

Proficloud V3 Device Management Service

Available from  2020.6 with  AXC F 2152 only

Introducing the new Proficloud V3

The Proficloud V3 is a newly started Cloud Computing environment by PHOENIX CONTACT, reachable at www.proficloud.io.

For a couple of years now, PHOENIX CONTACT already hosts the known Proficloud service at www.proficloud.net, providing the Times-Series Data (TSD) service and support for online installation to controllers out of the PLCnext Store.

The new Proficloud V3 was built as a completely new environment based on new architectures and technologies. For some time both versions will co-exist. All functions of the known Proficloud will remain available, and for the time being, users can also use both connections at the same time on a controller.

However, it is planned to merge the users, devices, and functions to the Proficloud V3 soon, but during the transition period, using the Proficloud V3 may require a **new user account**.

Scope of the Proficloud V3

The Proficloud V3 offers an easy way of managing and maintaining remote PLCnext devices, such as controllers in off-shore wind power plants. In this 2020.6 step, the main functions are:

- Showing a **device overview** with exact geolocation of all connected devices
- Showing a **health** status of all connected devices
- Showing key **information** for all connected devices
- Reporting **logs** from the connected devices
- Checking for **firmware updates** and updating on connected devices via the cloud

Additional services will be available in future.

Adding devices to the Proficloud V3 Device Management Service

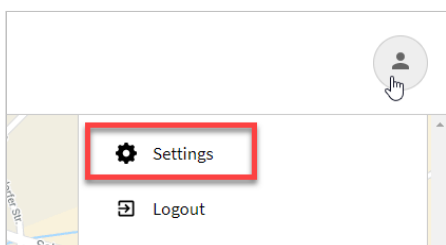
1 Register as a user at Proficloud V3

- Open www.proficloud.io in a browser and register as a user
- Verify the user account by answering the e-mail sent to the address given with the account

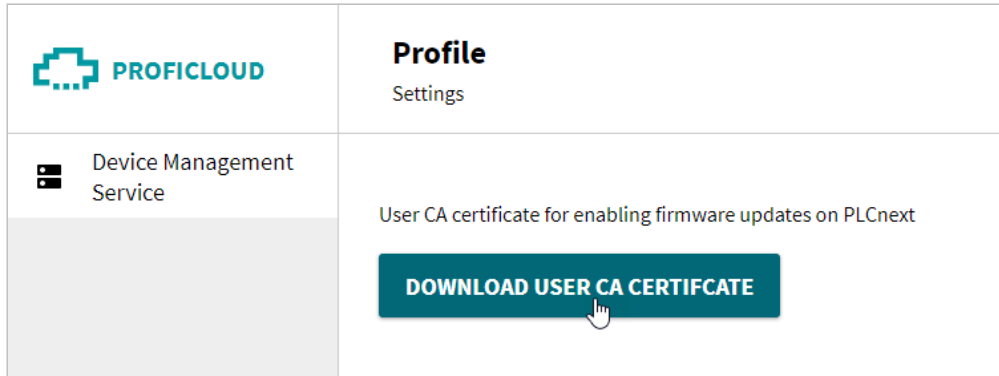
2 Get a user certificate from Proficloud V3

Note: The certificate will only be necessary if you want to perform firmware updates on your PLCnext devices via the Proficloud V3. This certificate is specific to the user account, so all devices in an account will run with the same certificate, but it has to be placed on each device that is meant to get firmware updates via Proficloud V3. Those preparations on the device will be done in a later step of these instructions.

- Log in to your user account at www.proficloud.io
- Click on the User icon at the upper right corner and choose **Settings** from the drop-down menu



- Click the **DOWNLOAD USER CA CERTIFICATE** button:



→ The certificate **.crt** file is downloading to your computer

- If prompted by your browser, allow the certificate **.crt** file to be downloaded

3 Enable the Proficloud V3 connection on the PLCnext device

Note: If a PLCnext device is reset to factory defaults these steps need to be done again in order to use the device with Proficloud V3.

