SOFTSTARTER TYPE PSTX

Fieldbus Plug

Profibus DPV0/DPV1

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Contents

1. Profibus

PROFIBUS is an open serial communication standard that enables data exchange between all kinds of automation components. In PROFIBUS communication, the master station – usually a programmable logic controller (PLC) polls the nodes which respond and take the actions requested by the master. It is also possible to send a command to several nodes at the same broadcast and in this case the nodes do not send a response message to the master. The physical transmission medium of the bus is a twisted pair cable (according to the RS-485 standard). Up to 32 nodes can be connected to the same PROFIBUS network segment without the use of repeaters. With repeaters, it is possible to connect 126 nodes (including repeaters and a master station) to the network. To configure a Profibus master, the configuration tool needs a GSD file for each type of slave on the network. The GSD file is a Profibus DP standard text file containing the necessary communications set-up data for a slave.

The Profibus protocol is a fieldbus protocol that provides full control and status information of the softstarter, reading as well as writing of parameters. Through the fieldbus it is possible to start and stop the motor, read out currents and frequency, get information about protections, warnings, faults and much more.

See chapter 8 in the Installation and commissioning manual, document 1SFC132081M0201, for fieldbus related settings.

Before the Profibus DP fieldbus can be taken in operation following parameters must be set in the softstarter:

– Parameter 12.2 FB interface connector set to **FbPlug.**
– Parameter 12.3 Fieldbus control set to **On** Fieldbus control set to On (if using fieldbus only to monitor this parameter can be set to **Off**).
– Parameter 12.4 Fieldbus address set to desired Profibus station address.

Information
After changing any of the communication parameters it is needed to perform a power cycle of the device for the parameter values to be taken into effect. Or another way for a communication parameter value change to be taken into effect is to set parameter 12.2 FB interface connector to “None” and then set it back to “FbPlug”.

For technical data and descriptions of the Profibus DP fieldbus plug, see document 2CDC192001D0208, available at www.abb.com/lowvoltage.

To do the programming of the PLC, following GSD files are available:

GSD file	Type of protocol
ABB_078F.gsd	Profibus DP V0
ABB_082d.gsd	Profibus DP V1

Information
The GSD file contains information about different software versions of the softstarter.

Check that correct part of the file is used in relation to the actual softstarter version.

If there is no message passed between the PSTX softstarter and the Fieldbus plug for more than 100ms, the PSTX softstarter will trip on fieldbus communication failure protection (P1E00) and with the default configuration, the motor will be stopped. If the fieldbus communication system is setup in such a way that commands/requests are not continuously passed between the PLC and softstarter, this protection function should be disabled. The parameter 19.4 (Fieldbus failure op) can then be set to “Off”.

Caution!
The motor may start unexpectedly if there is a start signal present when doing any of the actions listed below.

- Switching from one type of control to another (fieldbus control/hardwire control)
- Reset all Settings

1.1. Digital input telegram

To PLC from softstarter.

Word in input data area	Digital input byte	Bit	Data	Description
0	0	0	Auto Mode status[1]	0 = Softstarter control through fieldbus communication not allowed 1 = Softstarter control through fieldbus communication allowed
		1	Event status	0 = No active fault/warning/protection 1 = Active fault/warning/protection
		2	Ready To Start	0 = A start will probably cause a fault 1 = A start will not cause a fault
		3	FBT Response 0	See section 2 Fieldbus Tasks
		4	FBT Response 1	See section 2 Fieldbus Tasks
		5	FBT Toggle Bit	See section 2 Fieldbus Tasks
		6	Programmable Digital Input 1	Function of programmable digital input, see section 1.2

		7	Programmable Digital Input 2
	1	8 (0)	Programmable Digital Input 3
		9 (1)	Programmable Digital Input 4
		10 (2)	Programmable Digital Input 5
		11 (3)	Programmable Digital Input 6
		12 (4)	Programmable Digital Input 7
		13 (5)	Programmable Digital Input 8
		14 (6)	Programmable Digital Input 9
		15 (7)	Programmable Digital Input 10

[1)] Auto mode reflects the control state of the Softstarter. This is affected by a combination of:

- The Auto mode input signal from the PLC (Digital output telegram).
- The state of the Local/Remote switch on the HMI.
- The parameter “Fieldbus control”.
- The digital input “Fieldbus disable”.

1.2. Programmable Digital Inputs

The functions of the programmable Digital inputs are controlled by the parameters Fieldbus DI 1 through Fieldbus DI 10. The following functions are available for selection:

Function	Data
None	Value is set to 0
Start feedback	Status of Start signal
Stop feedback	Status of Stop signal
Fault reset feedback	Status of Reset signal
Slow speed reverse feedback	Status of Slow speed reverse signal
Slow speed forward feedback	Status of Slow speed forward signal
Start 1 feedback	Status of Start 1 signal
Start 2 feedback	Status of Start 2 signal
Start 3 feedback	Status of Start 3 signal
Motor heating feedback	Status Motor heating signal
User defined feedback	Status of User defined protection signal

Function	Data
Stand still brake feedback	Status of Stand still brake signal
Emergency mode feedback	Status of Emergency mode signal
Start reverse feedback	Status of Start reverse signal
Run status	1 = Indicates when the softstarter gives voltage to the motor
TOR status	Top of Ramp. 1 = Indicates that motor runs on full voltage
Line	Line or Inside Delta Connection; 0 = Line, 1 = Delta
Phase sequence	0 = L1, L2, L3; 1 = L1, L3, L2
Event group 0 status	0 = No active events present in group 0.
Event group 1 status	0 = No active events present in group 1
Event group 2 status	0 = No active events present in group 2
Event group 3 status	0 = No active events present in group 3
Event group 4 status	0 = No active events present in group 4
Event group 5 status	0 = No active events present in group 5
Event group 6 status	0 = No active events present in group 6
Sequence 1 Run status	Run status of sequence connected motor 1
Sequence 2 Run status	Run status of sequence connected motor 2
Sequence 3 Run status	Run status of sequence connected motor 3
Sequence 1 TOR status	Top of Ramp status of sequence connected motor 1
Sequence 2 TOR status	Top of Ramp status of sequence connected motor 2
Sequence 3 TOR status	Top of Ramp status of sequence connected motor 3
Run reverse status	1 = Indicates when the softstarter gives voltage to the motor after a reverse start
Enable status	Status of Enable signal
Digital In0 status	Status of internal digital input In0
Digital In1 status	Status of internal digital input In1
Digital In2 status	Status of internal digital input In2
Local control status	0 = Remote control, 1 = Local control (HMI)
Cancel brake feedback	Status of Cancel brake signal
Pump cleaning auto status	Status of automatic pump cleaning
Pump cleaning forward status	Status of forward pump cleaning
Pump cleaning backward status	Status of reverse pump cleaning
External digital 1DI0 status	Status of external digital input 1DI0
External digital 1DI1 status	Status of external digital input 1DI1
External digital 1DI2 status	Status of external digital input 1DI2
External digital 1DI3 status	Status of external digital input 1DI3
External digital 1DI4 status	Status of external digital input 1DI4
External digital 2DI5 status	Status of external digital input 2DI5
External digital 2DI6 status	Status of external digital input 2DI6

Function	Data
External digital 2DI7 status	Status of external digital input 2DI7
HW DI Start status	Status of the hard wire internal digital input Start
HW DI Stop status	Status of the hard wire internal digital input Stop
Ready to start (line contactor)	Same conditions as the Ready To Start bit except that the incoming three phase voltage condition is excluded. The bit can be used when a line contactor is connected

1.3. Analog input telegram

To PLC from the softstarter.

All analog data is represented as 16-bit values.

A protocol for Fieldbus tasks is used to read and write parameters. It is applicable for all Fieldbuses.

