MyAutarco Manual
Smart Monitoring

2016-05-10

Introduction

Smart Monitoring is a unique way of keeping track of the performance of Autarco PV installations and their buildings' energy usage.

Smart Monitoring consists of one gateway, a device to read out a smart meter, and for each Autarco inverter a device to read out its output statistics. These devices communicate with each other over a wireless Z-wave network. At the heart of this network is the gateway, which is connected to a local router using a UTP cable and communicates over the internet to our servers.

Products may be placed before starting the setup procedure below, e.g. you may plug in the gateway or insert a PV-stick into an inverter before you even open MyAutarco. However, during the procedure a person on location is required when connecting a Z-wave device to the gateway (e.g. to push a button).

The Smart Monitoring setup is not a substitute for system registration. No matter how its inverters communicate their data to MyAutarco, a PV system must be registered to be eligible for a kWh guarantee and to give the end user access to MyAutarco.

The Smart Monitoring setup may be done before or after system registration. (Contrast this to WiFi monitoring setup, which can only be done for already registered systems.)

Start

Make sure the laptop or tablet that you use to access MyAutarco is connected to the same router as the gateway will be. This results in you having the same public IP address as the gateway. Based on this, MyAutarco knows which gateway you wish to install. Open MyAutarco.

In the main menu under *Setup*, click *Smart Monitoring*. Enter a system number to identify the PV system on which you are installing Smart Monitoring. System numbers can be found in Helios and always start with "SRC".

If the PV system is not yet in Helios, click on *I don't have a system number*. Enter a project reference. A new project and PV system will be created in Helios.

Click *Next* to start the setup procedure.

Gateway

Some key details of the PV system are summarized on the left, for you to verify you have entered the correct system number.

If in the previous stap you selected *I don't have a system number*, MyAutarco has now created a new project and PV system in Helios, including a system number. Use this system number to later identify the PV system on MyAutarco, e.g. to register the system.

If Smart Monitoring was already installed on this installation site, a gateway must have also been installed. If so, you may proceed to the next step immediately. If not, perform the following steps.

1. Position the Autarco gateway in the vicinity of a local internet router.
2. Plug the gateway into a power socket using the power cord included in the box.
3. Connect the gateway to the router using the gray-blue UTP cable included in the box. Insert the cable into the gateway's silver port directly next to the power cord. (The black port next to that is for a P1 cable.)
4. The gateway will automatically try to contact our servers. Wait for the LED indicator to stop blinking and turn a constant green. Refer to the Troubleshooting section if the indicator keeps blinking.
5. Click *Install gateway*.

A notification of successful installation will be shown. Click *Next* to continue to the next step.

Z-wave products

The configuration of Z-wave products for Smart Monitoring takes place in a specialised environment called Lucid. Therefore, the final step of the setup procedure on MyAutarco offers a button to open this Lucid environment in a new browser window.

Also on this page are installation instructions for our most popular Z-wave products, such as the PV stick for Autarco string inverters. Select a product to read its installation instructions.

Installing a Z-wave product always requires both an action in the browser as well as one on the physical product. In the browser you perform the installation procedure in the Lucid environment, whereas on the product you press a button, for example. While we strive for as much consistency as possible, the physical action may change from product type to product type.

Install all necessary Z-wave products in Lucid. Leave the browser window with MyAutarco open.

When you have completed the installation of all Z-wave products in Lucid, return to the window with MyAutarco and click *Finish installation*. You may close the browser window with Lucid.

Lucid environment

Lucid is a software application focused entirely on Z-wave products. The environment is divided (roughly) into a *Live* section for monitoring and control of installed products, and a *Setup* section for installing new products and replacing or removing existing products.

Installing a Z-wave product means wirelessly connecting the product to the gateway. The product is then included in the Z-wave network and can be remotely monitored and/or controlled.

Here we will explore Lucid by means of installing a PV stick.

1. Click on the *Setup* tab at the top of the screen.
2. Click *Install* in the menu on the left.
3. Click the *Autarco product* tab.
4. Click the *Lucid PV-stick* product in the list.

