# PFC200/PFC100: Commissioning the Runtime and Connected Terminals

## Hardware

- 1x WAGO fieldbus coupler 750-82xx or 750-810x
- 1x analog input terminal 750-459
- 1x analog output terminal 750-559
- 1x meter terminal 750-638
- 2x analog output terminal 750-550
- 1x end terminal 750-600

## Requirements for the WAGO controller

- Assign the IP address (for example with the tool WAGO Ethernet Settings).
- Plug the adapters into the fieldbus coupler and check the functionality (for example, with the WAGO-IO-Check).



Fig.: WAGO-IO-Check3-Tool after successful "Identification"

• As an alternative, the PFC200/PF100 can also get the IP address (this is the default setting of the PFCs).

### **Requirements for CODESYS**

• Install the package directly from the CODESYS user interface:



As an alternative, you have downloaded the latest package (CODESYS Control for PFC200 SL <Version>.package oder CODESYS Control for PFC100 SL <Version>.package) from the CODESYS Store and installed it via Tools/Package Manager.

Refresh	}		Sort by	Name	Install
Name	Version	Installation date	Update info	License info	Uninstall
CODESYS Control for PFC200 SL CODESYS SoftMotion	3.5.12.10 4.3.2.0	19.03.2018 19.03.2018		No license required Searching	Details
					Updates
					Search update
					Download
					CODESYS Store
					Rating
					CODESYS Stor

After installing the package, CODESYS must be restarted.

The package will be installed in the following directory: C:\Users\<username>\CODESYS Control for PFC200 SL / C: \Users\<username>\CODESYS Control for PFC100 SL

• To install the CODESYS runtime, open the configuration dialog in *Tools/Update PFC200/PFC100*. The default user is *root* and the default password is *wago*.

You can enter the IP address manually or select the controller via the scan dialog:

PFC200	👻 🕂 🗙 🕞 Start Page 🗙
✓ Login credentials     User name     root	CODESYS V3.5 SP12 Pat
Password ••••	
I Select target IP Address 192.168.xxx.yyy	Scan PFC200
Scan	192.168.99.106(00:30.DE-40.55.56) 192.168.99.167(00:30.DE-41:3D-A9) 192.168.99.183(00:30.DE-40:37:7C)
▲ Package Version V3.5.11.20 V3.5.12.0 V3.5.12.10 Install Remove	
Package directory C:\Users\t.kem\CODESYS Control for PFC200	
System System info Reboot target	
A Runtime	OK Cancel

If there are multiple versions of the package, then you will have to select the one you want to install. If no packages are offered, then the path of the package must be checked and modified if necessary.

• The version can be installed on the fieldbus coupler by clicking the Install button.

PPC200		-	.Ф.	×
.4 Login credentials				
Username	root			
Password	••••			
4 Select target				
IP Address	1922 1933 997 120			
	Scan			
/ Package				
Version V3.5.1	1.20 *			
13.5.1	2.0			
	ital Remove			
Package directory				
C 'Users't kern/CODES'	S Control for PFC200			
		R.		
4 System		l∂		
a strange				
System info	Reboot target			
4 Runtime				
Start	stop			
Disab	e application			

The version can be viewed by clicking the System info button. (The PFC may have to be rebooted by clicking the Reboot target button).

System information: root@192.168.99.106	x
A CPU Info	
Processon : 0 model name : 4 BegeUTFS : 600.47 Features : 600.47 (FV) implementer : 8041 (FV) implementer : 8041 (F	* III *
A Network Info	
Der Link scap:Ethrent Handdr 00:300E144/SC:55 inct darf:132.168.99.40.80.85x1525.458.10.355 Musk:255.255.248.0 UP BROACAST RUNNIG MULTICAST MULTISMO Hetricit RX packts:132.484 errors:d oroped:0 verruns:0 frame:0 TX packts:132 errors:d oroped:0 verruns:0 frame:0 collision:0 topupaelie:0 provinces:0 (a 2150)	Î
NA UYCS:309441 (91.0 ALB) (A UYCS:442 (4.3 ALB) Dr1 Link encep:thement Hwaddn 08:00:443 (5:56 BROADCAST MULTICAST MTU:1500 Metric:1	-
A Padagento A product consystemetral tetes: install user installed revoluterture: ans relied-time: izzseasz7 Schwichly termineter	
A Runtime Info	_
<pre>//loggermae./tmp/cdesyscontrollog/loggermae&gt; //logvitas //log</pre>	•
Refresh Of	<

#### Project engineering:

• Create a standard project and select CODESYS Control for PFC200/PFC100 SL as the device:

Standard Pro	oject
	You are about to create a new standard project. This wizard will create the following objects within this project:
	<ul> <li>One programmable device as specified below</li> <li>A program PLC_PRG in the language specified below</li> <li>A cyclic task which calls PLC_PRG</li> <li>A reference to the newest version of the Standard library currently installed.</li> </ul>
	Device: CODESYS Control for PFC200 SL (3S - Smart Software Solutions GmbH)
	PLC_PRG in: Structured Text (ST)
	OK Cancel

• Establish a connection to the device.

