

AKO-5004 Software Instructions



Content

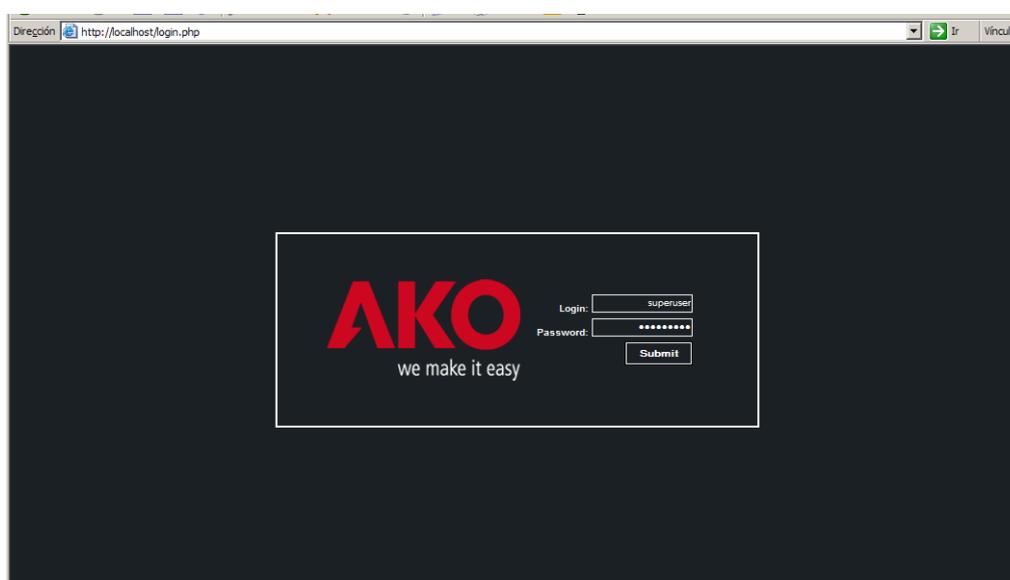
| | | |
|-------|--|----|
| 1 | Accessing the Application | 3 |
| 2 | Administration Menu | 5 |
| 2.1 | System Administration | 5 |
| 2.1.1 | User Administration..... | 6 |
| 2.1.2 | Administering Communication | 7 |
| 2.1.3 | LOG Viewer | 8 |
| 2.1.4 | Maintenance of Alerts | 8 |
| 2.1.5 | Maintenance of System Configuration..... | 9 |
| 2.1.6 | Upgrade Manager | 10 |
| 2.2 | System Administration | 11 |
| 2.2.1 | Searching for Devices..... | 12 |
| 2.2.2 | Device Maintenance | 14 |
| 2.2.3 | Editing Device Configuration..... | 15 |
| 3 | View Menu | 16 |
| 3.1 | Graphics | 16 |
| 3.2 | Status | 20 |
| 3.3 | Logs..... | 21 |
| 3.4 | Data Loggers | 22 |
| 4 | Alarms | 23 |
| 5 | Layouts | 24 |
| 5.1 | New Layout..... | 24 |
| 6 | Documentation..... | 26 |

1 Accessing the Application

To access the application, just open an Internet Explorer window and type in `http://localhost/login.php` if you have your server software installed in that same computer.

If you wish to connect remotely, then type in the IP address of the computer in which the AKO-5004, server software is installed, for example: `http://192.168.1.250`.

The following screen will then appear:



The first time you enter the application, type “superuser” in both Login and Password, in lowercase and with no spaces. You will have entered as the System Administrator and will therefore have all the privileges and as such, you can create new users and in turn assign them normal user or Administrator privileges. It is advisable to have just one Administrator user and for the rest to be normal users since in the event of two users obtaining access simultaneously with the Administrator profile, overwriting of important data may occur with respect to both the equipment and the user profiles themselves.

After typing your login and password, you will access the following screen:



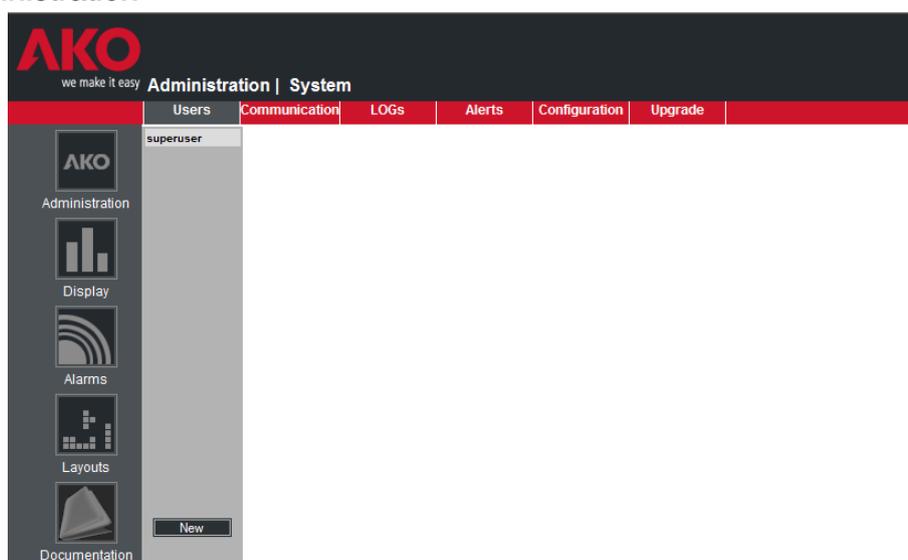
If you are entering the application for the first time we advise you to go to Administration.

2 Administration Menu



From this menu, administrative tasks can be carried out for the devices you want to connect and for the AKO 5004 system itself.

