

Agricultural Products

Spray Rate



EN

Spraying Controller **Spray Rate** Quick Guide

Warning: Do not operate the equipment before reading this instruction guide



RECOMMENDATIONS FOR USE



Spray Rate is a spray control system specially designed to operate on agricultural machinery, managing application rates and section control through specific switches. This increases the effectiveness and efficiency of treatments, resulting in reduced input losses.

SAFETY INSTRUCTIONS

These safety instructions do not replace the recommendations of other manufacturers or safe work practices.



- The equipment must not be operated without understanding its proper functioning. The operator must follow local regulations, be knowledgeable about the operation and configuration of agricultural machinery, and remain alert and in full control of the equipment at all times.
- Deactivate the equipment before entering public roads to prevent loss of control or accidents.
- Do not use the system during thunderstorms, as there is a risk of harm to people and the equipment.
- Turn off the machinery when installing components.
- Incorrect power cable connections can cause serious injuries and equipment damage.
- Do not use the equipment if it is damaged, malfunctioning, or with accessories not recommended by Agres. Contact your dealer.
- Do not open, disassemble, or modify any part of the equipment, such as harnesses or connectors.
- Pressurized fluids can penetrate the skin and cause serious injuries. It is therefore essential to know the proper safety precautions when using a pressurized spraying system.
- System pressure must never exceed the manufacturer's recommendations.
- All system hoses must be in proper working condition as per the manufacturer's guidelines.
- It is advisable to drain and purge the spraying system when the equipment will not be used for an extended period.
- Follow handling and protection procedures for hazardous materials as recommended by their manufacturers, and use appropriate personal protective equipment (PPE).
- Close the valves at the end of the application, as once outside the treatment zone, valve control will no longer be possible.



The latest versions of this document and the User Manual can be accessed at:
www.agres.com.br/manuais



WARNING



Read the instructions in this guide carefully. AGRES is not liable for any negligence, failure to follow the described rules, or damage caused by improper use of the product.

PRECAUTIONS



- Respect the expected supply voltage (9–16Vdc);
- Do not expose the equipment to water jets or rain.
- Do not use solvents or gasoline to clean the enclosure;
- When welding with an arc, ensure the equipment is disconnected from the machine;
- Use only original Agres accessories or replacement parts.

CLEANING AND MAINTENANCE



- To clean the enclosure, dampen a clean, soft cloth with a mixture of water and neutral soap.
- Do not use abrasive cleaning products. Products containing ammonia may cause irreversible damage.
- Before washing the implement with high-pressure water jets, protect the equipment from water.
- Do not submerge or direct high-pressure water jets at the enclosure or connected cables. This may cause water intrusion and damage the electronic circuits, posing fire and serious accident risks.

COMPONENT DISPOSAL



- If the equipment or any of its components become unusable, dispose of them according to current local regulations.
- To learn more about reverse logistics for our equipment in Brazil, visit: www.agres.com.br/sgi

DECLARATION OF CONFORMITY

- The Spray Rate is CE marked. The full text of the declaration of conformity is available at the following internet address: www.agres.com.br/manuais



If you have any questions, please contact your dealer.

TECHNICAL SPECIFICATIONS

TYPE	DESCRIPTION	DETALHE
Screen	4.3" LCD display	Colored
USB Interface	USB port	Type A
Power Supply Voltage	9 - 16 Vdc	Ring Terminal M8 for Battery Connection
1 M12 8-pin input connector for speed measurement	Devices such as speedometer or cloud antenna	Compatibility with standards: • ISO11786 • NMEA183
4 Digital Inputs/Outputs** DIG1 to DIG14	Configurable for NPN sensors, max 8kHz, output current 400mA at 12V	
2 Analog Inputs** ANA1 and ANA2	Configurable for analog sensors such as pressure and tank level (4 to 20mA)	AMP Superseal connector (2/3 pins) for harness connection.
2 Auxiliary Digital Outputs AUX1 and AUX2	12V / 3,5A	
Control Group Switches *	Section valves: 7, 6, 5, 4, 3, and 2**	DIN 43650A Connector – 2 wires (solenoid)
	Regulating valve: 1	DIN 43650B Connector – 3 wires (solenoid valve)***
	Master valve: 1	
Electrical Protection	Overcurrent and short-circuit protection for valves and reverse polarity protection on battery connection	
Environmental Conditions	Protection rating	IP65
	Operating temperature	-20° ~ +55°C
	Storage temperature	-20°C ~ 70°C
	Humidity	80%
Dimensions****	Length x Width x Height	175 x 158 x 98mm
Weight	Housing	1,4 kg

Note:

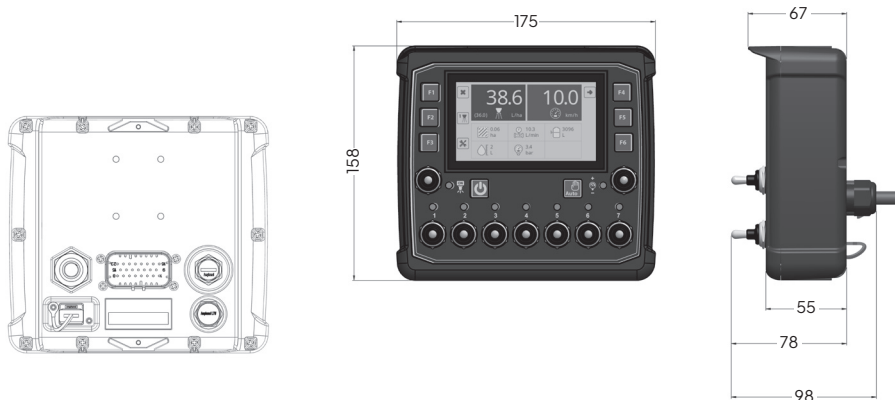


* Check the operating mode of the control group to which it will be connected.

