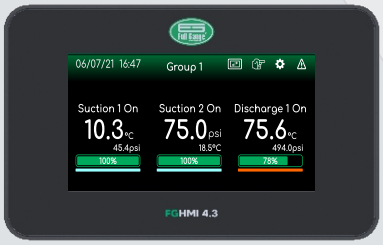
FG-HMI 4.3 RCK-862 *plus* Ver.03

DIGITAL DISPLAY AND CONFIGURATION INTERFACE COMPATIBLE WITH THE RCK-862 *plus* ELECTRONIC CONTROLLER

Color Display | Economy mode | Touch screen | Serial communication | USB | Sound alarm | Alarms

⚠ Have this manual at your fingertips through the **FG Finder** app.



MANUAL FG-HMI4.3RCK862V03-01T-20010

1. DESCRIPTION

The **FG-HMI 4.3** version 3 is a digital interface for visualization and configuration, compatible with the **RCK-862 *plus***, version 3. It provides remote access to the settings of **RCK-862 *plus*** electronic controller with convenience and security.

With **FG-HMI 4.3** it is possible to remotely access controller information easily and quickly through the color *touchscreen* interface. The interface is designed to be highly intuitive, allowing the user to fully and simply access the controller's features. It also enables the viewing and configuration of parameters and the sending of commands to the controller.

The **FG-HMI 4.3** communicates with the electronic controller through the RS-485 connection. The *touch display* is 4.3 inches, with adjustable brightness and energy-saving mode settings.

2. ELECTRICAL PRECAUTIONS

⚠ **BEFORE INSTALLING THE CONTROLLER, WE RECOMMEND THAT YOU READ THE ENTIRE INSTRUCTION MANUAL IN ORDER TO AVOID POSSIBLE DAMAGE TO THE PRODUCT.**

CAUTION WHEN INSTALLING THE PRODUCT:

-Before performing any procedure on this instrument, disconnect it from the power supply;

-Ensure that the instrument has proper ventilation, avoiding installing it on panels that contain other devices that can cause it to operate outside the specified temperature limits;

-Install the product away from sources that may generate electromagnetic disturbances, such as: motors, contactor, relays, electrovalves etc.

AUTHORIZED SERVICE:

-The installation or maintenance of the product must only be carried out by qualified professionals.

ACCESSORIES:

-Use only original Full Gauge Controls accessories;
-If in doubt, contact technical support.

AS IT IS CONSTANTLY EVOLVING, FULL GAUGE CONTROLS RESERVES THE RIGHT TO CHANGE THE INFORMATION CONTAINED IN THE MANUAL AT ANY TIME WITHOUT PRIOR NOTICE.

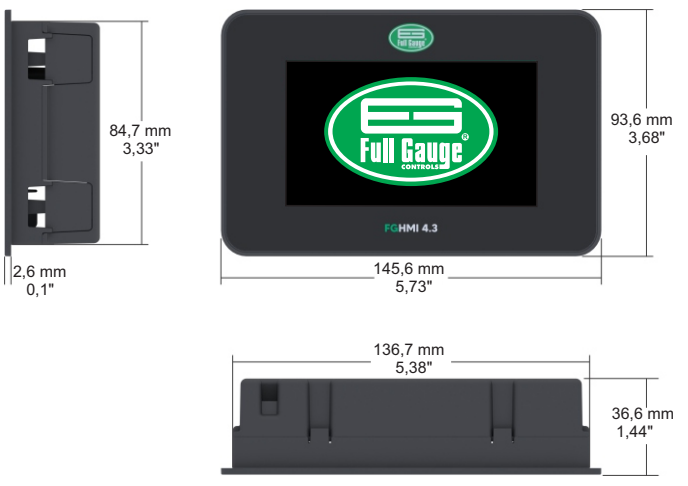
3. APPLICATIONS

- Graphical interface for **RCK-862 *plus*** controller.

