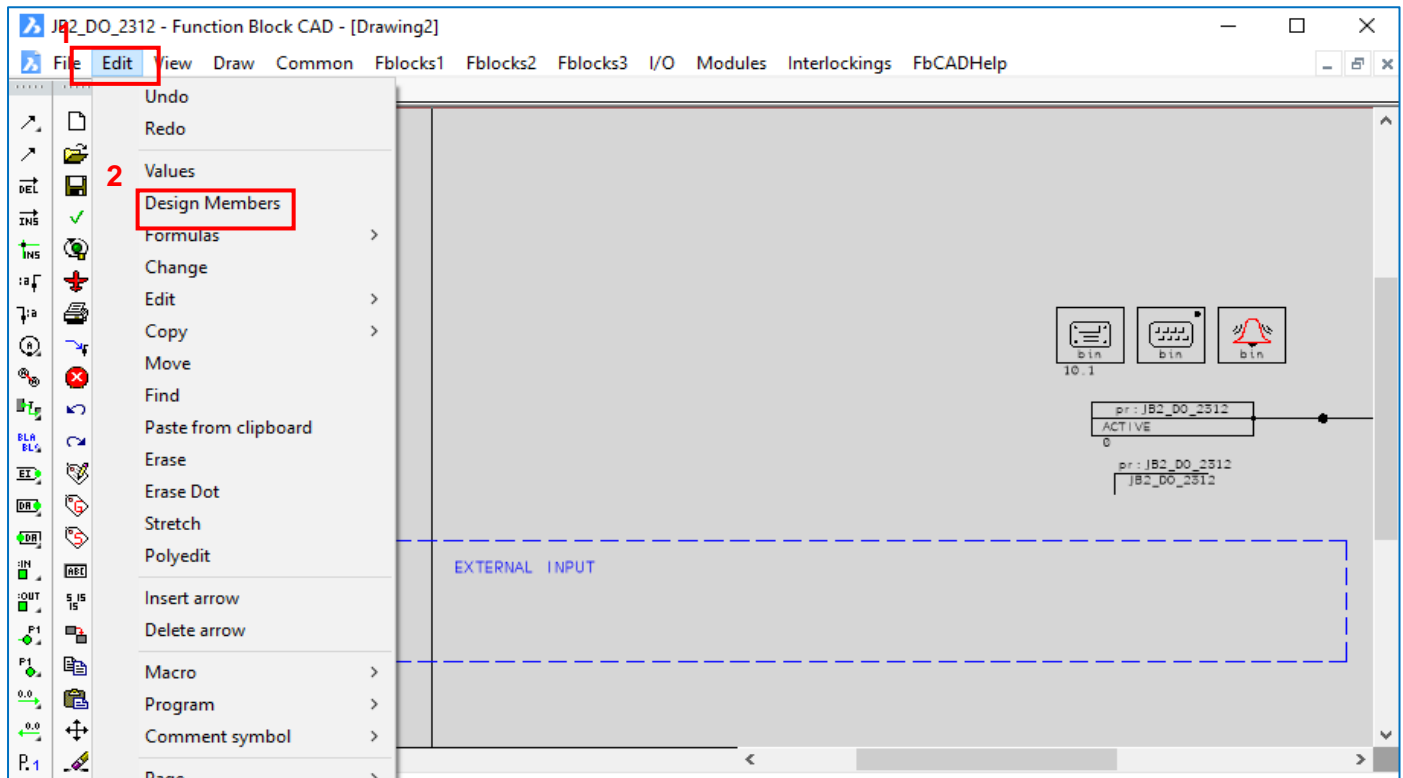
Test value = 1 indicates alarm is triggered. Select the tool below to acknowledge alarm.



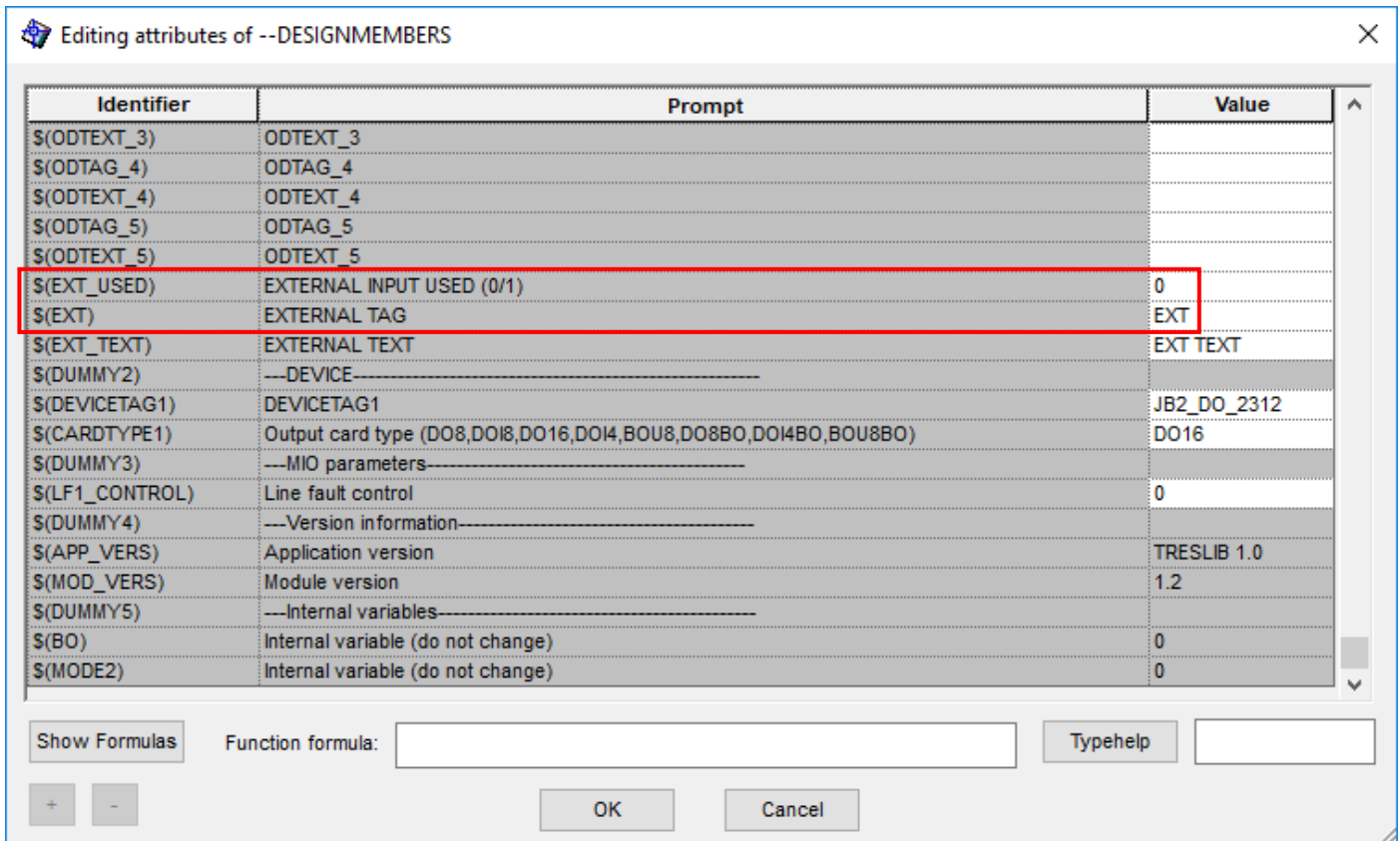
The LED 3 in JB2 lights up.

