



WAGO PFC controller Instructions

USING ANYVIZ ON WAGO PLCS

GETTING STARTED

The WAGO PFC series supports all connection options offered by the AnyViz Cloud. This allows WAGO users to choose the communication method that suits best for the automation project. The different options are compared and described here.

	Cloud Adapter on Linux	Cloud Adapter on Docker	Cloud Adapter in CODESYS runtime	MQTT
Implement data exchange in the PLC program				✓
Directly access all variables			✓	
Access variables via OPC-UA or Modbus	✓	✓		
Connect additional PLCs, meters or field devices	✓	✓		
Use AnyViz VPN	✓	✓		
Local buffering of data in case of connection failure	✓	✓	✓	
Remote access to local file system			✓	
HTML pass through	✓	✓	✓	
VNC pass through	✓	✓		
Camera pass through	✓	✓		

Configure Firewall

In order for the Cloud Adapter web interface to be accessible, an exception must be added when the firewall is enabled. To do this, go to Security / Firewall / User filter in the WBM and add the following rule:

User filter	
Policy	Accept
Destination Port	8888
Protocol	TCP/UDP
Input Interface	Any

Configure OPC-UA connection

The easiest way to access the variables of the PLC program is to create an OPC-UA connection. To do this, switch to Connections in the web interface of the Cloud Adapter and add an OPC-UA connection as follows:

OPC-UA		Modbus TCP		+ New connection	
Name	OPC-UA	CONNECTION STATUS			
Server url	opc.tcp://localhost	Connected	●	Symbols	110
User name	admin	Certificate	OPC-UA client certificate		
Password				
<input type="button" value="Submit"/> <input type="button" value="Remove"/>					

Make sure that the service is activated in the WBM under Fieldbus / OPC-UA / Configuration and that the PLC program has a symbol configuration.

OPC UA Server Configuration	
Service enabled	<input checked="" type="checkbox"/>
Ctrl Configuration name	WAGO 750-8100 PFC100 CS 2ETH ECO
Log level	Error
Unlimited anonymous access	<input type="checkbox"/>

CLOUD ADAPTER ON DOCKER

For users who prefer Docker, the Cloud Adapter is also available as a container. The container can be started via the following command:

```
docker run -d -p 8888:8888 wagoautomation/anyviz
```

In order for the cloud adapter configuration to be persisted outside the container and to enable AnyViz VPN, the following command is recommended.

```
docker run -d -it \
  --net=host \
  --cap-add=NET_ADMIN \
  --device /dev/net/tun:/dev/net/tun \
  --restart=always \
  --name=anyviz \
  -v /etc/anyviz:/etc/anyviz \
  wagoautomation/anyviz
```

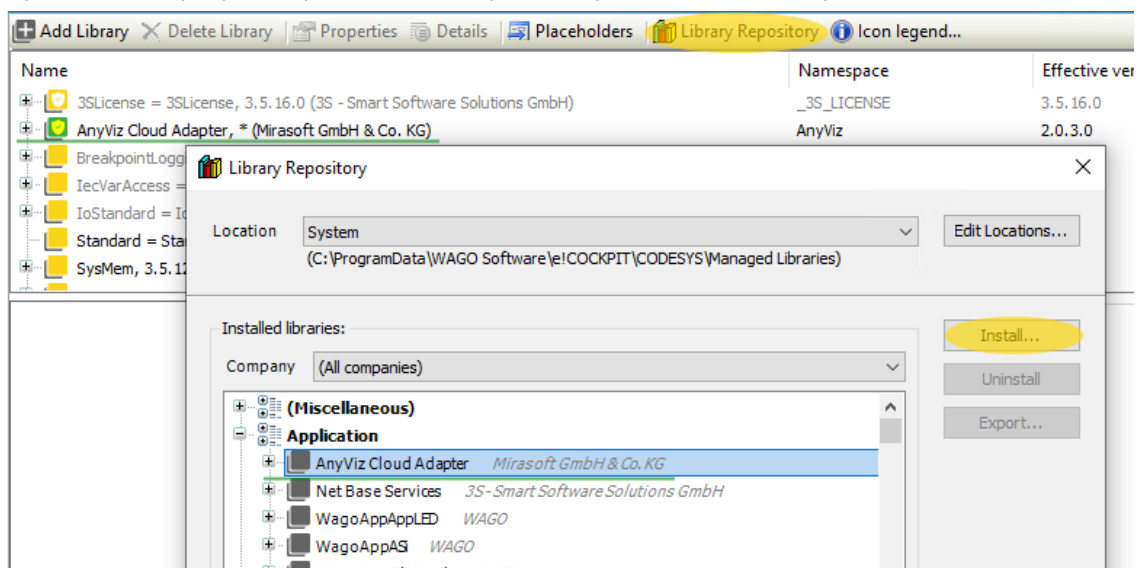
For more information, see [Docker Hub](#).