4. TECHNICAL SPECIFICATIONS

Power	24Vac 50/60Hz or 24Vdc ± 10%
Consumption	6 VA
Controller operating temperature	-20 to 60°C -4 to 140°F
Operating humidity	10 to 90% UR (without condensation)
Pollution degree	II
Protection degree	IP65
USB Interface	Compatible with USB 2.0 Full-SpeedModule (USBFS) Standard Data Format for Thumbdrives: FAT32 Maximum Thumbdrive Size: 32GB
RS-485 communication interface	RS-485 Isolated
Product Dimensions (WxHxD)	93,6 x 145,6 x 36,6 mm (3,68" x 5,73" x 1,44")
Cutout dimensions (mm)	138 x 86 mm (5,43" x 3,38")

5. STRUCTURE

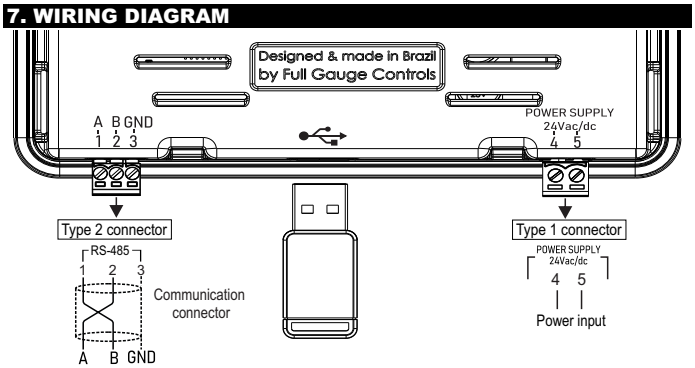


6. COMPONENTS

The following components are included in the scope of delivery of **FG-HMI 4.3**:

- **FG-HMI 4.3** digital interface;
- Clamps and fastening screws;
- Instruction manual;
- Full Gauge adhesive;
- Connectors.

7. WIRING DIAGRAM



Type 1 connector: For Type 1 (5.0mm) connectors use a #1 Phillips screwdriver or 3.0mm Screwdriver. Do not exceed the maximum torque of 0.5 Nm.

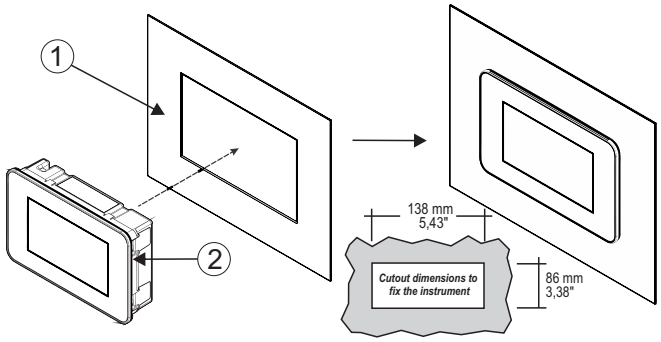
Type 2 connector: For Type 2 (3.5mm) connectors use #0 Phillips screwdriver or 2.4mm Slit. Do not exceed the maximum torque of 0.2 Nm.

Cable: The maximum cable length is 1000 meters. The minimum specification of the cable should be 24AWG braided, in order to protect the communication line from outside interference.

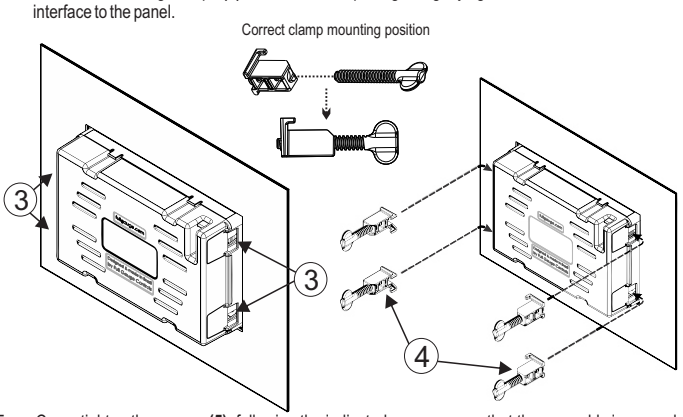
8. FIXATION PROCEDURE

To install the **FG-HMI 4.3** follow the instructions below:

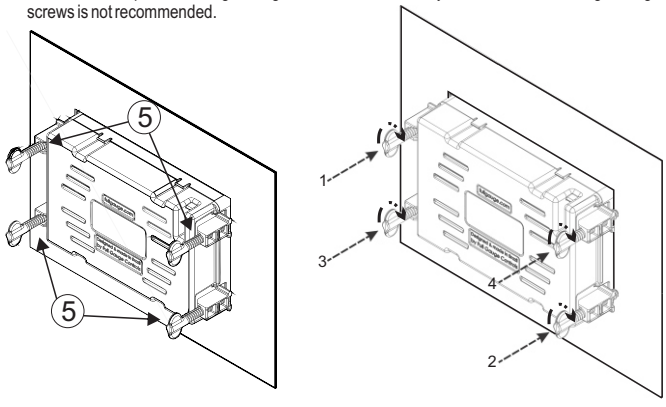
1. Cut the panel sheet **(1)** where the digital interface will be mounted, with dimensions of 138 x 86 mm (5,43" x 3,38").
2. Place the **FG-HMI 4.3** in the panel opening along with the gasket **(2)**.