2.1 System Administration



By default the Users tab will be highlighted. Here, you can create a New user or modify the characteristics of the user profile you have used to enter with.

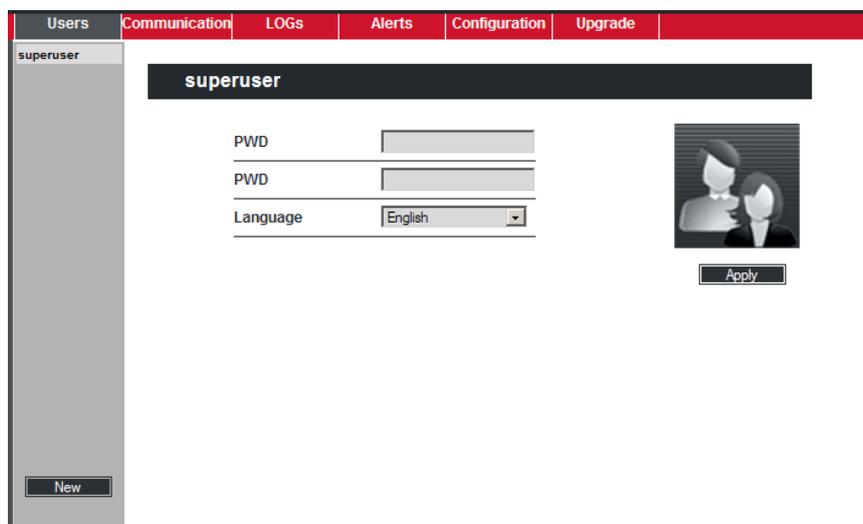
2.1.1 User Administration



It is possible to create new users and maintain existing users (maintain passwords, languages and permission levels) from the **Users** menu.

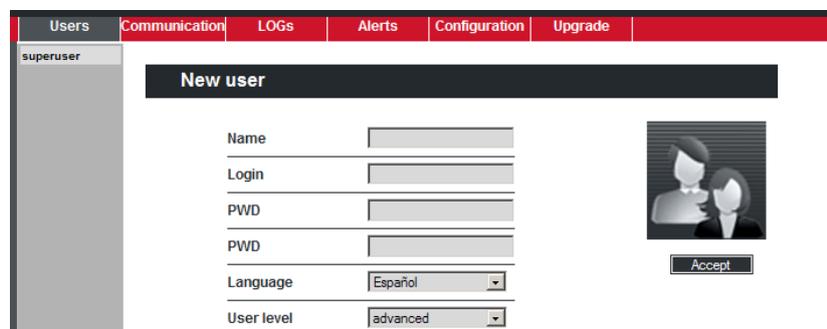
If you are executing the application for the first time, you will see that only the superuser login appears.

If you select it, the following screen will appear:



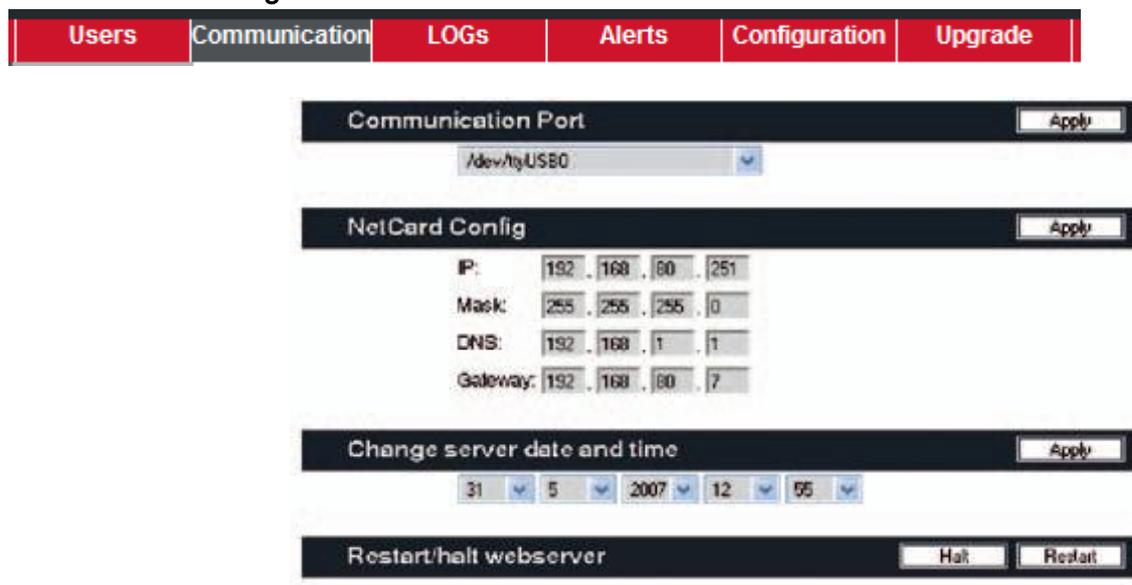
The superuser login will always have administrator privileges and you should not modify the login or erase it. As can be seen in the previous screen, the only thing that can be changed is your password and the language. The reason for this is to prevent accidental deleting which could lead to it being impossible to access the system.

To create a New user just click on the **New** button and the following screen will appear:



As you can see, this new user can be assigned a name and login, the language in which the application will be shown can be defined when you enter as that user, and the privileges level (administrator or normal user) and the password, which for security reasons, you are asked to provide twice to prevent errors can also be assigned. Lastly, click on **Accept** to save the changes.

2.1.2 Administering Communication



You will see a drop-down menu showing all the available ports for connecting your server with the connected AKO equipment. Select the one in which you have connected the AKO-80039 USB-RS485 converter and click on **Apply**. If you have purchased an AKO-5005 PC Web Server, select the port with the format /dev/ttyUSB.