Word in input data area	Analog input word	Data	Representation
1	0	FBT Return Value	See section 2 Fieldbus Tasks
2	1	Programmable Analog Input 1	Function of programmable analog input, see section 1.4
3	2	Programmable Analog Input 2	
4	3	Programmable Analog Input 3	
5	4	Programmable Analog Input 4	
6	5	Programmable Analog Input 5	
7	6	Programmable Analog Input 6	
8	7	Programmable Analog Input 7	
9	8	Programmable Analog Input 8	
10	9	Programmable Analog Input 9	
11	10	Programmable Analog Input 10	

1.4. Programmable Analog Inputs

The functions of the programmable analog inputs are controlled by the parameters Fieldbus AI 1 through Fieldbus AI 10. The following functions are available for selection:

Function	Representation
None	Value is set to 0
Phase L1 current[1]	Value = 1000 ⇒ 100A
Phase L2 current[1]	Value = 1000 ⇒ 100A
Phase L3 current[1]	Value = 1000 ⇒ 100A
Active power (hp)	Value = 1000 ⇒ 10hp
Active power	Value = 1000 ⇒ 10kW

Function	Representation
Apparent power	Value = 1000 ⇒ 10kVA
Mains voltage	Value = 1000 ⇒ 100V
Power factor	Value = 100 ⇒ 1 Example: 87 ⇒ 0.87
Motor voltage	Value = 100 ⇒ 100%
Active energy (resettable)	Value = 1000 ⇒ 10kWh
EOL time to trip	Value = 100 ⇒ 100s Value = 65535 ⇒ No overload Value = 0 ⇒ Trip already occurred
Mains frequency	Value = 1000 ⇒ 100Hz
Max phase current[1]	Value = 1000 ⇒ 100A
Motor current	Value = 1000 ⇒ 100A
Motor run time (resettable)	Value = 100 ⇒ 1000h
Motor temperature	Value = 100 ⇒ 100℃
Motor temperature percent	Value = 100 ⇒ 100%
Number of starts (resettable)	Value = 1 ⇒ 100
Phase sequence	Value = 0 ⇒ L1->L2->L3 Value = 1 ⇒ L1->L3->L2 Value = 2 ⇒ No sequence detected
PT100 temperature	Value = n ⇒ n/10 – 50℃ Example: 750 ⇒ 25℃
PTC resistance	Value = 100 ⇒ 100Ω
Reactive energy (resettable)	Value = 1000 ⇒ 10kVArh
Reactive power	Value = 1000 ⇒ 100kVAr
Remaining time to start	Value = 100 ⇒ 100s
Thyristor temperature	Value = 100 ⇒ 100℃
Thyristor temperature percent	Value = 100 ⇒ 100%
EOL time to cool	Value = 100 ⇒ 100s
Top event code	Value = 1000 ⇒ 1000
Motor current in percent of IE.	Value = 100 ⇒ 100%
Thyristor run time (resettable)	Value = 1 ⇒ 10h
Motor connection	Value = 0 ⇒ auto Value = 1 ⇒ In-line Value = 2 ⇒ Inside delta – UI Value = 3 ⇒ Inside delta – IU Value = 4 ⇒ 2-phase L1 shorted Value = 5 ⇒ 2-phase L2 shorted Value = 6 ⇒ 2-phase L3 shorted
Phase L1 current high range[2]	Value = 100 ⇒ 100A
Phase L2 current high range[2]	Value = 100 ⇒ 100A
Phase L3 current high range[2]	Value = 100 ⇒ 100A

Function	Representation
Active power (hp) high range[2]	Value = 100 ⇒ 100hp
Active power high range[2]	Value = 100 ⇒ 100kW
Apparent power high range[2]	Value = 100 ⇒ 100kVA
Reactive power high range[2]	Value = 100 ⇒ 100kVAr
Max phase current high range[2]	Value = 100 ⇒ 100A
Max motor current high range[2]	Value = 100 ⇒ 100A
Active energy high range[2]	Value = 1 ⇒ 10000kWh
Reactive energy high range[2]	Value = 1 ⇒ 10000kVArh
Number of starts (high precision)	Value = 1 ⇒ 1

[1)] Phase current L1, L2 and L3 indicate the current through the softstarter, while the Max phase current is always the line current.

[2)] High Range alternatives are available for a few signals where there is a possibility for the values to wrap. The values are 16-bit so the maximum value for each signal is 65535. The High Range alternatives have different scaling and will never wrap around but instead have lower precision.

1.5. Digital output telegram

From PLC to the softstarter.

Word in output data area	Digital output byte	Bit	Data	Description
0	0	0	Start	Commence a start when signal is set.
		1	Stop	Commence a stop when signal is negated.
		2	Fault reset	Reset signal for possible events.
		3	Auto mode	This must be set for controlling the motor.
		4	Slow speed reverse	Perform slow speed reverse when signal is set.
		5	Slow speed forward	Perform slow speed when signal is set.
		6	Spare	
		7	Start1	Start1 if sequence start.
	1	8 (0)	Start2	Start2 if sequence start.
		9 (1)	Start3	Start3 if sequence start.
		10 (2)	Motor heating	Perform motor heating when signal is set.
		11 (3)	Stand still brake	Perform stand still brake when signal is set.
		12 (4)	Start reverse	Commence a reverse start when signal is set.

Word in output data area	Digital output byte	Bit	Data	Description
		13 (5)	Spare	
		14 (6)	Emergency mode	Set to “1” to enable emergency mode.
		15 (7)	FBT Toggle Bit	See Fieldbus Tasks.
1	2	16 (0)	User defined trip	Set to “1” to trigger user defined protection.
		17 (1)	Switch to remote control	Switch to remote control when signal is set (rising edge triggered).
		18 (2)	Pump cleaning automatic	Perform automatic pump cleaning when signal is set.
		19 (3)	Pump cleaning forward	Perform forward pump cleaning when signal is set.
		20 (4)	Pump cleaning reverse	Perform reverse pump cleaning when signal is set.
		21 (5)	K4 relay command	Set “1” to activate the internal K4 output relay. Note that parameter 10.4 K4 function has to be set as “Fieldbus”
		22 (6)	K5 relay command	Set “1” to activate the internal K5 output relay. Note that parameter 10.5 K5 function has to be set as “Fieldbus”
		23 (7)	K6 relay command	Set “1” to activate the internal K6 output relay. Note that parameter 10.6 K6 function has to be set as “Fieldbus”
	3	24 (0)	1DO0 relay command	Set “1” to activate the external 1DO0 output relay. Note that parameter 11.9 1DO0 function has to be set as “Fieldbus”
		25 (1)	1DO1 relay command	Set “1” to activate the external 1DO1 output relay. Note that parameter 11.10 1DO1 function has to be set as “Fieldbus”
		26 (2)	2DO2 relay command	Set “1” to activate the external 2DO2 output relay. Note that parameter 11.11 2DO2 function has to be set as “Fieldbus”
		27 (3)	2DO3 relay command	Set “1” to activate the external 2DO3 output relay. Note that parameter 11.12 2DO3 function has to be set as “Fieldbus”
		28 (4)	Spare	
		29 (5)	Spare	
		30 (6)	Spare	
		31 (7)	Spare	

1.6. Analog output telegram

From PLC to the softstarter.

All analog data is represented as 16-bit values.