3. Locate the lateral openings **(3)** for fastening the clamps at the back of the unit.
4. Insert the fastening clamps **(4)** into the lateral openings. Slightly tighten the screws to secure the interface to the panel.



5. Cross-tighten the screws **(5)**, following the indicated sequence, so that the assembly is securely fastened to the panel. This tightening must be done manually; the use of tools for tightening the screws is not recommended.

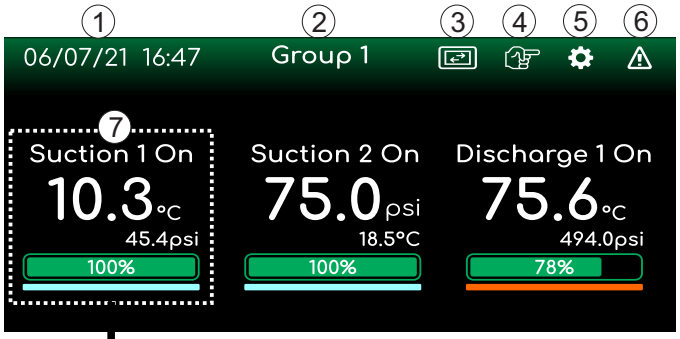


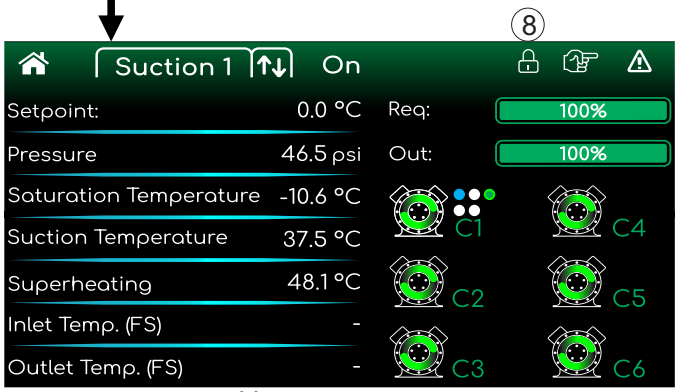
9. OPERATIONS

9.1 Home screen

The **FG-HMI 4.3** Home Screen is basically divided into two areas: header and group information (7). The group information provides an overview of the parameters linked to the electronic controller. The header displays the following information:

1. Date and time;
2. Group;
3. Auxiliary navigation;
4. Commands;
5. Main Menu;
6. Alarm history;
7. Group information
8. Toggle access level





On the right side of the compressors , it is possible to see if there are Unloaders and/or an Economizer configured, along with their respective current states, as shown in the adjacent table. In the example above, there is 1 Unloader active, 3 Unloaders inactive, and an Economizer active.

LED Off - Unloader inactive
LED Blue - Unloader active
LED Off - Economizer inactive
LED Green - Economizer active

