

DIRIS DigiBOX A

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When **energy** matters

Introduction: The purpose of this document is to explain the steps of installing the DIRIS DigiBOX A.



Part Number	Description
USDBPA40ET	DIRIS A-40 Power Analyzer with Ethernet Modbus TCP/IP output and built in web server- Enclosed in NEMA 4X PC Enclosure prewired with fused voltage connections.
USDBPA40RS	DIRIS A-40 Power Analyzer with RS485 output Enclosed in NEMA 4X PC Enclosure prewired with fused voltage connections.
USDBPA40PR	DIRIS A-40 Power Analyzer with Profibus output Enclosed in NEMA 4X PC Enclosure prewired with fused voltage connections

Dimensions:

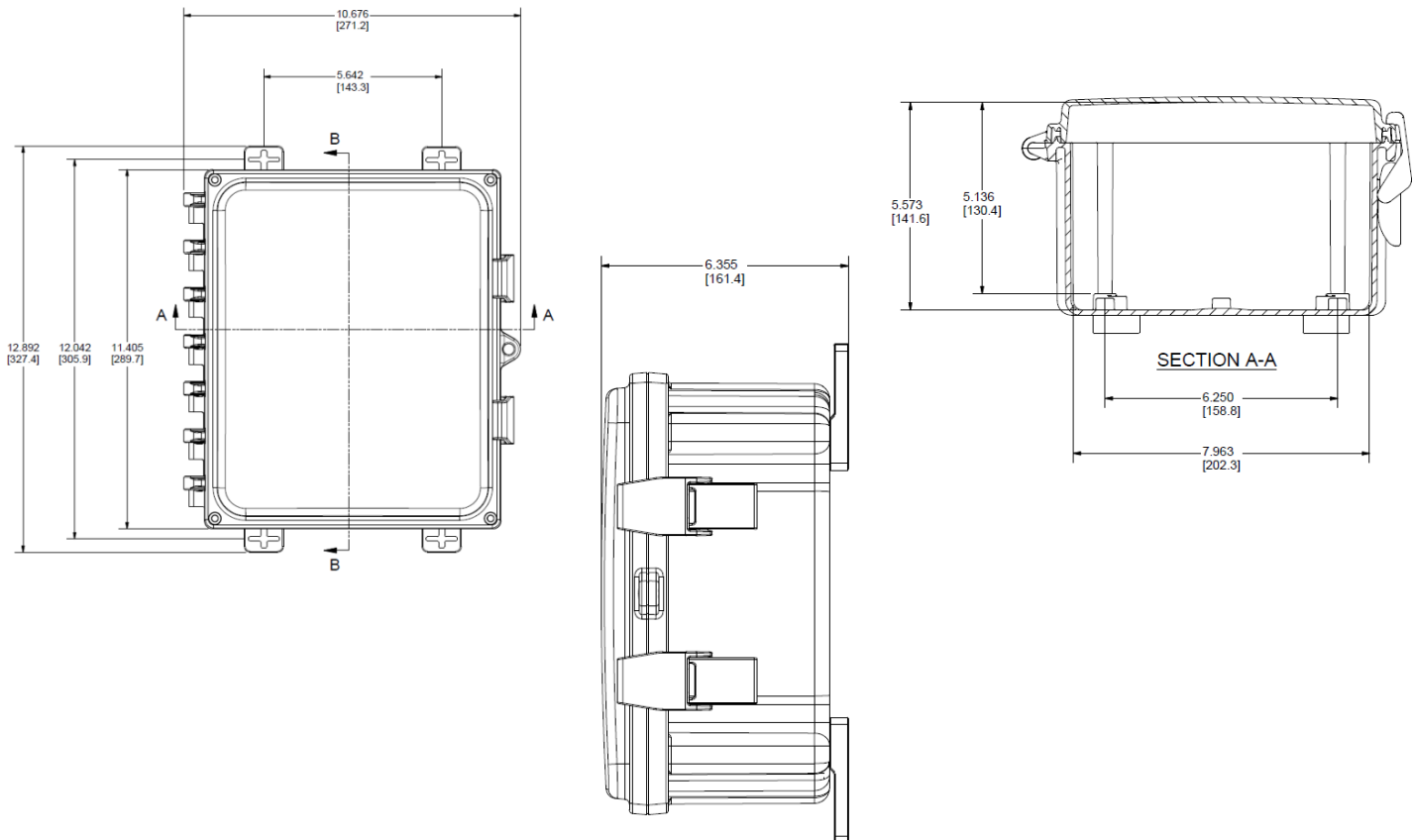


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1. Hazards and Warnings

The term "device" used in the paragraphs below refers to the DIRIS A-40. The assembly, use, servicing and maintenance of this product must only be carried out by trained, qualified professionals. SOCOMEC shall not be held responsible for failure to comply with the instructions in this manual.

1.1. Risk of electrocution, burns or explosion

	Caution: risk of electric shock	Ref. ISO 7000-0434B (2004-01)
	Caution: refer to the accompanying documentation each time this symbol is shown	Ref. ISO 7010-W001 (2011-05)

- Only duly authorized and qualified personnel may work or install/uninstall the device.
- The instructions are valid together with the specific instructions for the device.
- The device is designed only for its intended purpose as set out in the instructions.
- Only accessories authorized or recommended by SOCOMEC may be used in association with the device.
- Before proceeding with installation, maintenance, cleaning, disassembly, connection, or maintenance work, the device and system must be cut off from the mains to avoid electrocution and damaging the system and device.
- This device is not designed to be repaired by the user.
- For any questions related to the disposal of the device, please contact SOCOMEC.

	Do NOT clamp or pull out NON-INSULATED conductors carrying DANGEROUS VOLTAGE which could cause an electric shock, burn or arc flash. Ref. IEC 61010-2-032
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Failure to comply with the instructions of the device and this safety information can cause bodily injury, electric shock, burns, death or damage to property.

1.2. Risk of damaging the device

	Caution: risk of electric shock	Ref. ISO 7000-0434B (2004-01)
	Caution: refer to the accompanying documentation each time this symbol is shown	Ref. ISO 7010-W001 (2011-05)

