

ANDROID PLC

Application Manual



Modbus TCP/IP



PLC



Generic Device Modbus
TCP/IP

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1. App Android Installation

Download from the App Market "File Manager", equivalent to the Windows Explorer. **Note:** There are also other apps that perform the same function, it is recommended that as Free and readily available.

Connect your phone to PC. You will see the phone as a partition. Add a new folder "PLC" (name required exhaustive).

Copy the installable file *EltecoSistemi-release.apk* in PLC folder you just created.

Note: In the same folder can be placed a logo that will appear on the main screen. This must be a file .jpg and named "*pvs_a_image.jpg*". For the correct display of the logo, the folder *PLC* must be on the device memory and not on the external memory (memory card).

Important: Disconnect the device from the PC (if possible, follow the safe removal procedure) after the first two steps. Do not continue without disconnecting from PC.

Enter "File Manager" and select the folder *PLC*. Click on the file "EltecoSistemi-release.apk" and confirm "Install". Once installed asks "Open" or "Finish." Click on "Finish".

The application operation requires a Wi-Fi network, enable the connection by following the instructions depending on your device.

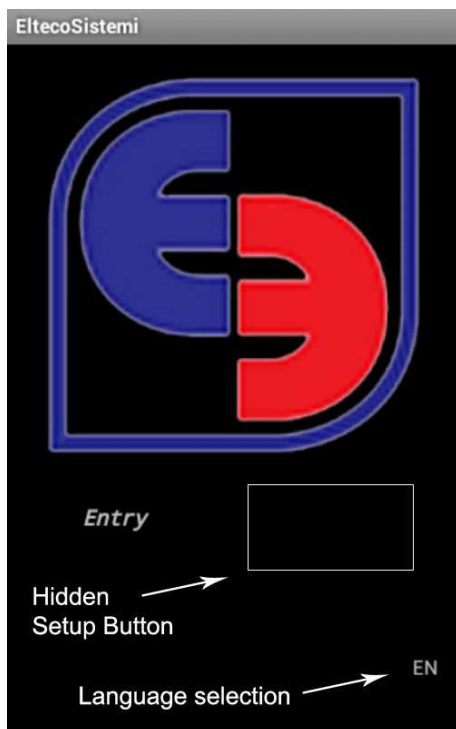
In the "application" of the device you will find the App "EltecoSistemi."

2. Settings Menu

Enter in the App by tapping on the screen or in the “application” menu.



At the opening you will find a screen comprehensive of the logo (if set using the **note** during installation), the button "Enter", the language selection (currently Italian / English) and the hidden button "Settings".



To enter the menu settings, press and hold the hidden button.

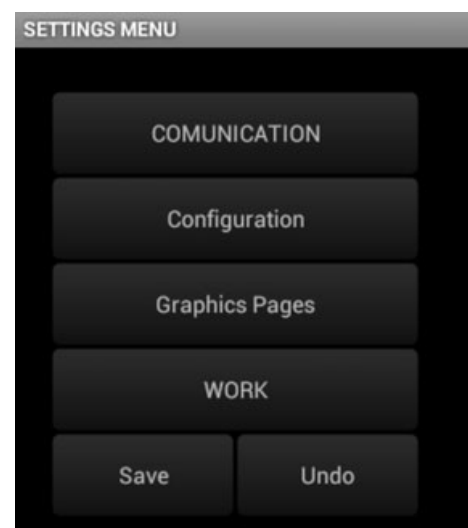
At the login will be prompted the **settings password**, default **1234** and modified later.



The *settings menu* is composed of pages:

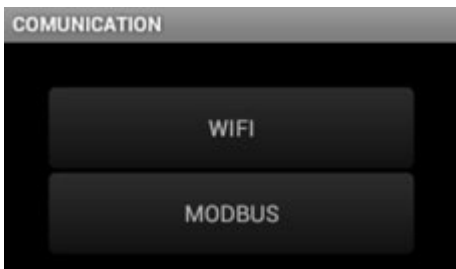
- Communication
- Configuration
- Graphics Pages
- Work

From the settings menu you can't exit by pressing the "back" button on the device used. you have to save or discard the changes made.