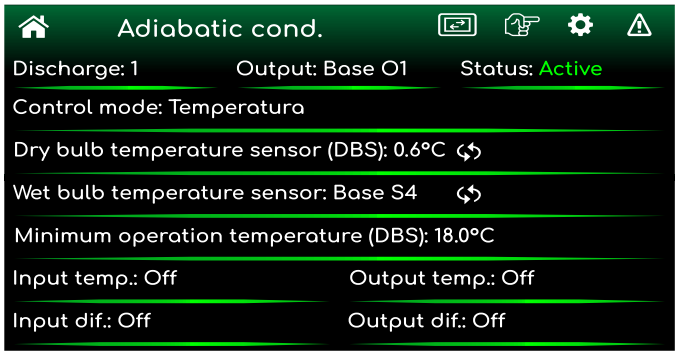
9.2 General navigation icons

Return to previous screen Return to Home screen Toggle element list

9.3 Auxiliary navigation

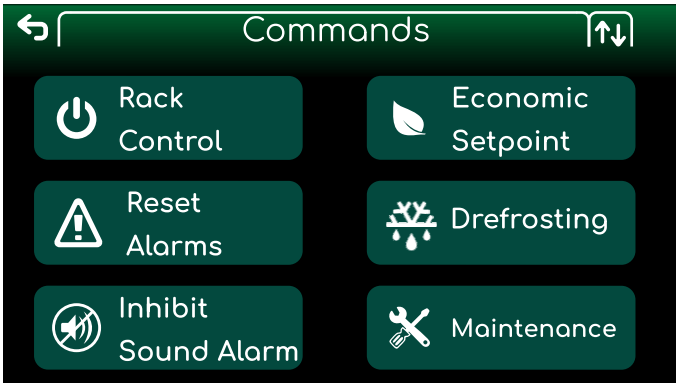
Auxiliary navigation allows you to switch the view between different groups. Press it to navigate between the different configured groups.

Through navigation among auxiliary functions, the **FG-HMI 4.3** displays the currently configured auxiliary functions on the **RCK-862***plus*. in sequence. On some auxiliary function screens, there are information elements that share the same screen space, allowing you to see both the current input or output address and its respective value. This information is indicated by the icon . When you click on the icon, the secondary information is shown temporarily and will automatically return to the initial information.



9.4 Command sending

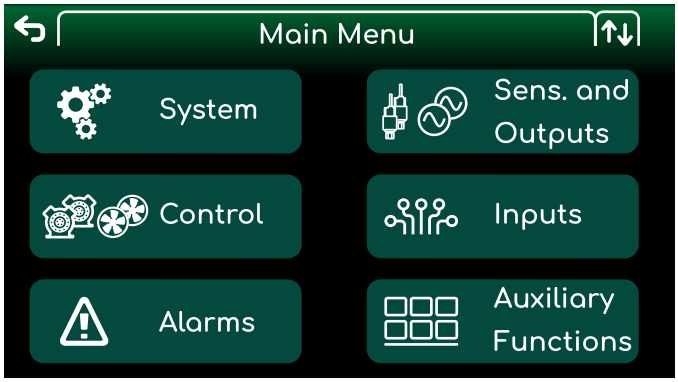
The **FG-HMI 4.3** allows direct command sending to the electronic controller, ensuring safety and convenience. To access the command sending menu, press the icon . Use the arrow icon to navigate among the different configuration options.



9.5 Main menu

Press the icon on the **FG-HMI 4.3**. Home Screen to access the Main Menu. In this tab, you can access the electronic controller settings. Use the arrow icon to navigate between the different configuration options.

***Note**: The configuration options may vary depending on the model of the electronic controller used.*



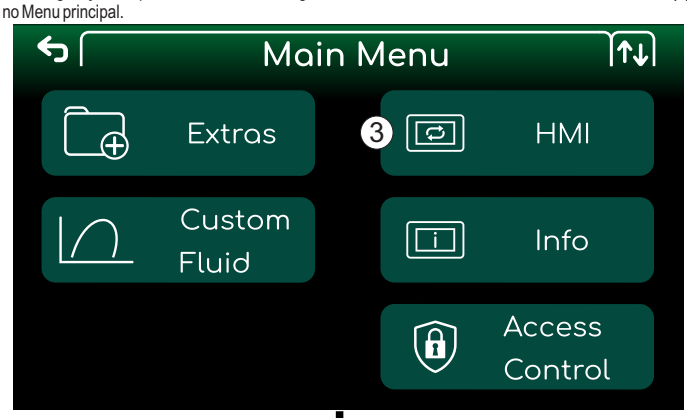
9.6 Alarm History

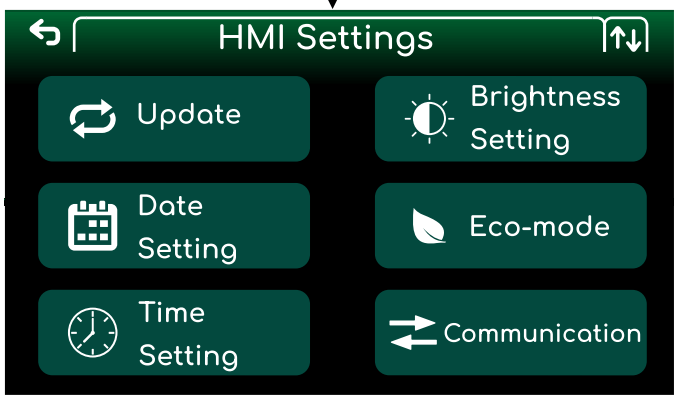
To view the alarm history, press the icon on the Home Screen. The alarm history provides detailed information about all alarms triggered by the electronic controller. Use the arrows **(1)** in the upper right corner to navigate through the different recorded alarms.