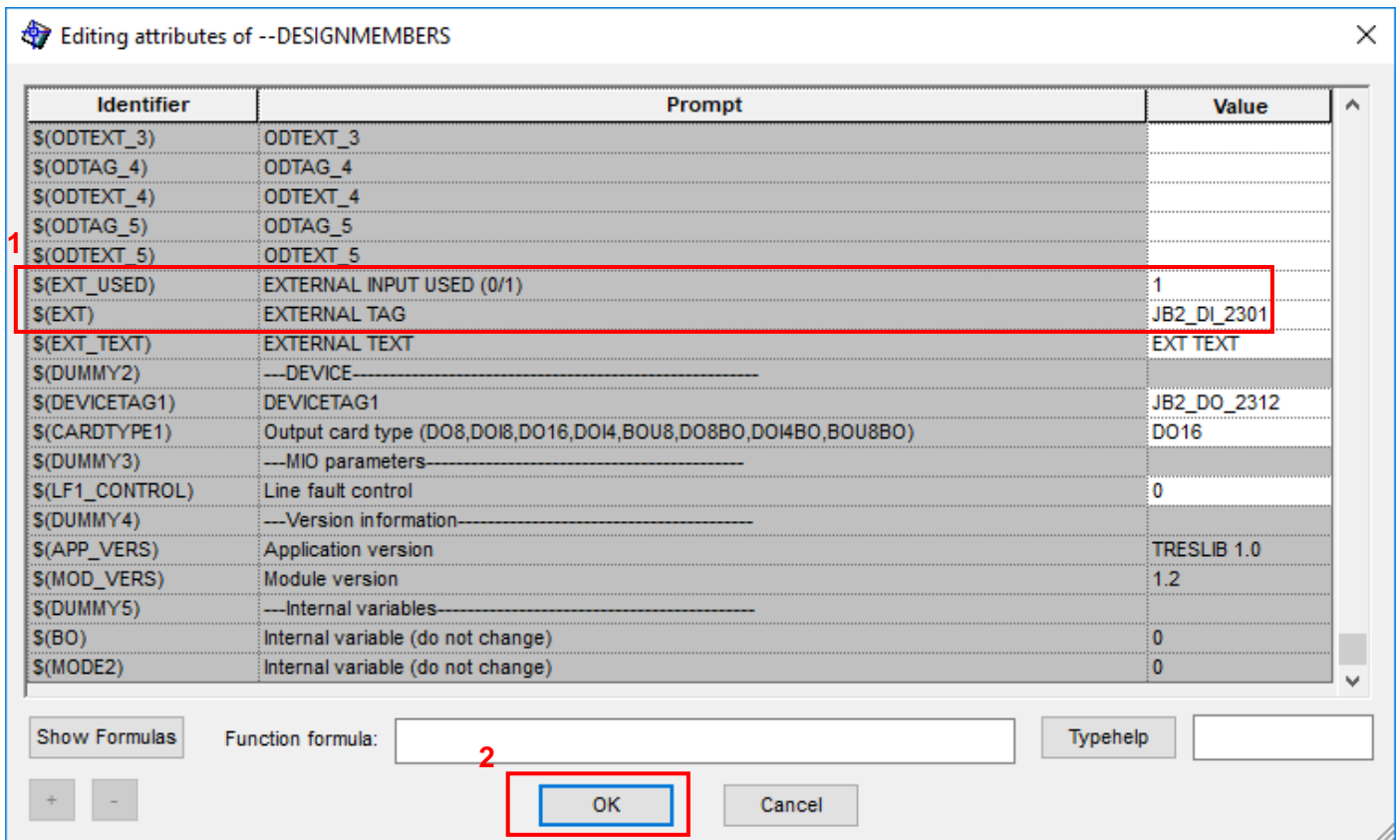


10. To link the DO with DI file, edit the external tag values according to the DI file name. Click Edit and select Design Members.