In this tab, you will also find the parameters referring to the network Configuration: IP address, Mask, DNS and Gateway. It is important that you configure these parameters correctly, as otherwise it will not be possible to connect remotely from any computer.

You can also set the server date and time, and stop or restart the server (only if you have acquired a Web PC Server AKO-5005).

If you have acquired the CD AKO-5004, the server date and time will be the same as for your computer. In this case you will be able to stop and restart the server by clicking with the right button on the logo , which will appear in the bottom right side of your screen. Options NetCard Config, Change server date and time and Restart/halt webserver are not available in the CD version.

All the temperature records are referenced with respect to the server date and time and it is therefore important for them to be correct.

WARNING: If you want to stop the equipment in order to transfer it to another place, execute the Stop option, and the Server will stop all the operations it is performing in an orderly, safe manner.

2.1.3 LOG Viewer

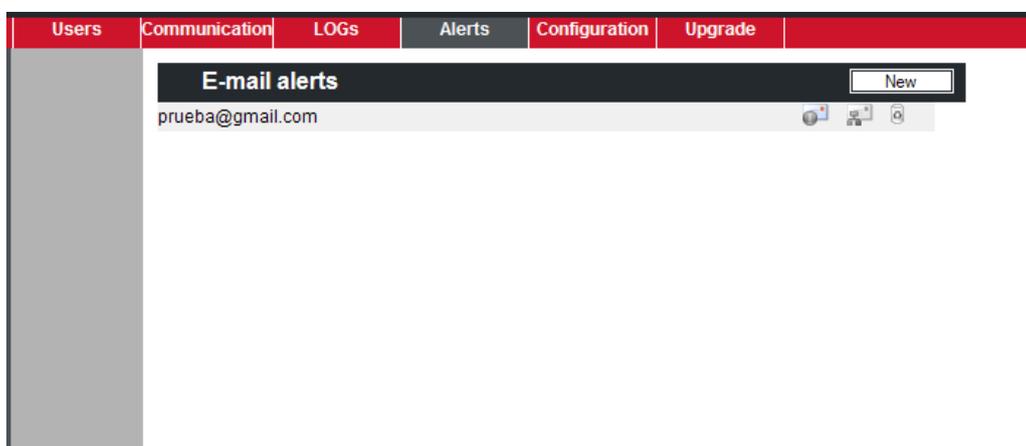


The LOGs tab has contents that refer to possible server connection errors and system warnings. It is merely informative.

2.1.4 Maintenance of Alerts



Click on the Alerts tab to obtain the following:



In this screen you can define the email addresses to which the connection alert messages, alarms, etc. will be sent. In this way you can check all incidents related to your system remotely.

2.1.5 Maintenance of System Configuration



The Configuration tab contains information on the general and mail servers:

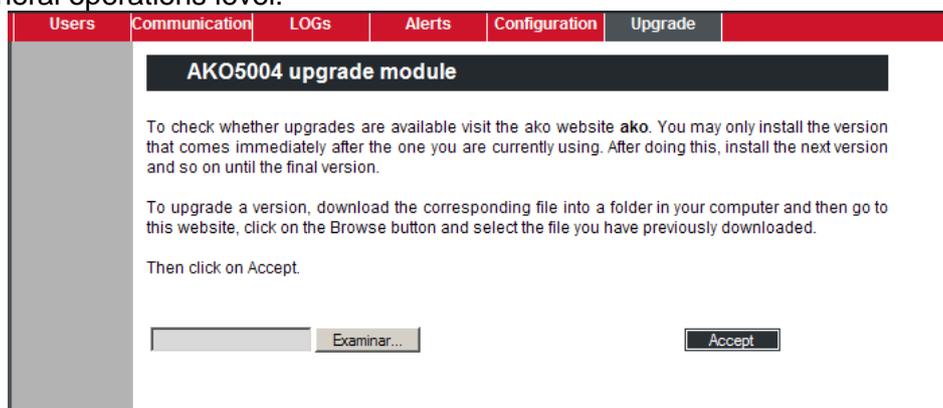
| Users | Communication | LOGs | Alerts | Configuration | Upgrade |
|-------------------------------------|---------------|-------------------|--------|---------------|---------|
| Server Configuration Options | | | | | |
| e-mail Options | | | | | |
| e-mail address | | ako@ako.com | | | |
| e-mail server | | 192.168.0.108 | | | |
| e-mail user | | | | | |
| e-mail password | | | | | |
| General Options | | | | | |
| Server Language | | English | | | |
| Directory of logs | | log_ako5004 | | | |
| Directory of Apache logs | | /var/log/apache2/ | | | |

WARNING: You can select any language you want for the server, irrespective of the languages defined for the different users. Alert and alarms messages will be in the server language, for which reason it is important for it to be the same as that of the different users, as otherwise it might happen, for example, that a user speaking Spanish could receive the alerts in English.

2.1.6 Upgrade Manager



In the Upgrade tab you can upgrade the application with the improvements introduced by AKO both at equipment and general operations level:



WARNING: You can only install the upgrade that is immediately higher than the release installed in your application, and after doing so, install the next release and so on, up to the last version.

2.2 System Administration

So far, we have seen all the options referring to System Administration. We shall now look at the Administration-System options.