***Note**: The icon **(2)** indicates a power outage during the alarm activation.*

9.7 IHM Settings

As configurações específicas da interface digital **FG-HMI 4.3** são acessadas selecionando IHM **(3)** no Menu principal.



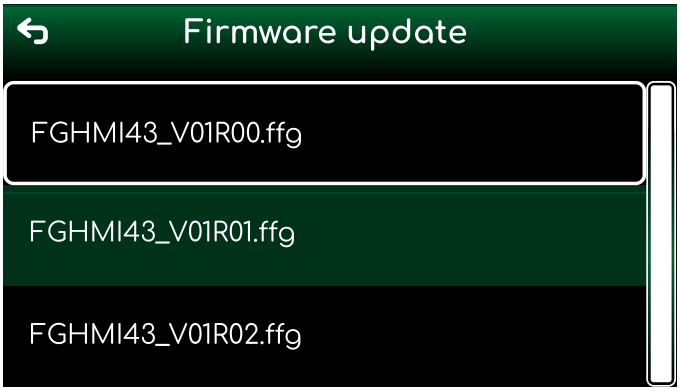


9.7.1 Firmware Update

The interface firmware update is done through the USB port, using a flash drive. Update files are provided by Full Gauge in binary format with the .ffg extension, and must be placed inside a directory called **FGHMI43** located at the root of the flash drive file system.

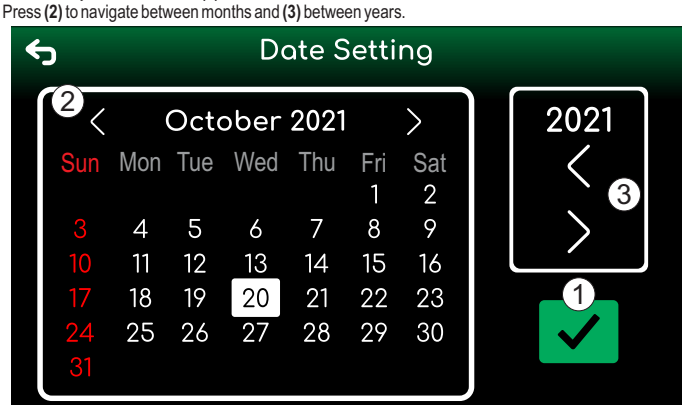
Note 1: *The file name must be a maximum of 32 characters.*
Note 2: *The folder must contain a maximum of 32 firmware files.*
Note 3: *The flash drive must be formatted in FAT32.*

To update, follow these steps:
1. Insert the flash drive with the update file into the USB port of **FG-HMI 4.3**;
2. Access the **Update** tab in the HMI Settings menu;
3. Select the installation file and confirm.



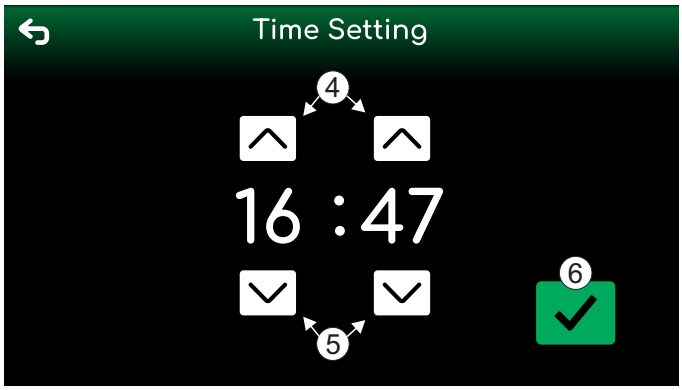
9.7.2 Date Setting

To adjust the controller's date, select **Date Setting** from the HMI settings menu. Choose the desired day, month, and year, then confirm **(1)**.
Press **(2)** to navigate between months and **(3)** between years.



