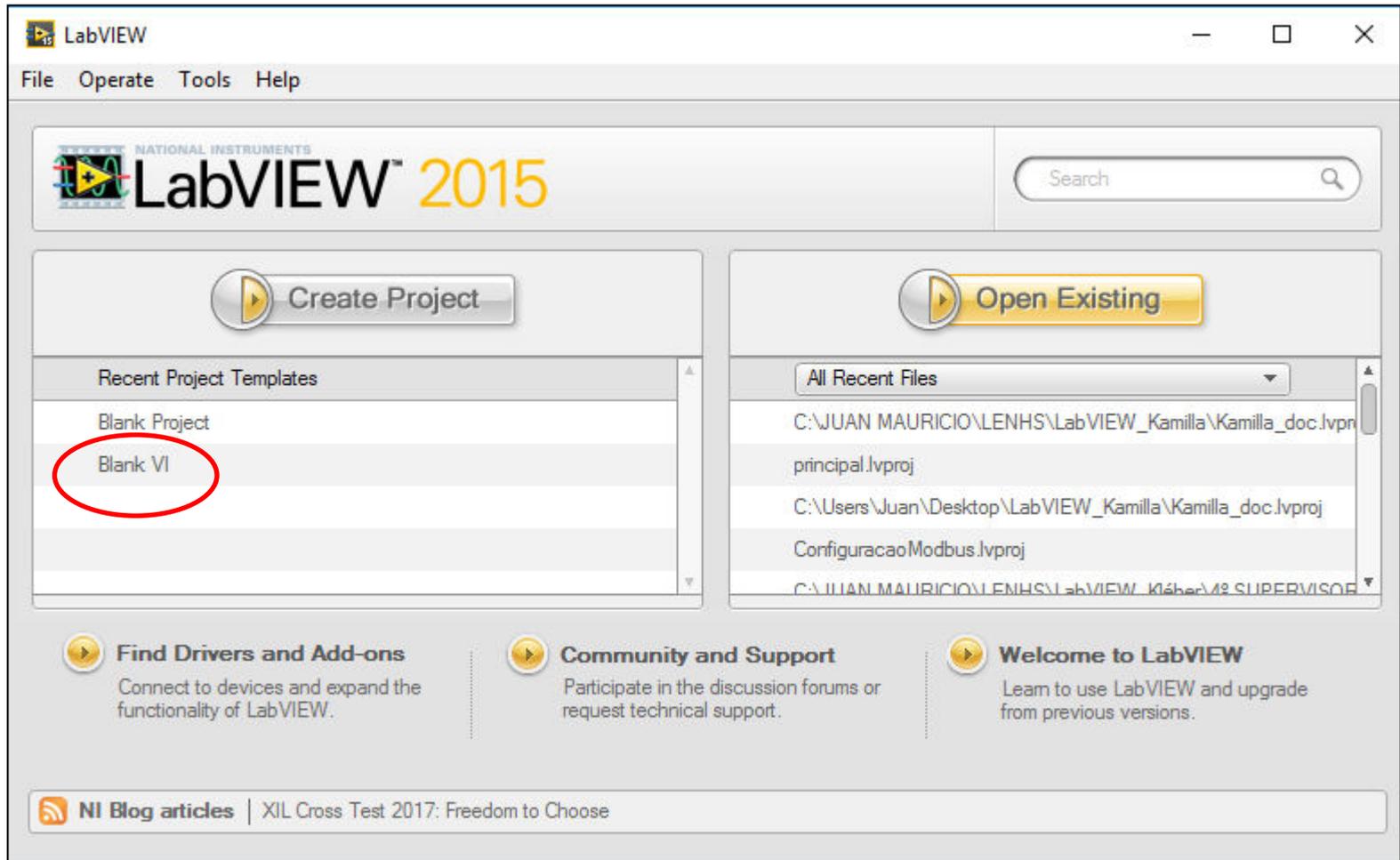
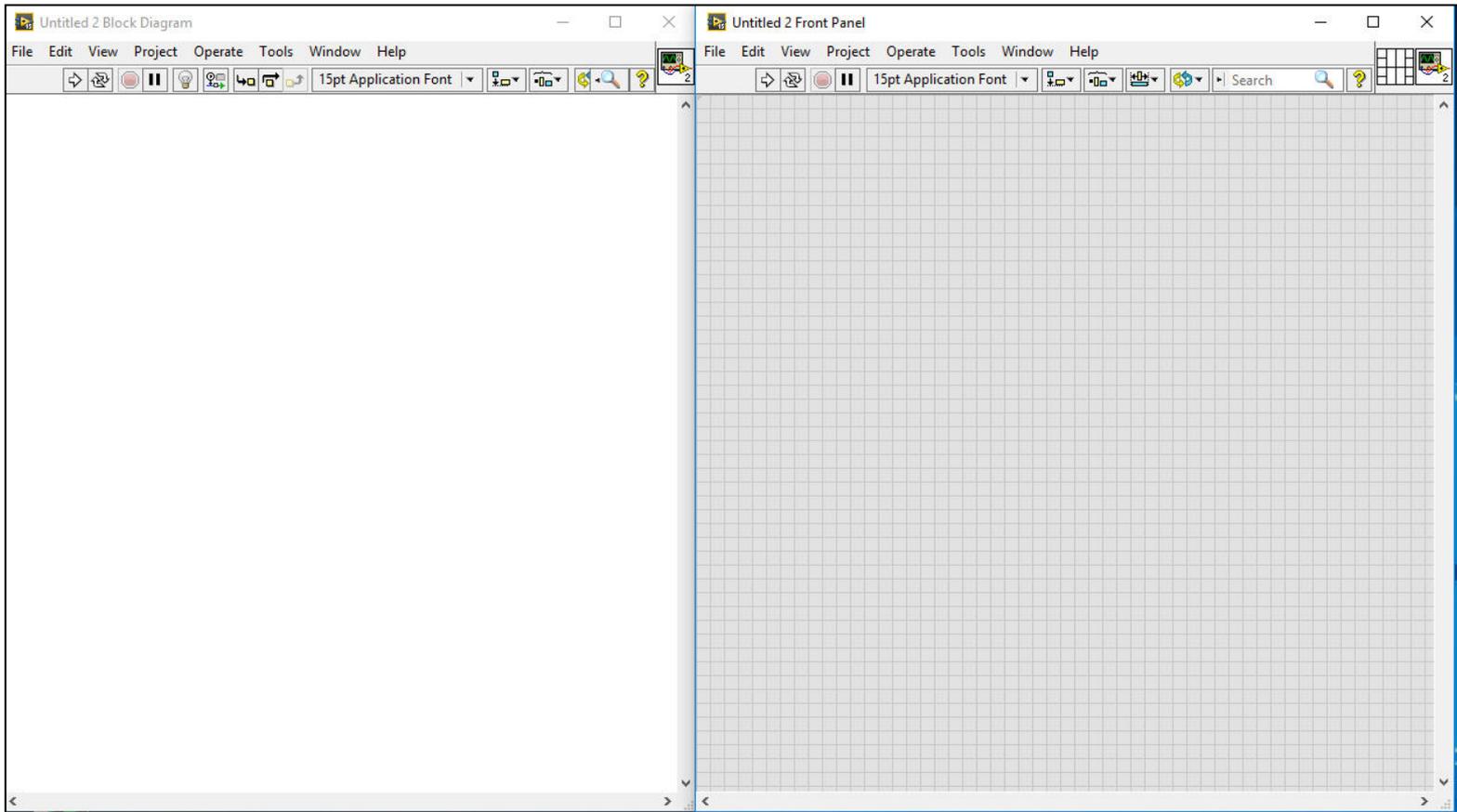


Configuração ModBus LENHS

- Objetivos
 - Ligar o conjunto Motor-Bomba
 - Modificar os valores do inversor
 - Leitura dos sensores de Vazão e Pressão

Labview





Criar um novo Projeto

The image shows the LabVIEW software interface. The 'Project' menu is open, displaying options such as 'Create Project...', 'Open Project...', 'Save Project', and 'Close Project'. The 'Create Project...' option is selected. Below the menu, the 'Create Project' dialog box is visible, titled 'Choose a starting point for the project:'. The dialog lists several project templates, including 'Blank Project', 'Blank VI', 'Simple State Machine', 'Queued Message Handler', 'Actor Framework', 'Finite Measurement', 'Continuous Measurement and Logging', 'Feedback Evaporative Cooler', and 'Instrument Driver Project'. The 'Blank Project' template is highlighted. At the bottom of the dialog, the 'Finish' button is circled in red.

Untitled 2 Block Diagram

File Edit View **Project** Operate Tools Window Help

Create Project...
Open Project...
Save Project
Close Project
Add To Project >
Filter View >
Show Item Paths
File Information
Resolve Conflicts...
Properties

15pt Application Font

Create Project

Choose a starting point for the project:

All
Templates
Sample Projects

Blank Project *Templates*
Creates a blank project.

Blank VI *Templates*
Creates a blank VI.

Simple State Machine *Templates*
Facilitates defining the execution sequence for sections of code. **More Information**

Queued Message Handler *Templates*
Facilitates multiple sections of code running in parallel and sending data between them. **More Information**

Actor Framework *Templates*
Creates an application that consists of multiple, independent tasks that communicate with each other. This template makes extensive use of LabVIEW classes. **More Information**

Finite Measurement *Sample Projects*
Acquires a finite measurement and provides options for exporting the measurement to disk. This sample project is based on the Simple State Machine template. **More Information**

Continuous Measurement and Logging *Sample Projects*
Acquires measurements continuously and logs them to disk. This sample project is based on the Queued Message Handler template. **More Information**