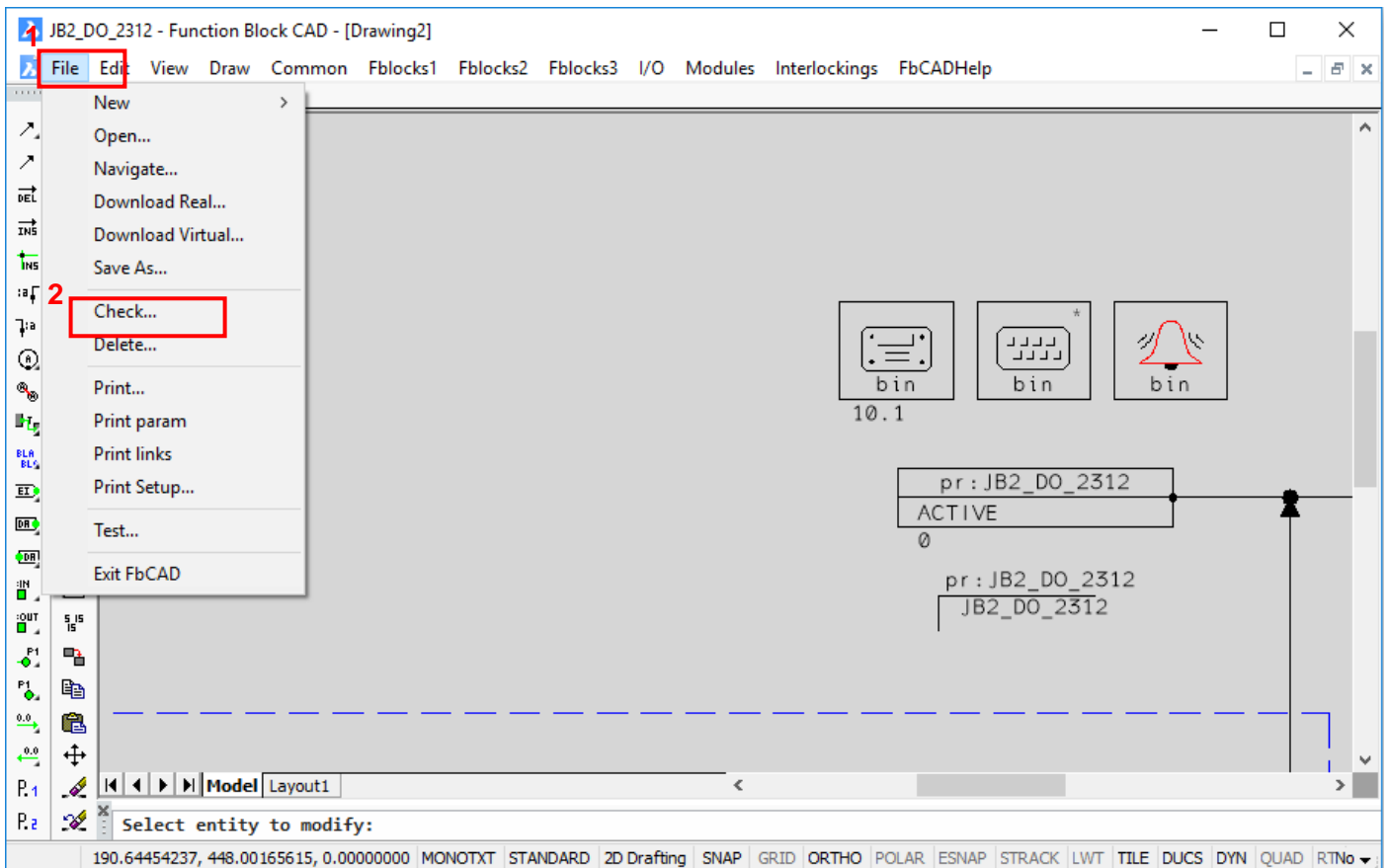


For example, to link the DO file: JB2_DO_2312 with DI file: JB2_DI_2301.