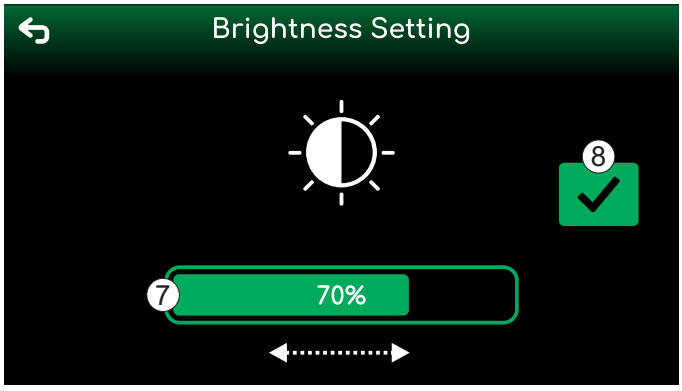
9.7.3 Time Setting

To adjust the controller's time, select **Time Setting** from the HMI settings menu. Use button **(4)** to increase and **(5)** to decrease the clock values. After adjusting, press **(6)** to confirm the change.



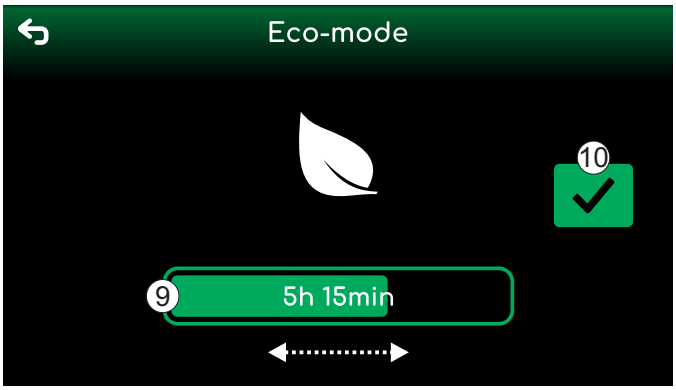
9.7.4 Brightness Setting

To adjust the screen brightness, select **Brightness Setting** from the HMI settings menu. To increase the screen brightness, drag the bar **(7)** to the right; to decrease the brightness, drag the bar to the left. After adjusting, press **(8)** to confirm the change.



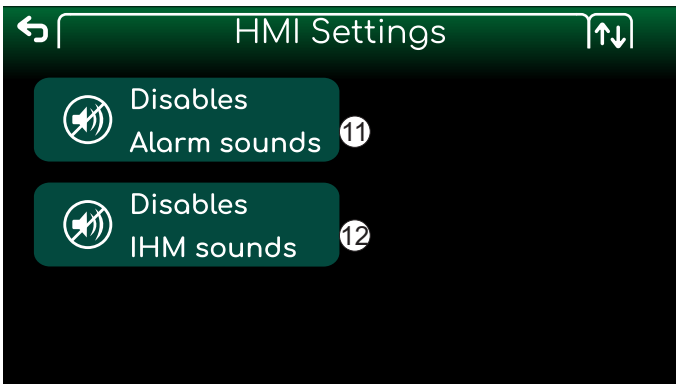
9.7.5 Eco-mode

The economy mode automatically reduces the screen brightness after a specified period of inactivity on the touchscreen.
To set the activation time interval for the economy mode, select **Eco-mode** from the HMI settings menu. To increase the activation time, drag the bar **(9)** to the right; to decrease the time, drag the bar to the left. After adjusting, press **(10)** to confirm the change.



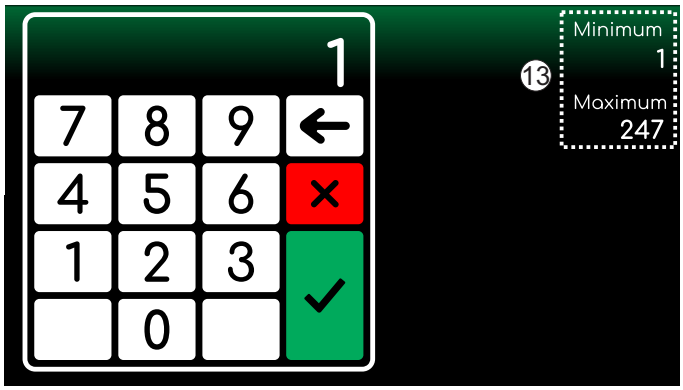
9.7.6 HMI Sound Settings

You can mute the sound alarms on the HMI by selecting **(11)**, allowing the **FG-HMI 4.3** to emit or silence alarm sounds independently of the current configuration of the **RCK-862** *plus*.
By selecting **(12)**, the **FG-HMI 4.3** will either emit or mute the navigation sounds of the HMI, such as touchscreen taps, USB insertion or removal, access level changes, etc.