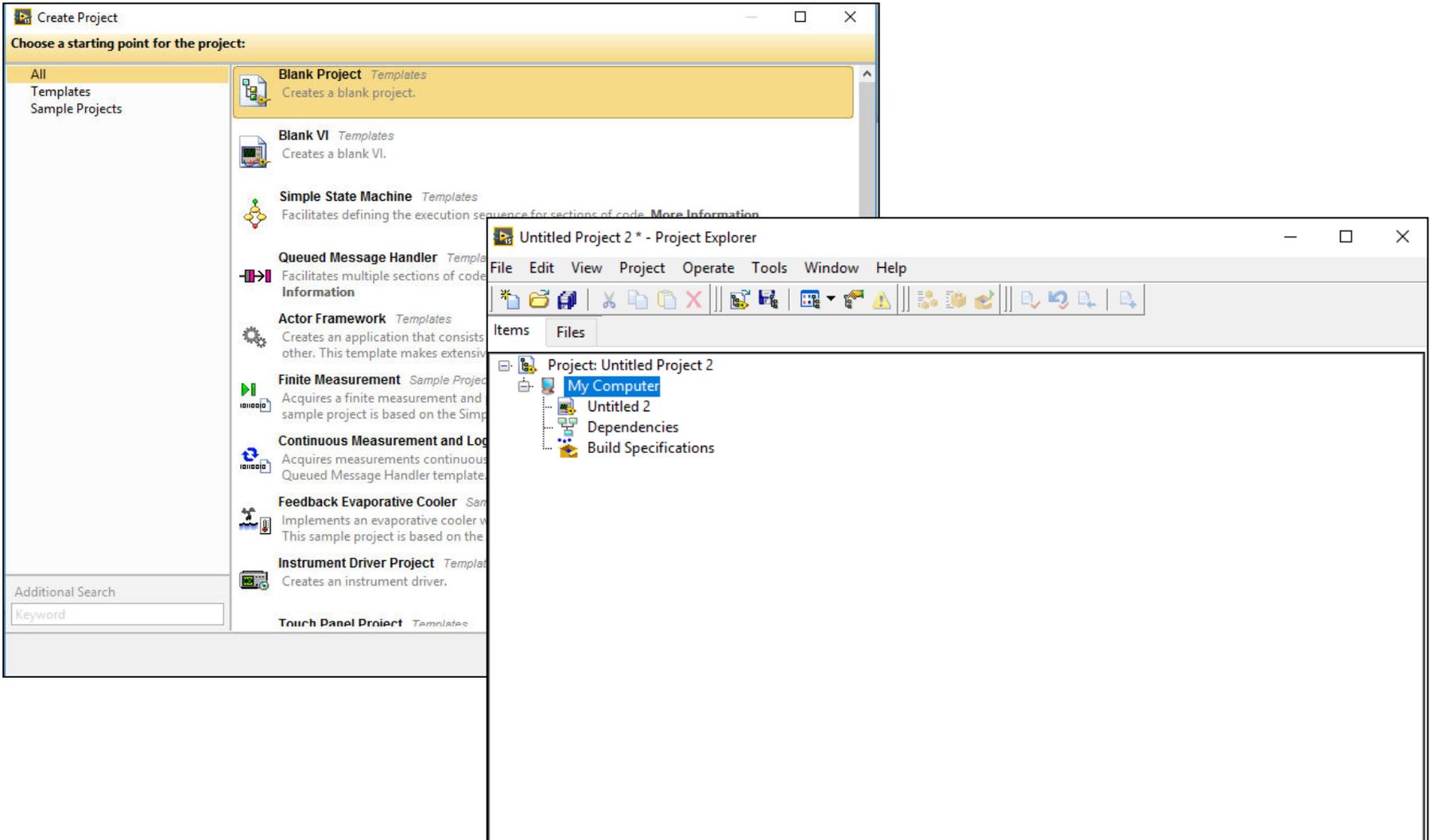
Feedback Evaporative Cooler *Sample Projects*
Implements an evaporative cooler with hot-swappable hardware, controllers, and user interfaces. This sample project is based on the Actor Framework template. **More Information**

Instrument Driver Project *Templates*
Creates an instrument driver.

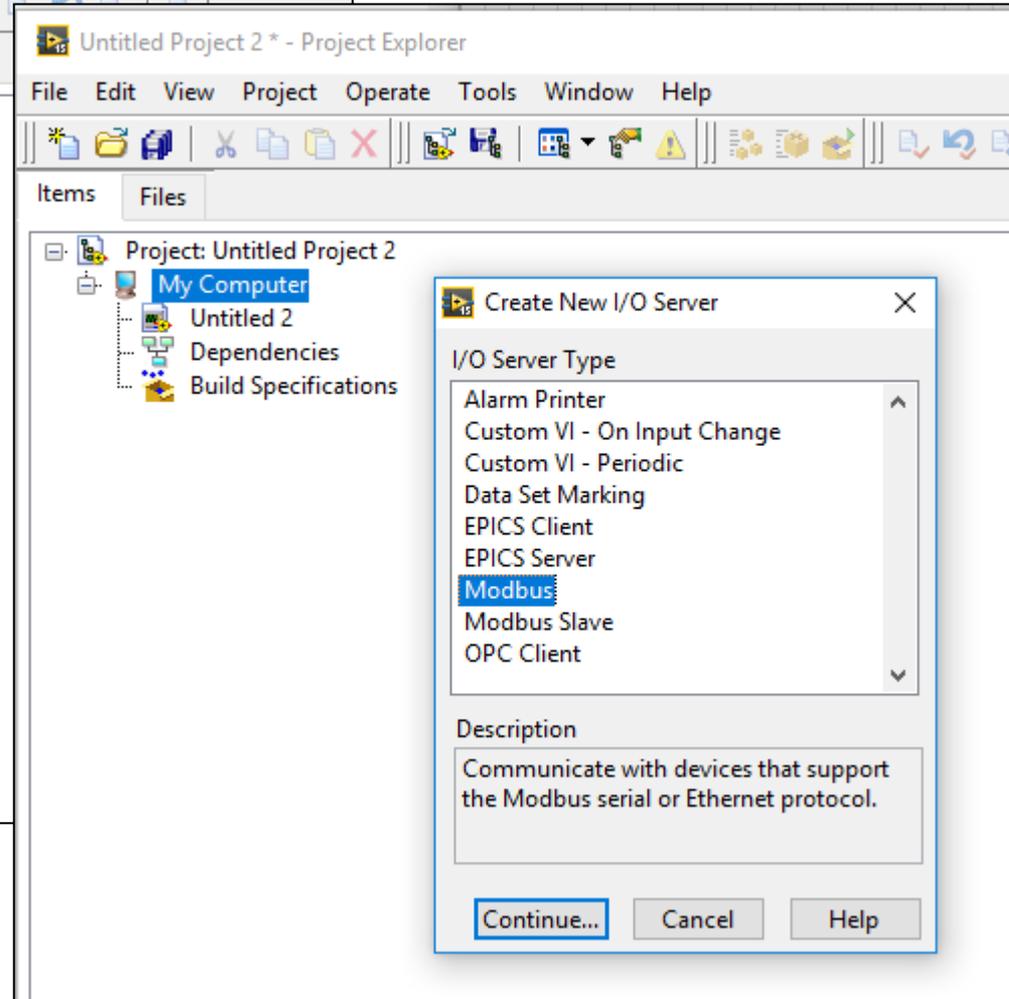
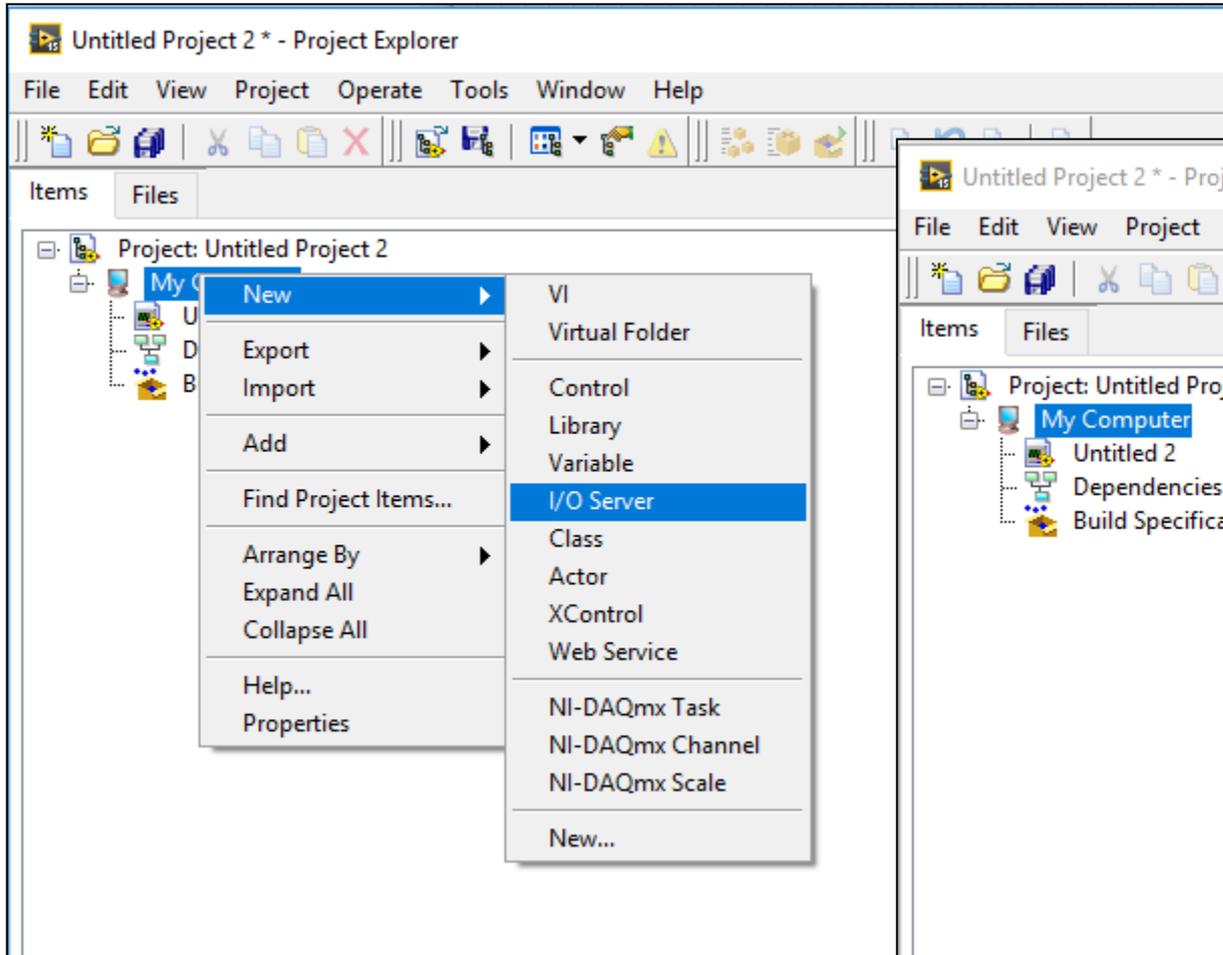
Additional Search
Keyword

Finish Cancel Help

Criar um novo Projeto



Criar o Servidor ModBus



Configuração do Servidor

Configure Modbus I/O Server

Name Model

Communication Settings

Address Alarm priority

Refresh rate (s) Timeout delay (ms)

Retry attempts Transmission mode

Wait if fails (s)

Serial port Stop bits

Baud rate Data bits

Parity

Advanced... OK Cancel Help

Configurando os Endereços de Memória dos Elementos da Planta

Uint16		Número Digital	Parâmetro Hidráulico	Boolean		Doble	
Name	Data Type			Name	Data Type	Name	Data Type
3	PT-1	300151	800 - 4000	0 - 30,59	Bermar_fecha	3098	Variable 1
4	PT-2	300152	800 - 4000	0 - 30,59	Bermar_abre	3097	Variable 2
5	PT-3	300161	800 - 4000	0 - 40	a_STATUS_CMB3	100006	Variable 3
6	PT-4	300162	800 - 4000	0 - 40	a_STATUS_CMB2	100004	
7	PT-5	300163	800 - 4000	0 - 40	a_REMOTO_CMB3	100005	
8	PT-6	300164	800 - 4000	0 - 40	a_REMOTO_CMB2	100003	
9	PT-7	300165	800 - 4000	0 - 40	a_REMOTO_CMB1	100001	
10	PT-8	300166	800 - 4000	0 - 21,09	a_liga_desl_CMB1	3099	
11	PT-9	300167	800 - 4000	0 - 5	3104	3104	
12	PT-10	300168	800 - 4000	0 - 40	3102	3102	
13	PT-11	300177	800 - 4000	0 - 40	SV_1	3033	
14	PT-12	300178	800 - 4000		SV_2	3034	
15	PT-13	300179	800 - 4000		SV_13	3069	
16	PT-14	300180	800 - 4000		SV_14	3070	
17	PT-15	300133	800 - 4000	0 - 21,09	SV_15	3068	
18	PT-16	300134	800 - 4000		SV_16	3072	
19	FT-1	300129	800 - 4000	0 - 40,8			
20	FT-2	300130	800 - 4000	0 - 40,8			
21	FT-3	300131	800 - 4000				
22	FT-4	300132	800 - 4000	0 - 70,6			
23	FT-7	300135	800 - 4000	0 - 40,8			
24	FT-8	300136	800 - 4000	0 - 40,8			
25	FT-9	300145	800 - 4000	0 - 40,8			
26	FT-10	300146	800 - 4000	0 - 40,8			
27	FT-11	300147	800 - 4000	0 - 77,8			
28	Bermar_posicao	300211	800 - 4000	0 - 100			
29	a_Inversor_1	403225					
30	403228	403228					
31	300184	300184					