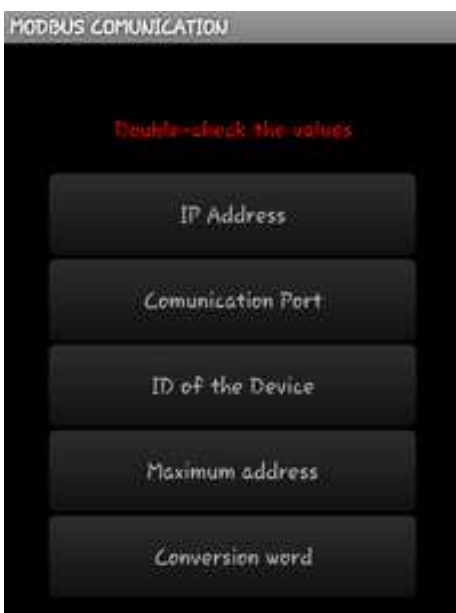
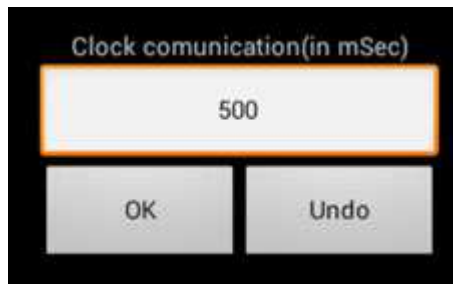
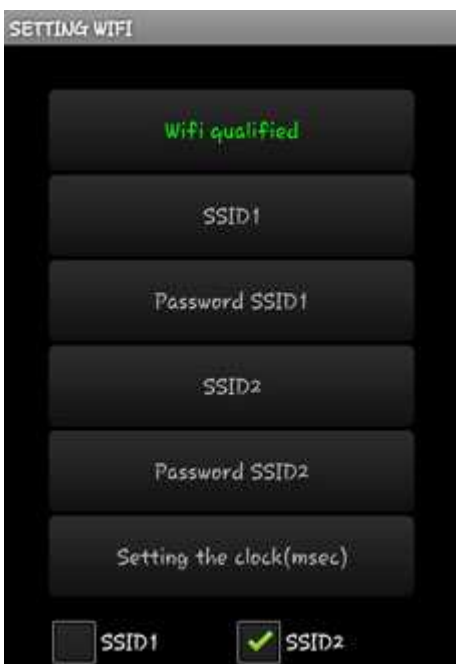
2.1. Communication

In the *Communication* menu there are the settings of the **Wi-Fi** and **Modbus**.



Pressing on **Wi-Fi** button you enter in the network settings. You can use up to two different networks, setting the SSID (the name of the Wi-Fi network you want to connect) and password for each and then selecting the desired one using the checkbox on the bottom. Setting the Clock of

communication (min 500 msec) is used to define the time between a query and each other.



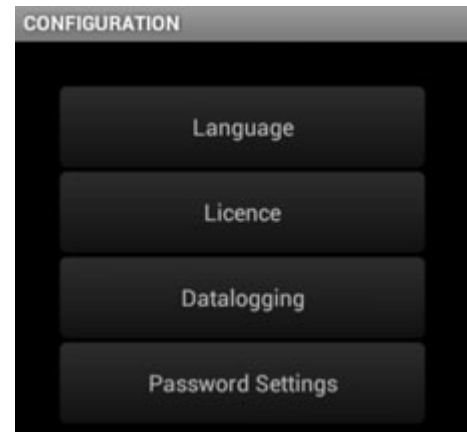
Modbus button allows the configuration of Modbus parameters:

- IP Address of PLC
- Communication port TCP/IP (Default 502)
- ID PLC
- Maximum address (actually can't be changed)
- Conversion word (define the type of conversion of device)

2.2 Configuration

The page includes the modification of:

- Language (Italian / English)
- License
- Datalogging
- Password Settings



The **License** page allows you to view the unique code to be sent to the email address info@eltecosistemi.it to get one of the following licenses:



Base: Max 5 pages - 1 Word I / O - 10 Whole Word

Advanced: Max 10 Pages - 1 Word I / O - 10 Whole Word - 1 Word Alarms

Premium: Advanced Version - Datalogging - Graph

Datalogging: Sets the sampling time (value in ms)

Password Settings: Set the password for access to the settings

Default: 1234



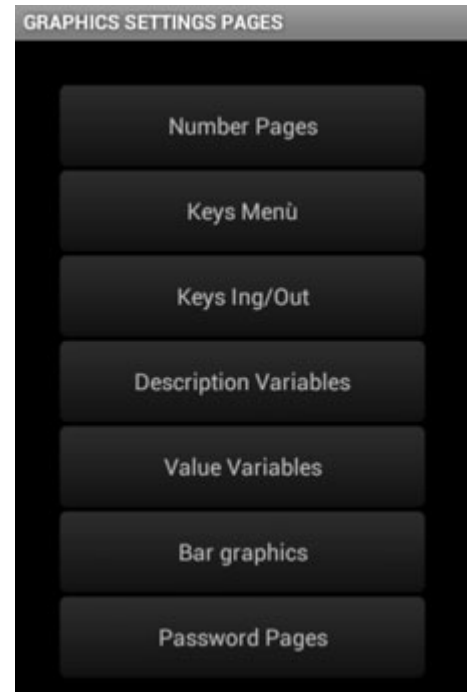
2.3 Graphics Pages

This submenu is used to manage the graphics settings App's pages.

Number Pages indicates the number of pages in the application for a maximum of 10.

Keys Menu, Keys Ing / Out, Description Variables, Value Variables and **Bar Graphics** allow you to change **Font, Width** and **Height** of the buttons / indicators of variables, inputs and other elements in your application.

Password Pages: Here you can define a password to protect pages, if protection is enabled. **See Par 3.2**



2.4 Work

In this section you can configure each page defining the number and type of variable to hold and all the necessary parameters such as address, name, type (Input-Output-Read-Write).

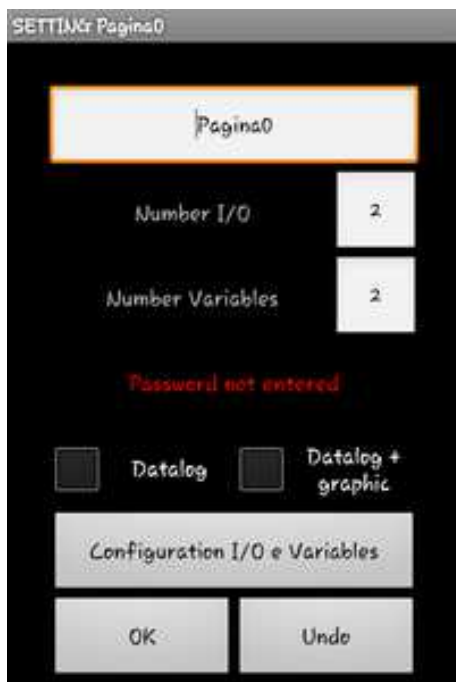


In this example, the **Work** section shows 4 pages (Pagina0 to Pagina3) as in the configuration have been defined 4 pages (see 2.3 Graphics Pages -> Number Pages).

