EasyProg
PROGRAMMING KEY
Ver. 06

Full Gauge CONTROLS

Sitrad — PC ⟷ EasyProg ⟷ Controller
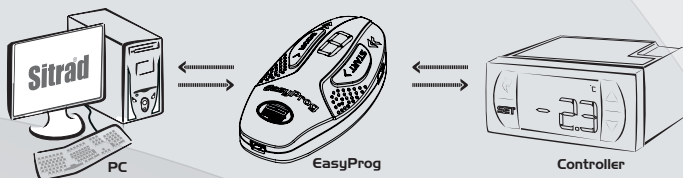
1. DESCRIPTION

The **EasyProg** is an accessory that has as main function store the parameters of the controllers, load them and unload them quickly and easily. **EasyProg** can help programming a production line, for instance, by copying the information from a standard controller (creating a standard preset) and then downloading it to the other controllers without the need for connecting it to a PC.
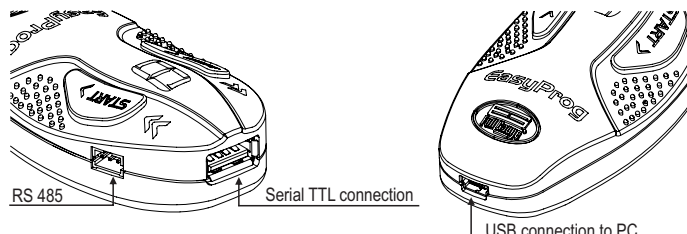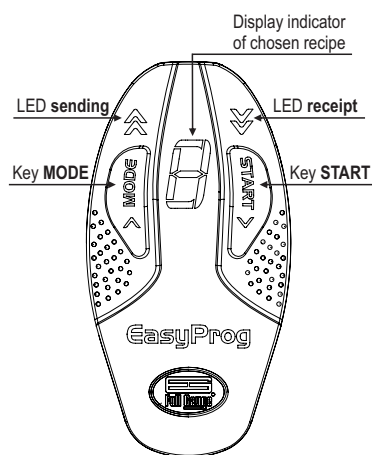Through a USB port, the **EasyProg** can connect to your PC and modify the parameters for the editor revenue Sitrad. For communication with the instrument contains an RS-485 and TTL Serial.
Note: See the controller's manual to check if it is compatible with **Easyprog ver. 2 or higher**, before connecting them.

2. TECHNICAL SPECIFICATIONS

- **Power supply:** Through the mini USB port or serial TTL
- **Operating temperature:** 0 to 50ºC (32 to 122ºF)
- **Operating humidity:** 10 to 90% RH (no condensation)
- **Indication:** Led display (seven segments) and two multicolor leds.
- **Size:** 45 X 24 X 87 mm (WxHxD)

3. CONNECTIONS, KEYS AND SIGNALING

Display indicator of chosen recipe

LED **sending**   LED **receipt**

Key **MODE**   Key **START**

EasyProg

Full Gauge

RS 485   Serial TTL connection

USB connection to PC

LED	STATE	COLOR	DESCRIPTION
∧ and ∨	ON	magenta	Connected to PC
∧ and ∨	flashing	red	Error during initialization of memory. Disconnect the cable and reconnect
∧ and ∨	ON	yellow	Selection of recipes (press **START** to select)
∧ and ∨	ON	cyan	On power up when fed by Serial TTL or other source with USB connection
∧	ON	cyan	Sending of parameters (waiting press **START**)
∧	flashing	cyan	Sending of parameters during data transmission
∧	ON	green	Sending of parameters successfully completed
∧	ON	red	Sending of parameters with error (controller model is incorrect or the version is not compatible)
∧	flashing	red	Sending of parameters with error (without communication with the controller)
∨	ON	cyan	Receiving of parameters (waiting press **START**)
∨	flashing	cyan	Receiving of parameters during data transmission
∨	ON	green	Receiving of parameters successfully completed
∨	ON	red	Receipt of parameters error (controller model is incorrect or the version is not compatible)
∨	flashing	red	Receipt of parameters error (without communication with the controller)

4. FUNCTIONS

The **EasyProg** has a led display (seven segments) that shows the number of selected recipe and two multicolors leds, through which are signaled the following functionality: PC connection, receiving the parameters, selection of recipes and communication with success or error .
By connecting the leds **EasyPro** ∧ and ∨ are lit (magenta when connected to the PC by USB or cyan if connected by Serial TTL).
To select recipes that are sent or received through the serial TTL, you should press the **MODE** key for 15 seconds. The leds ∧ and ∨ will pass to yellow indicating it is in menu selection of recipes. To select the recipe, use the **START** key, pressing briefly until you reach the desired amount of revenue. The **EasyPro** supports store up 9 recipes.
The **MODE** key to be pressed for 10 seconds switches between sending and receiving states, identified through the leds ∧ and ∨ .