Liga/Desliga o Conjunto Motor Bomba CMB1

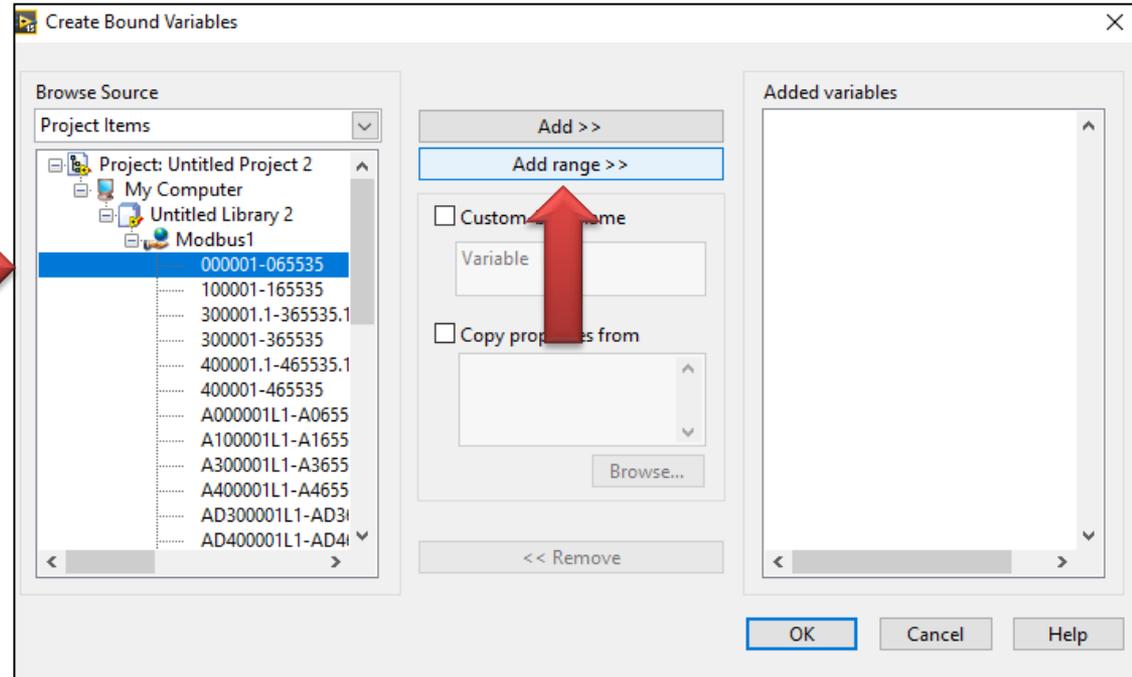
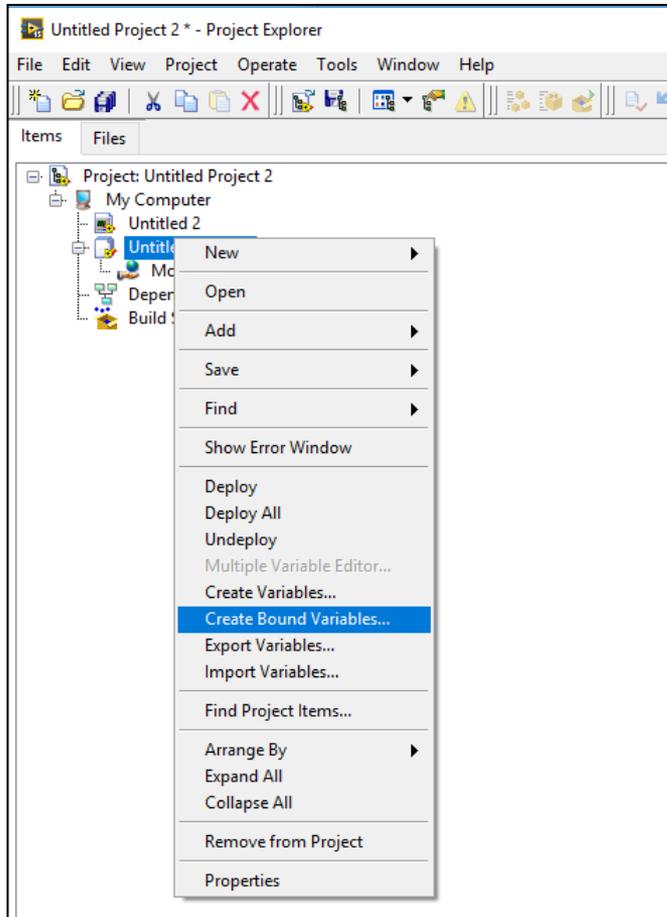
Uint16		Número Digital	Parâmetro Hidráulico	Boolean		Doble	
Name	Data Type			Name	Data Type	Name	Data Type
3	PT-1	300151	800 - 4000	0 - 30,59	Bermar_fecha	3098	Variable 1
4	PT-2	300152	800 - 4000	0 - 30,59	Bermar_abre	3097	Variable 2
5	PT-3	300161	800 - 4000	0 - 40	a_STATUS_CMB3	100006	Variable 3
6	PT-4	300162	800 - 4000	0 - 40	a_STATUS_CMB2	100004	
7	PT-5	300163	800 - 4000	0 - 40	a_REMOTO_CMB3	100005	
8	PT-6	300164	800 - 4000	0 - 40	a_REMOTO_CMB2	100003	
9	PT-7	300165	800 - 4000	0 - 40	a_REMOTO_CMB1	100001	
10	PT-8	300166	800 - 4000	0 - 21,09	a_liga_desl_CMB1	3099	
11	PT-9	300167	800 - 4000	0 - 5		3104	
12	PT-10	300168	800 - 4000	0 - 40		3102	
13	PT-11	300177	800 - 4000	0 - 40	SV_1	3033	
14	PT-12	300178	800 - 4000		SV_2	3034	
15	PT-13	300179	800 - 4000		SV_13	3069	
16	PT-14	300180	800 - 4000		SV_14	3070	
17	PT-15	300133	800 - 4000	0 - 21,09	SV_15	3068	
18	PT-16	300134	800 - 4000		SV_16	3072	
19	FT-1	300129	800 - 4000	0 - 40,8			
20	FT-2	300130	800 - 4000	0 - 40,8			
21	FT-3	300131	800 - 4000				
22	FT-4	300132	800 - 4000	0 - 70,6			
23	FT-7	300135	800 - 4000	0 - 40,8			
24	FT-8	300136	800 - 4000	0 - 40,8			
25	FT-9	300145	800 - 4000	0 - 40,8			
26	FT-10	300146	800 - 4000	0 - 40,8			
27	FT-11	300147	800 - 4000	0 - 77,8			
28	Bermar_posicao	300211	800 - 4000	0 - 100			
29	a_Inversor_1	403225					
30		403228					
31		300184					



Endereço 3099

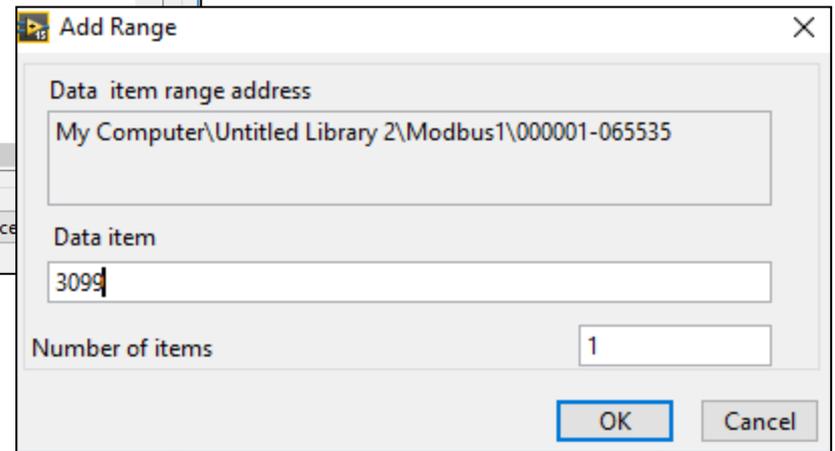
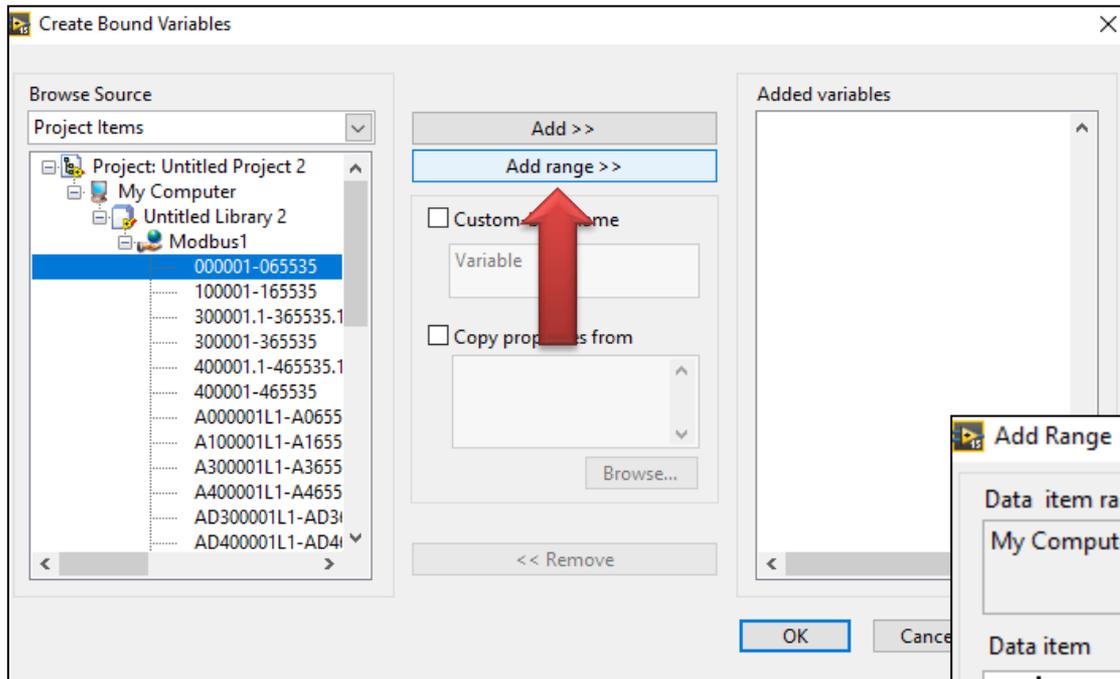
Liga/Desliga o Conjunto Motor Bomba CMB1