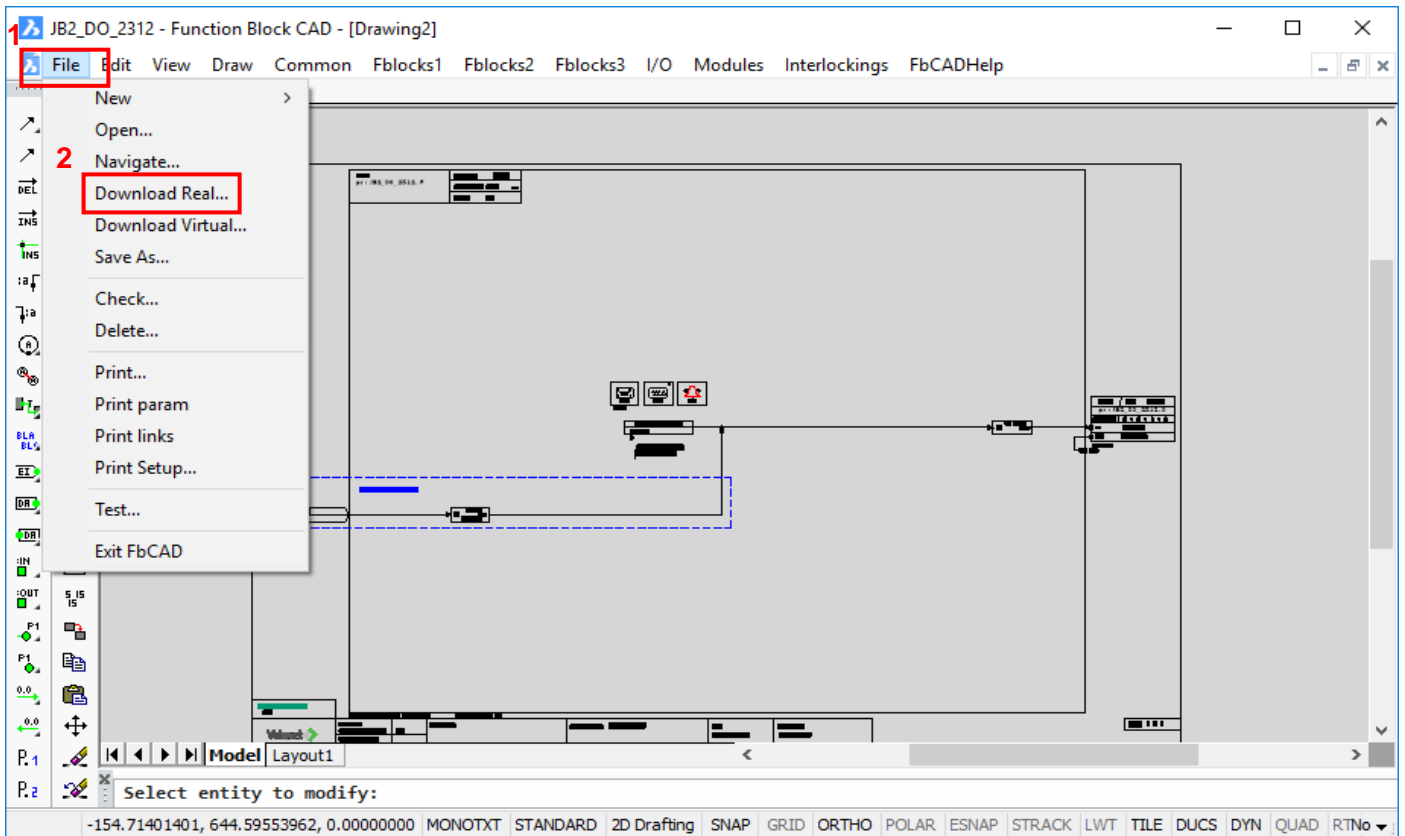




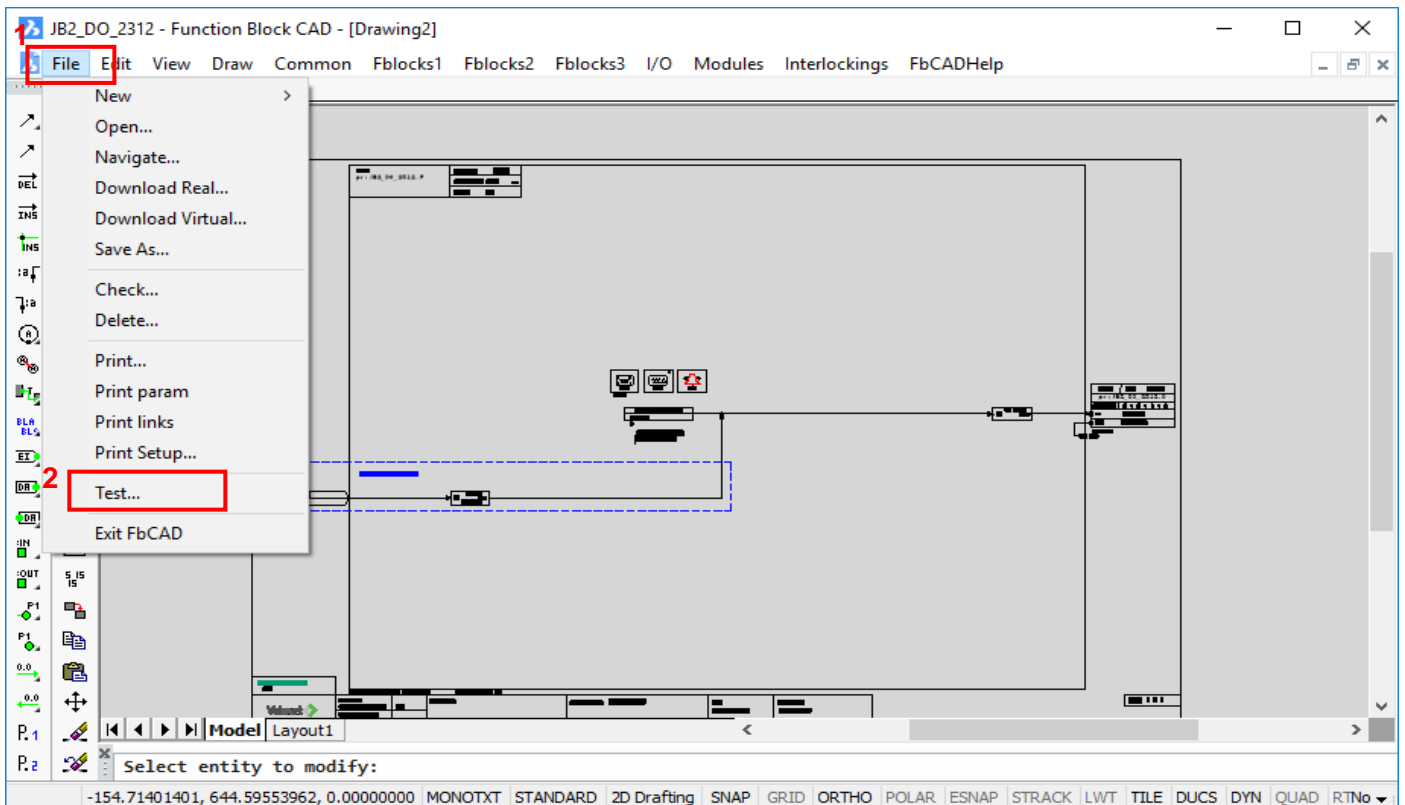
11. Check