- This step is done via the Web-Based Management (WBM) on each PLCnext device, for more see [Configuration - Proficloud V3](#) in the WBM section.

Note: To protect the Proficloud V3 configuration against unauthorized access or changes afterwards, see [Blocking access to the Proficloud configuration](#).

4 Prepare the PLCnext device for Proficloud V3

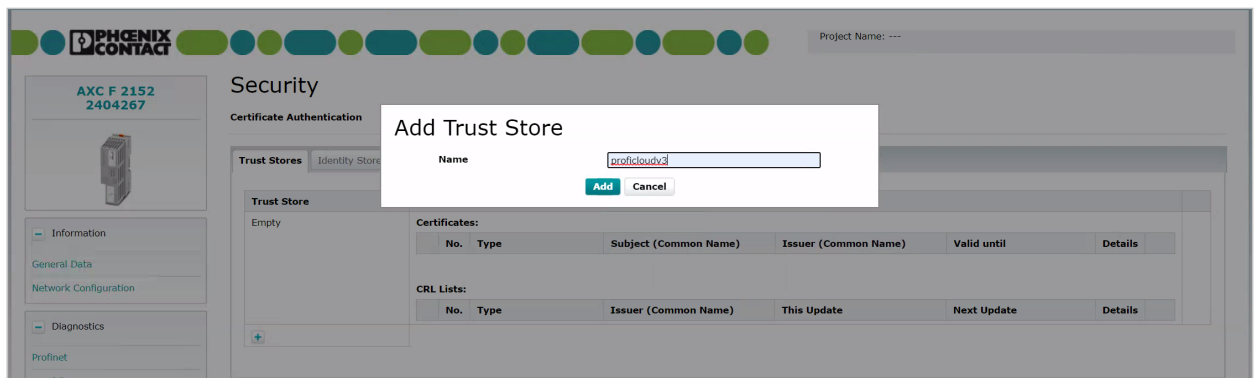
Note: If a PLCnext device is reset to factory defaults these steps need to be done again in order to use the device with Proficloud V3.

- Make sure the real-time clock (RTC) of the device is [set](#) to Coordinated Universal Time (UTC), **not** the time zone where the device is located
- Make sure that the network connection gateway is set up correctly

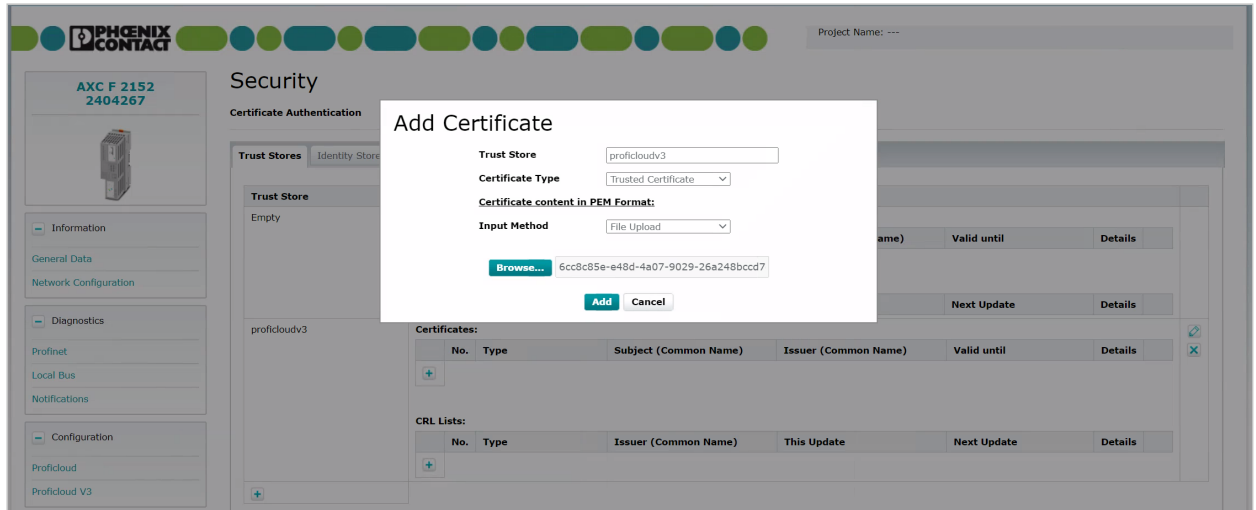
5 Register a Trust Store for Proficloud V3