a_liga_desl_CMB1	3099
------------------	------



Liga/Desliga o Conjunto Motor Bomba CMB1

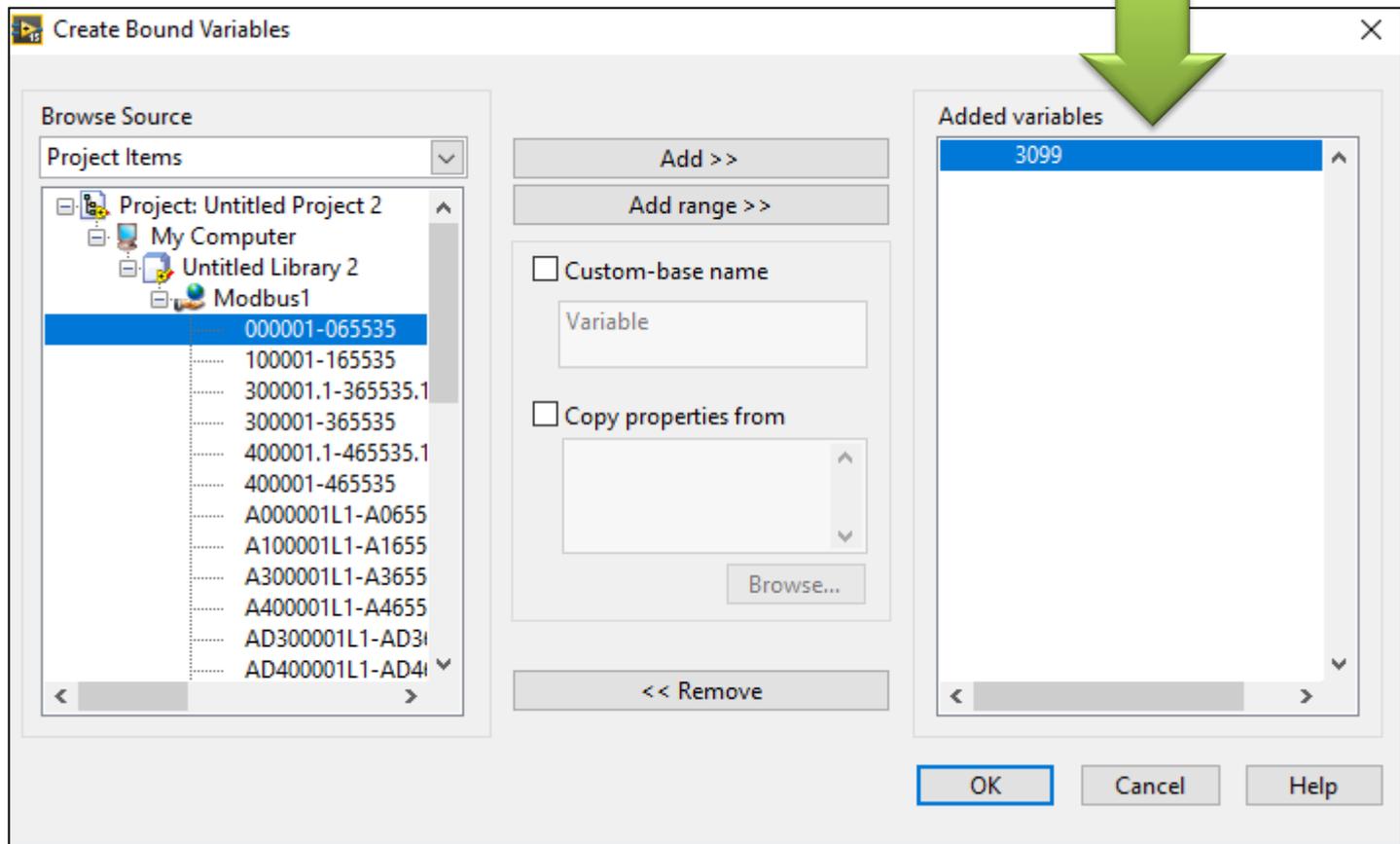
a_liga_desl_CMB1	3099
------------------	------



Liga/Desliga o Conjunto Motor Bomba CMB1

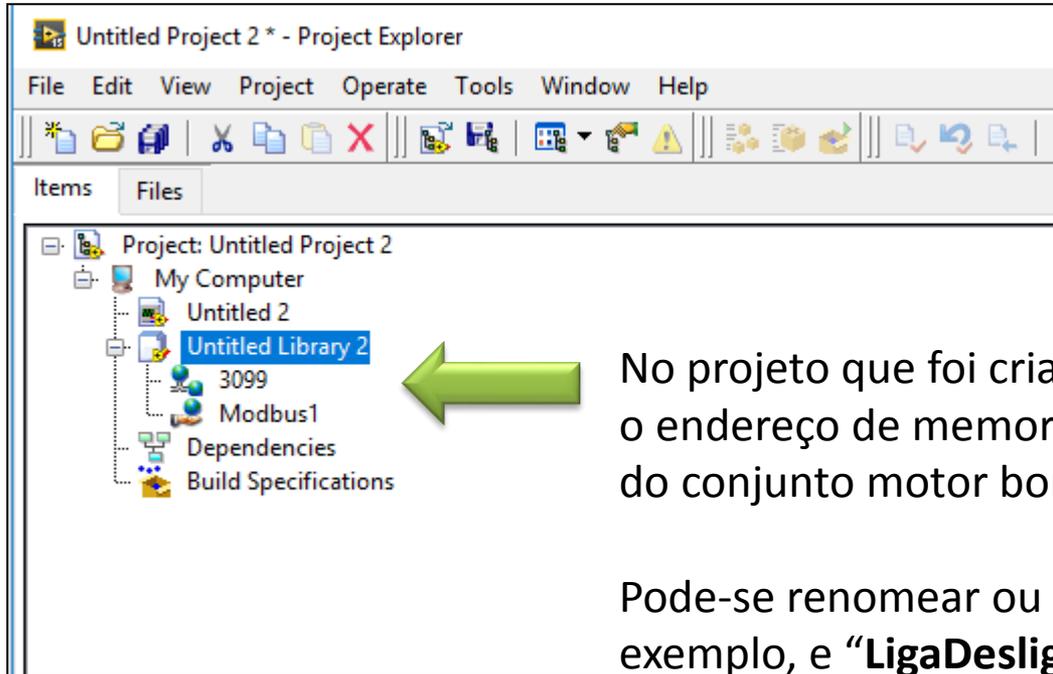
a_liga_desl_CMB1	3099
------------------	------

Foi adicionado o endereço 3099



Liga/Desliga o Conjunto Motor Bomba CMB1

a_liga_desl_CMB1	3099
------------------	------

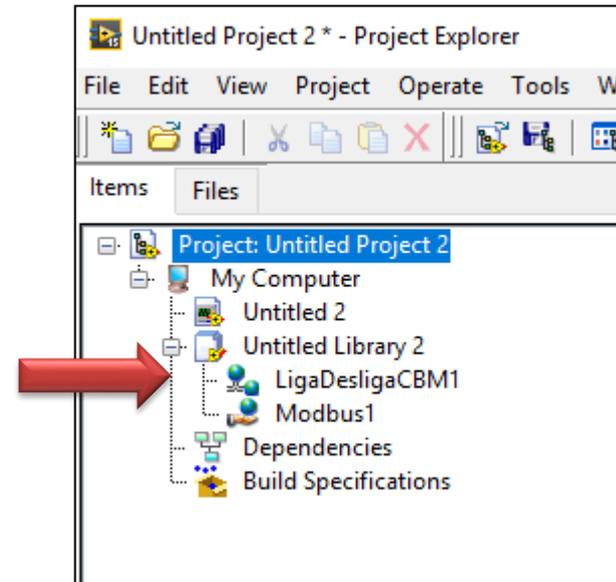
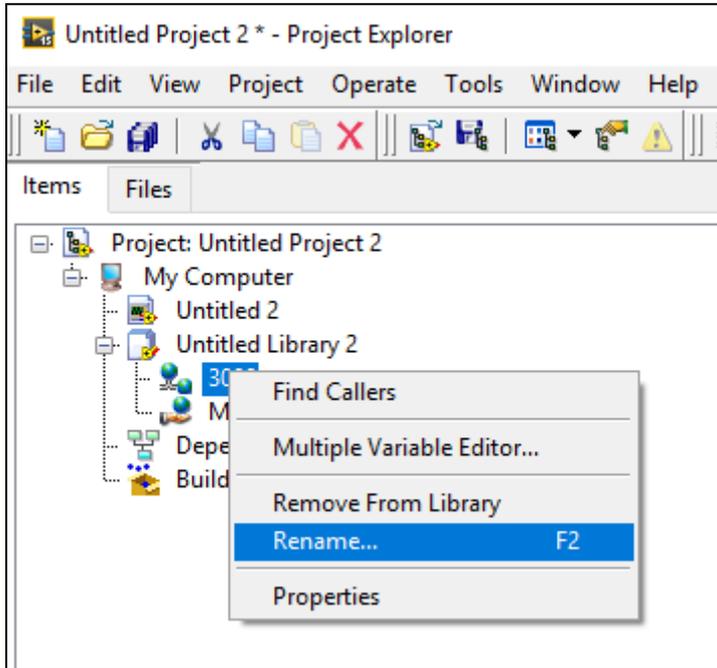


No projeto que foi criado agora tem-se inserido o endereço de memória associado ao botão de LIGA/DESLIGA do conjunto motor bomba 1 (CMB1)

Pode-se renomear ou colocar um “alias a este endereço”, por exemplo, e **“LigaDesligaCMB1”**

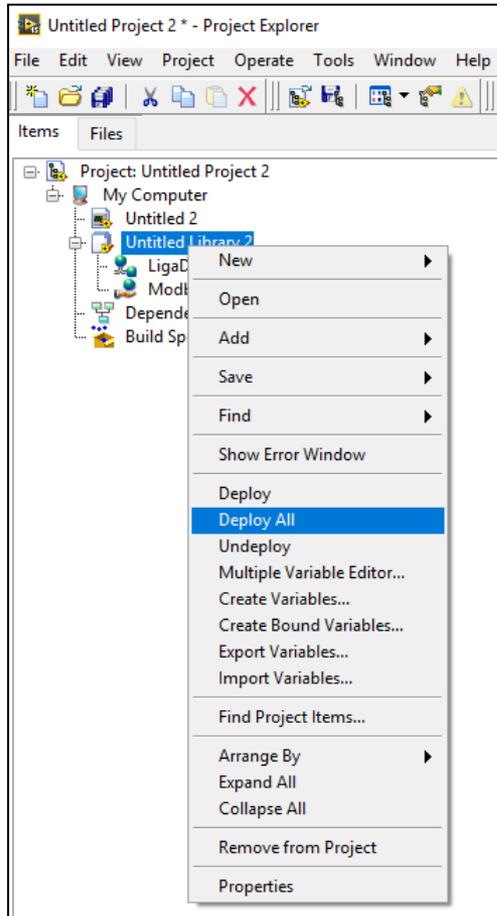
Liga/Desliga o Conjunto Motor Bomba CMB1

