MyPixsys 1.35
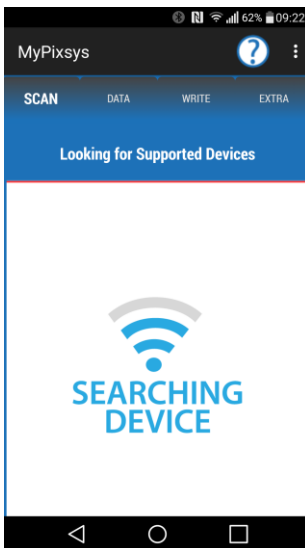
MyPixsys is the companion app for your Pixsys nfc-enabled products. Read, write, backup and manage your device configurations on the fly, no connection or wiring required.

An NFC-enabled smartphone, running android 4.2 or higher is required

The interface is divided in 4 tabs: SCAN, DATA, WRITE and EXTRA.

SCAN:

First tab, used to search, identify and read your devices' configuration.

While the animation is playing, your smartphone is looking for nearby Pixsys devices.

During this phase, accurately position your smartphone on top of the device, taking care of minimizing the distance between the nfc antenna of your handheld (usually in the middle of the back cover for most smartphones, with the exception of some newer models, who moved it to the top – please refer to your phone manual and the final chapter of this guide for additional information) and the one on your Pixsys device, usually identified by a symbol on the chassis*.

In case of low connectivity, remove your phone, wait a few seconds and reposition it.

MyPixsys will attempt to identify your product, establish an authenticated connection and read its current configuration.

When done, the second tab, DATA, will be automatically filled and switched to.

NB: On the STR series the antenna is behind the buttons on the right side of the screen.

DATA:
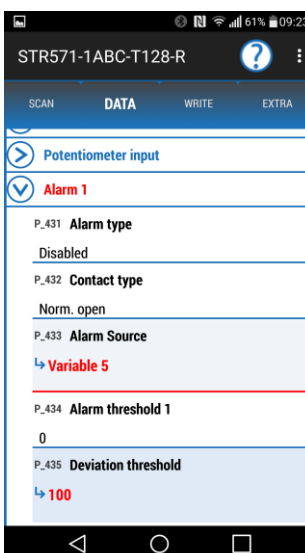
After a successful read or configuration LOAD (EXTRA tab), a list of parameters will populate this screen.

This list, divided in expandable categories (touch the group name to expand/collapse), contains the parameters that regulate the behaviour of your device.

Each row is composed by the parameter ID (as presented in the product manual) followed by the its name and value

A user-modified parameter will be highlighted, and show the new value(4) (enabling "show previous value" in the settings menu will show both the previous and the newly set value). Touch and hold a highlighted row to undo the changes to that parameter.

Touching a row will open the setting screen for the related parameter. In this screen, the upper section will display some useful information:
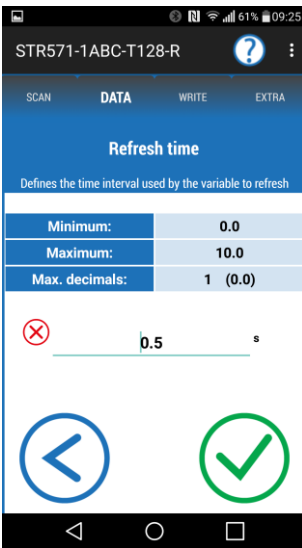
1. Parameter name and abbreviation (display name, if available). Touching the name, or anywhere on the upper blue bar, will open the help screen (if available), showing detailed information, usage, default values, etc...

2. If the parameter was previously modified, the newly set value will be presented here, on a red background. Touch to undo the changes, and restore the original value.

Then, for numerical or string parameters:

3. Minimum, Maximum and Max Decimals constraints. A numerical value outside of these limits won't be accepted. In case of a string-type value, the Min and Max fields will refer to the lenght (number of characters) of the string

4. Input field. The red X on the left empties the field (the previos value will be shown as a shadow if the field is empty). If the parameter manages a physical measurement, its unit name will be shown on the right.

For multiple choice parameters:

5. A list of possible values. Each row displays the name and, if available, description (when selected) of the specific setting. Touch a row to select a new value. If there are too many options, this list will be scrollable.

Lastly, for all parameter types, at the bottom of the screen, two big circular BACK/SET buttons will be shown. The blue, BACK button undoes any changes done in this screen (the back button of your phone can be used as well), while the green SET button will commit the changes, and add the parameter to the write list

WRITE:
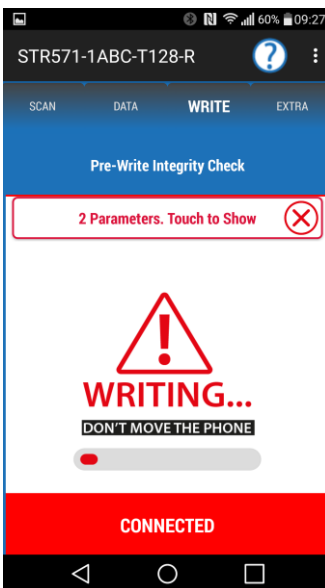
Third tab, used to commit all the configuration changes made and write it onto your Pixsys Device.