** Depending on the monitor settings, some section switches and inputs/outputs may not be available.

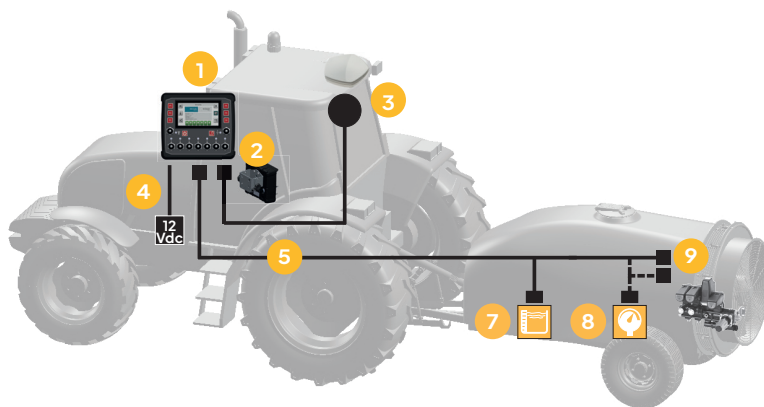
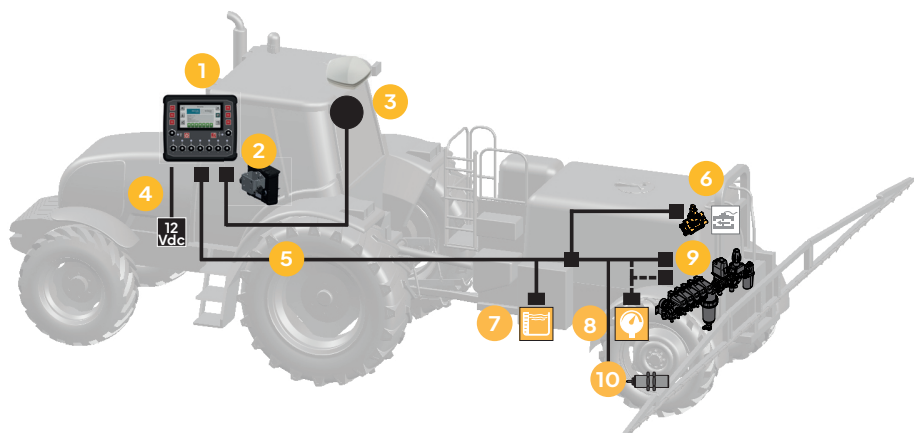
*** Compatible with 3-wire solenoid valves

**** Overall dimensions



INSTALLATION EXAMPLES

1. Monitor
2. Metal or RAM mount
3. GNSS antenna (Ca cable)
4. Battery power cable – Cb
5. Control cable – Cc
6. Flowmeter
7. Level sensor
8. Pressure sensor
9. Section connectors
10. Speed sensor



Sensor options may vary depending on the machinery or product configuration. Please consult your dealer.

INSTALLATION

➤ Mounting the enclosure (Fig. 1-1)

Using the kit's support, mount the enclosure in a protected location, within the operator's reach, and without obstructing movement or the driver's visibility.



Secure the cables with enough slack to allow for movement, ensuring they do not come into contact with moving parts, sharp edges, or heated surfaces.



NOTE: It is possible to attach the pressure gauge box and/or the hydraulic control box (boom control) to the enclosure

To do this, use the latch connector (Figure 1-3)

➤ Valve and Sensor Connection (Fig. 2 and Table 2)

1. Connect the control cable (Cc) to the rear connector of the enclosure until it locks (Figure 1-2).
2. Identify the actuator valve and sensor connectors by reading the labels on the Cc cable (Table 2)
3. Remove the tape holding the rubber seal to the DIN connectors.
4. Fit the DIN connectors, together with the rubber seals, onto the respective valves of the control group (Figure 2-3 and Table 2)

NOTE: If necessary to replace 3-wire electric valve connectors with 2-wire solenoid valve connectors, refer to Table 3 and the recommendations in Figure 4



5. Fit the Superseal connectors onto the respective sensors (Table 2)

➤ Speed Measurement Reference

• Wheel Speed Sensor (Figure 1)

1. Install the sensor 4mm to 5mm away from the detected surface (Figure 1-4).
2. Do not install the sensor body near other metal objects to avoid interference. Maintain at least 15mm distance from other objects.
3. Follow the manufacturer's installation instructions if they differ from those above.
4. Identify the F2/S/R (speed) connector on the Cc cable (Figure 2-1).
5. Connect the respective Superseal connector to the sensor (Table 2).