Word in output data area	Analog output word	Data	Representation
2	0	FBT Control Word	This register is used to read parameters (see fieldbus tasks).
3	1	Fieldbus AO 1 (FBT Argument 2 or Internal analog output)	Parameter 12.37 Fieldbus AO1 decides the use of this register. If set as "FBT Argument 2", it is used to write parameters and set time (see fieldbus tasks). If set as "Internal analog output" this value of this register controls the internal analog output. Note that parameter 10.8 AO type needs to be set as "Fieldbus [%]".
4	2	Fieldbus AO 2 (FBT Argument 3 or External analog output)	Parameter 12.38 Fieldbus AO2 decides the use of this register. If set as "FBT Argument 3", it is used to write parameters and set time (see fieldbus tasks). If set as "External analog output" this value of this register controls the external analog output. Note that parameter 11.14 1AO0 type needs to be set as "Fieldbus [%]".

2. Fieldbus Tasks

By using Fieldbus Tasks it is possible to read/write parameters and to set the real-time clock.

Which task to execute is selected by filling in the FBT Control Word. There are three signals for arguments to the task:

– FBT Argument 1 is packed together with the Task ID in the FBT Control Word.

– There are two additional 16-bit arguments in separate analog output signals, FBT Argument 2 and FBT Argument 3.

To control when the task is executed, the digital output signal FBT Toggle Bit shall be changed. The softstarter will detect the change, execute the task, fill in the return values, and toggle the digital input signal FBT Toggle Bit as acknowledgement. Thus, the return values must be disregarded if the two toggle bits have different value.

2.1. FBT Control Word

The control word is a 16-bit analog output value sent from the PLC to the softstarter. It consists of a Task ID and an 11-bit argument packed together.

15	14, 13, 12,	11	10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0
-	Task ID	-	Argument 1

2.2. Task ID

The task identifier controls which function should be performed.

Task ID	Task	Response ID	
		Positive	Negative
0	No task	0	-
1	Request parameter value, lower word	1	2
2	Change parameter value	1	2
3	Set date and time	1	2
4	Request parameter value, upper word	1	2

2.3. Response ID

The response ID is the softstarter response to a task. It tells whether a task was executed successfully. If there was an error, an additional error code is returned in the FBT Return Value analog input. The Response ID is transmitted as two digital input signals, FBT Response 0 and FBT Response 1.

Response ID	FBT Response 1	FBT Response 0	Explanation
0	0	0	No response
1	0	1	Task executed
2	1	0	Task cannot be executed (with error number)
3	1	1	Reserved.

2.4. Error codes

The following error codes are sent when a task cannot be executed.

Error code	Explanation
0	Illegal parameter number
1	Parameter value cannot be changed
3	Lower or upper limit violated
4	Invalid argument
5	No error
6	Invalid task number

2.5. Request parameter value, lower word

This task reads the lower 16 bits of the specified parameter's value. See chapter 2.9 for parameter number and value scaling information.

2.5.1. Arguments

– FBT Argument 1: parameter number.

2.5.2. Return Value

– Response ID 1 and parameter value in FBT Return Value on success.

– Response ID 2 and error number in FBT Return Value on failure.

2.6. Change parameter value

This task writes a specified value to a parameter. See chapter 2.9 for parameter number and value scaling information.

2.6.1. Arguments

– FBT Argument 1: parameter number.

– FBT Argument 2: parameter value (lower word).

– FBT Argument 3: parameter value (upper word).

2.6.2. Return Value

– Response ID 1 on success.

– Response ID 2 and error number in FBT Return Value on failure.

2.7. Set date and time

This task updates the real-time clock on the softstarter. The date and time fields have the following limits:

– Year: 0-63 (2000-2063)

– Month: 1-12

– Day: 1-31

– Hour:0-23

– Minute:0-59

– Second:0-59

2.7.1. Arguments

FBT Argument 2: year, month, day and least significant bit of seconds

15	14, 13, 12, 11, 10, 9	8, 7, 6, 5	4, 3, 2, 1, 0
s0	year	month	day

FBT Argument 3: hour, minute, seconds, bit 1-5

15, 14, 13, 12, 11	10, 9, 8, 7, 6, 5	4, 3, 2, 1, 0
Hour	minute	seconds, bit 1-5

2.7.2. Return Value

– Response ID 1 on success.

– Response ID 2 and error number in FBT Return Value on failure. In case the supplied time didn't differ from the set time, error code 5 (no error) is used.

2.8. Request parameter value, upper word

This task reads the upper 16 bits of the specified parameter's value. See chapter 2.9 for parameter number and value scaling information.

2.8.1. Arguments

– FBT Argument 1: parameter number.

2.8.2. Return Value

– Response ID 1 and parameter value in FBT Return Value on success.

– Response ID 2 and error number in FBT Return Value on failure.

2.9. Parameter numbers and values

To access parameters from the fieldbus a unique parameter number is needed, this can be found in document 1SFC132081M0201, Chapter 7.25 Complete parameter list. Since the parameter values need to be represented as integers on the fieldbus, the parameter values with greater precision need to be scaled. In document 1SFC132081M0201, Chapter 7.25 Complete parameter list, there is a column specifying the number of decimals for each parameter.

Parameter values that are read from the fieldbus needs to be divided by $10^{\text{numbers of decimals}}$.

Parameter values that are written from the fieldbus needs to be multiplied by $10^{\text{numbers of decimals}}$.

For example:
The parameter Kick start time has parameter number 24 and 2 decimals. To read this parameter:

1. Set FBT Task ID to 1.
2. Set FBT Argument 1 to 24 to specify the parameter.
3. Toggle FBT Toggle Bit output and wait for the FBT Toggle Bit input to update.
4. Response ID 1 should now contain value 1, indicating success.
5. FBT Return Value contains the value 50 (this is an example and depends on the actual value set).
6. The return value should be interpreted as $50/10^2 = 0.5$s.

To change the Kick start time **parameter to 1s:**
1. Set FBT Task ID to 2 for Change parameter value.
2. Set FBT Argument 1 to 24 to specify the parameter.
3. Set FBT Argument 2 to 1*102 = 100.
4. Set FBT Argument 3 to 0 as 100 <= 65535 which means it doesn't require more than 16 bits.
5. Toggle FBT Toggle Bit output and wait for the FBT Toggle Bit input to update.
6. Response ID 1 should now contain value 1, indicating success.

2.9.1. Negative values

Negative values are represented internally using 32-bit two's complement numbers.

Example:
Setting parameter 17.5 PT100 reset temp (parameter number 249) to a value of -25°C:

The two's complement of -25 is $FFFFFFE7_{hex}$. The upper word is $FFFF_{hex}$ and the lower $FFE7_{hex}$, in decimal notation 65535 and 65511.

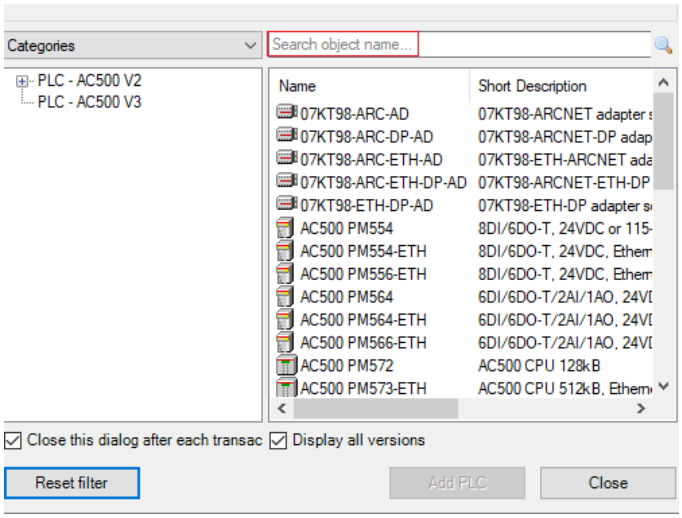
1. Set FBT Task ID to 2 for Change parameter value.
2. Set FBT Argument 1 to 249 to specify the parameter.
3. Set FBT Argument 2 to 65511 to specify the lower word.
4. Set FBT Argument 3 to 65535 to specify the upper word.
5. Toggle FBT Toggle Bit output and wait for the FBT Toggle Bit input to update.
6. Response ID 1 should now contain value 1, indicating success.