If you want to perform firmware updates on connected devices, the Proficloud V3 needs to be a trusted source, reflected by the certificate in a Trust Store. For more detailed information on this important security feature, refer to the [Certificate Authentication](#) topic.

- Add a new Trust Store named **proficloudv3** (case-sensitive!)

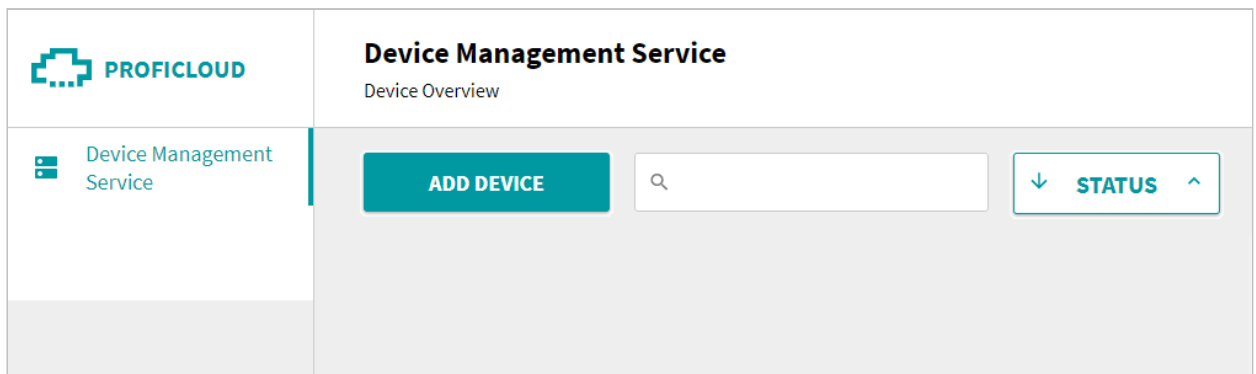


- Add the certificate **.crt** file you got with an earlier step of these instructions



6 Register PLCnext devices to Proficloud V3

- Log in to your user account at www.proficloud.io
- Click on **Device Management Service** in the panel on the left to show the **Device Overview** page
- Press **ADD DEVICE** in the **Device Overview** page

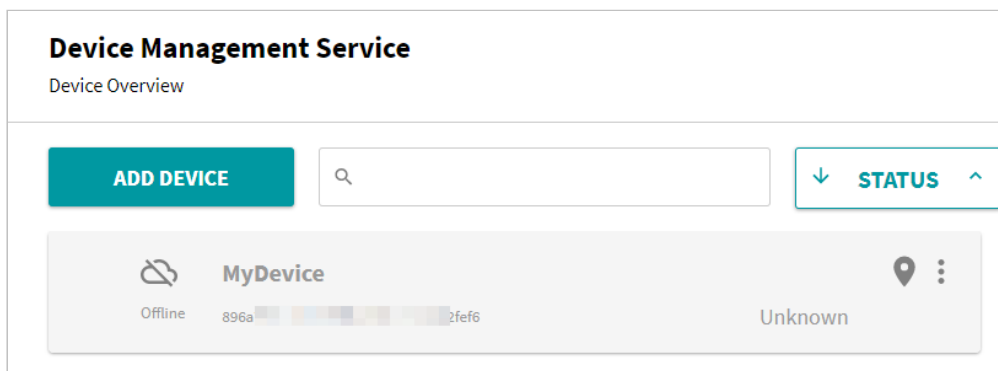


→ The **New Device** dialog pops up.