To do this, open the device dialog by double-clicking the device in the tree:

Devices	▼ ₽ X	Device X				
■ ☐ Pfc200Project						
Device (CODESYS Control for PFC200 SL)		Communication Settings	Scan network Gateway •	Device •		
PLC Logic						
Application		Applications				
Library Manager     LC_PRG (PRG)		Backup and Restore	_			
Task Configuration		Files				•
PIC_PRG		Log		Gateway	-	KERNTPC
		PLC Settings		IP-Address: localbost		
		PLC Shell		Port		
		Users and Groups		1217		
		Access Rights				
		Task Deployment				
		Status				
		Information				

Open the dialog by clicking the Scan network button. All detected devices of the type are listed:

Gerät auswählen		×
Gerät auswählen Netzwerkpfad zum Gerät auswählen: Gateway-1 PFC200-405C56 [0301.A000.036A]	Gerätename: Gateway-1 IP-Address: localhost Port: 1217 Treiber: TCP/IP	uchen ::en
		bre <u>c</u> hen

Select the corresponding device by double-clicking it.



CODESYS establishes a connection to the device and reads the device Information:

Device X			
Kommunikation	Netzwerk durchsuchen	Gateway 🔹 Gerät 🔹	
Applikationen			
Sichern und Wiederherstellen	-	•	
Dateien			··· .
Log		Gateway	[0301,4000,036A] (aktiv)
SPS-Einstellungen		IP-Address:	Gerätename:
SPS-Shell		Port:	Geräteadresse:
Benutzer und Gruppen		1217	0301.A000.036A
Zugriffsrechte			2/elsystem-ID: 0000 0013
Taskaufstellung			Zielsystemtyp: 4096
Status			Zielsystemhersteller: 35 - Smart Software Solutions GmbH
Information			Zielsystemversion: 3.5.12.10

• Now login to the device by clicking Online/Login. It is not necessary to start the application.

• Open the scan dialog of the K-bus from the context menu.

Pfc200Project.project* - CODESYS	•		
Elle Edit <u>V</u> iew Project Build Online Debug Tools <u>W</u> indow <u>H</u> elp			
19 🖆 🛃 😂 🗠 🗠 🐇 🗠 🕾 🗙 14 😘 45 16 16 16 - 17	1월 193 🥨 🛶 📲 火 103 명 역	1911年1月1日 - 11月1日 - 11月11日 - 11月1100000000000000000000000000000000	
Devices 🗸 🕈 🗙	Device X		
Regional Phana Pha			
Device [connected] (CODESYS Control for PFC200 SL)	Communication Settings	Scan network Gateway * Device *	
E BI PLC Logic	Applications		
Application [stop]		•	
PLC PRG (PRG)	Backup and Restore		
😑 🧱 Task Configuration	Tiles.		0.0
🖹 🎲 MainTask	rites		•
PLC_PRG	Log	Gateway	
Cut		Gateway-1	v [0301.A000.036A] (active) v
E Copy 5)	PLC Settings	IP-Address:	Device Name: PEC200-405C56
Paste	PLC Shell	i occanitate	
× Delete		POR: 1217	0301.A000.036A
Browse	Users and Groups		Target ID:
Refactoring	Access Rights		0000 0013
Properties	Tack Deployment		Target Type: 4096
Add Object	Took Deproyment		Taroat Vendor
Add Folder	Status		35 - Smart Software Solutions GmbH
Add Device	Information		Target Version:
Insert Device			3.5.12.10
Scan For Devices			
Disable Device			
Edit Object	arthuiki 🔿 0 🔿 0 Bracomoles 🖌	C CTOD Descent landed	December and a second
Edit Object With	last build. 🕹 o 😓 o Precomplie: 🗸	Program loaded	Program unchanged

After a short time, all detected adapters are listed:

Devices					2	-
Scanned Devices						
Devicename	Devicetype					
_75x_459	75x-459/0000 4AI, 0-10 V (3.5.12.10)					
	75x-559/0000 4AO, 0-10 V (3.5.11.10)					
_75x_638	75x-638 2CNT (3.5.10.0)					
_75x_550	75x-550/0000 2AO, 0-10 V (3.5.11.10)					
_75x_559	75x-550/0000 2AO, 0-10 V (3.5.11.10)					

There may be adapters with special subtypes that cannot be resolved.

In these cases, you can click the ellipsis button to open another dialog where the adapter can be specified:

Devicename         Devicetype          75x_459         75x-459/0000 4AI, 0-10 V (3.5.12.10)           75x_559         75x-559/0000 4AO, 0-10 V (3.5.11.10)           75x_638         75x-638 2CNT (3.5.10.0)           75x_550         75x-550/0000 2AO, 0-10 V (3.5.11.10)           75x_550         75x-550/0000 2AO, 0-10 V (3.5.11.10)            Select the Device Description	Devicemame         Devicetype           _75x_459         75x-459/0000 4AI, 0-10 V (3.5.12.10)           _75x_559         75x-559/0000 4AO, 0-10 V (3.5.11.10)           _75x_638         75x-638 2CNT (3.5.10.0)           _75x_550         75x-550/0000 2AO, 0-10 V (3.5.11.10)           _75x_550         75x-550/0000 2AO, 0-10 V (3.5.11.10)           _         _		<b>D</b> 1 1					
_75x_459       75x-459/0000 4AI, 0-10 V (3.5.12.10)          _75x_559       75x-559/0000 4AO, 0-10 V (3.5.11.10)          _75x_638       75x-638 2CNT (3.5.10.0)          _75x_550       75x-550/0000 2AO, 0-10 V (3.5.11.10)          _75x_550       75x-550/0000 2AO, 0-10 V (3.5.11.10)          Select the Device Description	_75x_459       75x-459/0000 4AI, 0-10 V (3.5.12.10)          _75x_559       75x-559/0000 4AO, 0-10 V (3.5.11.10)          _75x_638       75x-638 2CNT (3.5.10.0)          _75x_550       75x-550/0000 2AO, 0-10 V (3.5.11.10)          _75x_550       75x-550/0000 2AO, 0-10 V (3.5.11.10)          Select the Device Description	Devicename	Devicetype					
75x_559 75x-559/0000 4AO, 0-10 V (3.5.11.10) 75x_638 75x-638 2CNT (3.5.10.0) 75x_550 75x-550/0000 2AO, 0-10 V (3.5.11.10) Select the Device Description	75x_559 75x-559/0000 4AO, 0-10 V (3.5.11.10) 75x_638 75x-638 2CNT (3.5.10.0) 75x_550 75x-550/0000 2AO, 0-10 V (3.5.11.10) Select the Device Description Name Vendor Version Order Number Description	_75x_459	75x-459/0000 4AI	, 0-10 V (3.5.12.10)				
75x_638 75x-638 2CNT (3.5.10.0) 75x_550 75x-550/0000 2AO, 0-10 V (3.5.11.10) Select the Device Description	75x_638         75x-638 2CNT (3.5.10.0)           75x_550         75x-550/0000 2AO, 0-10 V (3.5.11.10)            Select the Device Description             Name         Vendor         Version         Order Number         Description		75x-559/0000 4A0	), 0-10 V (3.5.11.10)				
75x_550 75x-550/0000 2AO, 0-10 V (3.5.11.10) Select the Device Description	75x_550         75x-550/0000 2AO, 0-10 V (3.5.11.10)            Select the Device Description		75x-638 2CNT (3.5.1	0.0)				
Select the Device Description	Select the Device Description           Name         Vendor         Version         Order Number         Description		75x-550/0000 2A0	), 0-10 V (3.5.11.10)				
Name Vendor Version Order Number Description		Select the I	Device Description	Vendor		Version	Order Number	Description
75x-550 2AO, 0-10 V WAGO Kontakttechnik GmbH u. Co. KG 3.5.12.10 75x-550 2-Channel Ana		75x-	550 2AO, 0-10 V	WAGO Kontakttechnik	GmbHu.Co.KG	3.5.12.10	75x-550	2-Channel Anak

Now all adapters can be added to the project by clicking the Copy all devices to project button.

Pfc200Project.project* - CODESYS				
Eile Edit View Project Build Online Debug Tools Window Help	- 43			
🛅 🖆 🔜 I 🚳 I 💀 🗠 👗 🖻 🖄 🗙 I 🖓 🍪 🖄 I 😂 I 🗁 🖆	1 🖽 1 🕸 💜 🛶 🖕 🛠 1 🖓 🧐	역 책 응니 아니		
Devices 🗸 🦊 🗙	Device X			
Pfc200Project     Project     Provide Control for PEC200 S1	Communication Settings	Scan network Gateway - Device -		
PLC Logic	Communication Secongs			
🖹 🔘 Application [stop]	Applications			
Ubrary Manager	Backup and Restore		• <u> </u>	
Task Configuration	Files			
■ 😸 MainTask			Gateway	•
□ ▲ I Pfc200Bus (Wago PFC200 internal bus)	Log	Gateway-1	· · · · · · · · · · · · · · · · · · ·	[0301.A000.036A] (active)
- 1	PLC Settings	IP-Address:		Device Name:
	PLC Shell	Ports		Prc200-405C36
	Users and Groups	1217		0301.A000.036A
				Target ID: 0000 0013
	Access Rights			Target Type:
	Task Deployment			4096
	Status			Target Vendor: 3S - Smart Software Solutions GmbH
	Information			Target Version: 3.5.12.10
Device user: Anonymous	Last build: 😋 0 🕐 0 Precompile: 🗸	STOP Pro	gram loaded	Program modified (Online change)

- Logout to the device by clicking Online/Logout.
- Set the outputs and test the input adapters.

 In CODESYS, only that data is updated which is used in the program. For testing the adapters, open the *PLC Settings* tab in the device dialog and set *Always update variables* to *Always update variables* to *Enabled 2 (always in bus cycle task)*.



• Download the modified application to the controller by logging in again and start it by clicking Debug/Start.

The symbols in the tree should now be green.

In the I/O mapping of the respective adapter (double-click the adapter), you can set the outputs or view the current values of the input adapter.