3. Configure ABB Automation Builder

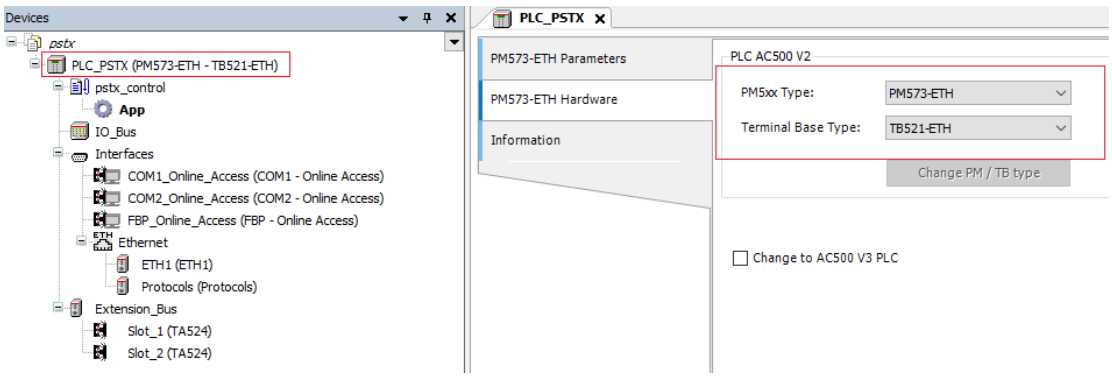
This part of the document describes how to configure an ABB AC500 PLC using the CM592-DP module to control a PSTX Softstarter with an FBP Profibus module.

3.1. Create a new project

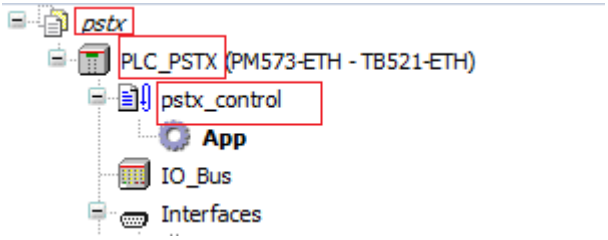
1. Open Automation Builder.
2. Select File->New Project->AC500 project->OK.
3. Select the correct PLC CPU in Search object name …-> Add PLC.



4. Check that the correct device type is selected by double clicking the device name in Devices field. Check that the correct Terminal Base Type is also selected for the tag for Hardware.

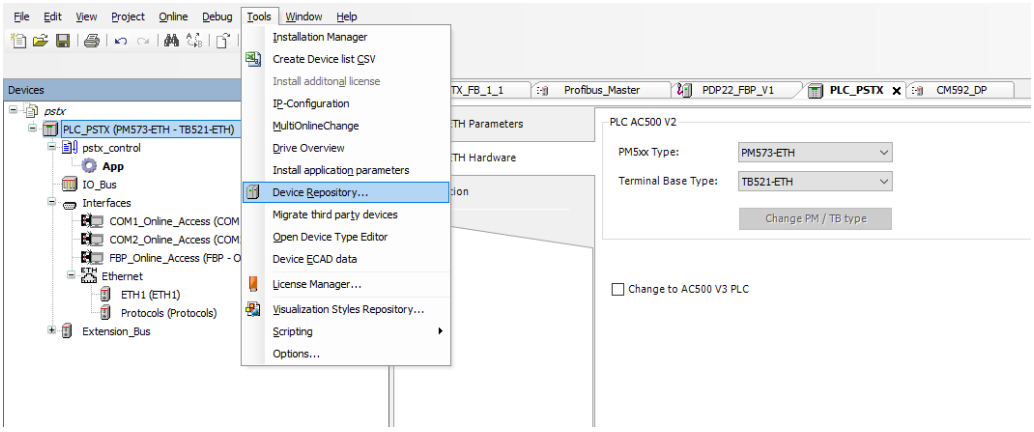


5. Optional: rename the project and the Application to some more suitable names for example “pstx” and “pstx_control”

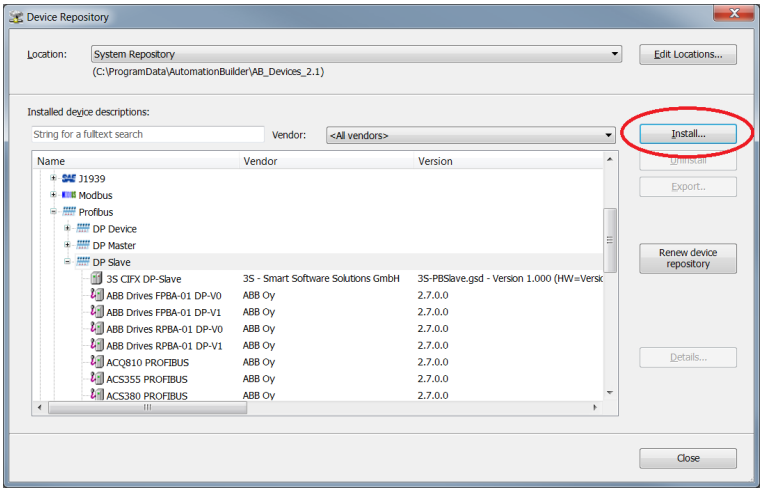


3.2. Install the Profibus GSD-file

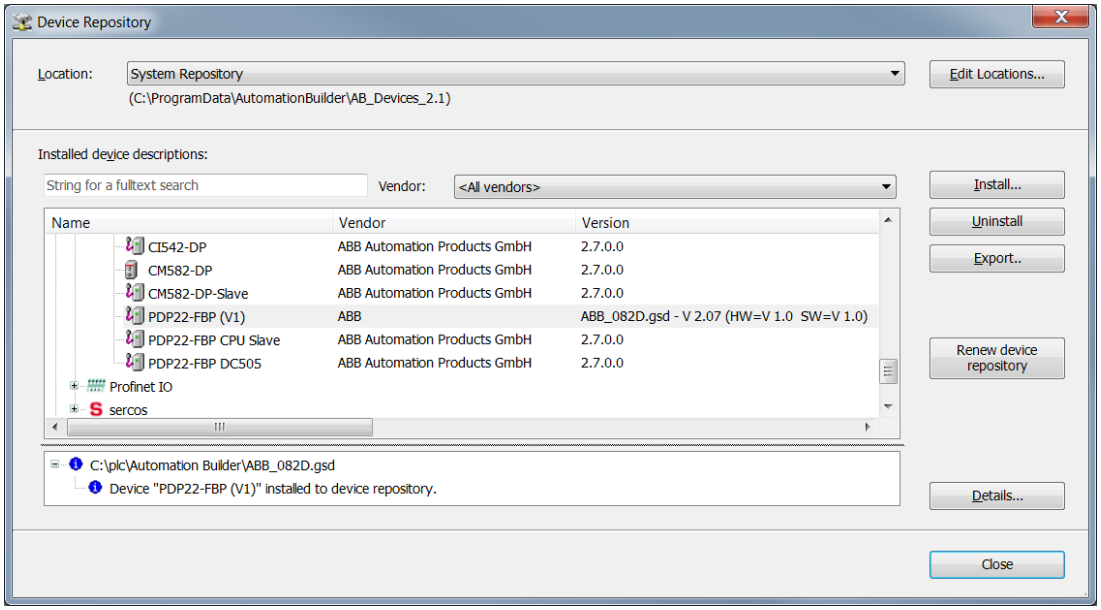
1. In the Tools menu select Device Repository