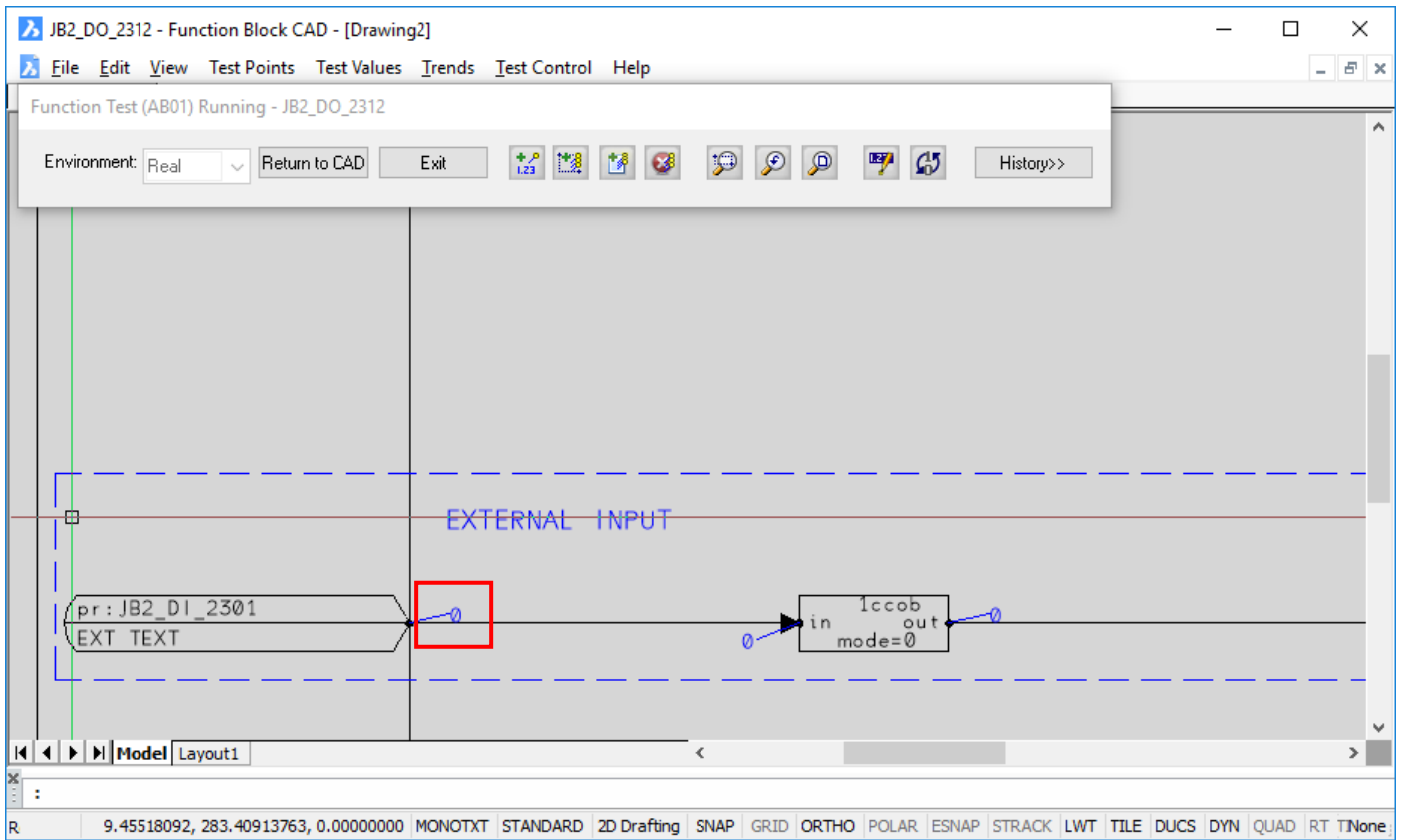
12. Download.



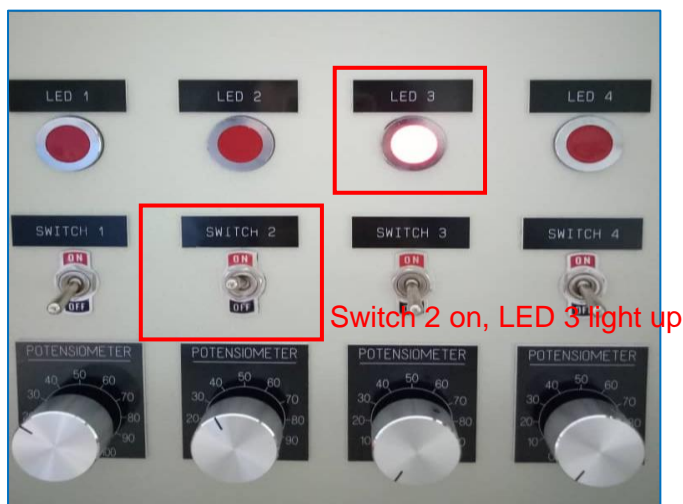
13. Test.