a_liga_desl_CMB1	3099
------------------	------

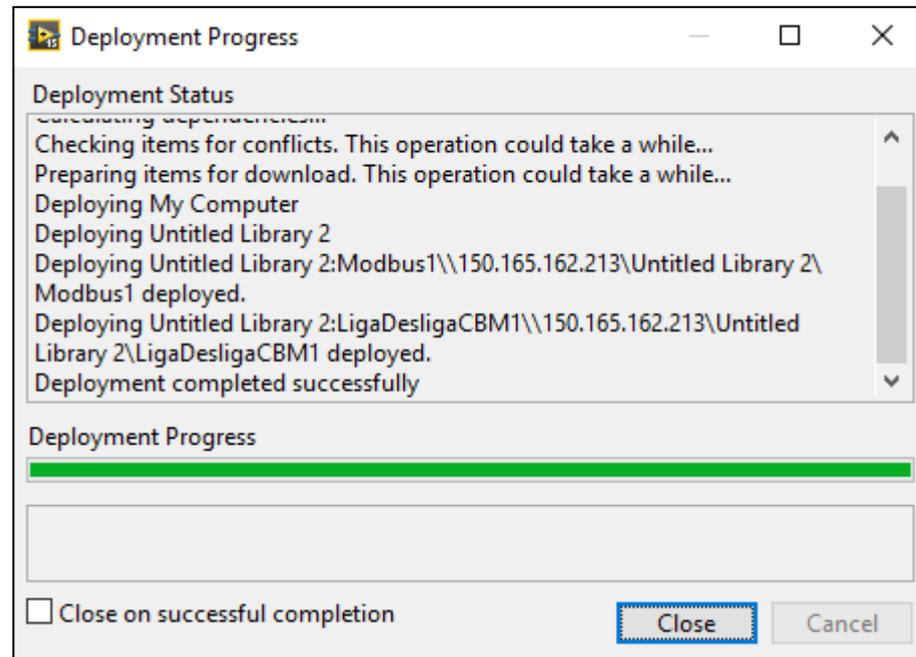


Liga/Desliga o Conjunto Motor Bomba CMB1

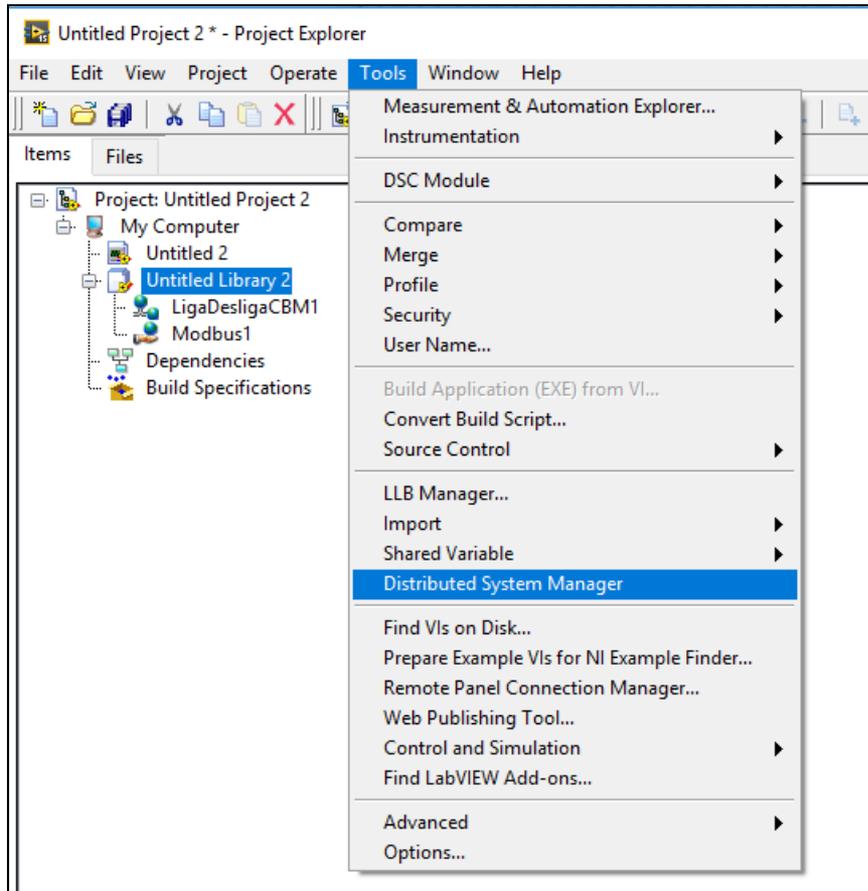
a_liga_desl_CMB1	3099
------------------	------



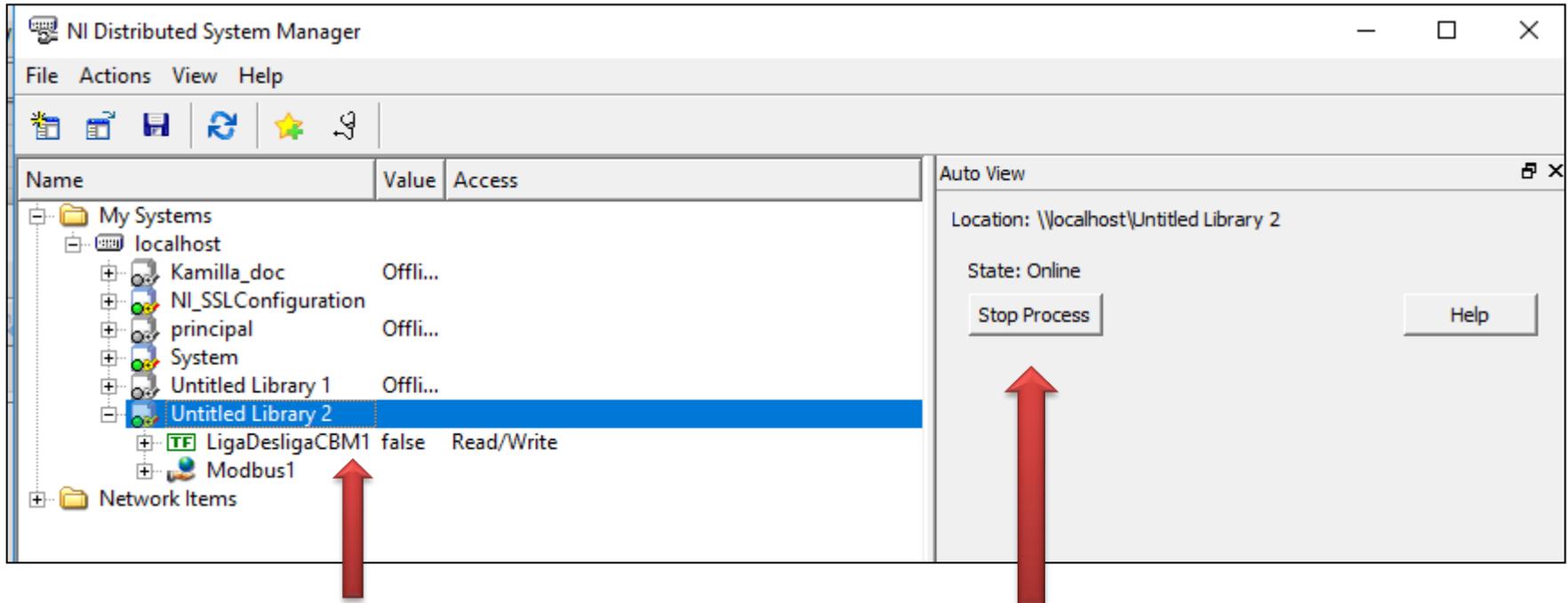
Finalmente adicionar as variáveis para serem usadas pelo DSM (Distributed System Manager)



DSM Distributed System Manager



DSM Distributed System Manager



Temos adicionado o endereço de Memória 3099 associado ao botão de LIGA/DESLIGA da bomba (Digital)

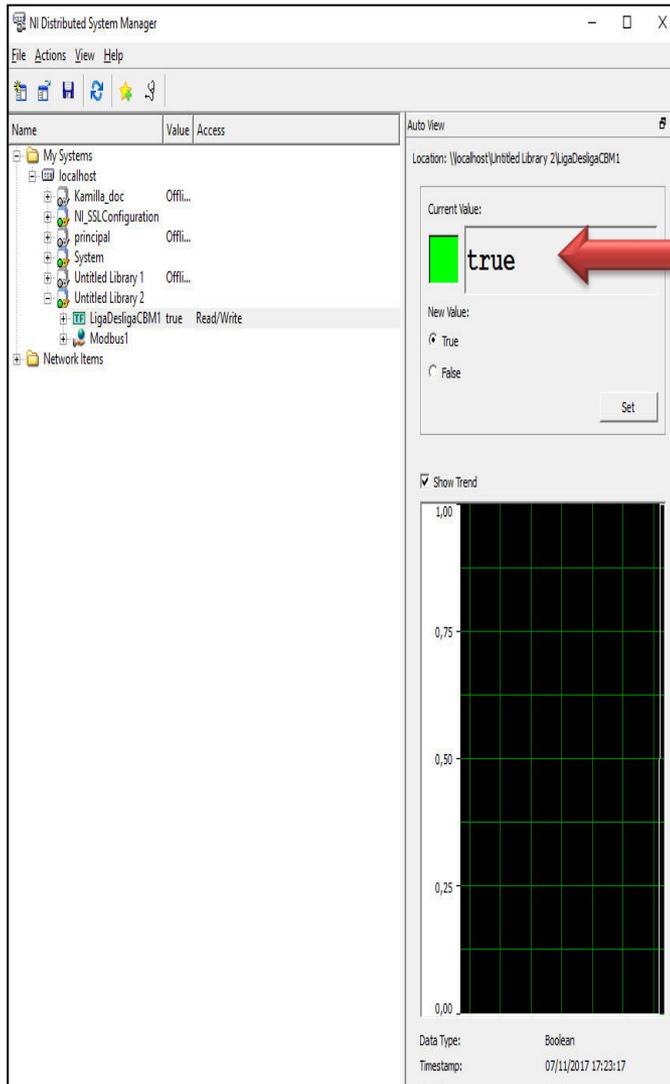
Iniciar o processo

DSM Distributed System Manager

The screenshot shows the NI Distributed System Manager interface. On the left, a tree view displays a hierarchy of systems under 'My Systems' and 'Network Items'. The 'LigaDesligaCBM1' system is selected, showing its current state as 'false' and access type as 'Read/Write'. The right pane, titled 'Auto View', provides a detailed view of the selected system's configuration. It includes a 'Current Value' field displaying 'false', a 'New Value' section with radio buttons for 'True' and 'False' (the 'False' option is selected), and a 'Set' button. Below this is a 'Show Trend' checkbox (checked) and a trend graph with a y-axis ranging from 0,00 to 100,00. At the bottom, metadata is displayed: Data Type: Boolean, Timestamp: 07/11/2017 17:18:32, Quality: Good, and Access Type: Read/Write. A 'Help' button is also present.