2. Click Install

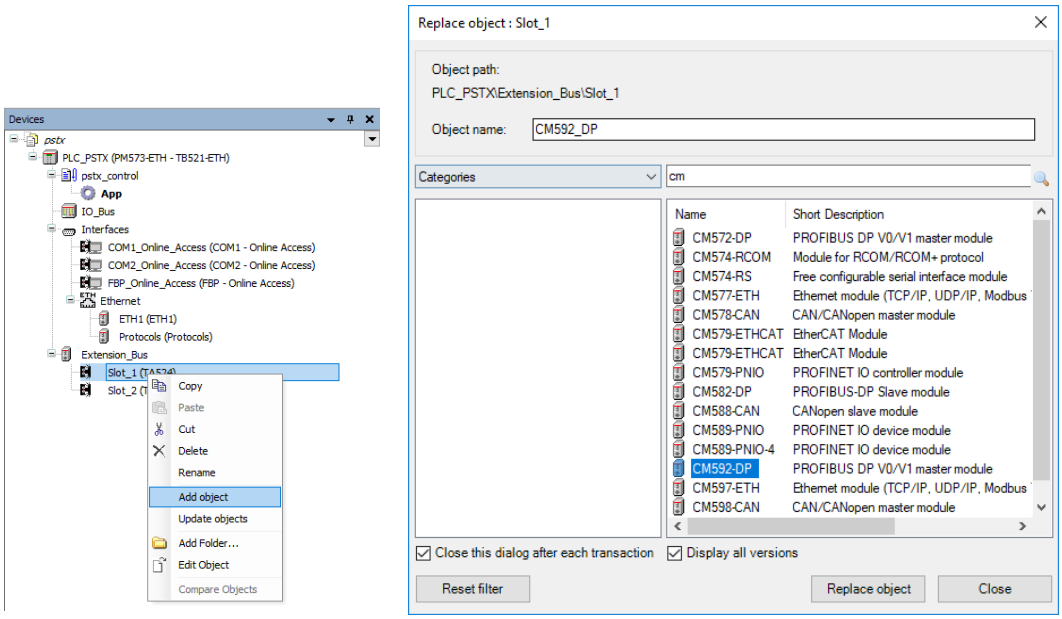


3. Select and install the EDS-file: ABB_082D.gsd

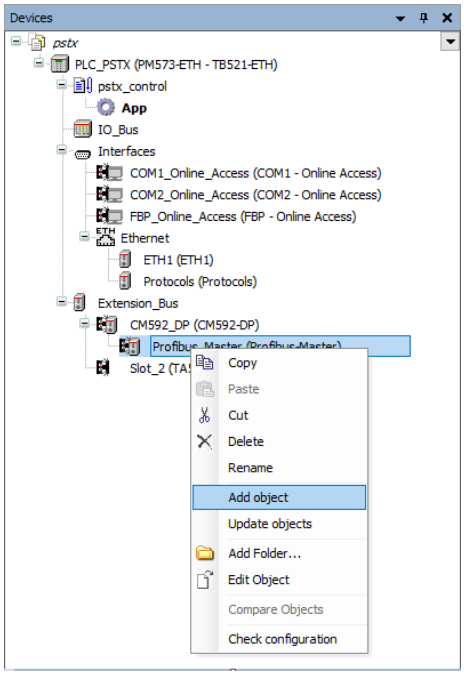


3.3. Add the CM592-DP PROFIBUS master module and the PSTX Slave

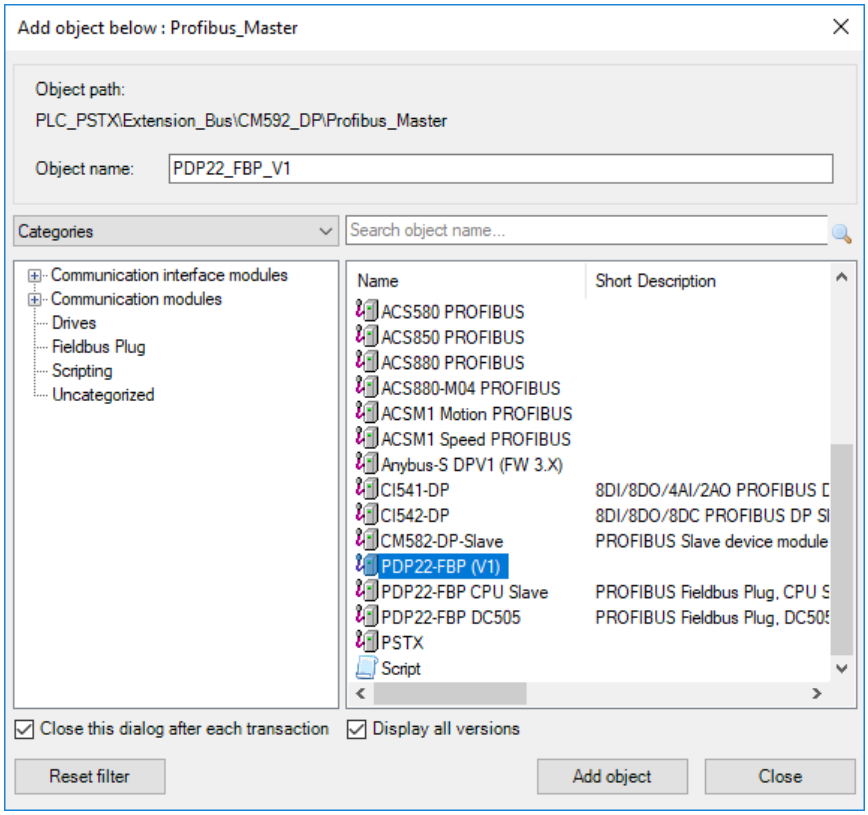
1. Right click on the empty slot where the CM592-DP module is installed and select “Add object”.
   Select the Profibus master module, here we select “CM592-DP”, in the Replace object window. Click “Replace object” to close the Replace object window.



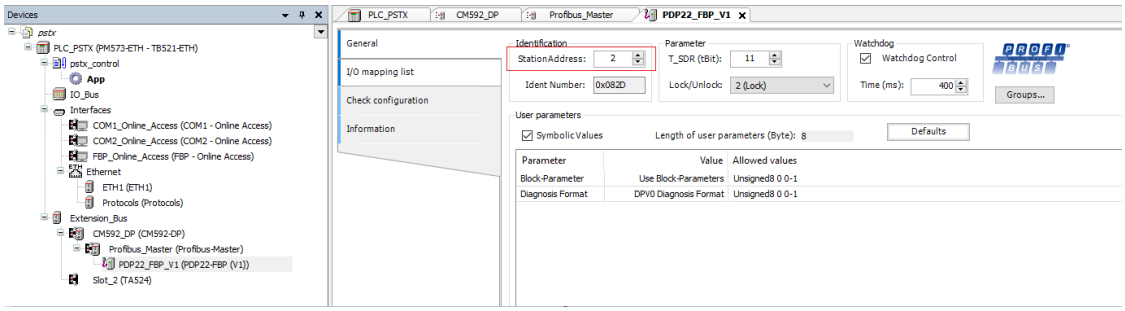
4. Right click on the newly installed Profibus_Master and select “Add object”.