The screen now looks like this:
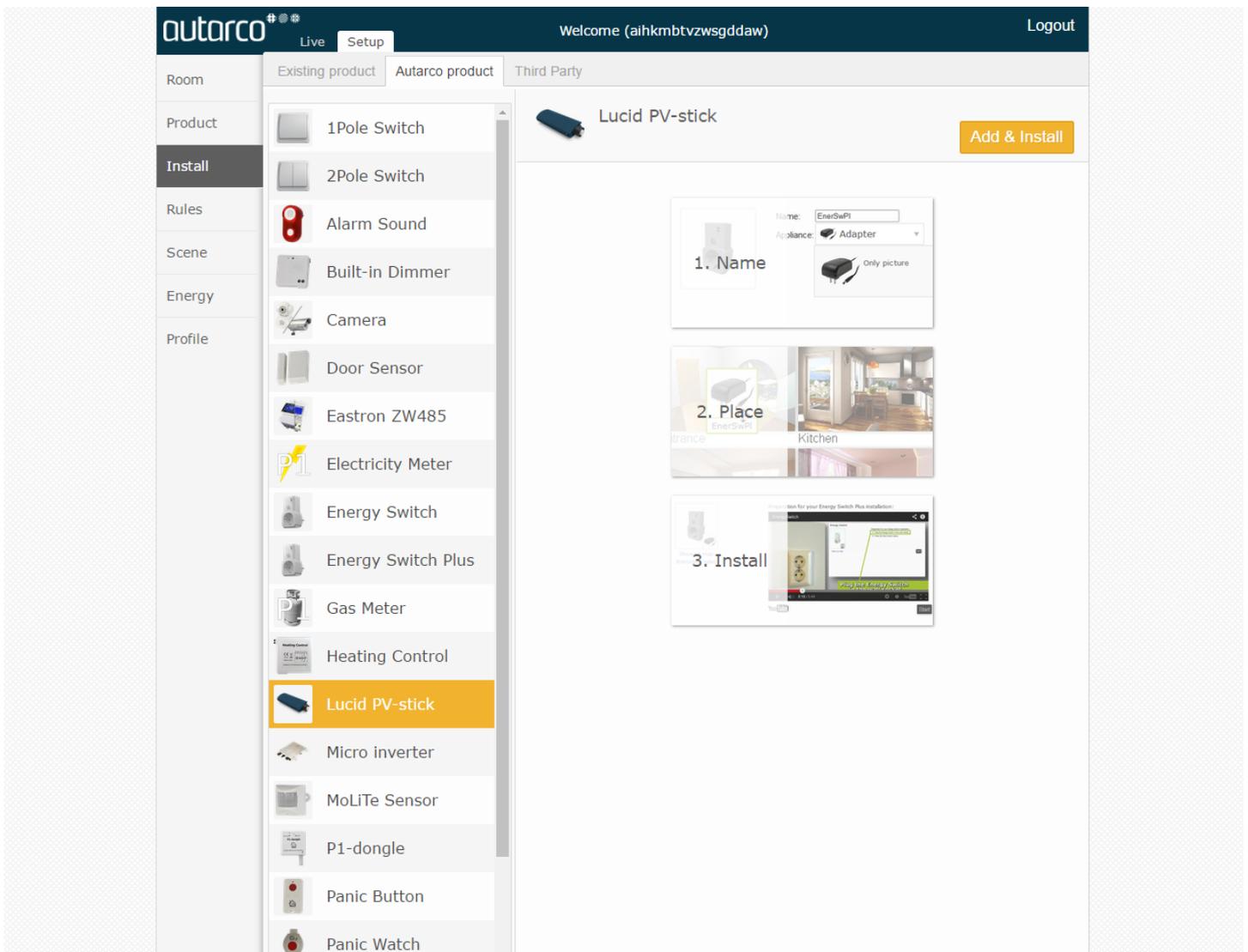
5. Click *Add & Install* to start the installation procedure.
6. The installation procedure on Lucid consists of three steps: two for preparation and one for actually connecting the product to the gateway. In step 1, you may give the Z-wave product a specific name. For PV sticks and micro-inverters we require this name to be the exact serial number of the inverter. For

other products you may leave the default name. However, we recommend you provide a descriptive name to make the product easily recognizable.