To ensure that the device operates correctly, make sure that:

- The device is correctly installed.
- There is a maximum voltage at the voltage measurement input terminals of 520 V AC phase-phase or 300 VAC phase-neutral.
- There is a maximum voltage at the auxiliary power supply input terminals of 400 V AC.
- The network frequency indicated on the device is observed: 50 or 60 Hz.
- Always connect the TE, TR or TF current sensors using the recommended connection cables and observing the maximum prescribed currents.
- When the ambient temperature exceeds +50°C, the minimum temperature rating of the copper cable to be connected to terminal must be +85°C.

Failure to respect these precautions could cause damage to the device.

1.3. Responsibility

- Assembly, connection and use must be carried out in accordance with the installation standards currently in force.
- The device must be installed in accordance with the rules given in this manual.
- Failure to observe the rules for installing this unit may compromise the device's intrinsic protection.
- The device must be positioned within an installation which complies with the standards currently in force.
- Any cable which needs to be replaced may only be replaced with a cable having the correct rating.
- Despite constantly striving for quality in preparing this manual, errors or omissions are always a possibility and are not the responsibility of SOCOMEC.

2. Conduit Hole

The DIRIS DigiBOX A is shipped without the conduit holes; they will need to be cut on the left side, right side, and/or the top. See the below drawings for recommended conduit hole locations.

1. Open the enclosure door, unscrew the two right side screws, and lift the metal plate.
2. Cut the conduit holes only in the locations where conduit fittings will be installed. Conduit hole templates can be found within the black bag that comes in the box.
3. To maintain the enclosure's environmental rating, the installer must use conduit hubs/fittings* with the same environmental rating as the enclosure.
4. Maintain spacing of at least $\frac{1}{2}$ inch between conduit hubs/fittings and uninsulated live conductors.
5. Use "Grounding" conduit fittings* with built-in set screws. Run insulated copper conductors, 16awg or thicker, from fittings to spar ground terminal blocks.
6. Route incoming voltage conductors at least $\frac{1}{4}$ inch away from current sensor and signal conductors. Route current sensor conductors at least $\frac{1}{4}$ inch away from communication conductors.
7. Use cable ties to secure conductors to each other and to maintain spacing.