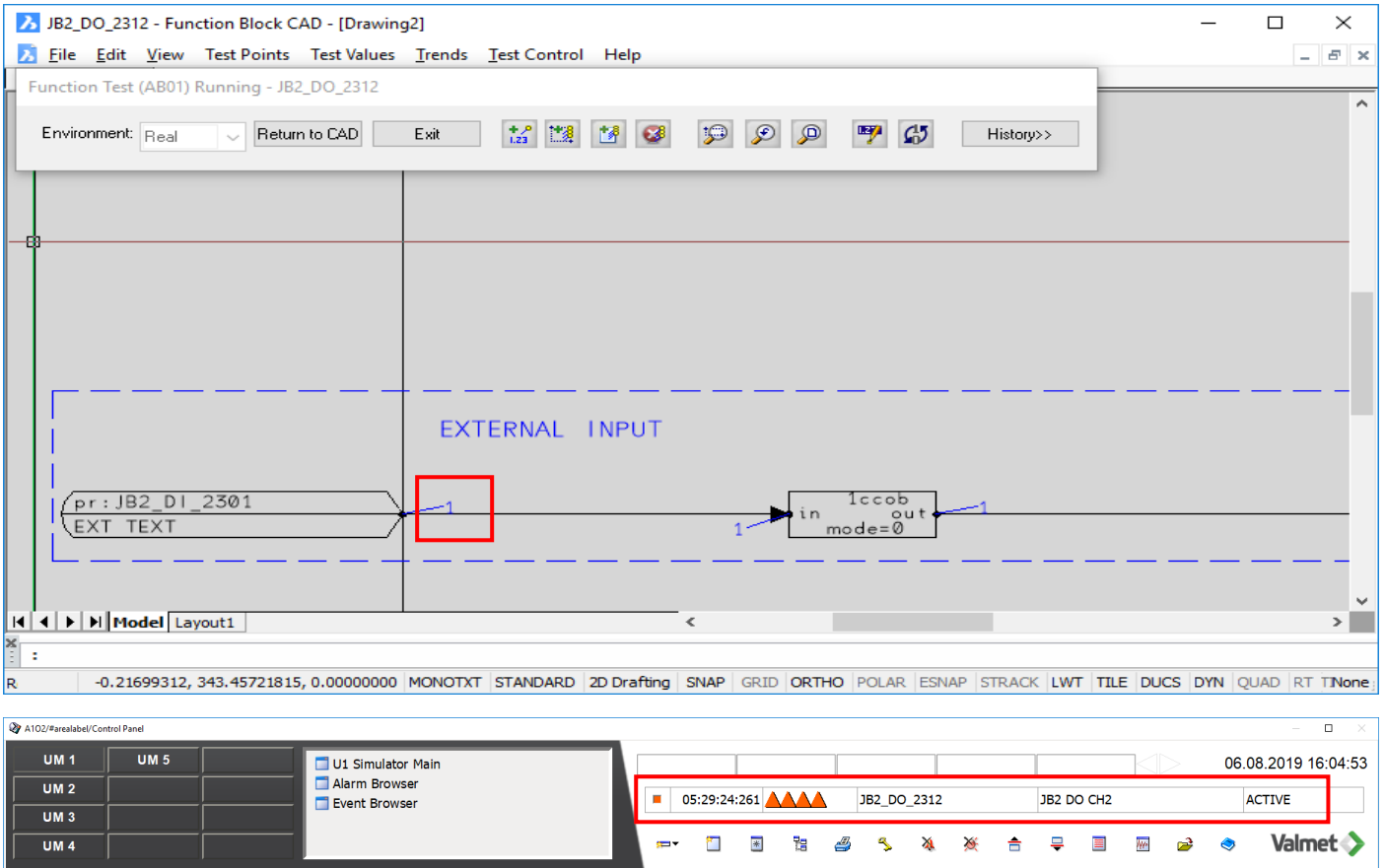


Test using switch at JB2. The test value cannot be changed on the DO file as the input has been changed to external. The 0 value remains unchanged.

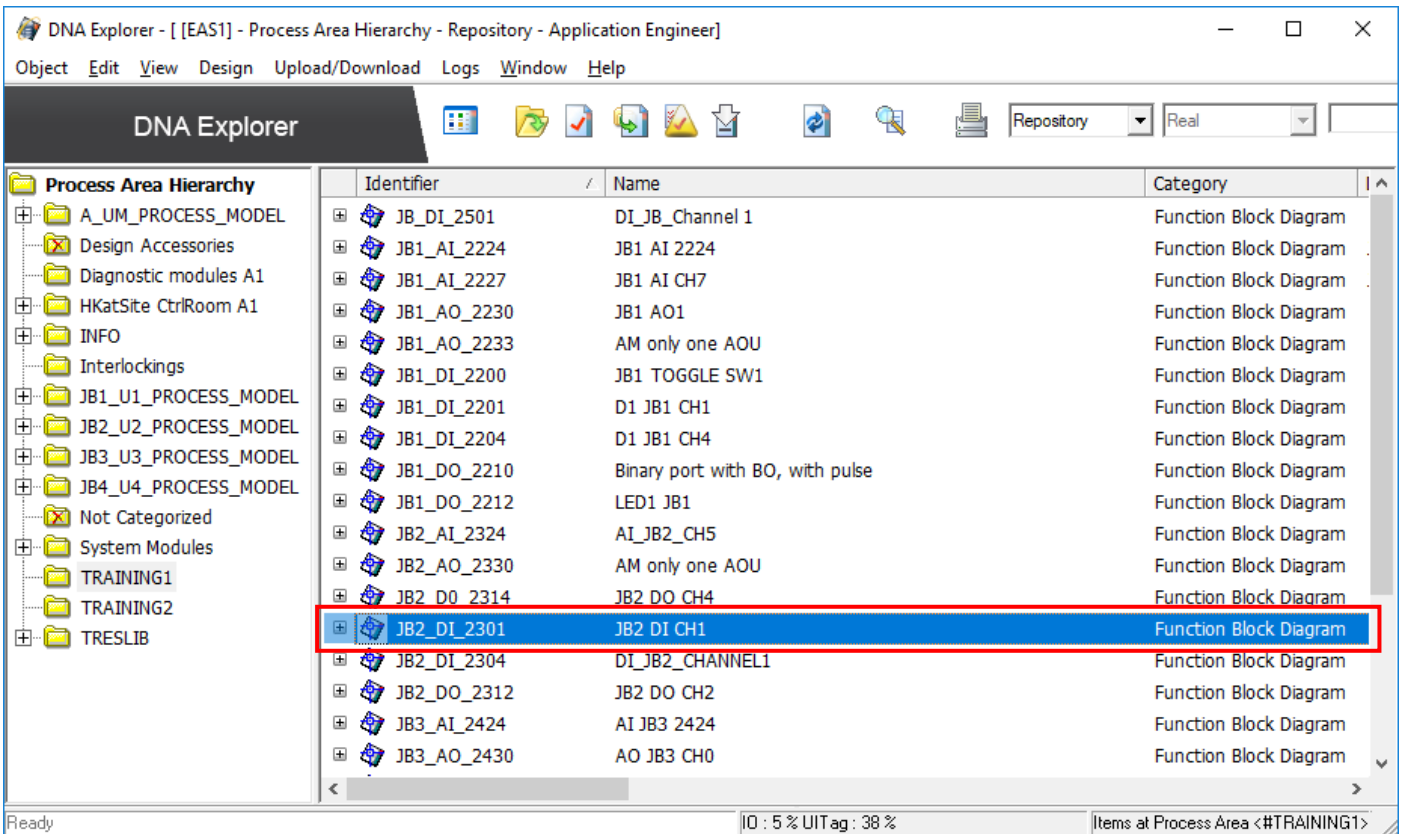


When Switch 2 on, the LED 3 light up and the value change from 0 to 1.