∧ Send parameters to the controller;

∨ Receive parameters from the controller;

To execute both the sending and receiving commands require pressing the **START** key for 1 second. When the key is released, the communication starts and the corresponding led flashes. When finished, the same led will indicate if the parameter transmission or reception ended successfully or with errors.

5. LOADING AND UNLOADING RECIPES

5.1. Copying a recipe from a controller to EasyProg
1) Connect **EasyProg** to the Controller via Serial TTL or RS-485.
2) If the recipe chosen is the number 1, skip to step 3.
To select the desired recipe, press **MODE** key for 15 seconds then release it (∧ and ∨ lit - yellow). Press the **START** key and select the desired recipe number. Press the **MODE** key for 15 seconds then release it to exit the menu selection of recipes.
3) When connecting to **EasyProg** on the controller, the LEDs sending ∧ and receive ∨ are lit , to move to the mode receive press the **MODE** button for 10 seconds.
4) To start the receipt of recipe press **START** for 1 second.
5) The same LED will flash and, upon completion, will light up green if the communication is successful, or red if any errors occurred.

*Note: When sending or receiving recipes, the **EasyProg** indicator will remain off.*

5.2. Sending a recipe from a EasyProg to a controller
1) To send the parameters to a controller, a preset must be previously recorded on **EasyProg** (from other controller or using Sitrad 's Preset Editor).
2) Connect **EasyProg** to the controller via Serial TTL or RS-485.
3) If the recipe chosen is the number 1, skip to step 4.
To select the desired recipe, press the **MODE** key for 15 seconds then release it (∧ and ∨ lit - yellow). Press the **START** key and select the number of the desired recipe.
Press the **MODE** key for 15 seconds then release it to exit the menu selection of recipes.
4) Press the **MODE** key until the LED ∧ is on (sending).
5) To start sending the recipe, press the **START** key for 1 second.
6) The same LED will flash and, upon completion, will light up green if the communication is successful, or red if any errors occurred.

*Note: When sending or receiving recipes, the **EasyProg** indicator will remain off.*

5.3. Sending a recipe from a PC for EasyProg
1) Connect **EasyProg** to the PC using the mini USB cable.
2) Use Sitrad 's Preset Editor to create or edit a preset for the required controller.
3) Click the file menu, then **EasyProg**, and a new window will open.
4) In this new window, click on the menu recipes stored in **EasyProg** and choose the desired position. This position corresponds to the number of recipe. After, click the corresponding arrow to send the recipe to **EasyProg**.

5.4. Upload a recipe from a EasyProg to the PC
1) Connect **EasyProg** to the PC using the mini USB cable.
2) Use Sitrad 's Preset editor.
**3)** Click the file menu, then **EasyProg**, and a new window will open.
4) In this new window, click on the menu recipes stored in **EasyProg** and choose the desired position. This position corresponds to the number of recipe. After, click the corresponding arrow to send the recipe to **EasyProg**.
5) Upon closing this window, the parameters saved on **EasyProg** will remain on the screen.

6. FORMS OF CONNECTION AND CONNECTION DIAGRAMS

The **EasyProg** has three ways to load or unload the parameters:

- Serial RS-485: Connects to the controller via RS-485 network. **EasyProg** must be connected to only one controller in the RS-485 network. In this case, an external power supply through the mini USB port is required. It is connected to the terminals A, B and Ground of the controller through a three-way cable.
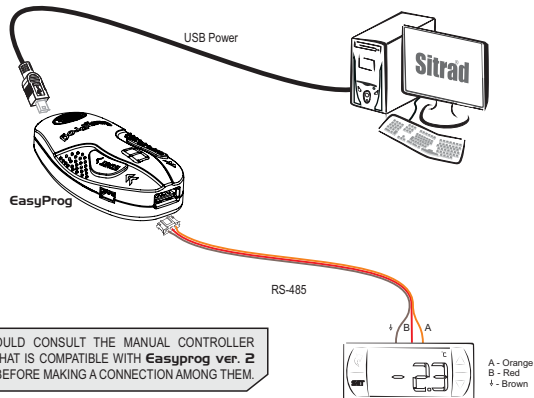

! NOTE: SHOULD CONSULT THE MANUAL CONTROLLER TO VERIFY THAT IS COMPATIBLE WITH **Easyprog ver. 2 or higher**, BEFORE MAKING A CONNECTION AMONG THEM.