7. Click *Next.*
8. Step 2 can be skipped. Click *Next*.

The screen now looks like this:
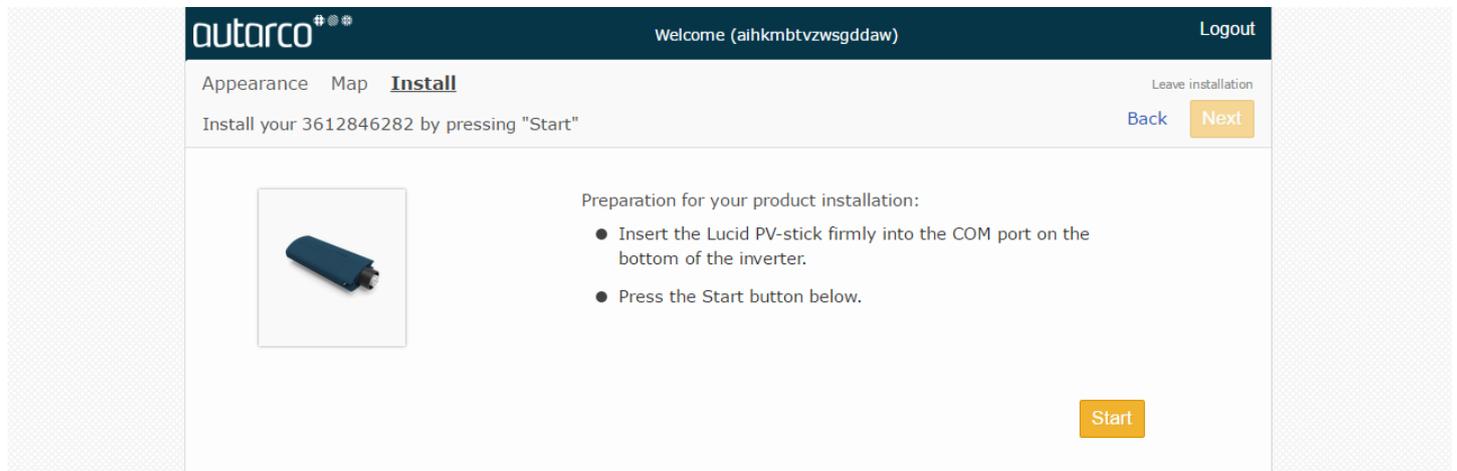
9. Click *Start* to connect the product to the gateway. The gateway will switch to "pair mode". The first Z-wave product within reach of the Z-wave network that is now also put into "pair mode" will connect itself to the gateway.