Depending on the type of pressure on the page that we want to set we will have two different pages:

Long-click

(press and hold button "Pagina0")



Click

(press on button "Pagina0")



Page Settings

Using the long-click (press and hold) button *Pagina0* you can change:

Page Name: *Ex. Compressors Room*

Number of I / O (input / output): Input-Output

Number of variables: Read / Write

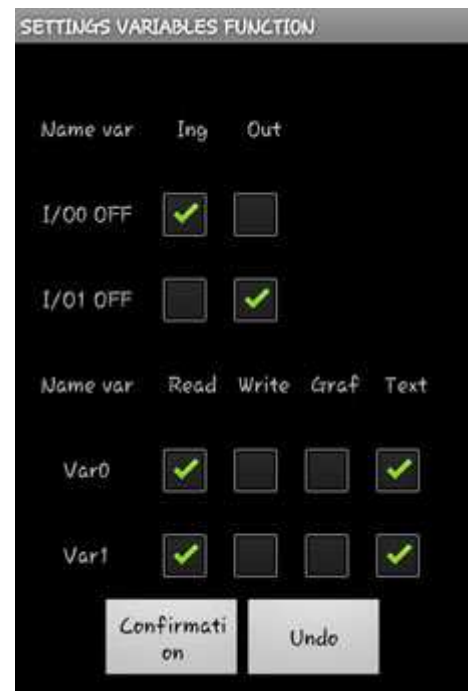
Password Page: If set, access to the page asking for the password page.

Datalog: Turn on the data logger for the page.

With page open, it will create a .csv log file.

Datalog + Graphic: Enable the graph function on page.

Note: After renaming a page, you may need to skip back to the **Settings menu** and then return to **Work** to actually see the page renamed.



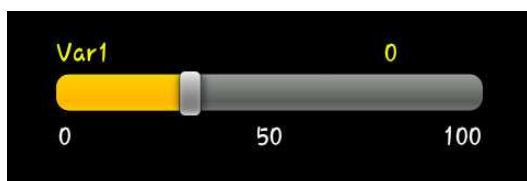
At last, the “*Configure I / O and variables*” button leads to another submenu:

Each variable Word I / O has two checkboxes that define the type (INPUT / OUTPUT)

Each variable Word Read / Write allows you to choose between:

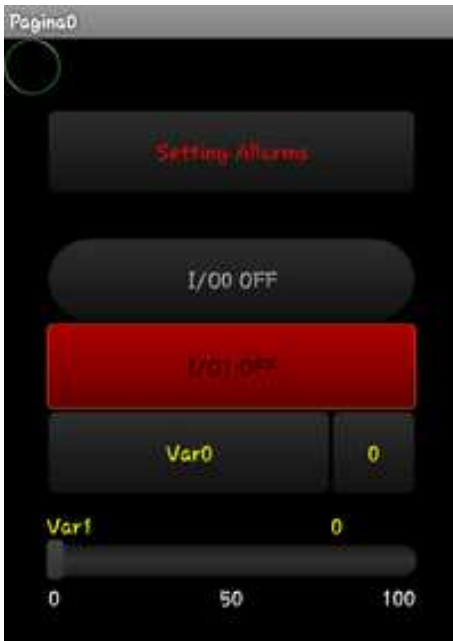
Read or Write
Graphic or Text.

Using the selection in the example on the left you will get a read-only Var0 shown with text and a writing Var1 visible on sidebar.



The result is a horizontal scroll bar adjustable to indicate the value that you wish to take to the variable.

Variables - I/O Edit



For editing each variables:

Long-click on the variable to be modified.



For example if you press and hold the variable **I/O 0 OFF** you will enter in the page *Change Name and Address of I/O*:

Name I/O OFF: Label displayed in the OFF state

Name I/O ON: Label displayed in the ON state

Address I/O word: Modbus address of WORD I / O.

Important: The difference between the lowest and the highest address of the variables defined in each page must **NOT** be greater than 100.

Edit Variables Read / Write

Long-Click on the name of the variable:

Sets the name of the new variable. Ex Tank Level



Long Click on the Value of Variable:

Address of Var0: Modbus address of the variable.