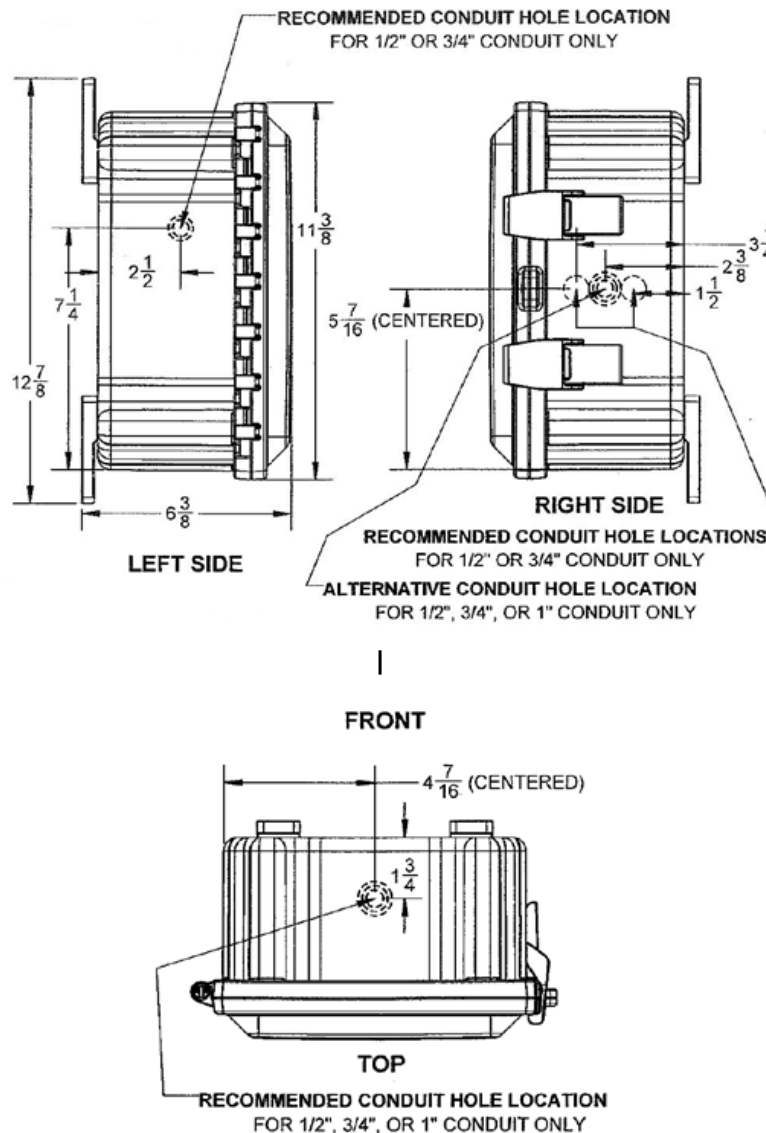


Figure 1: Recommended conduit hole locations.

**not supplied by Socomec*

3. Install Mounting Feet to the Back of the Enclosure

1. The DIRIS DigiBOX A is shipped with the mounting feet in the bag.



Figure 2: Mounting feet and hardware provided with the DIRIS DigiBOX A.

2. Turn the enclosure so the back side is visible. Then place the mounting feet over the octagon pieces (you can place the mounting feet horizontally, diagonally, or vertically) and fasten them with the ¼ inch -20 x 0.25 inch SS, countersunk Phillips drive screws (torque limit is 30 in. lbs.).



Figure 3: Three ways to put the mounting feet on the enclosure (vertical, horizontal, and diagonal).

3. The enclosure is now ready to be mounted vertically (i.e. on a wall) or horizontally (i.e. on a table top).
4. To mount the unit, use #10-32 ¾ inch panhead screws and screw directly in the center of the cross on the mounting feet.



Figure 4: Red dot indicates where to screw when mounting on surface.

4. Wiring of the system

Before wiring the system, make sure that the fuses are NOT installed. The fuses are to be installed AFTER all wiring is complete.

Use class 1 conductors and the input voltage must be 480VAC L-L.