Aqui pode ser modificado o Estado do botão para TRUE (Ligado) ou FALSE (Desligado)

DSM Distributed System Manager



A bomba foi ligada

Inversor de Frequência da CMB1

Uint16				Boolean		Doble	
Name	Data Type	Número Digital	Parâmetro Hidráulico	Name	Data Type	Name	Data Type
PT-1	300151	800 - 4000	0 - 30,59	Bermar_fecha	3098	Variable 1	
PT-2	300152	800 - 4000	0 - 30,59	Bermar_abre	3097	Variable 2	
PT-3	300161	800 - 4000	0 - 40	a_STATUS_CMB3	100006	Variable 3	
PT-4	300162	800 - 4000	0 - 40	a_STATUS_CMB2	100004		
PT-5	300163	800 - 4000	0 - 40	a_REMOTO_CMB3	100005		
PT-6	300164	800 - 4000	0 - 40	a_REMOTO_CMB2	100003		
PT-7	300165	800 - 4000	0 - 40	a_REMOTO_CMB1	100001		
PT-8	300166	800 - 4000	0 - 21,09	a_liga_desl_CMB1	3099		
PT-9	300167	800 - 4000	0 - 5		3104	3104	
PT-10	300168	800 - 4000	0 - 40		3102	3102	
PT-11	300177	800 - 4000	0 - 40	SV_1		3033	
PT-12	300178	800 - 4000		SV_2		3034	
PT-13	300179	800 - 4000		SV_13		3069	
PT-14	300180	800 - 4000		SV_14		3070	
PT-15	300133	800 - 4000	0 - 21,09	SV_15		3068	
PT-16	300134	800 - 4000		SV_16		3072	
FT-1	300129	800 - 4000	0 - 40,8				
FT-2	300130	800 - 4000	0 - 40,8				
FT-3	300131	800 - 4000					
FT-4	300132	800 - 4000	0 - 70,6				
FT-7	300135	800 - 4000	0 - 40,8				
FT-8	300136	800 - 4000	0 - 40,8				
FT-9	300145	800 - 4000	0 - 40,8				
FT-10	300146	800 - 4000	0 - 40,8				
FT-11	300147	800 - 4000	0 - 77,8				
Bermar_posicao	300211	800 - 4000	0 - 100				
a_Inversor_1	403225						
	403228	403228					
	300184	300184					

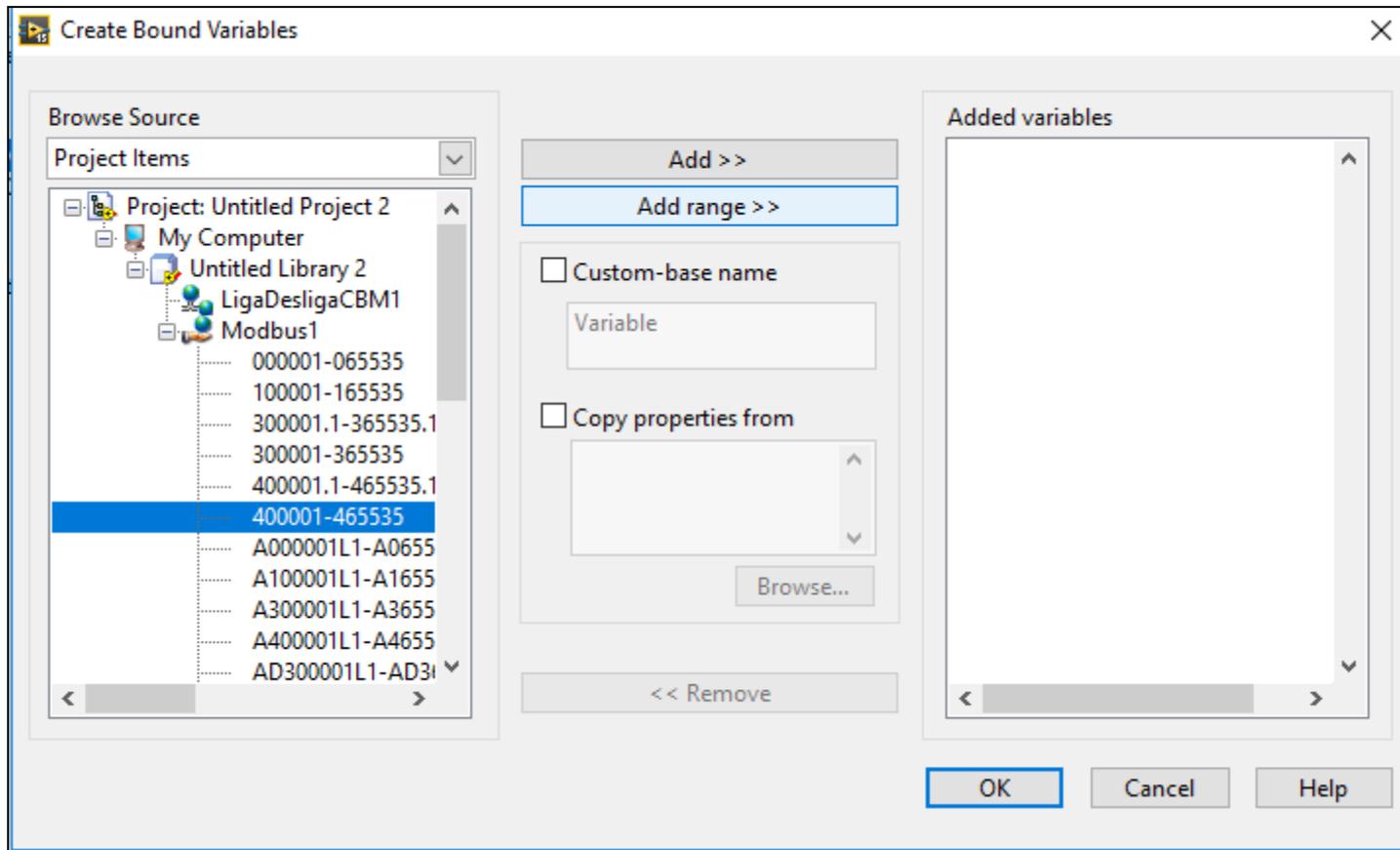
Endereço 403225

Inversor de Frequência da CMB1

29 a_Inversor_1

403225

O valor de entrada é de tipo decimal, cujo valor máximo é de 4000

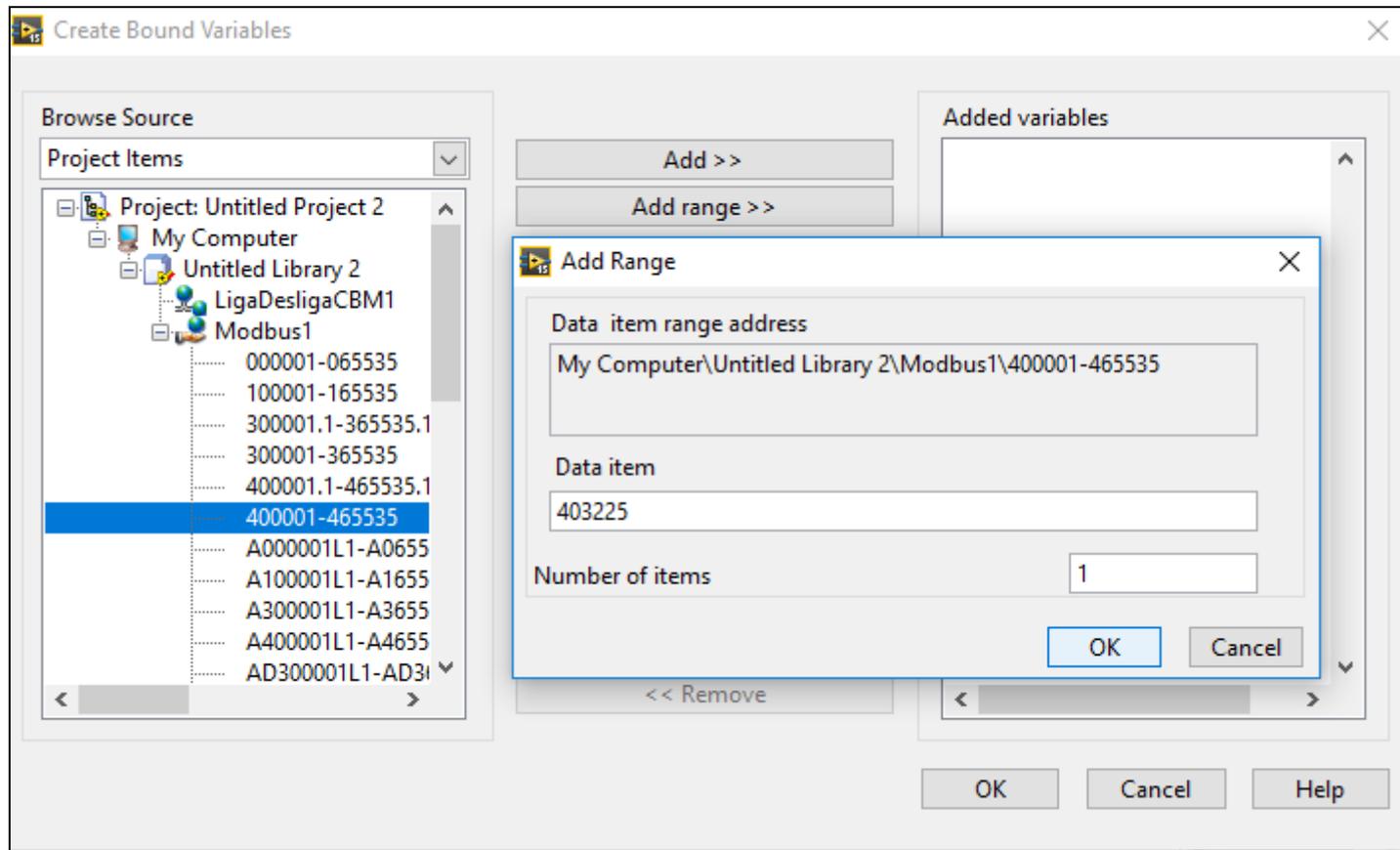


Inversor de Frequência da CMB1

29 a_Inversor_1

403225

O valor de entrada é de tipo decimal, cujo valor máximo é de 4000



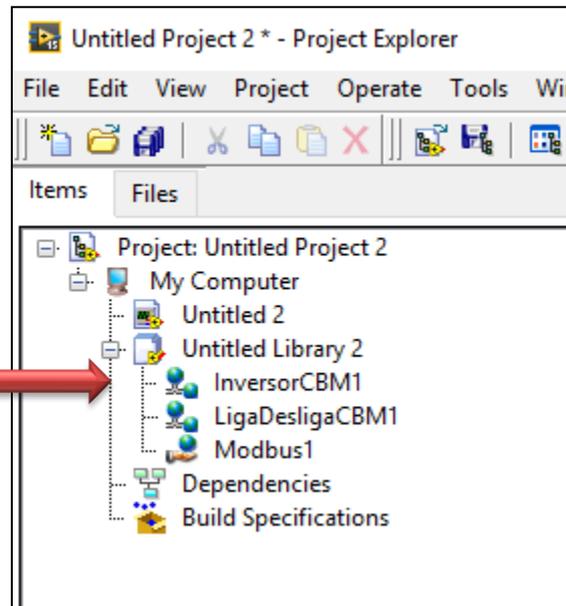
Inversor de Frequência da CMB1

29 a_Inversor_1 | 403225

O valor de entrada é de tipo decimal, cujo valor máximo é de 4000

	Path	Name	Var Type	Data Type	Network-Published: Buffering	Network-Published: Buffer Size	Network-Published: Bind to Source	Network-Published: Access Type	Network-Published: Binding Type	Network-Published: Project Path	Network-Published: Writers	Logging: Enable	Alarming: Enable	Scaling: Enable	Initial Value: Enable	Description: Enable	Security: Enable
403225	.../My Computer/Untitled Library 2/	403225	Network-Publis...	UInt16	<input checked="" type="checkbox"/>	50	<input checked="" type="checkbox"/>	read/write	Project	.../Modbus1\403225	Multiple Writers	<input type="checkbox"/>					
LigaDesligaCBM1	.../My Computer/Untitled Library 2/	LigaD...	Network-Publis...	Boolean	<input checked="" type="checkbox"/>	50	<input checked="" type="checkbox"/>	read/write	Project	...y 2\Modbus1\3099	Multiple Writers	<input type="checkbox"/>					