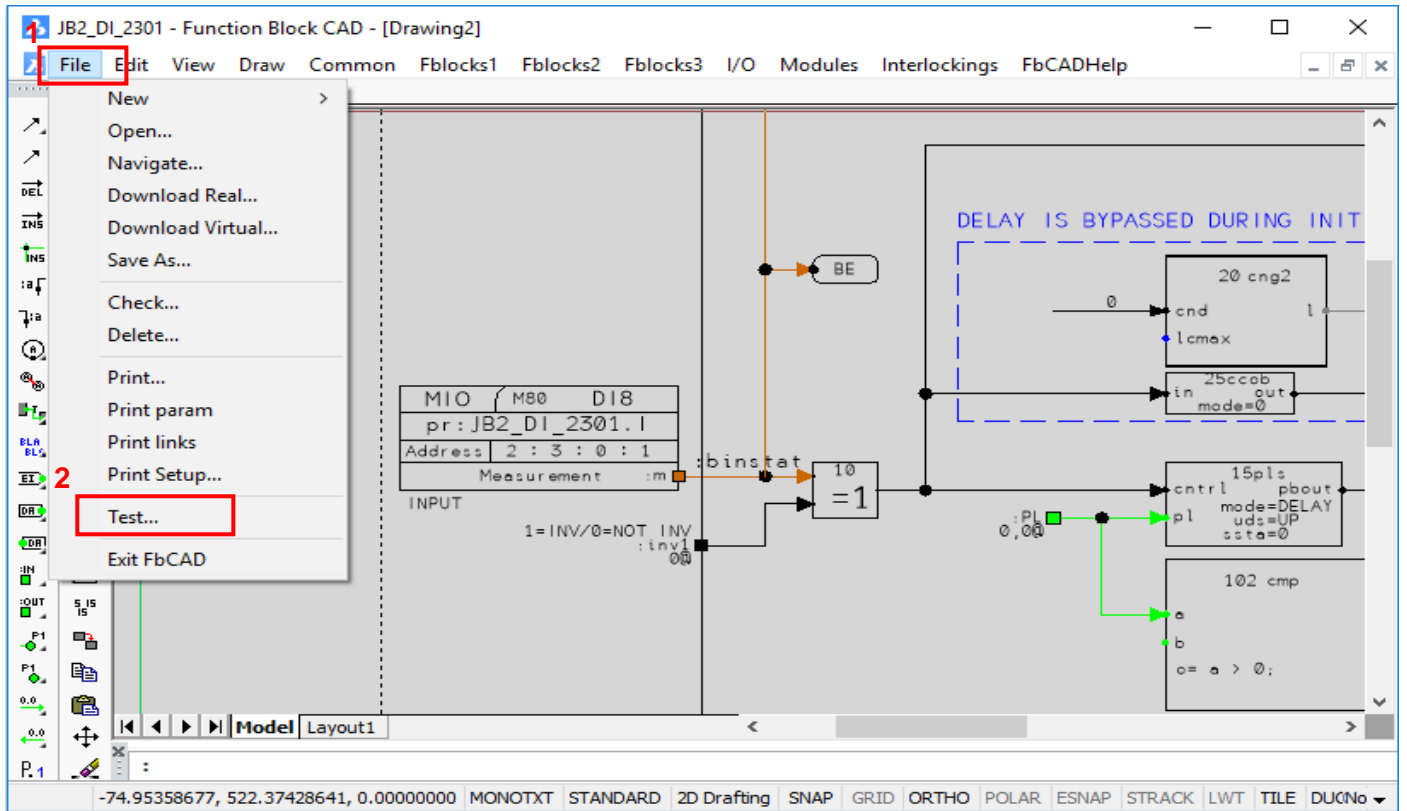




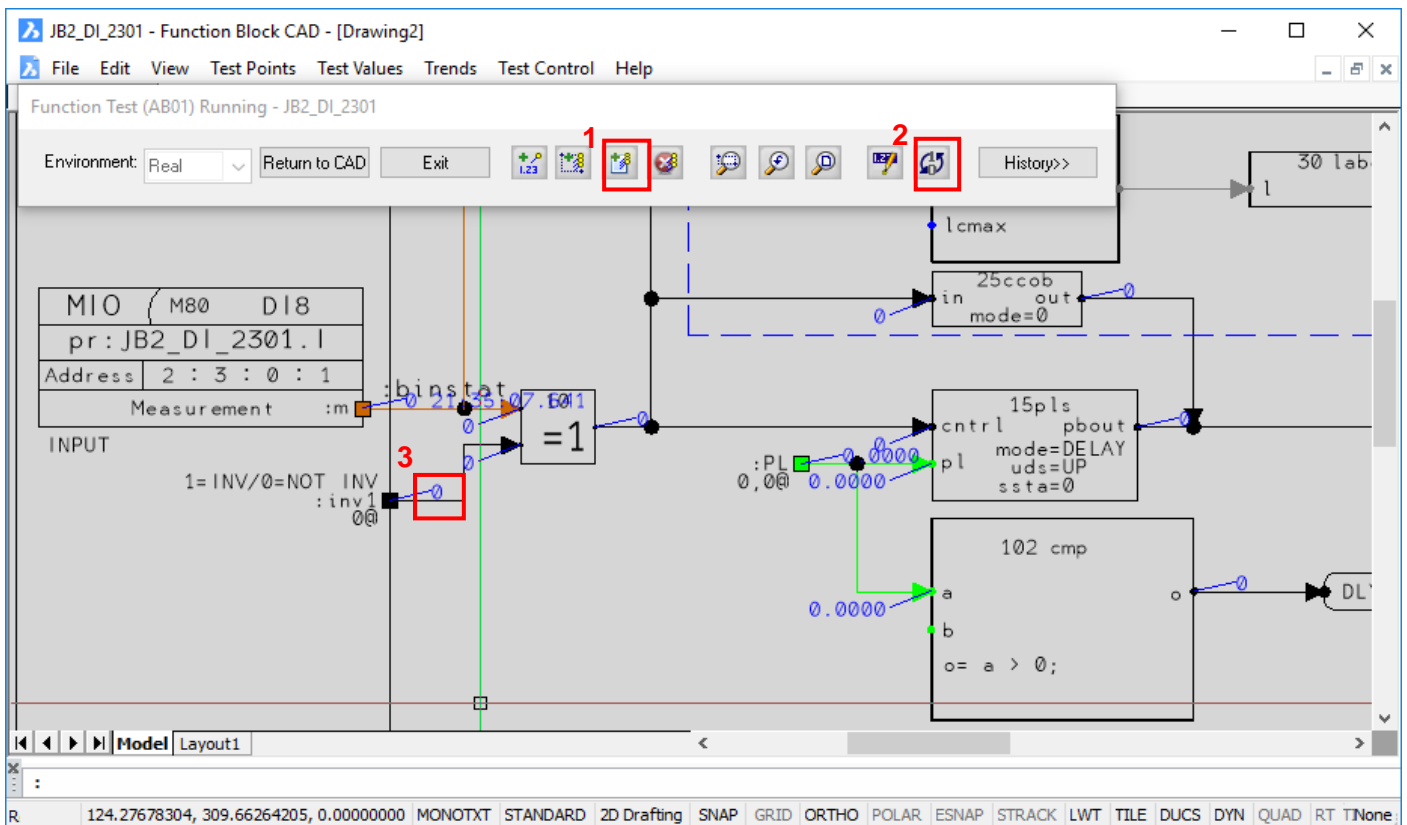
14. Or we can run the test using DI application file. Open DI file: JB2_DI_2301 from explorer.