The screen now looks like this:
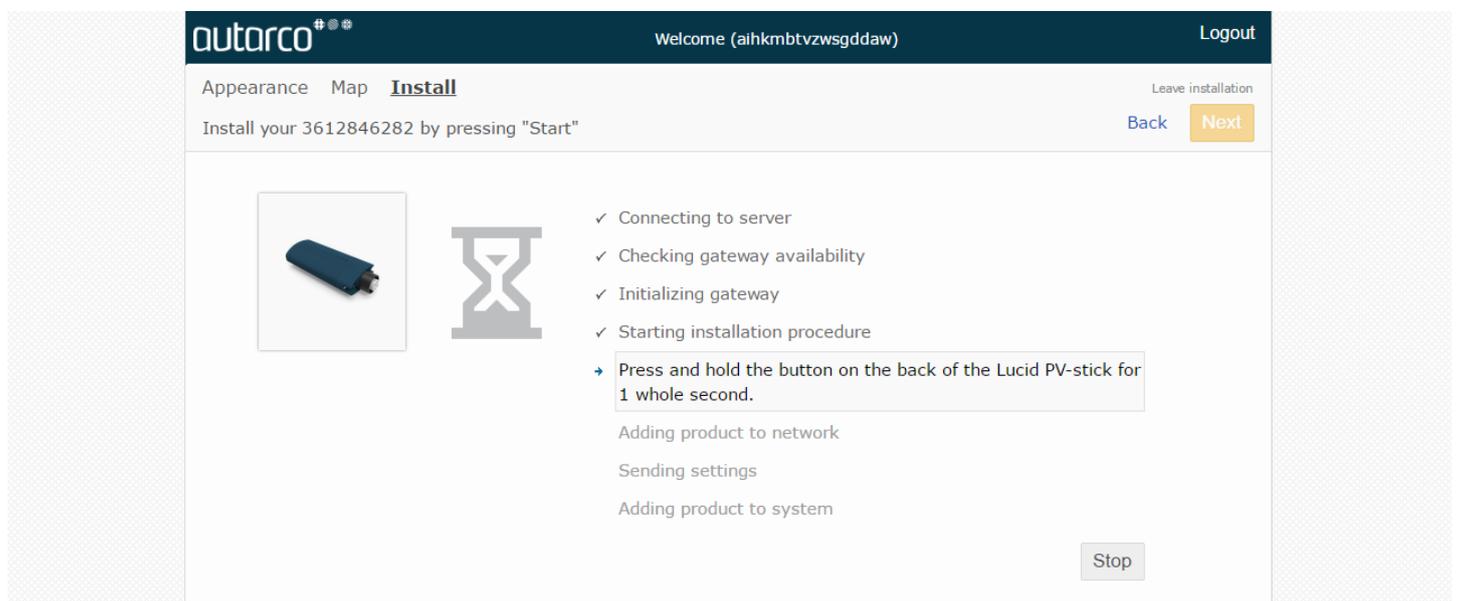
10. Insert the PV stick firmly into in the COM port on the bottom of the inverter. Never turn the housing of the PV stick while the stick is placed in the COM port. This may cause permanent damage to the stick. Only screw the connector to fix it around the port. On powering up, the stick will go into "pair mode" for about one minute. If the stick was already in place, press the button on the stick for one full second to activate "pair mode". The stick will now be connected to the gateway.
11. After installation, click *Synchronise gateway* in the top right corner, so that Lucid and the gateway both share the same settings.

The screen now looks like this:
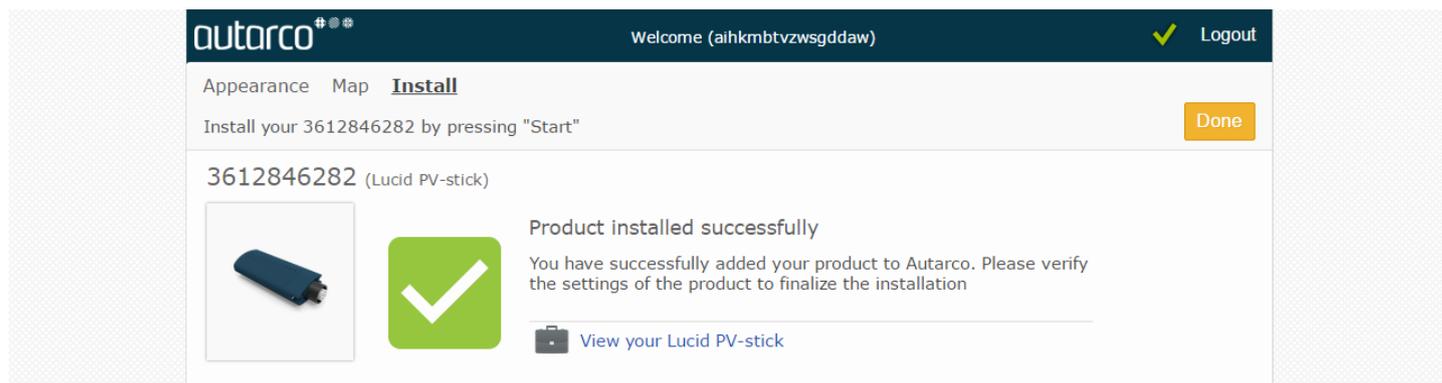
12. Click *View your Lucid PV-stick* to see if the stick is reporting correct values.