Likewise the SCAN tab, the procedure is fully automated, and requires the user only to correctly position the smartphone while the animation is playing, and hold that position for a few seconds, until informed by a loud beep of the write process completion. If connection is lost during this process, MyPixsys will attempt again until successfull completion is achieved

Before writing, it is also possible to open a summary of all the changes made by touching the rectangular button (1). Touching a row in this list will remove the related parameter from the write list, while touching the red X on the right (2) will cancel ALL the configuration changes, and restore it to the original (previously red, or loaded from a backup) state.

The fourth and last tab, contains various useful utilities:
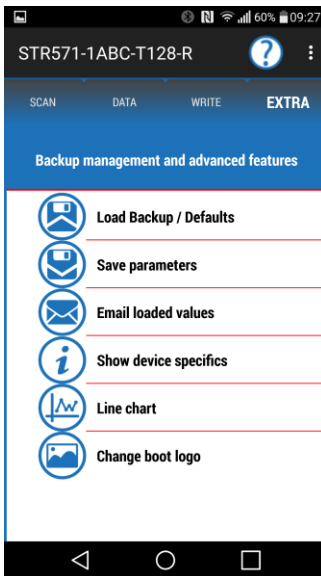
Load Backup/Defaults:

loads a previously saved configuration backup, populating the DATA tab. That configuration can then be modified and written, like previously detailed.

Factory default configurations for each supported product are also provided- touch the light blue rectangular button to cycle between user-made and default configurations.

Touch a row to load the related configuration, hold to delete it. Factory default configurations cannot be deleted.

Save Parameters : Saves the current configuration (all the parameters in the DATA tab, with their current values) into a backup file (.atr)., stored inside the "Pixsys" folder . A default filename will be used, unless a custom name is specified.

Email loaded values: Autocomposes an email, adding an auto-generated backup (created from the current values in the DATA tab) as attachment. Useful for importing data into another smartphone (through the "Load backup") functionality. To load a backup configuration received by email, first download the attached .atr file to any local directory, and then open it using a file browser, selecting "MyPixsys" when asked by android what program to use. The app will then boot, load the backup and save a copy of it in the "MyPixsys" folder.

Show device specifics: Displays tech info about the currently loaded/scanned device, product name, version, n° of parameters etc

Line Chart: If the scanned device supports data logging, this feature shows the saved data as a line chart. Requires a full memory scan (if "Fast Read" is enabled under the setting menu then a second device scan will be prompted and required)
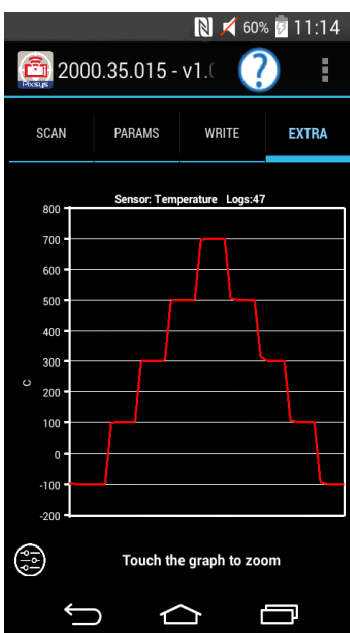
The chart is generated using TIME as the x-axys, and measured values as the y.

Touching any point inside the plotting grid will trigger a zoomed visualization of that section, centered on the touched point (indicated just above the plotting grid). Here, touch and drag left/right to slide the panel, or press the "back" button of your phone to close this view and return to the normal visualization.

The icon on the bottom left in the main chart visualization window opens the graph setting panel, where the plotter color, zoom radius and range can be altered.

In this panel it is also possible to view an indexed list of logged data in numerical "raw" form, as well as export that data via email in a format recognized by many spreadsheet programs, like excel (useful is the user wants to recreate the chart or process the extracted data on a pc)

When done, pressing the back button will close the setting screen, and a second press returns to the EXTRA tab.

Change boot logo:.
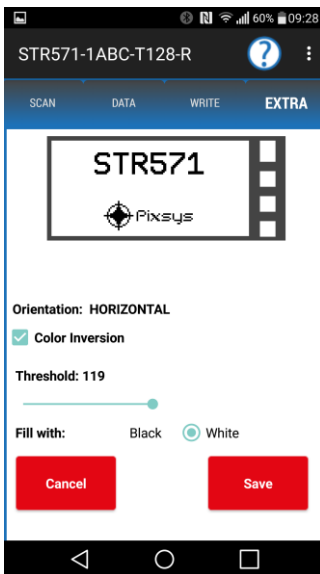
This utility allows to change the monochromatic logo shown during the boot on some Pixsys products, replacing the default image with a custom one, chosen from your smartphone storage.