NOTE: If necessary, assemble the sensor connector according to the pinout in Table 1 of Figure



• GPS Antenna (NMEA 0183) and Speedometer Connection – Ca (Fig. 2)

1. Mount the antenna centered on top of the cabin (Figure 2-2).
2. Connect the antenna cable Ca to the enclosure.

• Connection to ISO 11786 Standard Interface – Ca (Fig. 2)

1. Connect the ISO 11786 cable to the Ca cable input on the enclosure (Figure 2-2)

➤ Battery Cable Connection – Cb (Fig. 2)

To avoid the risk of short circuits, do not connect the Cb battery cable before completing the installation and performing a check. Verify that the battery voltage of the traction unit matches the cabinet's requirement (approximately 12Vdc).



1. Ensure that the machinery is turned off.
2. Set all section and master switches to the downward position (OFF) (Figure 2-5).
3. Connect the M8 ring terminal of the red wire (fuse holder) to the Positive "+" terminal, and the black wire to the Negative "-" terminal of the battery (Figure 2-4).

NOTE: The protection fuse current will depend on the monitor configuration.

➤ Connection of Optional Components – Hydraulic and Pressure Gauge Boxe

1. Attach the optional box above or just below the cabinet and tighten the screws (Figure 1-3).

1.1 Pressure Gauge Box:

Following the manufacturer's instructions, install the pressure hose kit Mp (Figure 2-6), ensuring proper sealing and tightening of the fittings.

Then, connect the other end to the control group (Figure 2-3), taking the same precautions.



We recommend using the Liquid Separator accessory (Figure 2-6) when installing the pressure gauge inside the cabin.

1.2 Hydraulic Box:

Follow the procedure described in the specific manual.