Make sure that the metal cover is still open inside the DIRIS DigiBOX A.

1. Behind the metal plate the prewired and the components that need to be wired can be seen.
2. Wire the voltage according to the designated fuse holder (L1, L2, L3, and N).

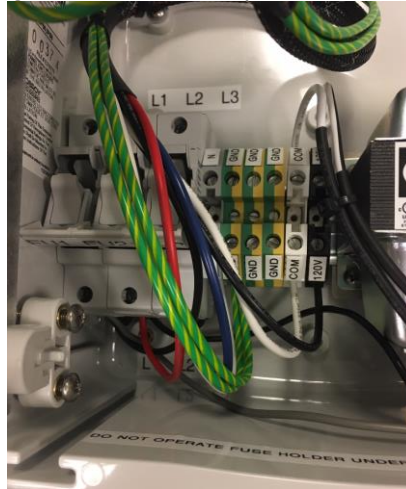


Figure 5: Wire the voltage based on the labeled fuse holders (note that the fuse holders are empty).

3. To make sure the product has the latest firmware, the product upgrade tool must be used.
 - a. Plug in a micro USB to the back of the DIRIS A-40.



Figure 6: The micro USB port on the DIRIS A-40.

- b. Go to the website to download the Product Upgraded Tool:
https://www.socomec.com/product-upgrade-tool-software_en.html
 - c. Under the "Firmware" section, download the DIRIS A-40 firmware. **Please note that the firmware downloaded from the website is a zip file but DO NOT unzip the file, just directly upload the file into Product Upgrade Tool.**

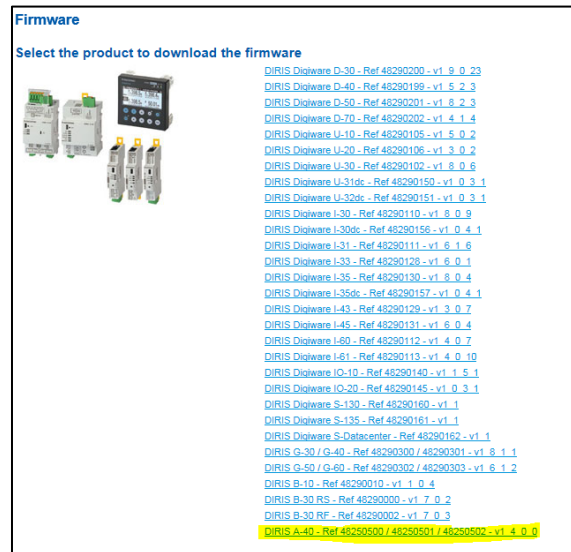


Figure 7: The firmware to be downloaded is labeled DIRIS A-40.

- d. Once downloaded open the software to get the below screen:

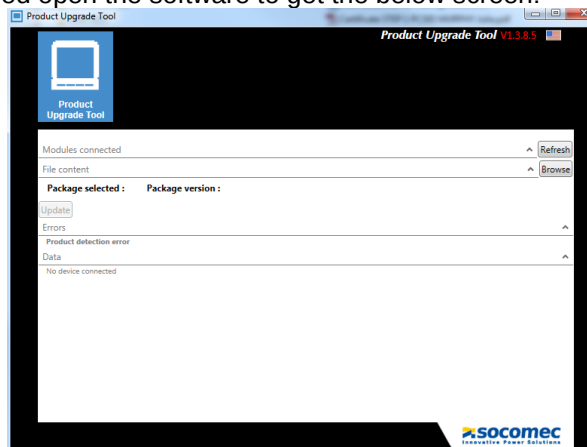


Figure 8: Product Upgrade tool home screen.

- e. Click refresh to get the below screen.

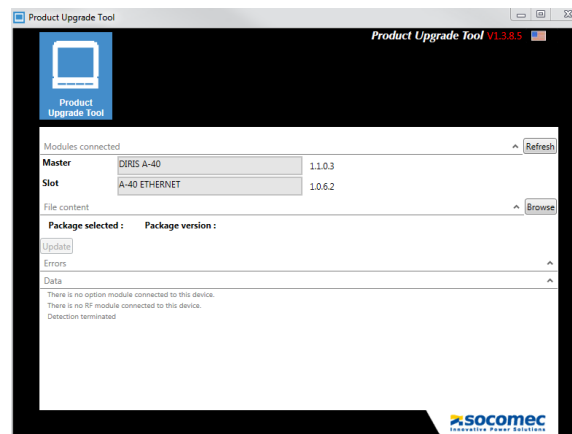


Figure 9: Screen after the refresh button is pressed.