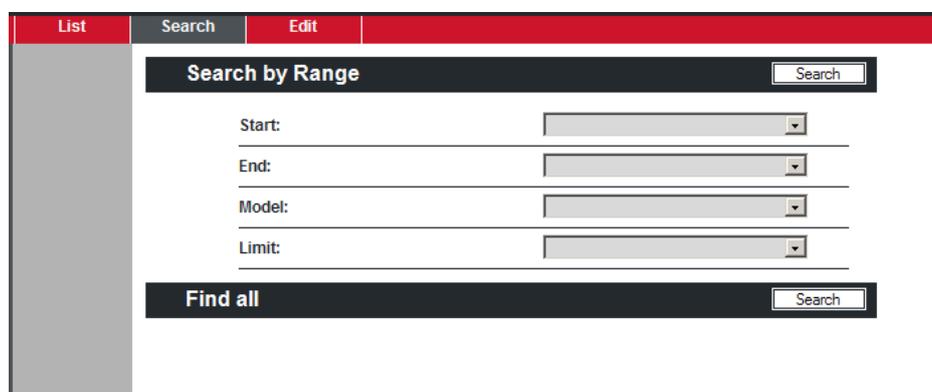
You can always click on any of the options in the main menu on the left from wherever you are in the application, click on Administration and then on Devices.

The following screen will appear:

| List | | | |
|--------|--------|-------------|--------------|
| Search | | | |
| Edit | | | |
| ID | Device | Description | Localization |
| | | | |

As can be seen there is no device in the list because we have not yet searched for any, so go to the Search tab.

2.2.1 Searching for Devices



The screenshot shows a search interface with a red header bar containing 'List', 'Search', and 'Edit' tabs. Below the header, there are two main search sections. The first section is titled 'Search by Range' and contains four input fields: 'Start:', 'End:', 'Model:', and 'Limit:', each with a dropdown arrow. A 'Search' button is located to the right of these fields. The second section is titled 'Find all' and also has a 'Search' button to its right.

You have two alternatives in searching for devices: Search by Range or Search All. The Search All option will take you through all the possible Modbus addresses, that is, from 1 to 256, which is a very slow process. We recommend you make local searches in the ranges in which the device is included, and in this way you can incorporate the device much more quickly; to do this, use the drop down menus Start and End to set the search range.

As an example, a search has been made for addresses 1 to 5 and the following has been obtained:

| Bus Address | Model | Registered |
|-------------|-----------|--------------------------|
| 1 | AKO-15752 | <input type="checkbox"/> |

As you can see, a device has been detected at addresses 1: the AKO-15752.

Warning: The search may return a unknown device, this is because some older devices are not able to be certified as a concrete model. In such cases, when we will click in a unknown device, we will be able to select the particular type of device.

When the system gives you the list of devices found, click on each name to register it in the system.

Warning: Some devices like AKO-14123 defines a devices' family, therefore, when searching them, we will select the particular type of devices that we have.

Device data
Back

Bus Address:

Model:

Description:

Localization:

Configs:

Add

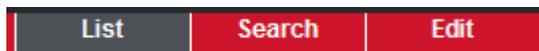
You must fill in the Device Description and Location. If there is a specific parameter value defined for this device, you will be able to select it from the drop-down Configurations list.

You must fill in all the fields in order to register the device. Then click on Add and this device will be registered.

You must complete this registration process for all the devices on the Search list. Once the process is complete, the devices will be shown as registered.

| List | Search | Edit | |
|-------------|-----------|------|-------------------------------------|
| Bus Address | Model | | Registered |
| 1 | AKO-15752 | | <input checked="" type="checkbox"/> |

2.2.2 Device Maintenance



Click on List and the list of devices with the models already selected will appear:

| List | Search | Edit | |
|---|-----------|-------------|--------------|
| <div style="display: flex; justify-content: space-between;"> ◀◀ ▶▶ </div> | | | |
| ID | Device | Description | Localization |
| 1 | AKO-15752 | Test | Test |

Click on the icon appearing to the right of the device  to display all the device parameters.

Double click on the name of the device to access its set of parameters:

| Config. Device | Input 1 | Input 2 | Input 3 | Input 4 | Input 5 |
|---|-----------------------|---------|---------|---------|---------|
| <div style="display: flex; justify-content: center; gap: 10px;"> Print Apply </div> | | | | | |
| PARAMETER | DESCRIPTION | | VALUE | | |
| 01 | Language | | Español | | |
| 02 | Day | | 1 | | |
| 03 | Month | | 6 | | |
| 04 | Year | | 2007 | | |
| 05 | Day of the week | | Friday | | |
| 06 | Hour | | 1 | | |
| 07 | Minute | | 11 | | |
| 08 | Sampling Rate | | 4 min | | |
| 09 | Access password | | 0 | | |
| 10 | Equipment own address | | 1 | | |

All the parameters are listed in different tabs to make it easier to view them. In the administrator mode, you can modify any of them. Click on Apply to update them in the device. If you wish, you can print out a list of parameters for each tab or print them all out from the option showing all the parameters.

2.2.3 Editing Device Configuration

| | | |
|------|--------|------|
| List | Search | Edit |
|------|--------|------|

Device AKO-15752 @1 Delete

Apply config to Device Change Eliminate

Configs:

Apply to all devices of the same model

Save current status as new configuration Save

Configs:

Description:

Change device description Save

Description:

Localization:

In this screen you can assign and save a Configuration of previously-defined parameters for this device, and clone (i.e., copy the same set of parameters) them in different devices of the same model. You can also change the contents of the boxes Description and Location, and change the value of the Upgrade box, where the frequency of acquisition of the data from the device by the Server is established. In devices with built-in registers, the Upgrade box is not available.