CONNECTIONS

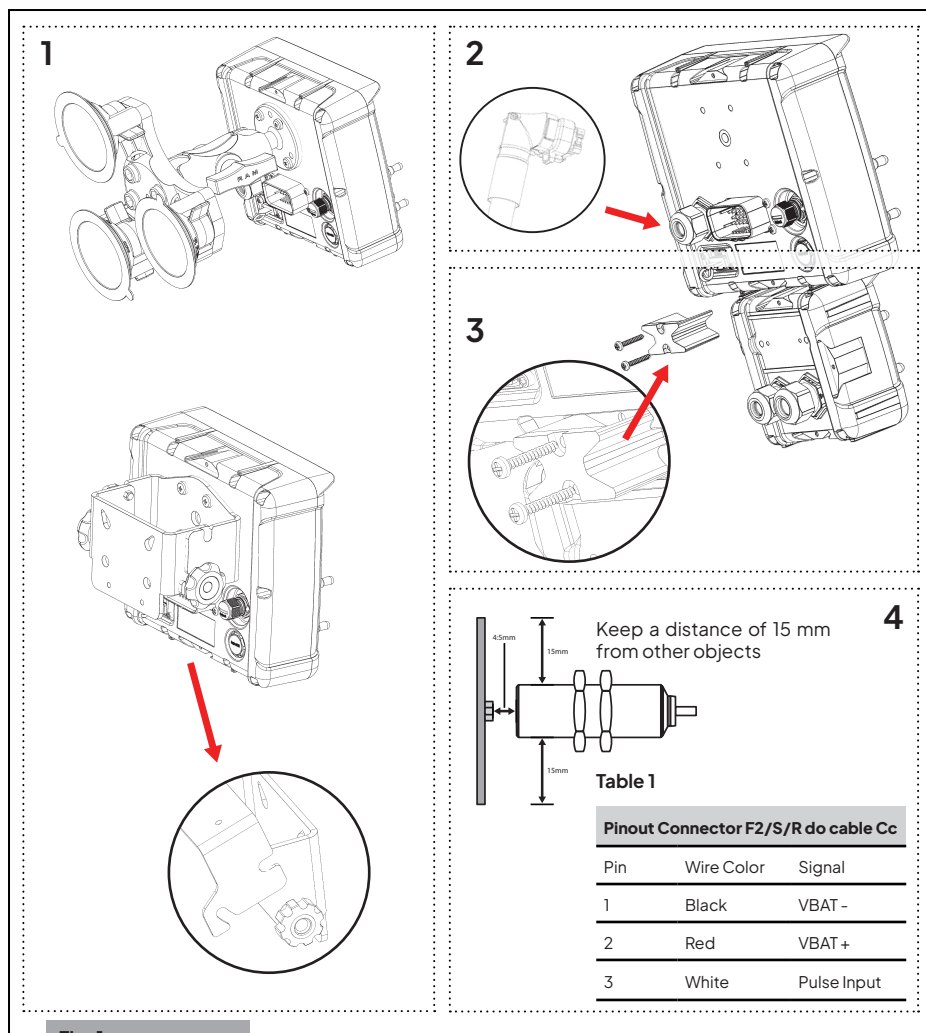


Fig. 1

CONNECTIONS

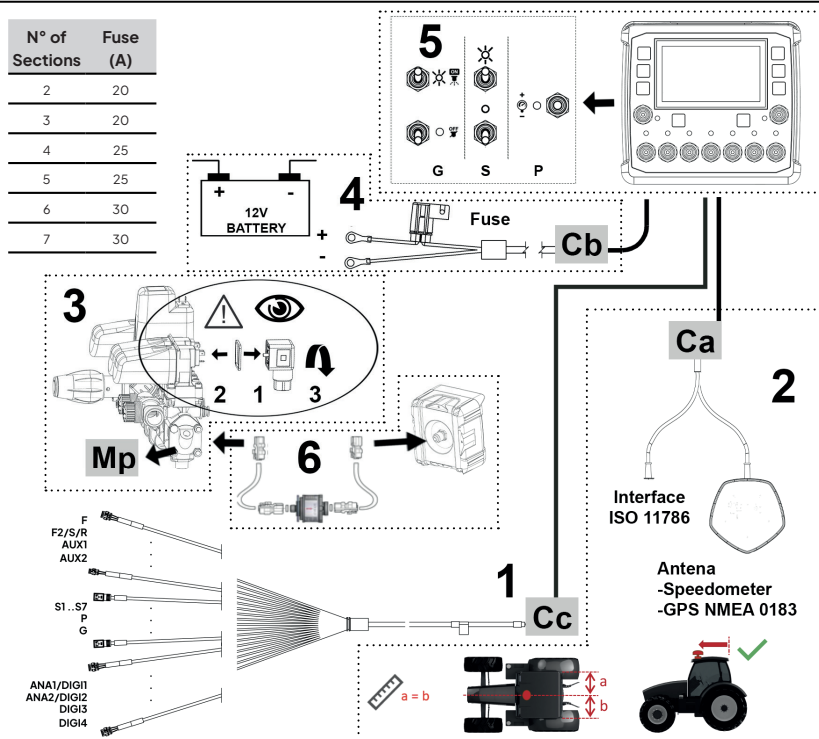


Table 2

Label	Connection	Note
Spray Rate	Controller	-
P	Pressure Regulator Switch	-
G	Master Switch	-
S1....S7	Section Switch	-
F	Flowmeter	-
F2/S/R	Speed Sensor	Digital level (0/12V) - 9kHz
AUX1	Auxiliary Outputs	Digital level (0/12V)
AUX2		Current - 3,5A
ANA1/DIGI1	Low current inputs/outputs	Analogue input 4 to 20 mA /
ANA2/DIGI2		Digital level (0/12V)
DIGI3	Inputs/outputs	Digital level (0/12V)
DIGI4		



The analog inputs/outputs ANA1 and ANA2, as well as the digital DIG1 to DIG4, are configurable in the system under "Settings/Spraying/Sensors" according to the implement connections.

Fig. 2

CONNECTIONS

► Damaged Switch Replacement (Fig. 3)

1. Disconnect the cables from the control box (Figures 1 and 2).
2. Carefully remove the front cover without damaging the seals (Figure 3-1), without disconnecting the panel interconnection cable Ci (Figure 3-2).
3. Pull out the damaged switch and insert a new one of the same model (Figure 3-3). Models: 631H/2, 636H/2 or 637H/2.
4. Reassemble the box, paying attention to the routing of the panel interconnection cable Ci (Figure 3-2), to the proper sealing, and to reconnecting the battery cable (Cb), control cable (Cc), and antenna cable (Ca) (Figure 2).