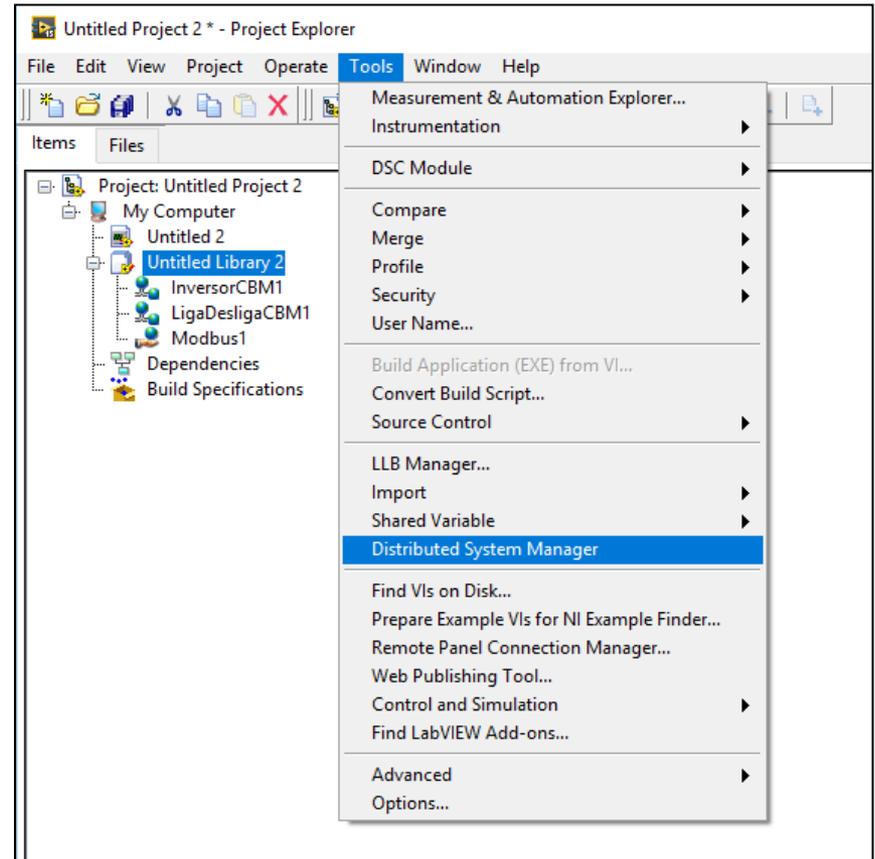
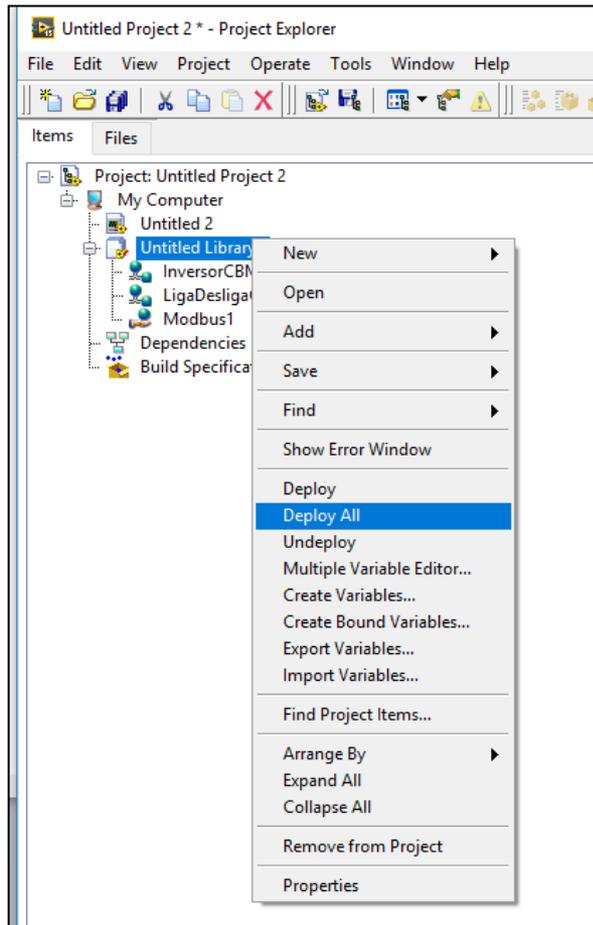
Renomeando para
"InversorCBM1"



Inversor de Frequência da CMB1

29 a_Inversor_1

403225



Inversor de Frequência da CMB1

29 a_Inversor_1

403225

Atualizar

The screenshot shows the NI Distributed System Manager interface. The main window displays a tree view of systems under 'My Systems' and 'Network Items'. A table lists the components and their status:

Name	Value	Access
localhost		
Kamilla_doc	Offline	
NI_SSLConfiguration		
principal	Offline	
System		
Untitled Library 1	Offline	
Untitled Library 2		
InversorCBM1	2501	Read/Write
LigaDesligaCBM1	false	Read/Write
Modbus1		

The right-hand pane shows details for the selected 'Untitled Library 2', including its location and state.

Temos aqui os 2 endereços cadastrados e prontos para usar

DSM

The screenshot shows the NI Distributed System Manager interface. On the left, a tree view shows the system hierarchy under 'My Systems' > 'localhost' > 'Untitled Library 2' > 'InversorCBM1'. The 'InversorCBM1' node is selected, showing a value of 2501 and Read/Write access. On the right, the 'Auto View' window displays the current value (2501) and a 'New Value' field. A red arrow points to the 'New Value' field. Below the input fields is a trend graph and a table of properties.

Name	Value	Access
Kamilla_doc	Offline	
NI_SSLConfiguration		
principal	Offline	
System		
Untitled Library 1	Offline	
Untitled Library 2		
InversorCBM1	2501	Read/Write
LigaDesligaCBM1	false	Read/Write
Modbus1		

Location: \\localhost\Untitled Library 2\InversorCBM1

Current Value: Decimal
2501

New Value: 2501

Set

Show Trend

2,5e+03
1,9e+03
1,3e+03
6,3e+02
0

Data Type: UInt16
Timestamp: 07/11/2017 17:50:26
Quality: Good
Access Type: Read/Write

Help

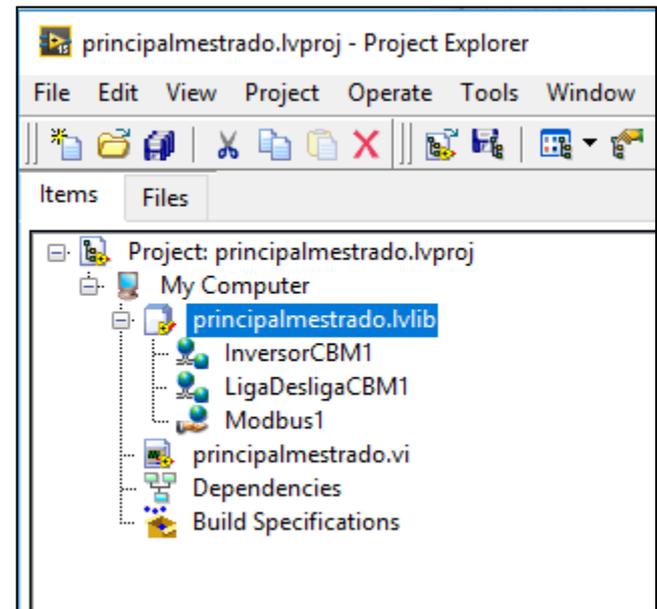
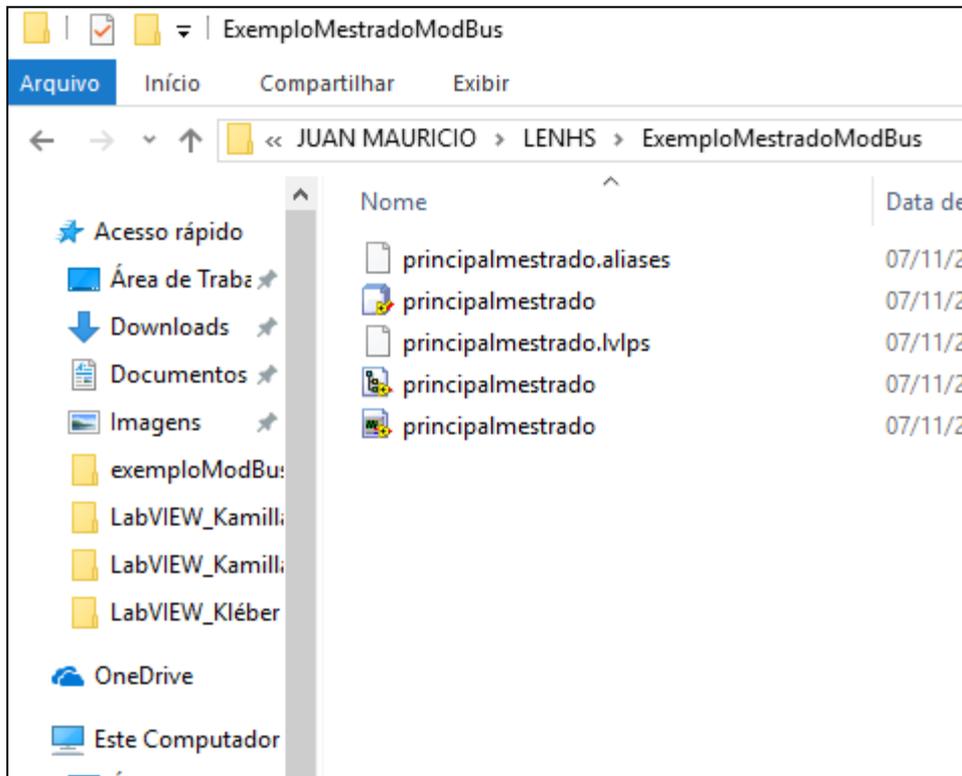
O valor máximo é de 4000
que é equivalente a 60 Hz

Modificando este valor podemos
aumentar a vazão da bomba

Finalmente Guardar o Projeto

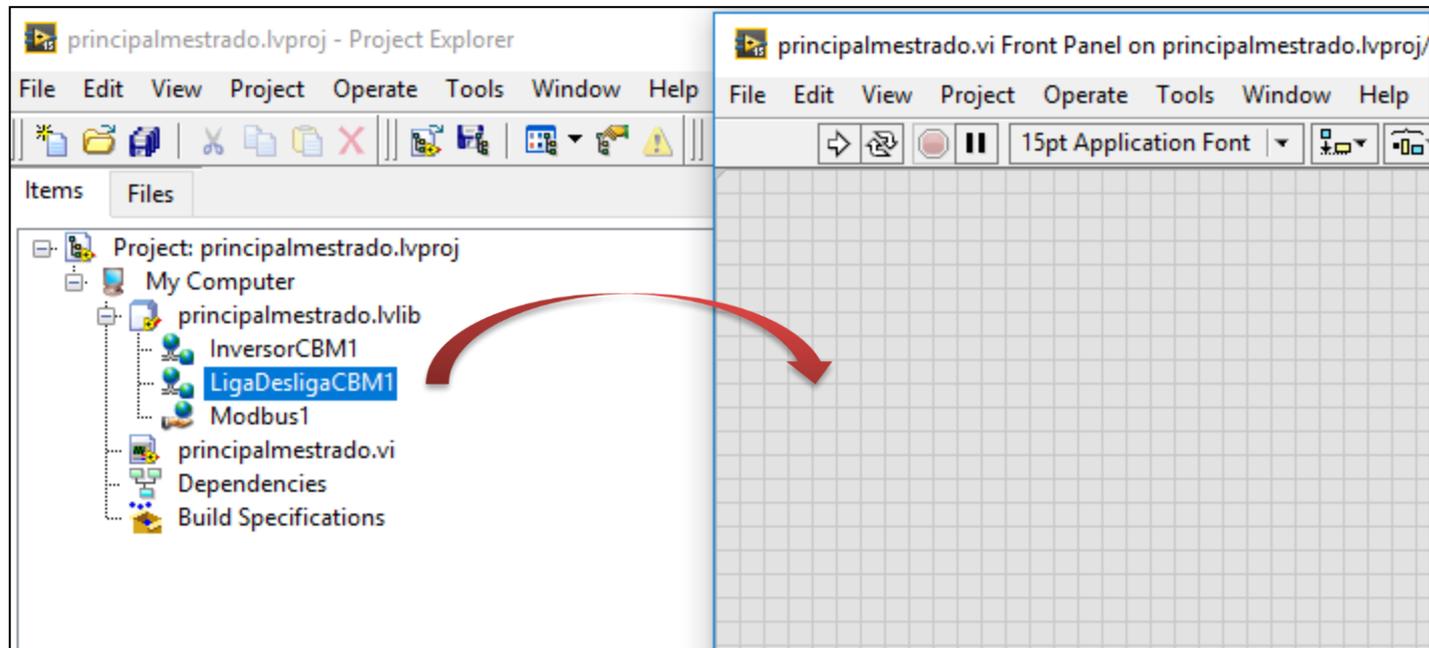
Nome da Pasta: “ExemploMestradoModBus”