3 View Menu



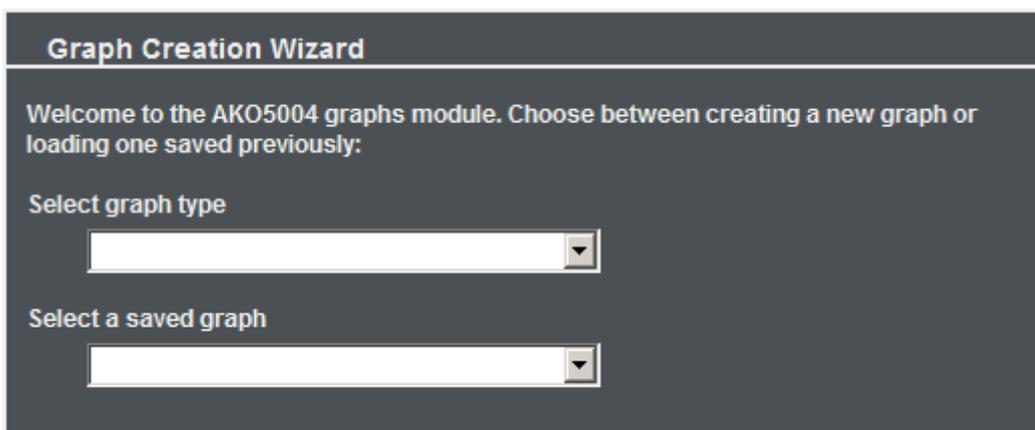
The View menu allows you to access the data stored by the system. Four tabs will appear when you click on it: **Graphics, Status, Logs and Loggers.**

3.1 Graphics



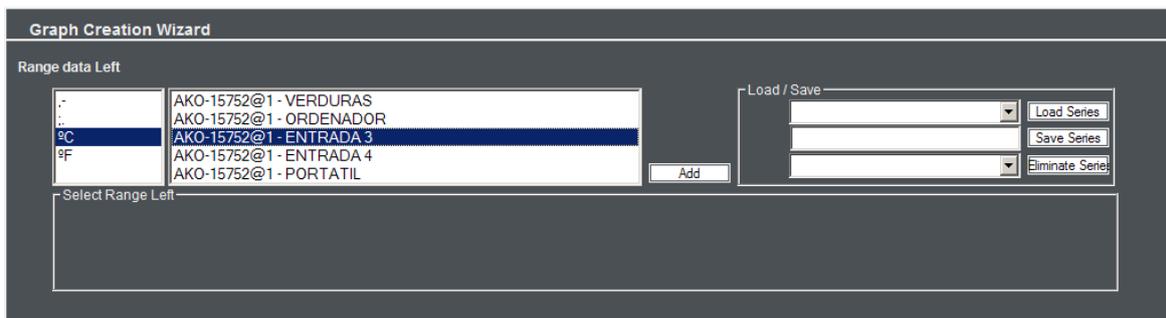
To help manage graph creation, the application has a Wizard that will ask you which data you want to display.

The first step is to define whether you want to start with a new graph or view an existing graph:



The first menu allows you to create a graph with one or two magnitudes; the second menu allows you to generate the graph from an existing template.

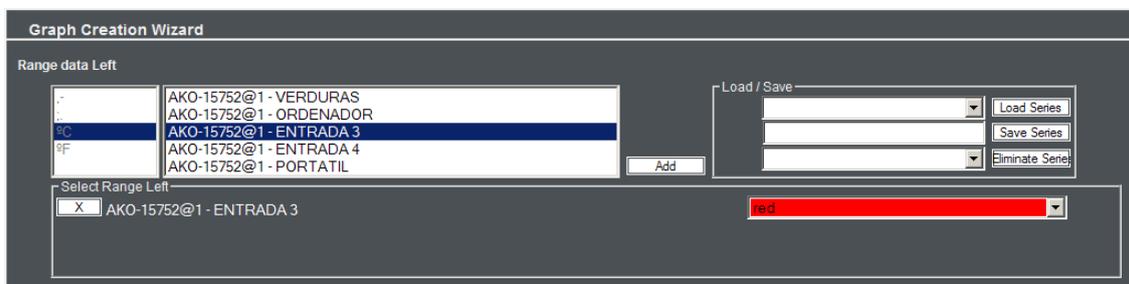
The second step will be to define the sensors that you want to display on the graph. For this, the following window will appear:



This dialogue box allows you to choose which sensors to include, associating a colour with each of them.

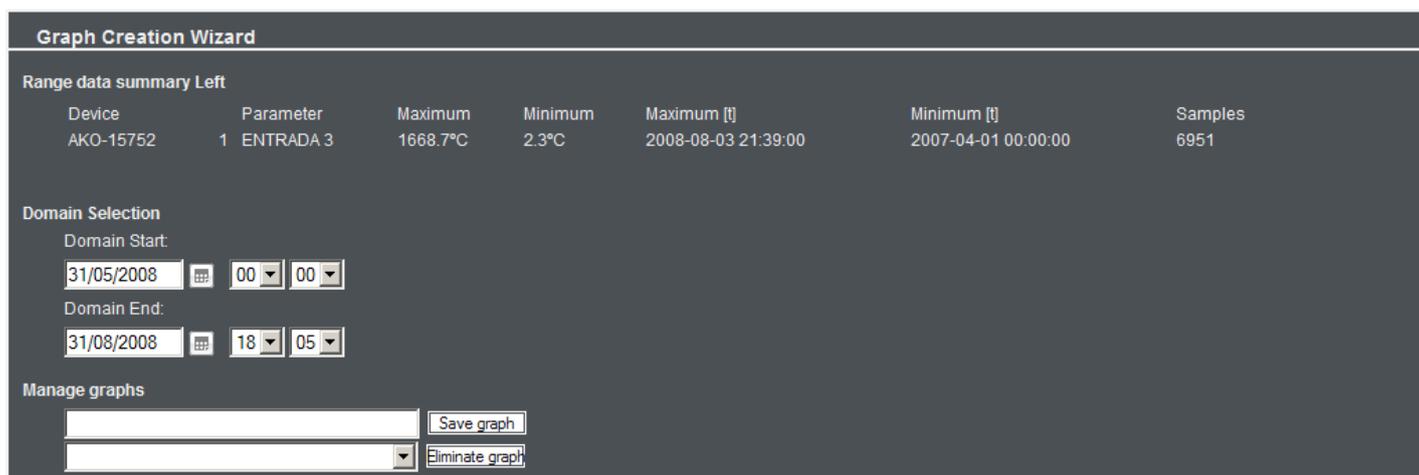
Within a single magnitude you may only select sensors that have been measured in a single unit.