The above twelve steps have to be performed for every Z-wave product you wish to install. The steps are the same for every type of product except for steps 4 (choose product type), 6 (enter name) and 10 (physical action).

Completion

When you are done installing Z-wave products in the Lucid environment, return to the browser window with MyAutarco and click *Finish installation*. You may close the window with Lucid.

By clicking *Finish installation*, you instruct MyAutarco to import all relevant configuration from Lucid. This is how MyAutarco learns of all the Z-wave products installed on the gateway. Data from inverters (PV sticks and micro-inverters) and smart meter (P1 cable or P1 dongle) can now be seen in MyAutarco.
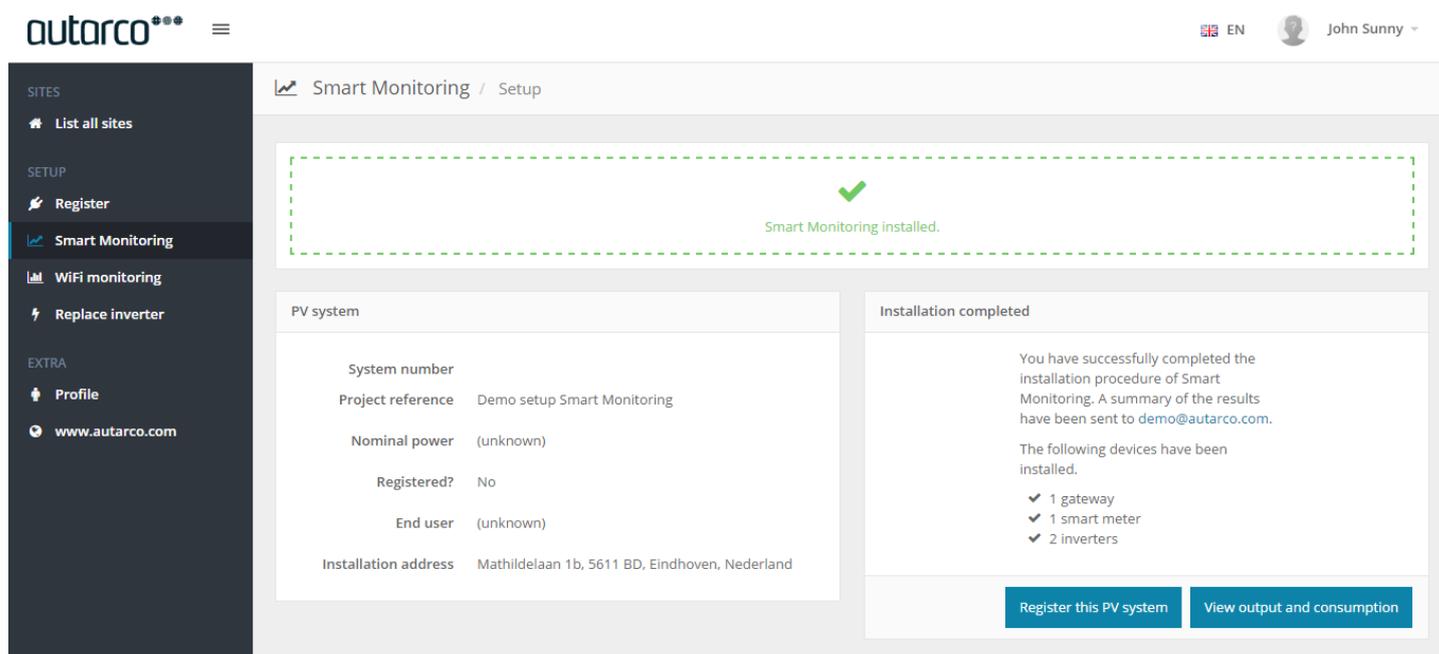
This concludes the installation of MyAutarco. An email will be sent to the logged-in user and to the retailer's main email address known in Helios.

If the system was not yet registered, this still needs to be done. The Smart Monitoring setup is not a substitute of system registration.

Troubleshooting

Gateway indicator blinking orange

If the gateway's LED indicator is still blinking orange a few minutes after connecting it to the router, there is a problem with the internet connection. We need to distinguish between fast blinking and slow blinking.