Value Min and Value Max: Minimum and maximum value can be set in a variable writing.

Decimal number: Decimal to display. From 0 to 3.

Important: The difference between the lowest and the highest address of the variables defined in each page must NOT be greater than 100.



Correct Example:

Address of the word I / O = 0

Address Var 0 = 1

Address Var 1 = 10

Not Correct Example:

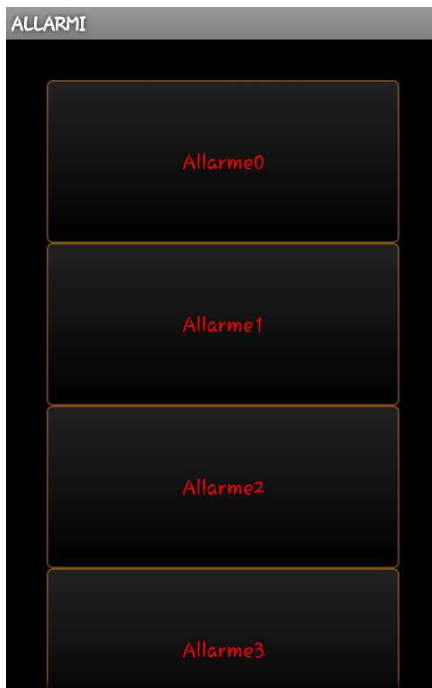
Address of the word I / O = 0

Address Var 0 = 1

Address Var 1 = 101

Alarms Settings

Each page allows you to define a Word for alarms.



LONG-CLICK on SETTINGS Alarms

Press and hold the "*alarm settings*" button to define the address of the variable.

CLICK on SETTINGS ALARM

Pressing normally the "*alarms settings*" button you can define the text to display for each alarm (ex *Alarm High Level tank*).

Note:

Alarm 0 = Bit 0 of Word choice

Alarm 1 = Bit 1 of Word choice

Alarm (n) = Bit (n) of Word choice

3. Operative Part

It's time to get into the real working application. After setup, return to the "Set



Mode" and press "Save". In this way you will return to the main page.

Then press Enter to access the App.

At the top of the page there is the symbol that display the actual connection to the WI-FI network and the Modbus device, indicating that it is effectively connected with the PLC and that it is possible to read the data and variables by simply pressing on the desired page. In the example page have been set four variables of which an input and an output current in both OFF.



3.1 Data Logging

The data logging function is used to store the data log of a specific page observed.



To activate the log registration, simply follow the steps in section 2.4 *Work -> Edit Page (Long-click)*. When you are into the Settings Pagina0 you will see "Registration OFF" in red. Clicking on it you will activate the registration on that page and the text will turn green. Exit the settings and save the changes.

Entering the Operation Part, into the page for which you have enabled logging in the upper right corner you will find a play button in green. If you press it the recording will start. All data read from this moment are inserted into a file located inside the "PLC" folder created in the installation phase, called exactly like the page that is monitored.



Using the App File Manager you can enter in the "PLC" folder and open the Log.

3.2 Password Pages

The application allows you to keep some confidential data in safety by preventing access to anyone.

To activate the **Password Pages** you need to follow the steps in section 2.4 *Work -> Edit Page (Long-Click)*. Inside the Settings Pagina0 you will see the message "Password not inserted" in red. Clicking on it will activate the prompt for the password before entering the page, making the text green.

Note: To set the **Password Pages** follow the explanation in paragraph 2.3 *Graphics Pages*.



3.3 Graph

In the premium version of our application you can find the graph function that allow you to see the chart of the variables.



To activate this function you have to see section 2.4 Work -> Edit Page (**Long-Click**). Here you will find *Datalog + Graphic* checkbox. If you press on it, in that page you will find a graph symbol like in the example.



Press on graph symbol to see how your variables have changed over time. You have to set which variables you want to see on chart. Press again on graph symbol to continue.