➤ [Click to show the screenshot](#)

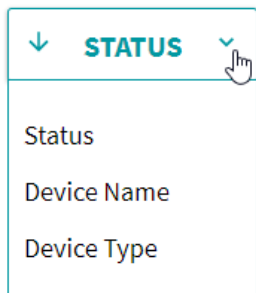
- Enter the **UUID** of your PLCnext device (printed on its housing) and a **name** to identify this entry in the **Device Overview**
- Optionally, enter a **comment**, the **address** where the device is located, and a helpful **tag** for discriminating a large number of devices connected to the same account
- Finish by pressing the **ADD DEVICE TO PROFICLOUD** button

→ The device appears in the **Device Overview**



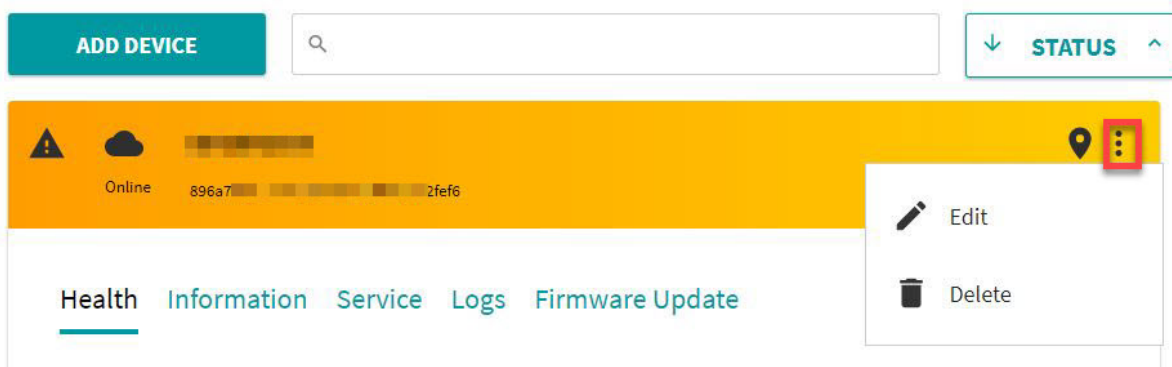
→ If your device is connected to the Internet the status signalling should turn into **Online** after a few seconds

⇒ Now this device is ready for use with the Proficloud V3. Repeat the procedure for other devices. As the device list grows you might want to change the order of the devices in the Status menu:



Editing or removing devices from the Proficloud V3

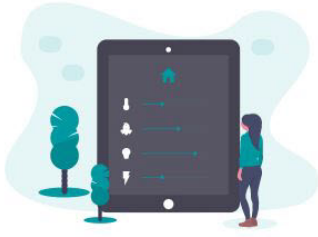
To edit or remove the device information made during the registering process, click the 3-dots icon at the right in the device's card and select the according menu entry:



The **Edit Device Information** dialog shows roughly the same form as the **New Device** dialog, so you can add optional information later:

The **Delete Device** dialog cautiously provides hints on what will happen if you delete a device. Press the confirming or canceling button after thoroughly reading:

Edit Device Information



What kind of device do you have?

UUID
896a71[redacted]2fef6
e.g. abc

Device Name
[redacted]
e.g. solar cabinet device 01

Comment
MyComment
Created by John Doe

Address
Flachmarktstraße, 32825 Blomberg, Deutschland
e.g. abc

Type
AXC F 2152
e.g. EmPro

New tag []
e.g. anything you can think of really

Delete Device



Do you really want to delete your device?

You are about to delete a device from Proficloud.

- ▶ Deleting the device is final. You will lose all data collected with the device
- ▶ The UUID is released again, if you register the device in another account, the old data will NOT be available

CANCEL **DELETE DEVICE**

Using the Proficloud V3 Device Management Service

In the Device Overview, each device appears as a card showing its data, next to a map showing its geolocation (if entered). The color of the card and of the map icon reflects the device's [Health](#) status. Click on a card to unfold the service tabs for that device.