9.7.7 Communication

The Communication tab allows configuration of the instrument's address code on the RS-485 network. For effective communication between the electronic controller and the digital interface, both devices must be configured with the same address. The communication port protocol of the **RCK-862** *plus* must be set to Sitrad, and the address must match the one on the **FG-HMI 4.3**.
Note*: The address code of the instrument on the RS-485 network consists of numbers that range between the minimum and maximum allowed by the electronic controller, as indicated in* ***(13)****.*



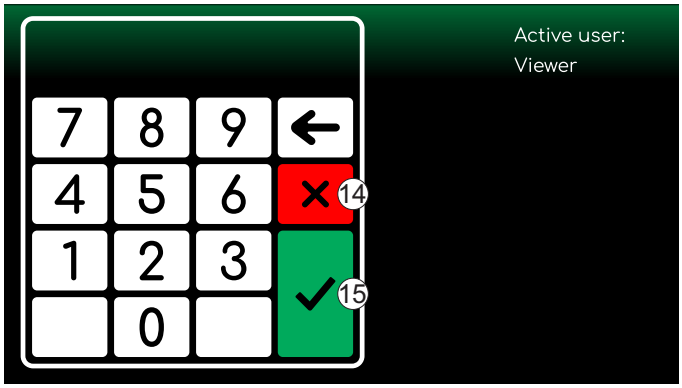
10. ACCESS CONTROL

Access control is a feature present in the configuration list of the Main Menu that allows changing the user type of the device through a specific code. The user type determines which parameters and settings can be modified by the operator. This way, the **FG-HMI 4.3** ensures greater security during its use. To change the user, enter the desired code and press confirm **(15)**. To return to the previous screen, press cancel **(14)**.

To access as:

- **Technician,** use code 123;
- **Administrator,** use code 717.

Note: *If any invalid code is entered or the* **FG-HMI 4.3** *is idle for 15 minutes, it automatically returns to* ***Viewer.***



11. WARRANTY

ENVIRONMENTAL INFORMATION

Packaging:
Full Gauge products use packaging made from entirely recycled materials. Please dispose of it through specialized recyclers.

Product:
The components used in Full Gauge controllers can be recycled and reused if they are dismantled by specialists.

Disposal:
Do not burn or throw controllers in the domestic waste, once they have reached the end of their working life. Follow the current legislation applicable to your area in relation to disposing of electronic waste. If you have any questions, contact Full Gauge Controls.

WARRANTY - FULL GAUGE CONTROLS

Products manufactured by Full Gauge Controls, from May 2005, have a warranty period of 10 (ten) years direct from the factory and 01 (one) year from accredited retailers, starting from the consignment date on the sales invoice. After this year, the warranty will continue to be honored for purchases from retailers if the device is sent directly to Full Gauge Controls. This period is valid in Brazil. Other countries provide a guarantee for 2 years. The products are guaranteed in the event of a manufacturing fault that makes them unsuitable or inappropriate for the uses to which they were intended. The warranty is limited to the maintenance of devices manufactured by Full Gauge Controls, regardless of any other form of costs, such as any indemnity due to damage caused to other equipment.

WARRANTY EXCEPTIONS

The Warranty does not cover transport and / or insurance costs for sending products believed to have defects or to have malfunctioned to Technical Support. The following events are also not covered: natural wear of parts, external damage caused by falls or improper packing of products.

LOSS OF WARRANTY

The product will automatically no longer be covered if:
-The instructions for use and assembly contained in the technical description and installation procedures listed in the NBR5410 standard are not observed;
- It is subjected to conditions beyond the limits specified in its technical description;
- If it is opened up or repaired by a person who is not part of Full Gauge's technical team;
- The damage which has taken place was the result of a fall, blow or impact, water damage, electrical surge or atmospheric discharge.

USING THE WARRANTY

To take advantage of the warranty, the customer must send the product properly packed, together with the corresponding purchase invoice, to Full Gauge Controls. The delivery cost for the product is borne by the client. You will also need to send as much information as possible regarding the defect that has been detected, thus making it possible to streamline the analysis, testing and servicing.
These processes and any eventual maintenance of the product will only be carried out by Full Gauge Controls' Technical Support, at the Company's head office - Rua Júlio de Castilhos, 250 - Zip Code 92120-030 - Canoas - Rio Grande do Sul - Brazil.

Rev. 03