- f. Click browse and select the firmware folder that was downloaded. If you see the orange symbol that means the software file selected is the same as the one on the DIRIS A-40 currently. If there is a green symbol then that means an update is needed. If there is a red symbol it means that the firmware selected is a lower version than the DIRIS A-40 currently has.

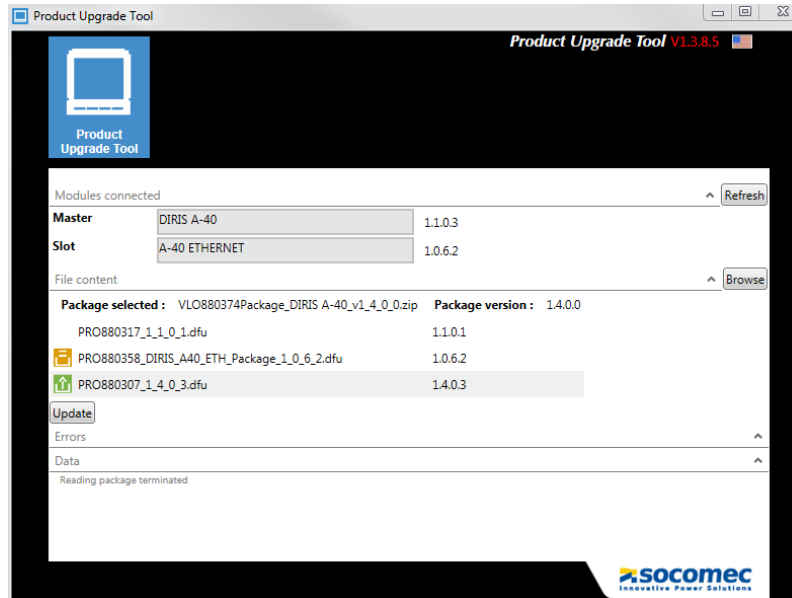


Figure 10: Product upgrade tool screen once the firmware is selected.

- g. Click update if needed. Once the firmware is up to date you will see the following screen:

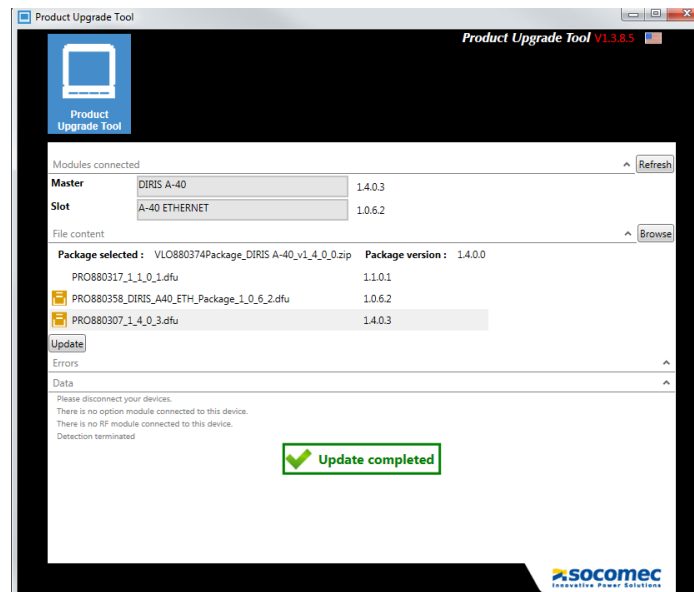


Figure 11: Product Upgrade Tool screen once update is complete.