Device Management Service

Device Overview

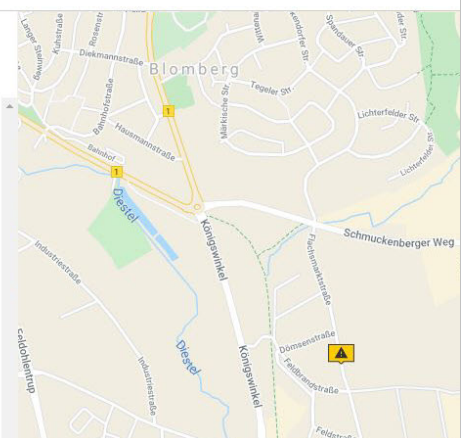
ADD DEVICE [Search] **STATUS**



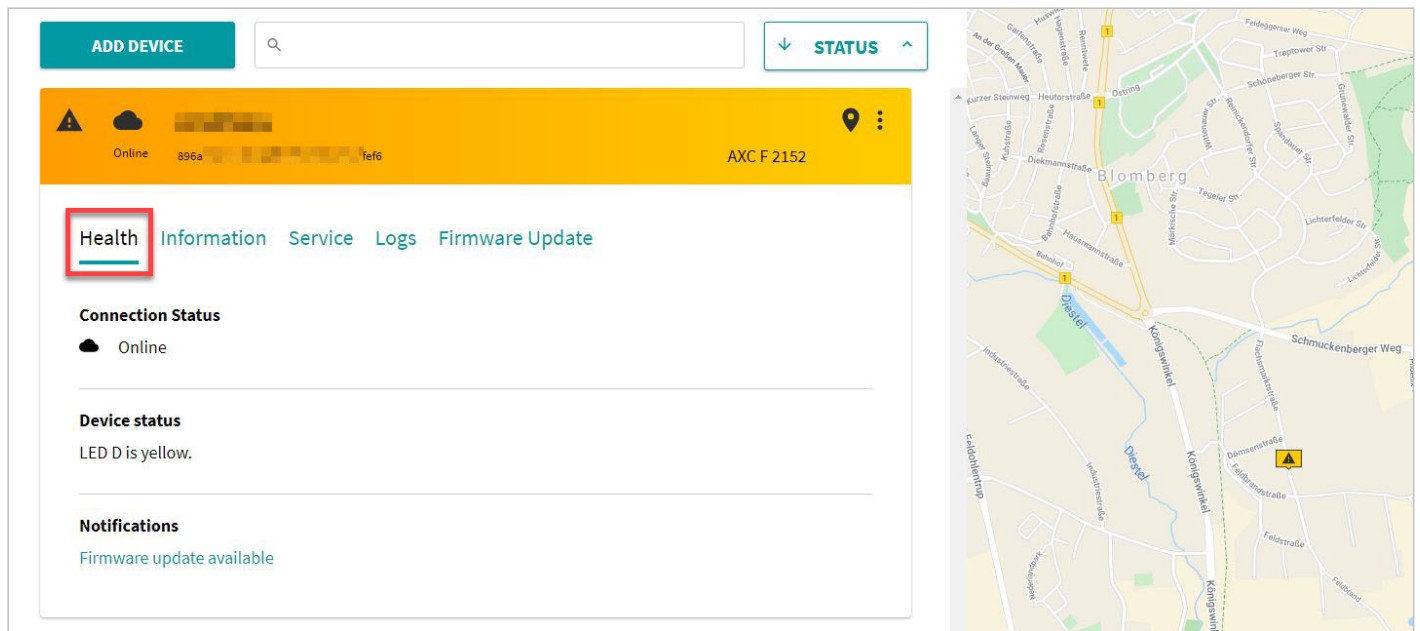


Online 896a71[redacted]62fef6

AXC F 2152



Health



The **Health** tab provides a rough information to the status of the device, depending on the LEDs on its housing.