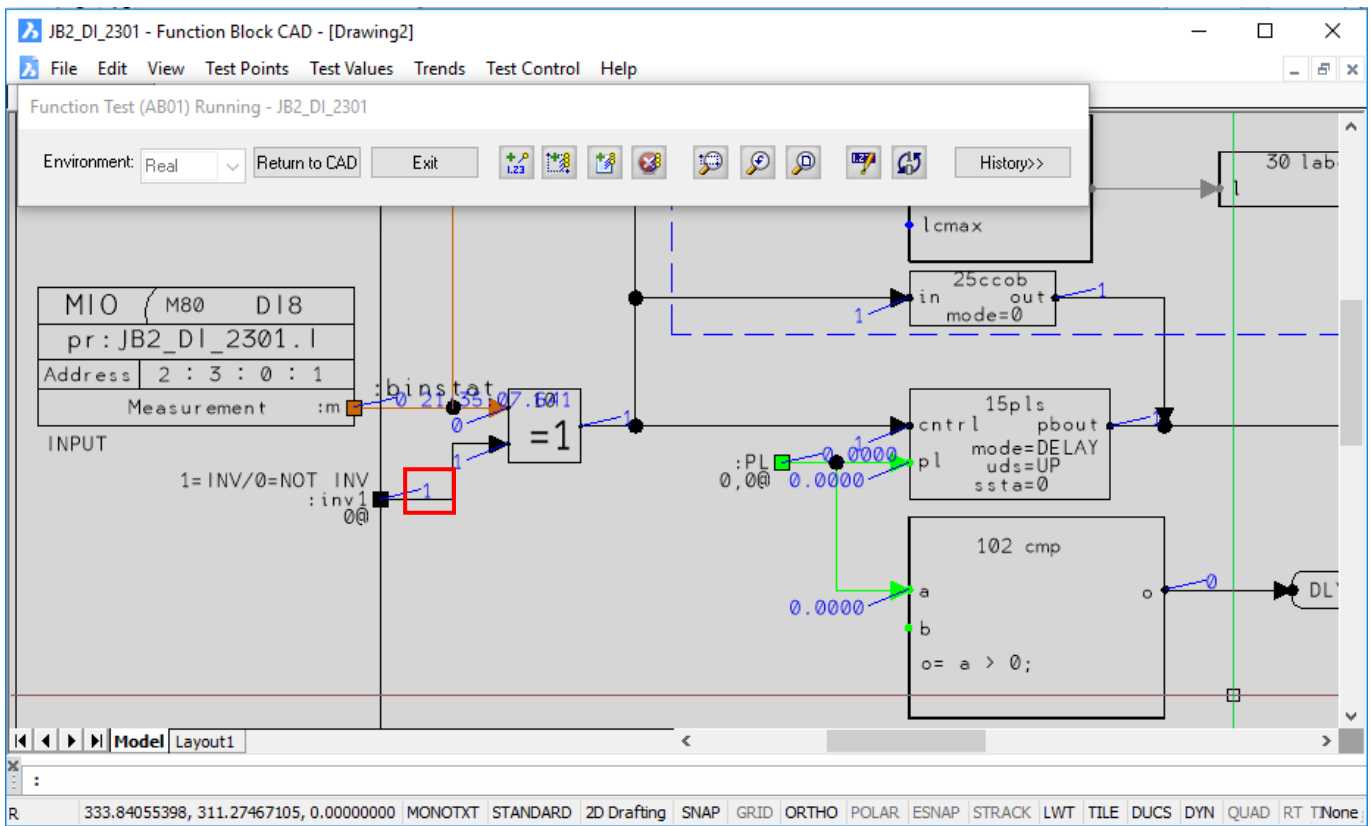


15. Test.



16. Insert all the test points and run the function test.





All switches were off, but LED 3 light up.



All switches were off, but LED 3 light up.