If you have selected two magnitudes, this control will be displayed twice.



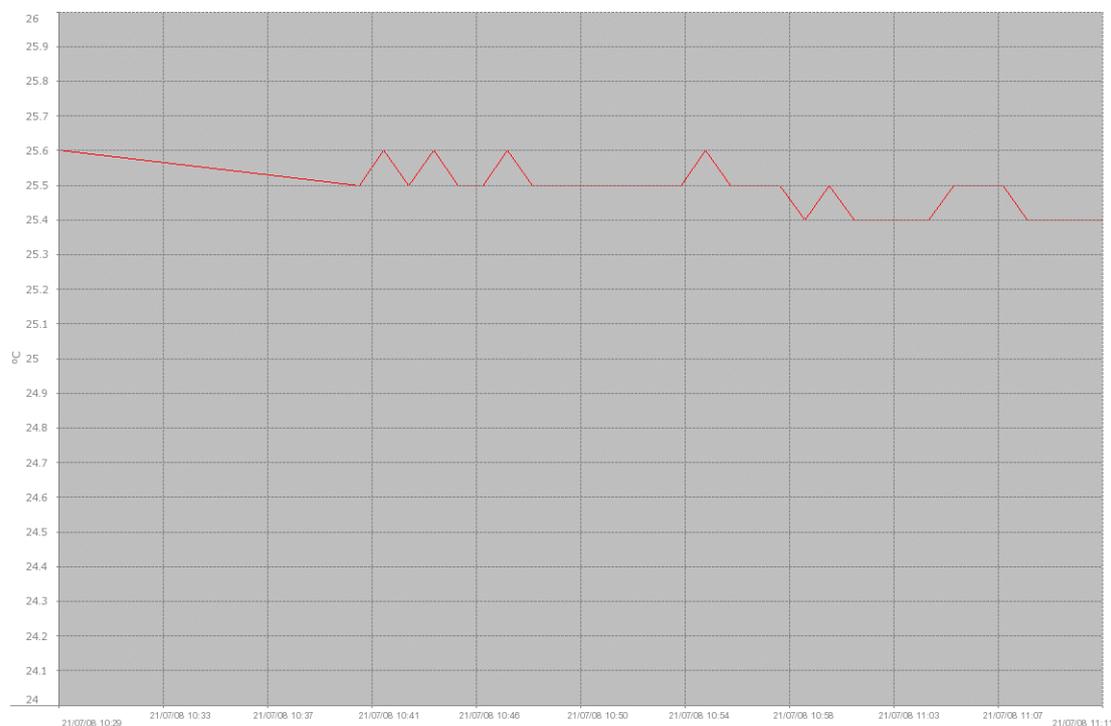
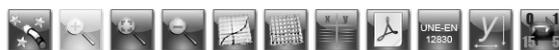
Each magnitude configurator opens a dialogue window where you can save or load predefined series.

When you click on the Next button, the application displays the following step in the Wizard. In this step, you will decide the range of dates for which you want to generate the graph. Here you can also save the graph as a template for later use.



The last step will show a summary of what the graph will display and you will be able to give it a title.

When you press Generate, the application will display the graph:



The graph contains the following buttons:



Return to Wizard: this button will take you back to the Wizard, where you can modify any of the data entered.



Zoom In: this button can be used to make any part of the graph larger. To zoom in, press the button and select an area of the graphic. Once selected, the graph will recalculate to display only the selected area.



Reset Zoom: this option returns the zoom on the graph to normal.



Zoom Out: if you have zoomed in more than once on the graph and wish to go back a step, this button allows you to do so.



Show/Hide Points: this button will display on the graph the exact points where the sample was taken.



Show/Hide Grid: this option allows you to display or hide the graph's grid.



Show/Hide Legend: when this button is selected, the application displays a window with the information from the graph legend.



Print Graphic in PDF Format: this option generates a PDF file of the graph.



Print Graphic in UNE-EN 12830 Format



Change the scales of the magnitudes: this option allows you to change the maximum and minimum values that are applied to each of the magnitudes.



Auto-refresh: this button causes the graph to refresh every X minutes. For this option, you must select the number of minutes between refreshes: 1, 5 or 15. To turn auto-refresh off, press 0.

3.2 Status

Charts
Status
Historics
Data Loggers

The status tab allows you to view the information on one of the devices in real time. The application will display a list with all the registered devices.

<<
>>

| ID | Device | Description | Localization |
|----|-----------|-------------|--------------|
| 1 | AKO-15752 | Test | Test |

If you double click on the name of a device, the application will display a window with a series of tabs where you can access (in read only mode) all the information on the device.

| Readings | | |
|-----------|------------------|---------|
| PARAMETER | DESCRIPTION | VALUE |
| VERDURAS | Sensor 1 reading | 27.9 °C |
| ORDENADOR | Sensor 2 reading | 28.1 °C |
| ENTRADA 3 | Sensor 3 reading | 29.2 °C |
| ENTRADA 4 | Sensor 4 reading | 29.5 °C |
| PORTATIL | Sensor 5 reading | 28.7 °C |