E.g., for a PLCnext Control, the typical LEDs are utilized to reflect in a 3-step color code, that shows in the device's card:

- If the device card is **green** then the device's LEDs are stating this:
 - **SF** is off *AND*
 - **FAIL** is off *AND*
 - **D** is green *AND*
 - **E** is off
- If the device card is **yellow** then the device's LEDs are stating this:
 - **BF-C** is on *OR*
 - **BF-D** is on *OR*
 - **D** is yellow *OR*
 - **E** is yellow
- If the device card is **red** then the device's LEDs are stating this:
 - **SF** is on *OR*
 - **FAIL** is on *OR*
 - **D** is red *OR*
 - **E** is red

The Device Status shows which of the *OR* states is triggering the color code.

In addition, this default tab shows a notification for the availability of a new [firmware update](#), so you won't miss it.

Information

The screenshot displays the Proficloud V3 Device Management Service interface. At the top, there is a teal 'ADD DEVICE' button, a search bar, and a 'STATUS' dropdown menu. Below this is a yellow header bar with a warning icon, a cloud icon, a device status 'Online', a device ID '896a7...', and a device type 'AXC F 2152'. The main content area has a tabbed interface with 'Health', 'Information' (highlighted with a red box), 'Service', 'Logs', and 'Firmware Update'. Under the 'Information' tab, there is a 'Comment' section with the text 'MyComment', a 'Location' section with the address 'Flachsmarktstraße, 32825 Blomberg, Deutschland (51.93322509999999, 9.105037999999999)', and a table of device details.

Serial Number	1361746978
Device Type	AXC F 2152
UUID	896a7...2fef6
Hardware Version	02

In the **Information** tab, you find the key informations for each device. It contains the informations you have entered in the registering process, and some that were provided by the device itself:

- Comment
- Location
- Serial Number
- Device Type
- UUID
- Hardware Version

Service

In the **Service** tab, additional services for the Device Management will be listed in future.

Logs

ADD DEVICE

STATUS

⚠️

Online

896a7

2fef6

AXC F 2152

Health

Information

Service

Logs

Firmware Update

2020/6/15 - 2020/6/16

↕

ADD ENTRY

Timestamp	Level	Tag	Message
2020/06/16 09:29:07	4	Arp.Services.ProfiCloudV3.Internal.Logging.Worker	Failed to read size
2020/06/16 09:29:07	4	Arp.Services.ProfiCloudV3.Internal.Logging.Worker	Failed to read size
2020/06/16 11:24:48	4	Arp.Io.ProfinetStack.System.Internal.Adaption	Error Stack Entry 0: ModId: 57 ErrCode = 0xD357060B, AddInfo = 0x0 CodeLab: 0x5500012F dcparp_util.c(303)
2020/06/16 11:24:48	4	Arp.Io.ProfinetStack.System.Internal.Adaption	Error Stack Entry 4: ModId: 57 ErrCode = 0xD357060B, AddInfo = 0x0 CodeLab: 0x5500012F dcparp_util.c(303)

In the [Logs](#) tab, the logging information of the device is visible as it is sent from the device to the cloud. These entries are filtered out of the [Output.log](#) file on the PLCnext device.

Firmware Update

ADD DEVICE

STATUS

⚠️

Online

896a7

2fef6

AXC F 2152

Health

Information

Service

Logs

Firmware Update

Most recent update

Firmware version	2020.3.1
Started	
Compatibility	
Download	
Check Download	
Check Install	

FW Version

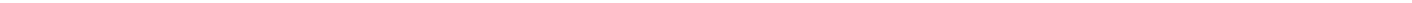
2020.3 (20.3.0.27950 beta)

2020.3.1 available

UPDATE FIRMWARE

In the [Firmware Update](#) tab, the update process is handled completely.

➤ [Click to show the update process](#)



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