4. Plug in the RJ12 cables to the DIRIS A-40 and feed the cable out of a conduit hole.
Note: Depending on the DIRIS A-40 purchased you should connect the communication protocol being used at this point. For more detailed instructions on how to set up the communication protocols please refer to the DIRIS A-40 instruction manual.
5. Maintain spacing of at least ½ inch between conduit hubs/fittings and uninsulated live conductors. Use cable ties to secure conductors to each other and to maintain spacing.

6. Connect the current sensor to the load and plug the current sensor into the RJ12 cable connected to the DIRIS A-40.

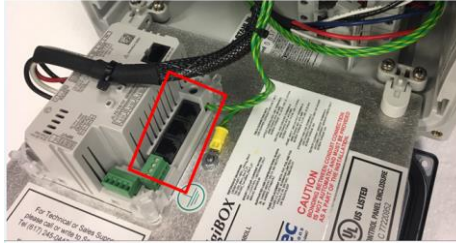


Figure 12: The boxed area is where the RJ12 cables are inserted on the DIRIS A-40.

7. Put fuses provided in the black bag into the fuse holders.
8. Close the metal plate and screw it back down. The DIRIS A-40 should now be on.

5. Configuring the DIRIS A-40

5.1. Configuration using Wizard

The DIRIS A-40 can be configured using the display configuration setup “Wizard”. When using Wizard the DIRIS A-40 provides step by step setup on screen. Follow the on screen instructions.

5.2. Configuration using EasyConfig

EasyConfig is free software available to download on the Socomec website. If you would like to configure the DIRIS A-40 by EasyConfig please refer to the DIRIS A-40 instruction manual: https://www.socomec.us/wp-content/uploads/2019/03/DIRIS-A-40_INSTRUCTION-MANUAL_2018-01_545802_EN-I.pdf

6. Webview (only available with DIRIS DigiBOX A Ethernet version USDBPA40ET)

Webview offers real-time monitoring of electrical installations and tracking of energy consumption level, embedded in the DIRIS A-40 Ethernet version. It is intended for use by those who wish to have a complete tool to quickly analyze malfunctions within their electrical installation and to guarantee energy-related performance. Once the configuration is done in EasyConfig, the configuration has to be recognized in Webview.

1. Open the internet browser and type in the IP address of the DIRIS A-40.

*The default IP address for the DIRIS A-40 is the following: **192.168.0.4***

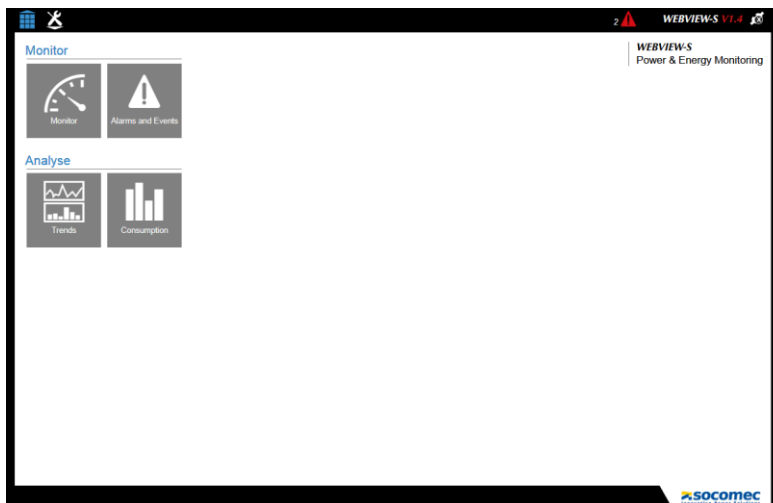


Figure 13: The home screen of Webview once the IP address of the DIRIS A-40 is entered into the web browser.

2. Change the user profile to “Admin”. To do this click on the “x” at the top right hand corner to get the home screen where you can login as a different user (see Figure 29). Default passwords are listed below:

Profile	Default password
User	No password
Admin	Admin
Advanced User	UserAdvanced

Table 1: The Username and Password for Webview.