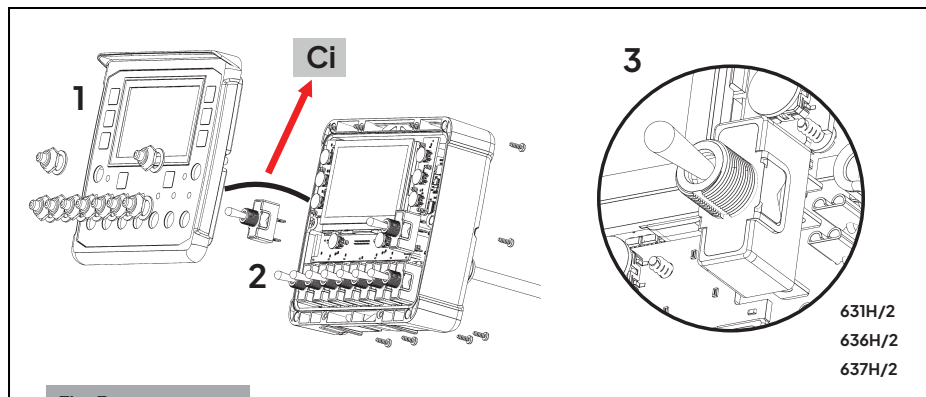


Fig. 3

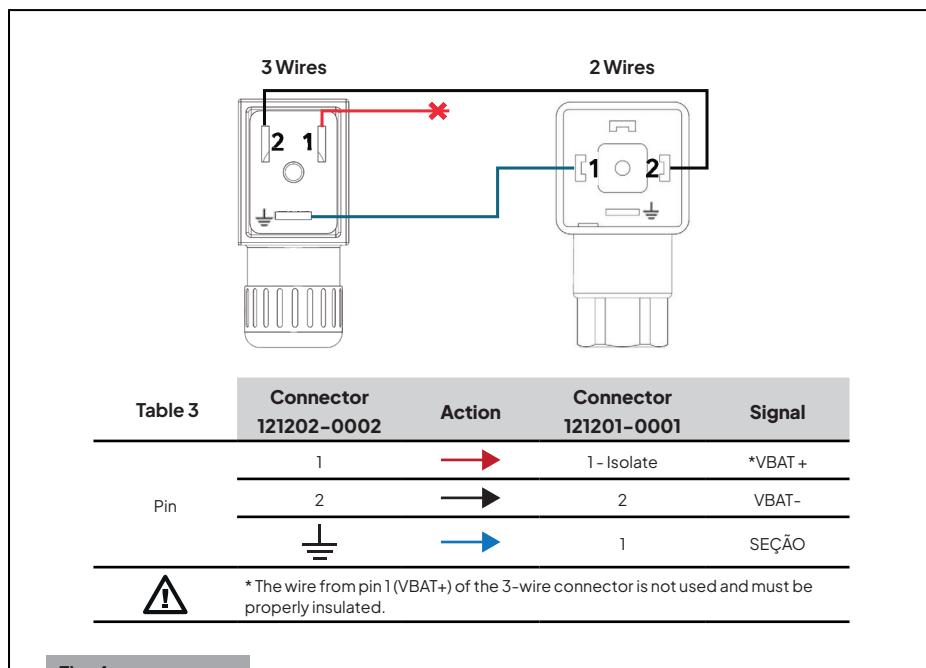
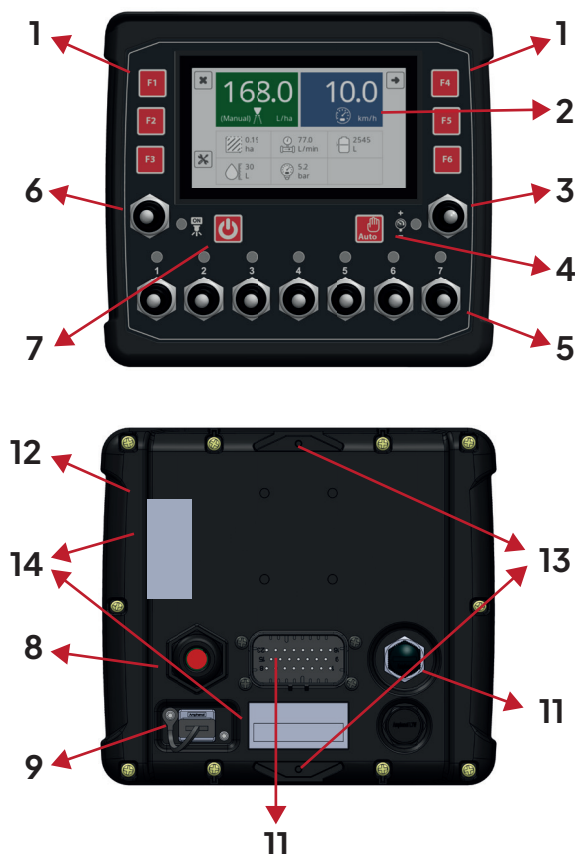


Fig. 4

GABINET

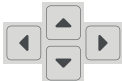
1. Function and adjustment Keys.
2. Display.
3. Control switch for the dosage rate valve (manual/automatic)
4. Button to enable/disable automatic control of the application valve – Automatic/Manual mode
5. Section valve control switches (ON/OFF)
6. Master valve control switch (ON/OFF)
7. Power On/Off button
8. Battery power cable – Cb (figure 2-4)
9. USB Type-A port
10. Control cable input connector – Cc (figure 1-2)
11. Speed signal input connector – Ca (figure 2-2)
12. Holes for mounting the metal or RAM support (figure 1-1)
13. Fixing point for optional module using snap lock (figure 1-3)
14. Identification labels



FUNCTION AND ADJUSTMENT KEYS **F1** TO **F6**

Press keys **F1** to **F6** to perform the actions indicated by the screen icons.

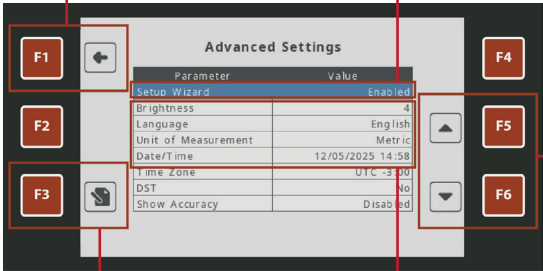
Icon examples:

Icon	Function
	Selects an option in the on-screen menus.
	Confirms a selection or setting.
	Navigates back or forward between screens.
	Cancels a selection or setting. Ends and saves a task.
	Edits or configures a parameter.