CLOUD ADAPTER IN CODESYS RUNTIME

A function block for connecting to the AnyViz Cloud is available for CODESYS V3-based PLCs. This has the advantage that the Cloud Adapter is delivered directly with the PLC program and no changes to the Linux system are required.

Installation instructions

1. Download the library from https://download.anyviz.de/CloudAdapter_v2.compiled-library-v3.
2. Open the library repository and install the previously downloaded library.



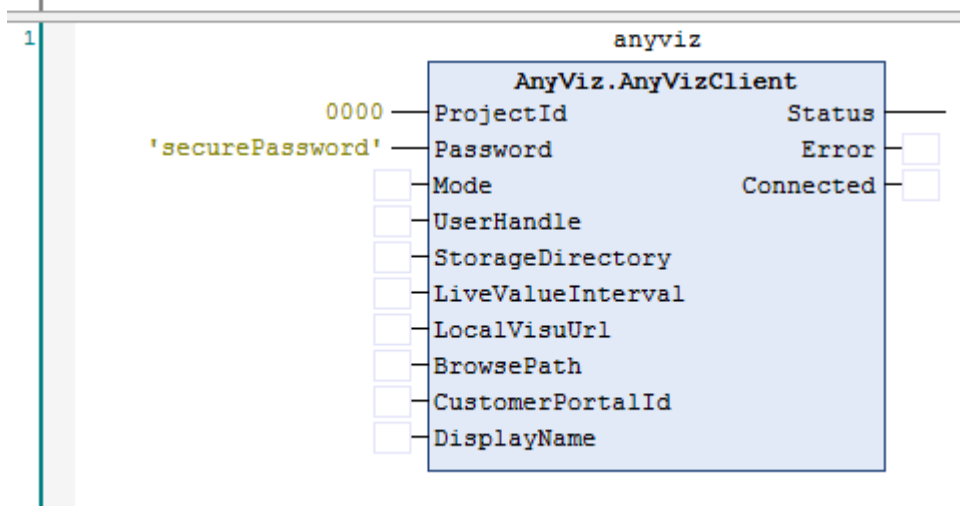
3. Instantiate the AnyViz function block and enter the AnyViz project number and a secure onboarding password as follows:

```

1  PROGRAM PRG_AnyViz
2  VAR
3      anyviz      : AnyViz.AnyVizClient;
4  END_VAR
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```

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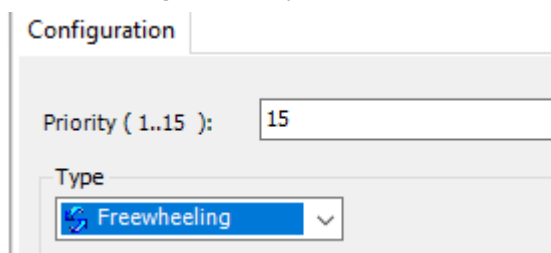
4. Create a symbol configuration and activate all variables that should be available in AnyViz.

After the PLC program is started, a new Cloud Adapter appears in your AnyViz project. Confirm the onboarding password. Afterwards, all variables of the symbol configuration are available in the AnyViz portal.

TIP: WATCH [THIS YOU TUBE VIDEO FOR A DEMO](#)

Recommendations:

- Keep the symbol configuration as small as possible to save data volume and initialization time.
- Run the AnyViz function block in a background task with lowest priority (15) and type “Freewheeling” for best performance and lowest impact of the main PLC program.



MQTT

With the MQTT protocol you can determine yourself when which values are exchanged. However, you have to do without the comfort of the cloud adapters. First, set up a connection. The value "User" corresponds to the AnyViz project number and as "Password" you enter an onboarding password that you then confirm in the portal. The "Client ID" can be assigned as desired.

Configuration	
Enabled	<input checked="" type="checkbox"/>
Cloud platform	MQTT AnyCloud
Hostname	portal.anyviz.io
Port number	8883
Client ID	DemoPLC
Clean session	<input checked="" type="checkbox"/>
TLS	<input checked="" type="checkbox"/>
Last Will	<input type="checkbox"/>
User	110
Password	*****
CA file	/etc/ssl/certs/ca-certificates.crt
Certification file	
Key file	
Data protocol	Native MQTT

Then use the **WagoAppCloud** library to publish and/or subscribe the values like this example:

```
1 PROGRAM PLC_MQTT
2 VAR
3     trigger           : BOOL;
4     publishTimer     : TON := (PT := T#5S);
5     mqttPublish_TestReal : FbPublishMQTT_2(1) := (sTopic := 'Test/Real');
6     dataArray        : ARRAY[0..3] OF BYTE;
7 END_VAR
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For more details on using MQTT, see our [MQTT documentation](#).

Considering the higher configuration effort and the limited functionality, we recommend the AnyViz Cloud Adapter over using MQTT.