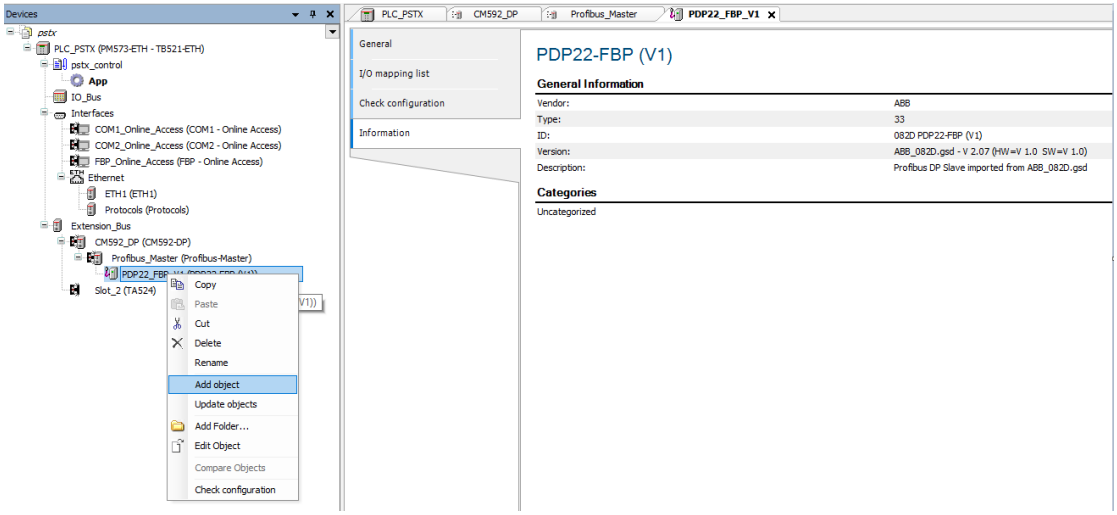
5. Select PDP22-FBP (V1) found under Uncategorized and click “Add object”.



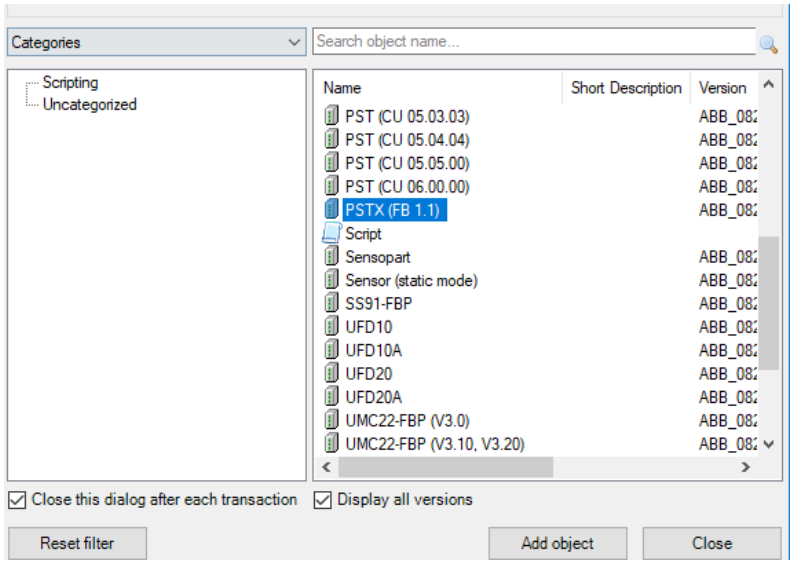
6. The PD22_FBP_V1 is now added. Change the Station Address to match the value set to Fieldbus address (Parameter 12.4) in the PSTX.



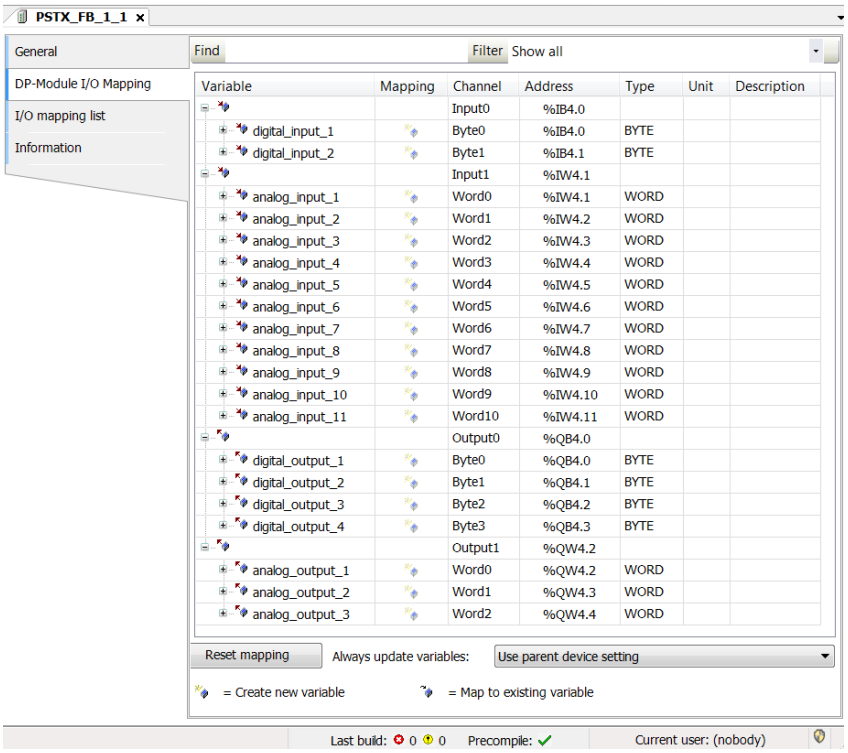
7. Right click on the newly installed PDP22_FBP and select “Add object”



8. Select PSTX and click “Add object”.



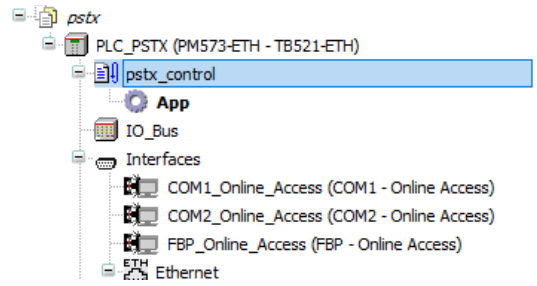
9. Map the signals to variable names in DP-Module I/O Mapping for the object PSTX_FB_1_1



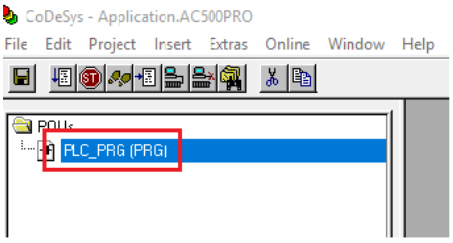
3.4. Write a simple PLC program to control the softstarter

We perform the following steps for building our start-stop demo program in CoDeSys.

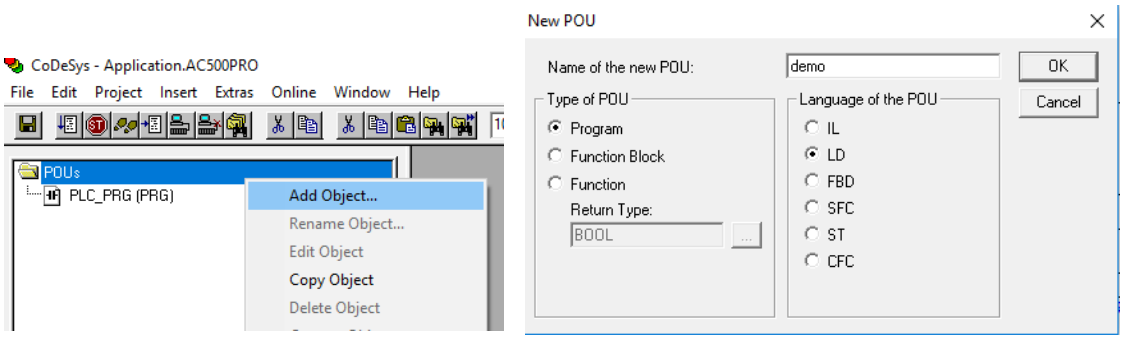
1. Open CoDeSys by double clicking your application in Devices file in Automation Builder, if it is not opened yet.