Screen Examples and Icons:

Back icon associated with the **F1** key

Selected menu option highlighted in blue



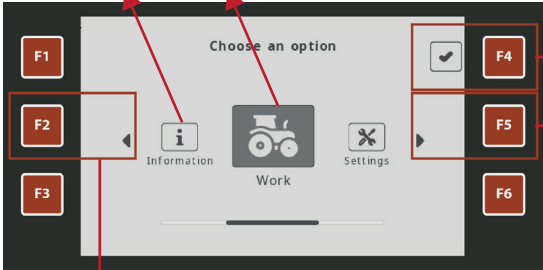
Up and down selection icons associated with the **F5** and **F6** keys

Edit icon associated with the **F3** key

Available menu options

Available option

Selected option



Confirmation icon associated with the **F4** key

Right selection icon associated with the **F5** key

Left selection icon associated with the **F2** key

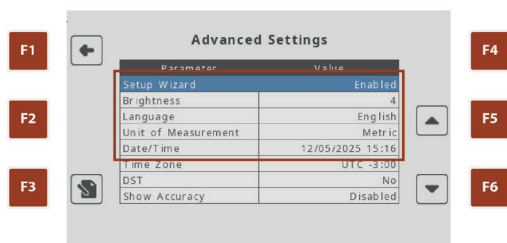
01 - POWER ON AND OFF



02 - INITIAL SCREEN

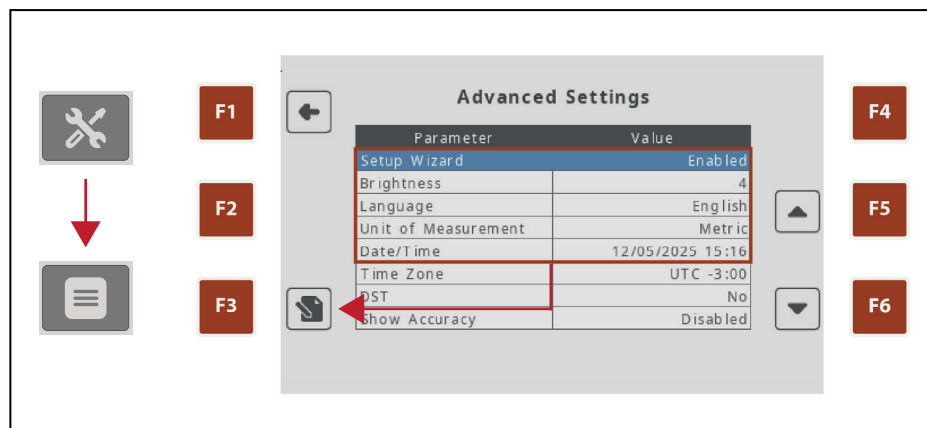


The first time the Spray Rate is powered on, the **"Configuration Assistant"** will start automatically to guide you through the menus, allowing you to configure some parameters according to your preferences.



If the option  (Exit) is selected or the "Configuration Assistant" is disabled, the system will display the default startup screen.

03 – GENERAL PARAMETER SETTINGS



Set up the Spray Rate according to your preferences.

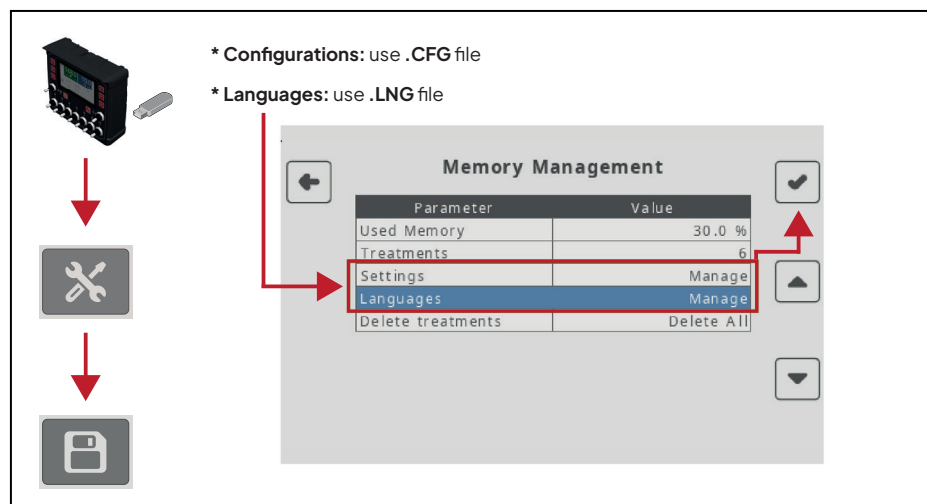
➤ Individual

Navigate through the menus and select the desired parameters.

➤ Automatic

- Use the enabled "Configuration Assistant."
 1. Restart the system.
 2. Follow the requested steps.
- Import the configuration files saved on the USB drive (.CFG) or from the internal memory.

04 – IMPORT CONFIGURATIONS AND LANGUAGES



* Configurations: use .CFG file

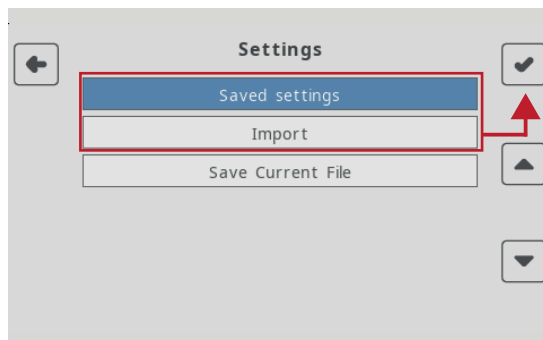
* Languages: use .LNG file

➤ Settings

Files with the ".CFG" extension contain saved settings for that specific equipment.