! NOTE 2: CONNECTING TO **EASYPROG ver. 4 or higher** ON THE COMPUTER, THE INDICATOR FLASHES TWO SOMETIMES, FIRST INFORMING THE FIRMWARE VERSION AND ITS RELEASE AND THEN IT SHUTDOWNS. AFTER, REMAINS ONLY THE LEDS ⋀ AND ⋁ ACCESSORIES ON THE MAGENTA COLOR.

A - Orange
B - Red
⏚ - Brown

- Serial TTL: The controller can be connected directly to the **EasyProg** by Serial TTL through a five-way cable. Thus, **EasyProg** can be powered by the controller, or vice versa.

- USB: Can be connected to the computer via USB port, no Windows driver installation is required since **EasyProg** uses HID (Human Interface Device) communication. The parameters can be copied, edited, and saved using Sitrad's Preset Editor. The USB port can also function to supply electric power to **EasyProg** and the Controller (when not used along with USB and Serial TTL).
Note: Always use shielded USB cables with a maximum length of 6 ft (1.8 m).
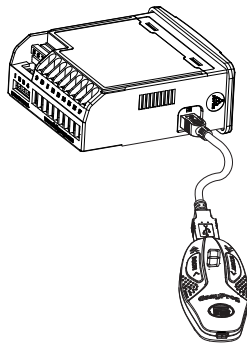
Note: Whenever the parameters from a controller model are uploaded to **EasyProg**, the information must be downloaded to controllers with the same model.

7. WARRANTY AGREEMENT AND ENVIRONMENT

ENVIRONMENTAL INFORMATION

Packing:
The materials used in the packaging of Full Gauge products are 100% recyclable. Try to dispose of it through specialized recycling agents.

Product:
The components used in Full Gauge controllers can be recycled and reused if disassembled by specialized companies.

Disposal:
Do not burn or dispose of controllers that reach the end of their life span in household trash. Observe the existing effective legislation in your region regarding the disposal of electronic waste. In case of any doubts, contact Full Gauge Controls.

WARRANTY TERM - FULL GAUGE CONTROLS

The products manufactured by Full Gauge Controls, from May 2005, have a warranty period of 02 (two) years directly with the factory and 01 (one) year with accredited resellers/dealers, from the date of the consigned sale on the invoice. After this year with resellers, the warranty will continue to be effective if the instrument is sent directly to Full Gauge Controls. This period is valid for the Brazilian market. Other countries have a 2 (two) year warranty. The products are guaranteed in case of manufacturing failure that makes them improper or unsuitable for the applications for which they are intended. The warranty is limited to the maintenance of instruments manufactured by Full Gauge Controls, disregarding other types of expenses, such as indemnification due to damages caused to other equipment.

EXCEPTIONS TO WARRANTY
The Warranty does not cover transport and / or insurance costs for sending products with indications of defect or malfunction to Technical Assistance. The following events are also not covered: natural wear of parts, external damage caused by falls or improper packaging of products.

LOSS OF WARRANTY
The product will automatically lose its warranty if:
- The instructions for use and assembly in the technical description and the installation procedures present in Standard NBR5410 are not observed ;
- It is subjected to conditions beyond the limits specified in its technical description;
- It is violated or repaired by a person who is not part of Full Gauge's technical team;
- The damage is caused by a fall, blow and / or impact, water infiltration, overload and / or atmospheric discharge.

WARRANTY USE
To be covered and benefit from the guarantee, the customer must send the product properly packed, together with the corresponding purchase invoice, to Full Gauge Controls. Shipping costs for products are at customer's costs. It is also necessary to send as much information as possible regarding the detected defect, thus making it possible to streamline the analysis, testing and service.
These processes and eventual product maintenance will only be carried out by Full Gauge Controls' Technical Assistance, at the Company's headquarters- Rua Júlio de Castilhos, 250, CEP 92120-030 - Canoas - Rio Grande do Sul - Brazil.