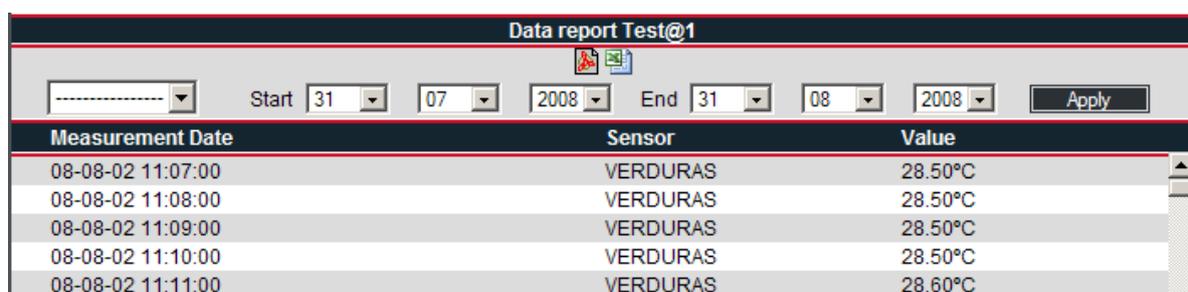
3.3 Logs

In addition to a graphic representation, you can view the data as lists in PDF and Excel formats. To use this option, go to View-Logs. As you can see, four tabs are opened: Data, Alarms, Errors and HACCP. In Data you can see the data gathered by the software server from the different device sensors; in Alarms you can obtain a list of all the events related to the alarms; Errors will give you a list of the device communication errors (if any), and finally HACCP (which stands for Hazard Analysis and Critical Control Point). The HACCP is a special type of alarm log where the time and date, as well as the length in hours, counted from a previously-defined secure time, are indicated for those alarms that have exceeded a certain temperature. It will also show the maximum temperature reached during this time.

For example, if you click on Data, the following window will appear where you may choose the device model, the sensor selected and the date range:



And when you click on Apply:



| Measurement Date | Sensor | Value |
|-------------------|----------|---------|
| 08-08-02 11:07:00 | VERDURAS | 28.50°C |
| 08-08-02 11:08:00 | VERDURAS | 28.50°C |
| 08-08-02 11:09:00 | VERDURAS | 28.50°C |
| 08-08-02 11:10:00 | VERDURAS | 28.50°C |
| 08-08-02 11:11:00 | VERDURAS | 28.60°C |

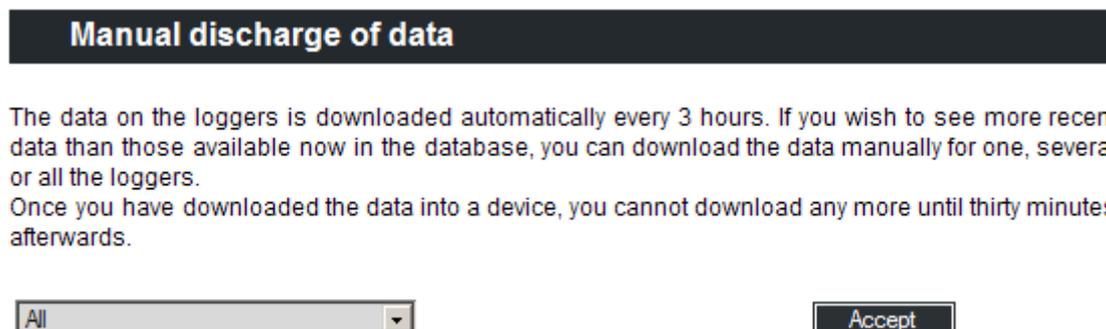
If you wish, you may now view or save the list in PDF or Excel format by clicking on the corresponding icon.

The Alarms, Errors and HACCP options work in a similar manner.

3.4 Data Loggers



Click on Data loggers to see the following screen:

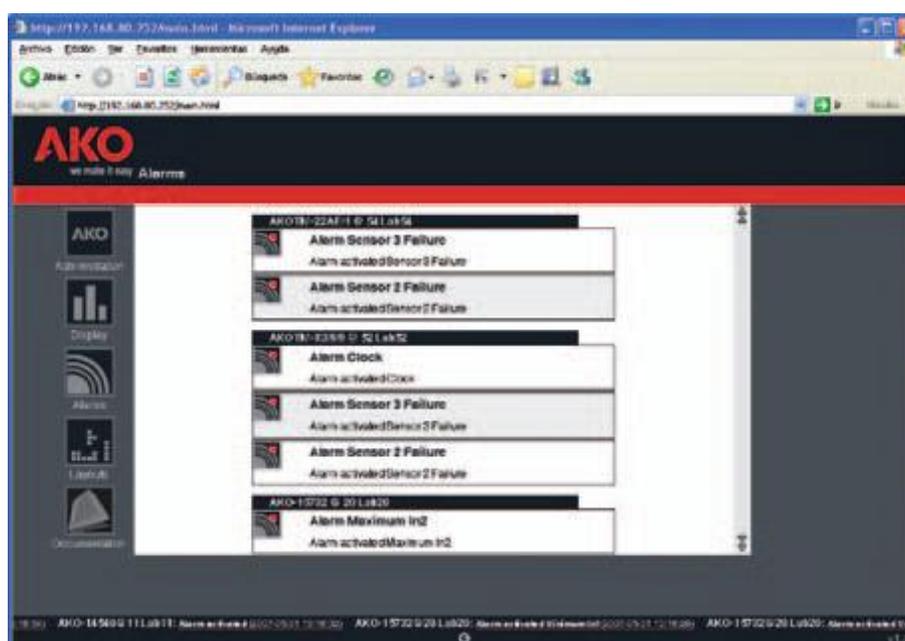


With this option you can download data from the data loggers that have been connected. The data logger data are downloaded automatically every 3 hours, and therefore if no manual download is obtained, you will not be able to see the data that have been stored in the data logger since the last automatic download.

4 Alarms



In the option Alarms in the main menu you can view all the alarms enabled at that time. In our example if you click on this option, you will obtain the following:



You will see a display with a vertical scroll which you can stop at any time, by simply placing the cursor on top of it. You can move up or down using the arrow keys.