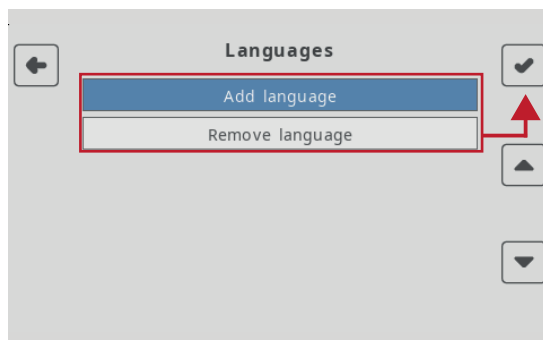
If you use these settings on another device, we recommend reviewing them



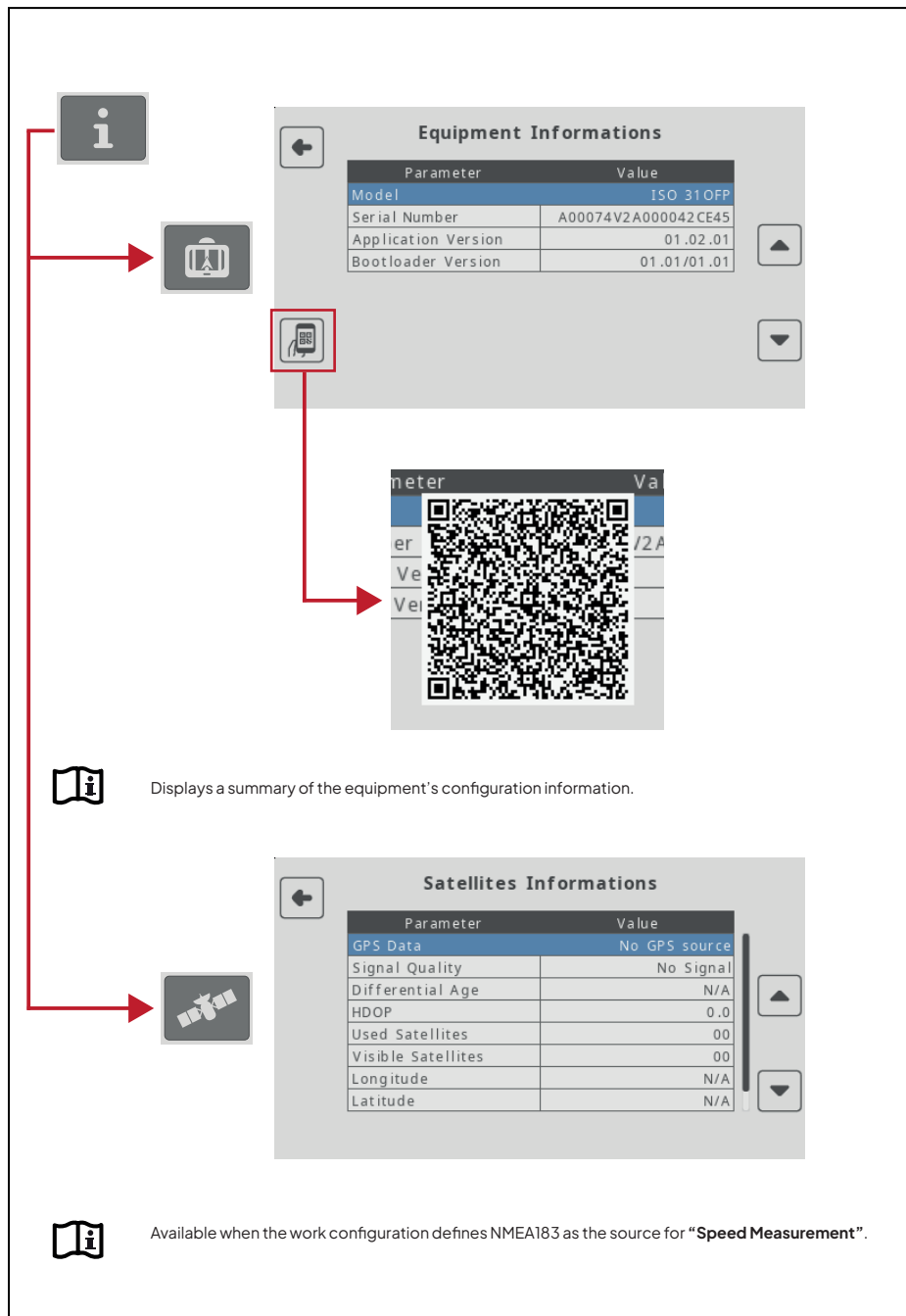
➤ Languages

The system operates with up to 5 languages:

- 3 fixed – Portuguese, English, and Spanish.
- 2 configurable – Use a USB drive with a ".LNG" file to select the language. If there is no space available, remove one language