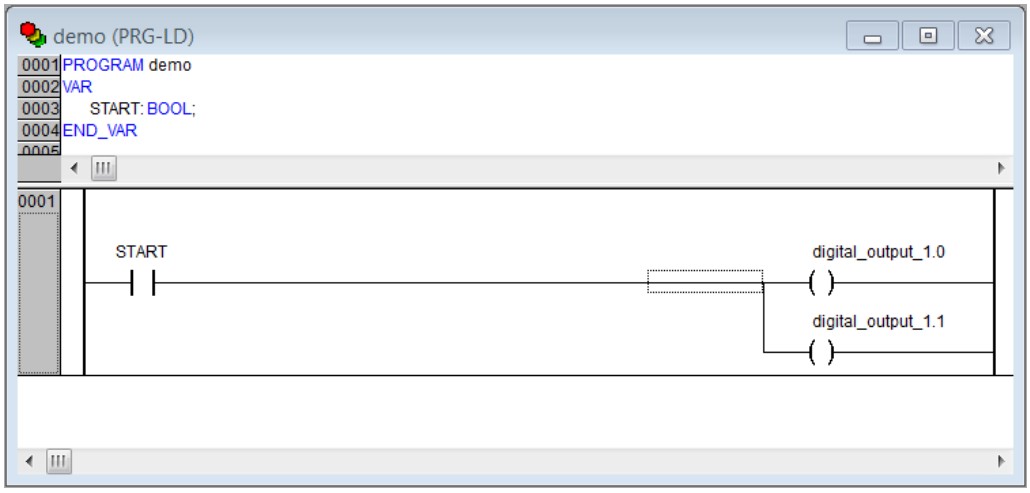
2. Open program window by double clicking the default program in POUs in CoDeSys.



3. We choose to use LD as the language of the POU here by right click POUs -> Add Object… ->Insert Name of the new POU -> Choose “LD” for “Language of the POU” -> OK.

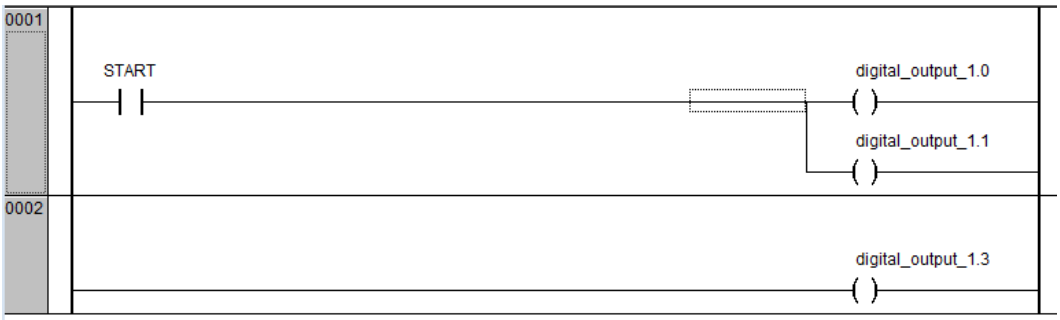


4. Select the first network, create a contact “START” (by CTRL+K and putting name at “???”) and two coils “digital_output_1.0” and “digital_output_1.1” (by CTRL+L) in first network. We let data types as default by clicking OK directly in Declare Variable window. We set digital_output_1 bit 0 and 1 because we want to set TRUE for “Start” and “Stop”, according to Section 1.5. The name digital_output_1 comes from end of Section 3.3 (map signals to variable names).

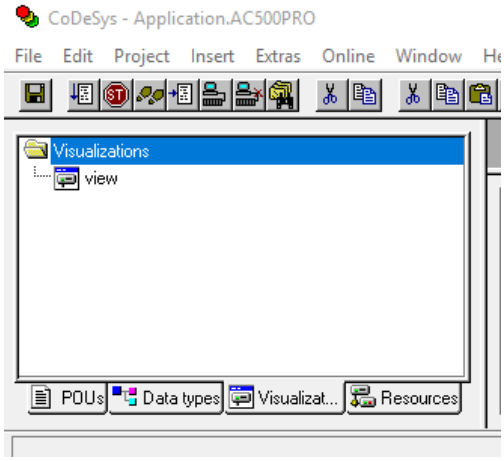


5. Create a second network by CTRL+T

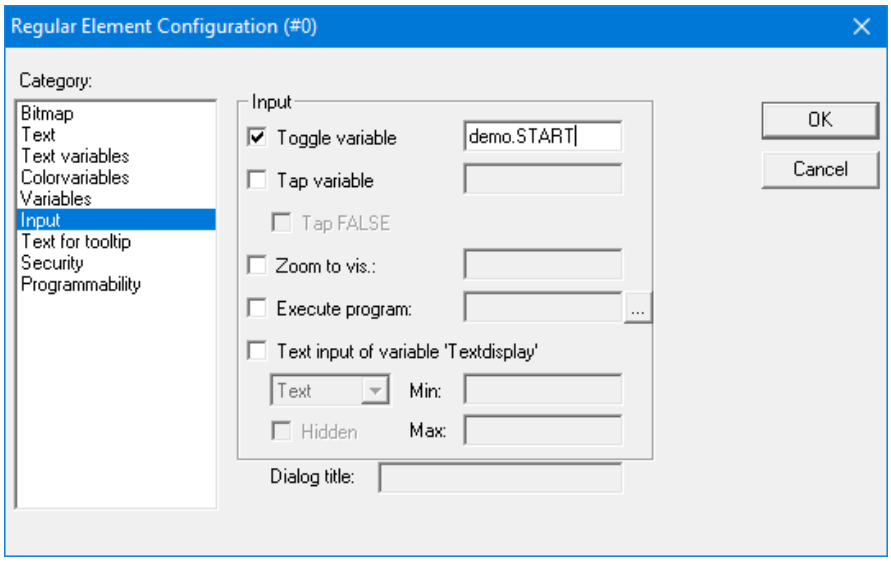
6. Select the second network, add a coil for automode “digital_output_1.3” (by CTRL+L).