Nome do projeto e arquivos: “principalmestrado”



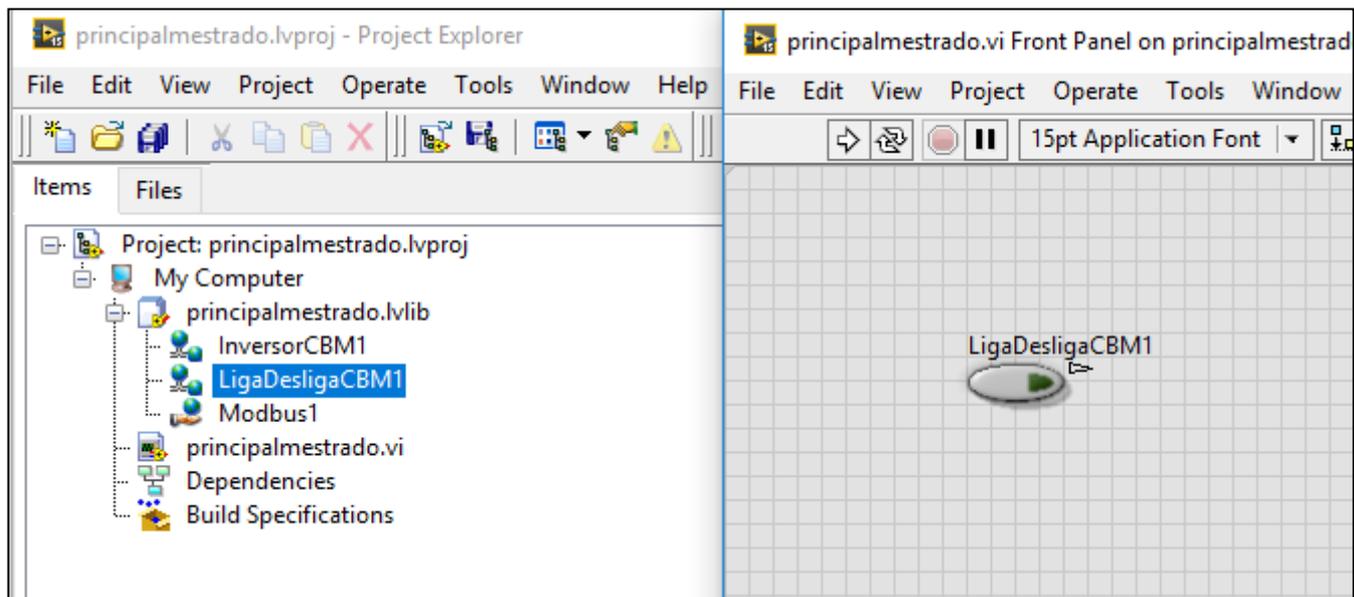
Usando o VI de Labview para criar uma interface de aplicação

Arrastar o elemento “LigaDesligaCBM1” para a área de interface



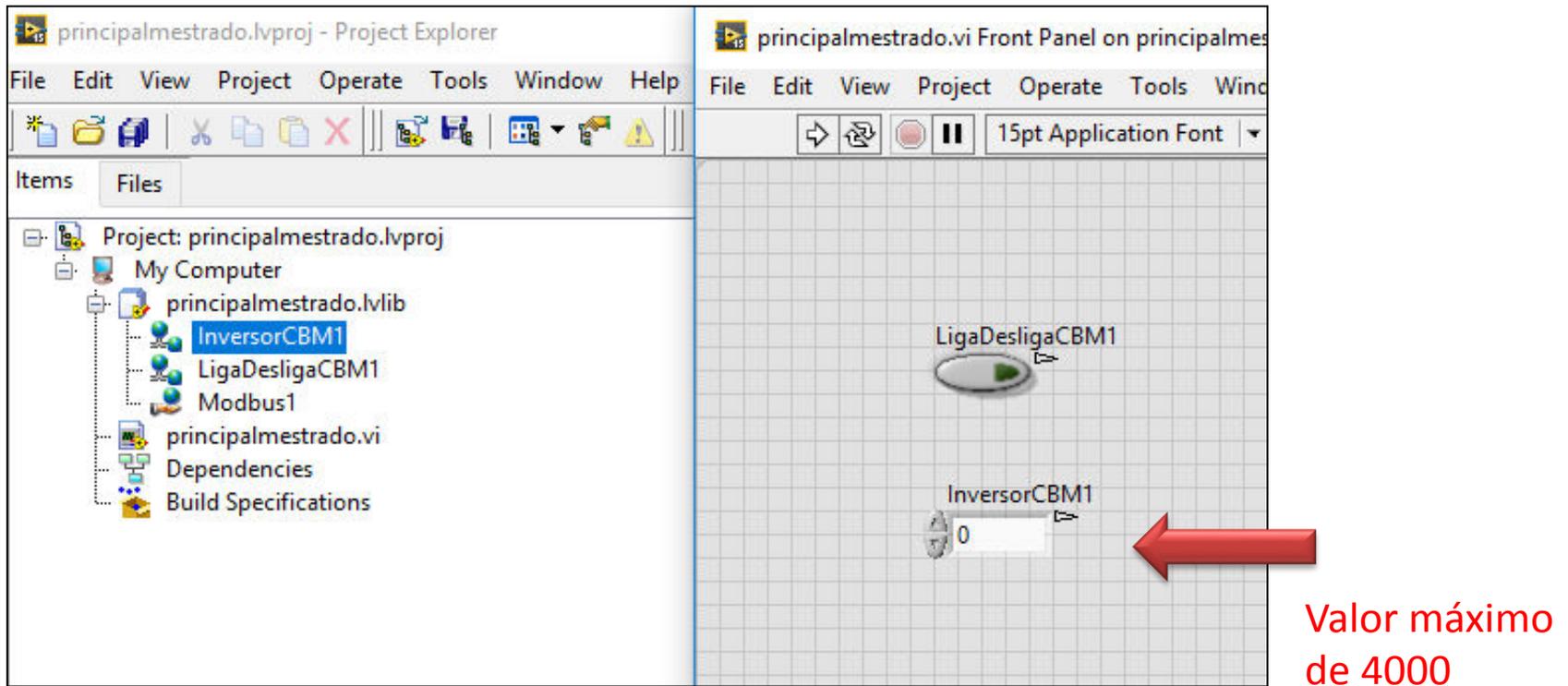
Usando o VI de Labview para criar uma interface de aplicação

Arrastar o elemento “LigaDesligaCBM1” para a área de interface

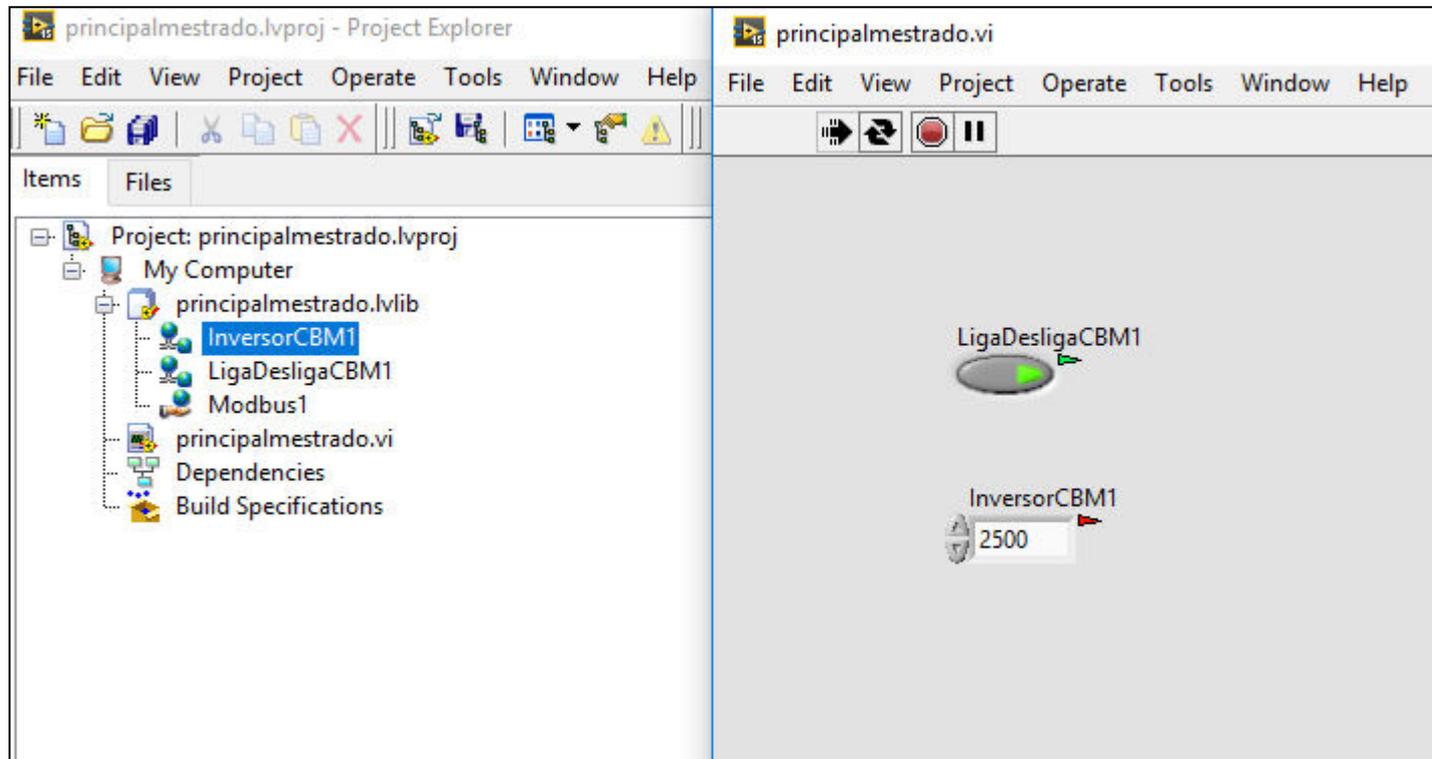


Usando o VI de Labview para criar uma interface de aplicação

Arrastar o elemento “InversorCBM1” para a área de interface



Usando o VI de Labview para criar uma interface de aplicação



Inversor de Frequência funcionando