If the light is blinking orange 2x per second, the gateway does not have a working connection with the router. This means that perhaps the UTP cable is broken, the router port is defective, or DHCP is not enabled.

If the light is blinking orange 1x per second, the gateway does have a connection with the router, but cannot access the internet. Check router settings and/or firewalls in the local area network.

Time-out during installation of new product

If the installation of a Z-wave product is not successful, Lucid will display an error message. The most common error is a time-out on step 10 (see section on Lucid environment). This error occurs when the gateway did not receive any pairing request while it was in "pair mode" (about 3 minutes).
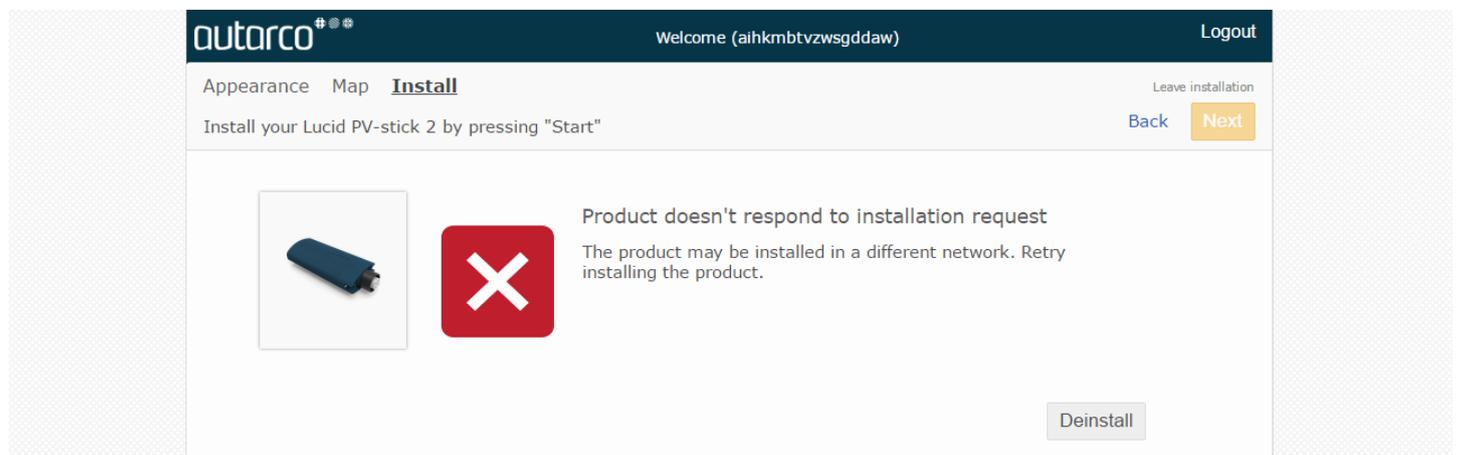
If this happens, try to deinstall the product first. This has two purposes: determine whether the product is within reach of the Z-wave network, and undo any previous pairing of the product to a different gateway. Follow these steps to deinstall a product:

1. Click the *Setup* tab in the top of the screen.
2. Click *Product* in the menu on the left.
3. Click the *Remove* tab.
4. Select *Any product* at the bottom of the screen.
5. Follow the on-screen instructions.

If deinstallation fails, that suggests there is insufficient signal strength between gateway and product. To further support this diagnosis, try to (temporarily) move the gateway closer to the product and deinstall again. Bad signal can be remedied by installing any additional Z-wave product between the gateway and the product. This will automatically strengthen the whole wireless network.

Replace existing product

If you remove a product, you also remove all data associated with it. If for example you remove a PV stick, all data generated by it up to that point in time will be discarded. If you wish to replace a defective Z-wave product, you can prevent such loss of data by using Lucid's Replace function.

1. Click the *Setup* tab in the top of the screen.
2. Click *Product* in the menu on the left.
3. Click the *Replace* tab.
4. Select the product that you wish to replace at the bottom of the screen.
5. Follow the on-screen instruction to install the replacement.