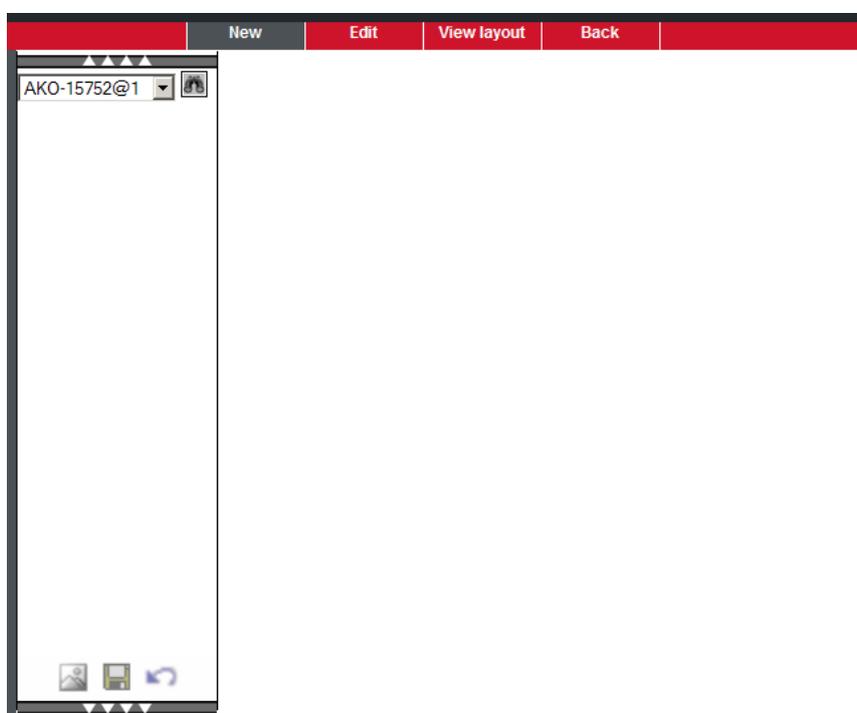
Similarly, all the alarms will appear in a horizontal scroll at the bottom of the screen and anywhere in the application in which you are operating.

5 Layouts

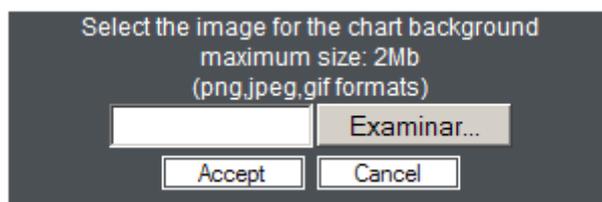


The AKO-5004 application includes a synoptics section that enables you to monitor the devices in real time. Click on Layouts and three tabs will appear: New, Edit and View synoptic. If you are entering the application for the first time, no synoptic will have been created, and therefore you must generate a new one.

5.1 New Layout

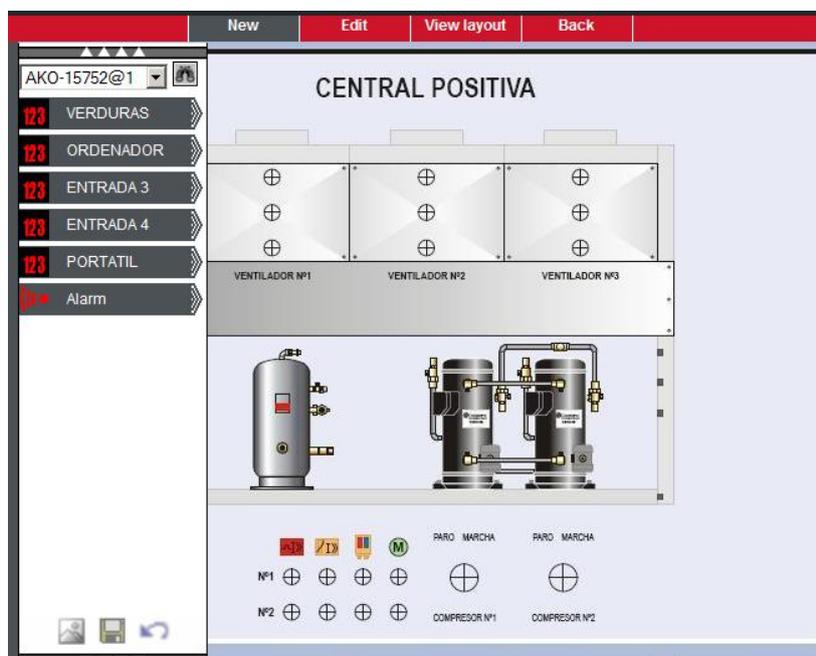


The first thing to do is to create a background. To do this, click on the pictogram in the photo , and the following message will appear: Select the image for the chart, background maximum size: 2MB (png, jpeg, gif formats):



Click on Browse to select the photo or illustration (in png, jpeg or gif format) in the directories tree of your PC. After doing this, click on Accept and the image will appear as wallpaper.

Then go to the drop-down menu on the right to make your selection from among all the devices connected up to your network. Select the one you want and then press on the binoculars pictogram. As you can see, all the variables that can be shown in real time relating to that device will appear: sensors, Cool, Defrost, Heat, relays, etc. Click on them to position them on the left-hand side and then move them wherever you want with the mouse.



You can add variables for all the devices that are connected up to the network. Once you have finished, click on the diskette icon to save it or on the arrow icon on the right to undo it.

After creating the synoptic, you can see it in the option View layout or if you want to modify it, choose the option Edit.

The system allows you to create as many synoptics as you wish, so that you have different views of the facility.

6 Documentation



Lastly in the section entitled Documentation you will find technical information on all the AKO equipment that is connected:



AKO5004

AKO
Equipment Status

Data sheet