3. Click on the wrench/screwdriver icon on the top left corner.

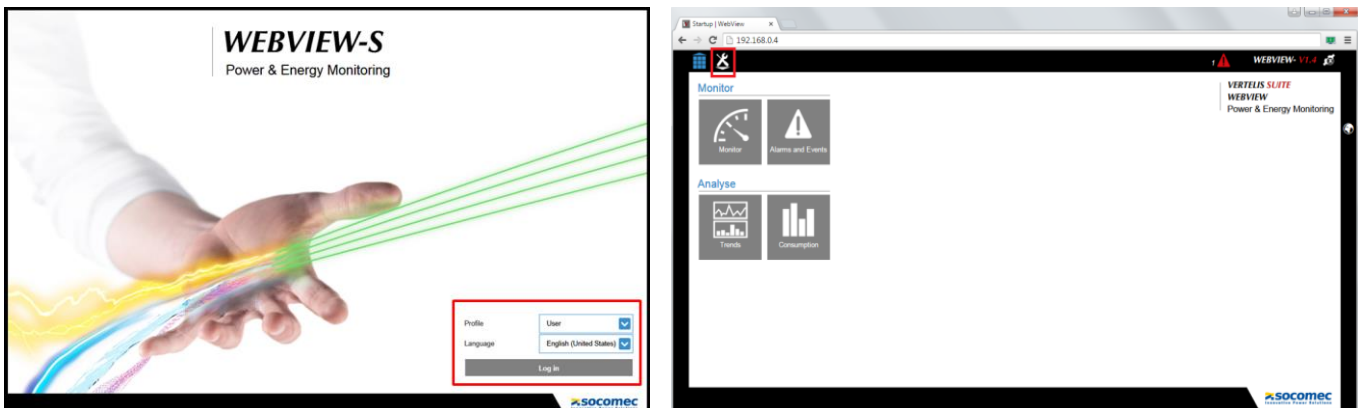


Figure 14: The screen that you will be taken to change the profile (left) and the wrench/screwdriver to click (right).

4. Click on “Devices and Hierarchies” tab in the next screen.

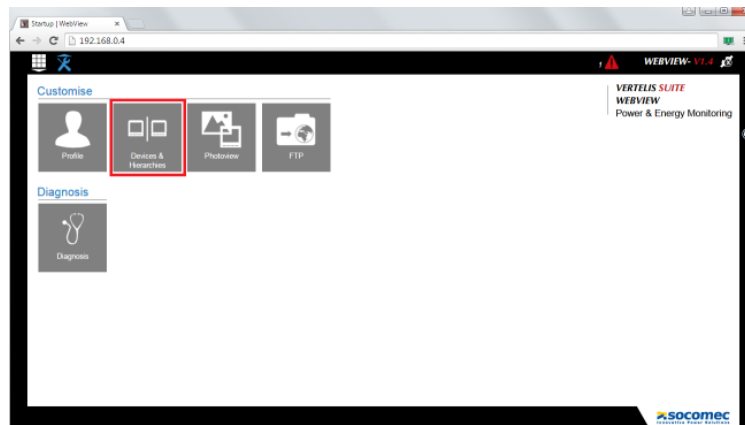


Figure 15: The “Devices & Hierarchies” tab to click on.

5. Click on “Read configuration”.

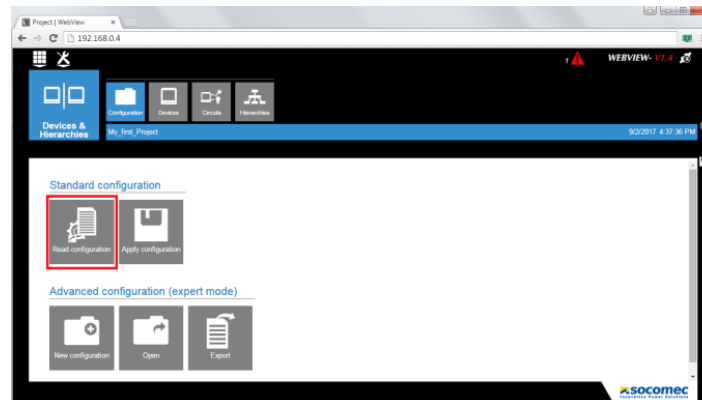


Figure 16: Click on the “Read configuration”.

6. Click on “Apply Configuration”. Now the Webview has the configurations that were done on the DIRIS A-40.



For more information on Webview refer to the Webview Instruction Manual.

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