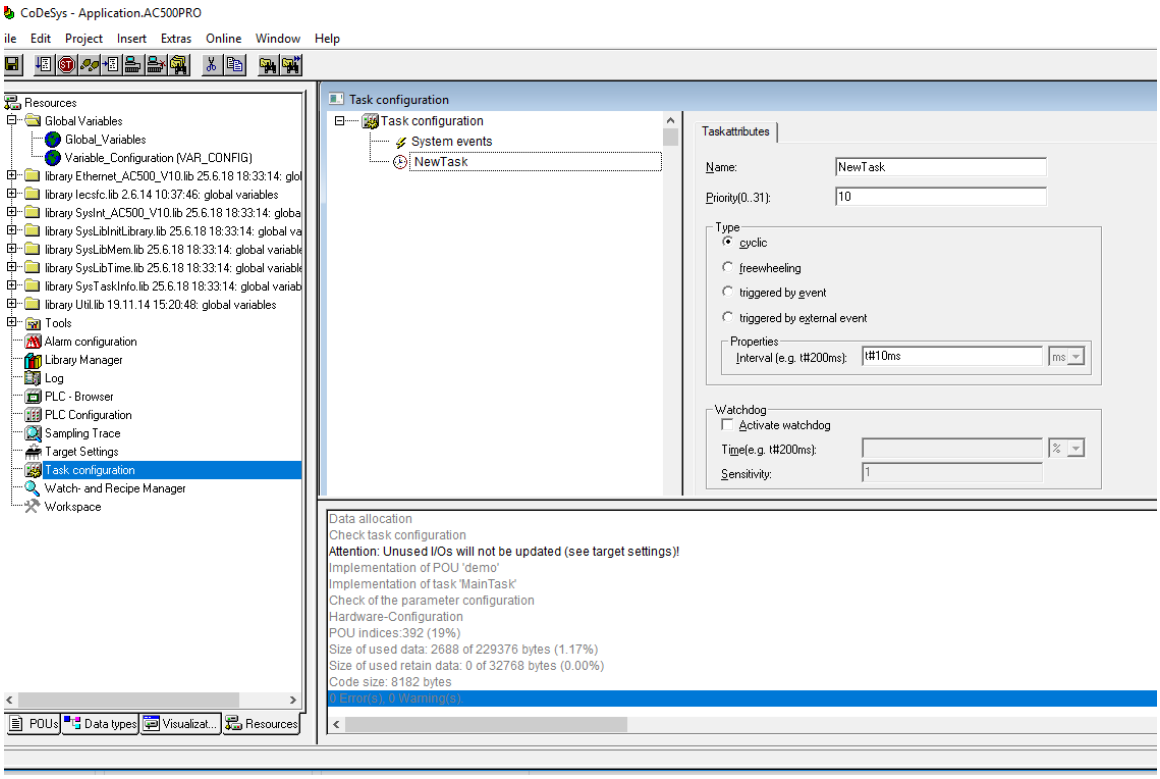
7. Now we want to create one control button for signing the value of “START” from the first network into TRUE. We do this by Visualization -> right click -> Add object -> Write name of the new Visualization as “view” -> OK.



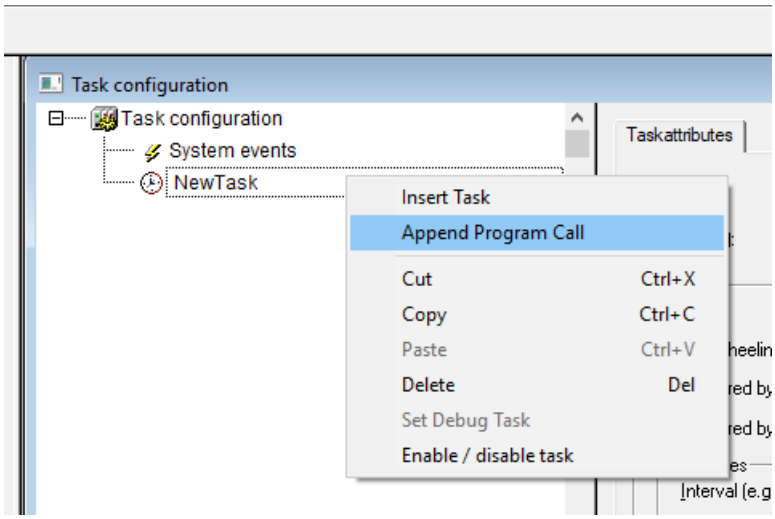
8. We draw a shape as the button  -> double click the shape -> Regular Element Configuration -> Input -> check Toggle variable -> insert “demo.START” ->OK.



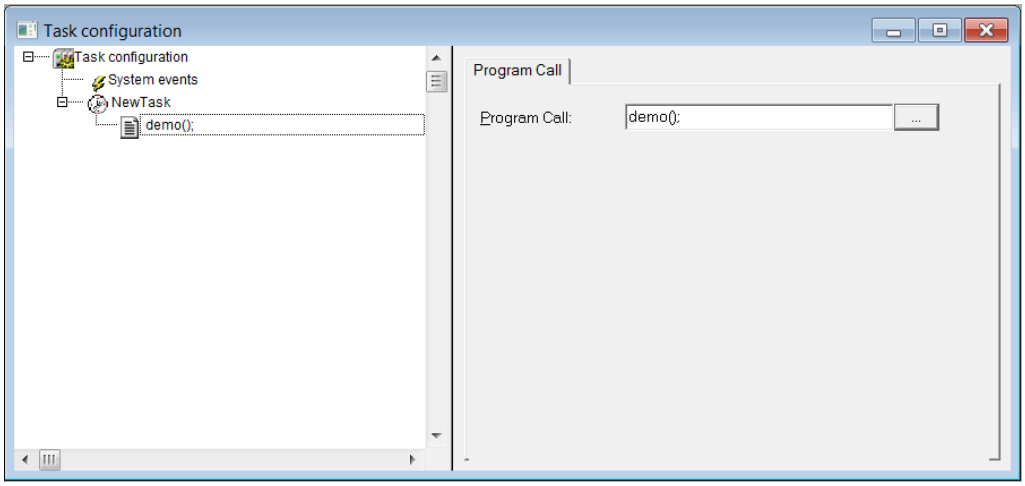
9. We configure this program into task configuration by Resource -> Task configuration -> Right click Task configuration -> Append Task -> Insert t#10ms in Properties in Taskattributes. Then we need to sign our program to this task by right click NewTask-> Append Program Call-> Choose demo(PRG) by clicking the select button in Program Call ->OK.



10. Right click on the NewTask and select Append Program Call.

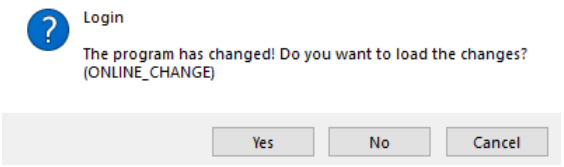


11. Select the demo program call.

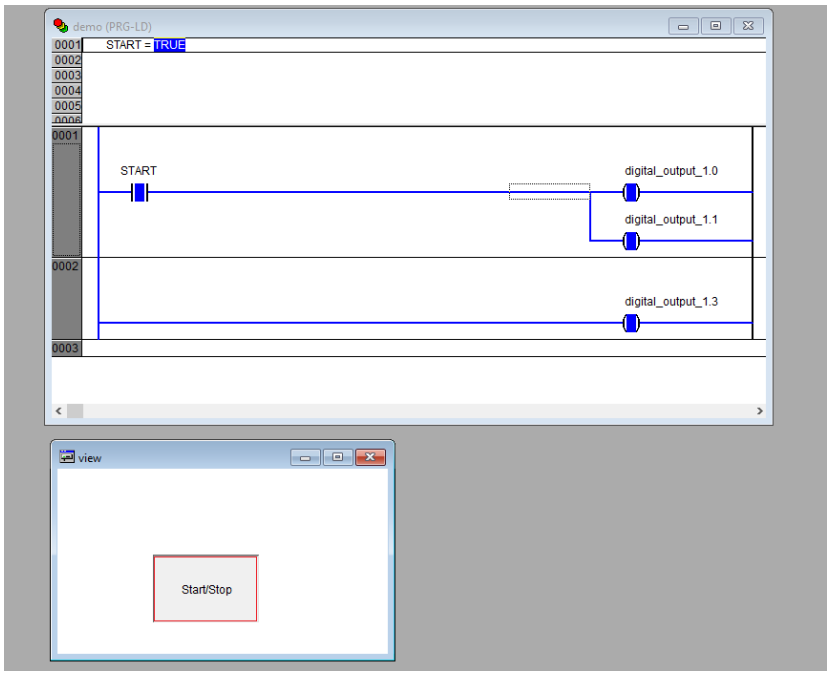


3.5. Build and run the PLC demo program

Use the key, F11, to build the program once. Login and start project from Automation Builder by clicking Alt+F8 to login the CodeSys. Click yes to login.



Click F5 to start. Switch to CoDeSys and click Alt+F8 to login demo. The program can be controlled with the view from CodeSys.



4. Contact us

For more information, please contact
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