After launching this utility, a file browser interface will ask the user to select the desired image file * . Starting folder will always be the "Pixsys" folder in the main storage. Touch a listed directory to open it, or touch the "..." at the top of the list to go back a step and return to the parent folder. Once the file is found and selected, pick either "Vertical" or "Horizontal" to select the desired display orientation and proceed to the next screen.

The upper portion of the screen shows a preview of the logo on a stylized display (1). The lower half of the screen contains a few controls used to:

-Invert white and black colouring.

-Tune the threshold limit (used to convert normal colored images into a black/white .bmp – experiment with different settings in order to find the optimal result, and wait a second after moving the slider to let the preview regenerate). If the source is a native black/white bitmap, this slider has no effect.

-Fill empty spaces (display pixels not filled by the source image) with either black or white. Has no effect if the source image is exactly of the needed dimensions and naturally fills the whole screen.

When done, press the bottom SAVE button to add the custom logo to the write queue, and write it onto the device using the WRITE tab, just like any other parameter.

While supported, it is not advised to write both parameter data and custom logos at the same time, as logos need more time to be transposed, increasing by alot the overall process duration.

In many devices, a different image for each orientation can be wrote and separately stored, without the need to repeat this process when display orientation is modified

*NB : For best results, always use images with the same resolution of the display (usually 128*64 for horizonthal or 64*128 for vertical orientation), possibly black/white bitmaps (.bmp), to directly write the source file and avoid losing details in the, otherwise required , automated color conversion/resizing/clipping .*

Open the main menu by touching the 3 vertical dots in the upper right corner of the title bar, or by using the "menu" phone key in older smartphones (that don't use the more modern and common back/home/tasks android layout). Here it is possible to:

- Enable the descriptor bypass. Not advised, as enabling this option skips a routine check during the SCAN process that ensures data integrity. Can be useful to retrieve data in case of partial memory corruption. *Default: Disabled*
- Disable sound notifications from this app (this does not interfere with android sound settings)
- Change application(messages, notifications, buttons etc) and parameter list (DATA tab) language, separately managed (as some languages might be supported by the app, while not having localized parameter names). The AUTO settings uses the same language as android, if possible.
- Enable auto-emptying of the write list. Doing so will automatically clear any changes to the configuration (same as pressing the red X in the WRITE tab) after the first successfully performed write. *Default: Disabled*
- Deactivate secure writing. Highly unadvised as normally, after a write process, MyPixsys automatically checks the memory looking for possible errors, and autorepairs them if found. Disabling this setting will shorten the overall duration of the write process by skipping that last phase, leaving the data vulnerable to potential corruption caused by interference/low connectivity. *Default: Enabled*.
- Pick the temperature measure unit, from either Celsius (C°) or Fahrenheit (F°). Changing this setting will empty the write list and lose all changes made to the loaded configuration. *Default: C°*
- Enable the display of previous values. If this is enabled, modified parameters in the DATA tab will display both the old (about to be overwritten) and new (set by the user) values. *Default: Disabled*
- Deactivate Fast Read. Normally, in order to save time, MyPyxsys only reads a portion of the total memory (depending on the scanned device). The remaining part is only red in a few specific circumstances, as in the "Line Chart" Utility under the EXTRA tab, during those a second SCAN will be requested by the app. Deactivating Fast Read makes sure ALL the data is always red in a single, longer scan. It is unadvised to deactivate this option unless making heavy use of the plotting utility. *Default: Enabled*

FINAL NOTES ON NFC AND POSITIONING

The NFC connection used by MyPixsys is established through the NFC antenna in your smartphone (usually behind the back cover, in central position) and the one in your Pixsys device. Understanding the position and effective range of those 2 antenna is pivotal to the correct use of this app. Keep in mind that

- The device and your smartphone should not be farther than a couple centimeters

- It's usually not needed to shut down the device before writing, but in order to save the changes some products will prompt the user with a reboot request at the end of the write process.

- There must not be any metallic materials between the phone and the device (aluminium phone covers, pipes, dangling cables...)

- Constant NFC usage drains alot of battery. Do not initiate crtitical configuration updates when low on charge

- DIfferent smartphones can achieve vastly different results in communication speed, range and reliability

- Regardless of this app, Android always notifies the user (with a sound or message) when NFC is active and a compatible NFC tag is within scan range, even if there are no apps installed that support reading it. This is very useful to check that your nfc antenna is working properly (NFC tags are inside a variety of contactless-enabled ducuments and products).

- Regarding the above, remember to keep sounds enabled in your smartphone , specifically the "feedback and touch" audio slider

- Most of the Pixsys devices supported by this app are marked by a specific symbol indicating the position of the NFC antenna, in order to make it easier to find the best positioning of your phone. An exception to this is the STR series, where the antenna is behind the keys at the side of the screen, vertically centered.