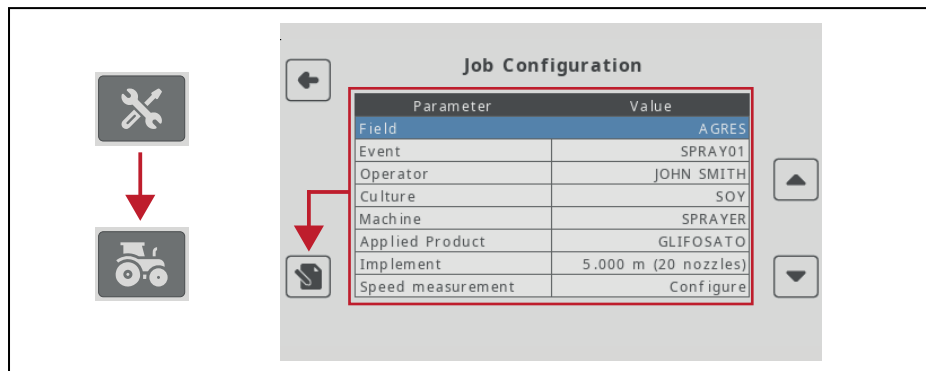


05 – GENERAL SYSTEM INFORMATION



06 - WORK SETTINGS

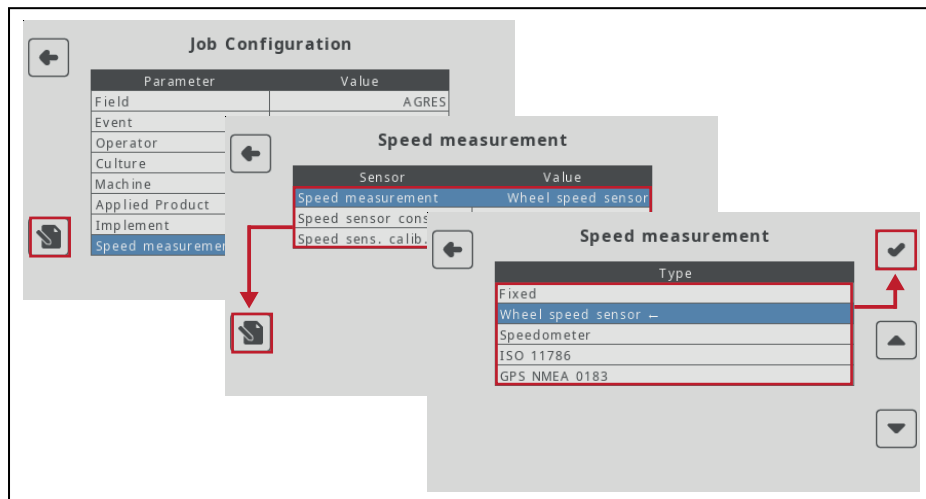
1. Enter the relevant parameter information for the task to be performed.



Some of these parameters can also be edited when creating a “New Treatment” within the “Configuration Summary” screen

➤ Speed Measurement

1. Select and configure the speed parameter reference source.

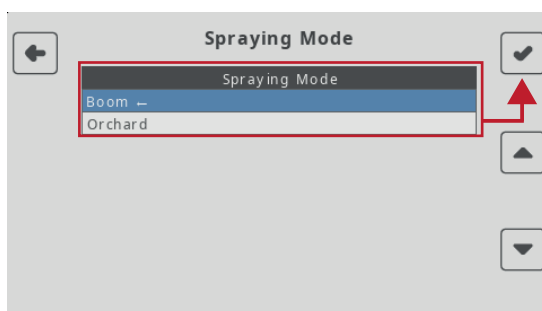
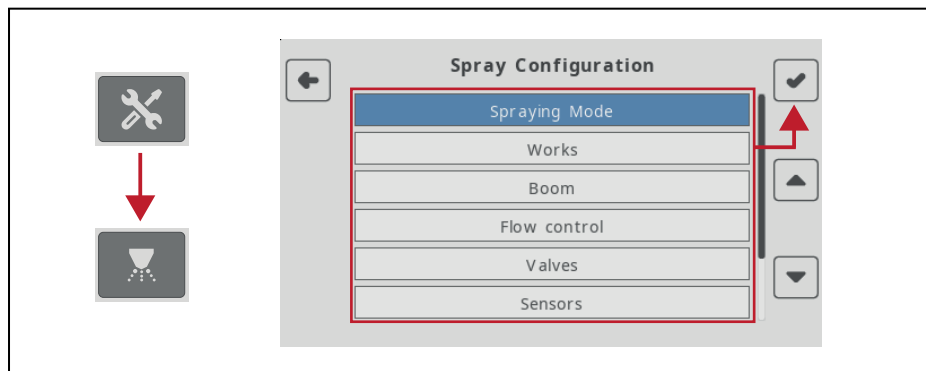


Speed Measurement (Figure 2-2 and Table 2):

- **Fixed:** Set the desired value on the navigation screen.
- **Wheel Speed Sensor:** For inductive-type sensors.
- **Speedometer:** For devices using GNSS satellite signals received by the antenna to measure speed.
- **ISO 11786:** For connection to equipment with ISO 11786 standard compatibility.
- **GPS NMEA 0183:** para smart antenna GNSS com compatibilidade padrão NMEA.

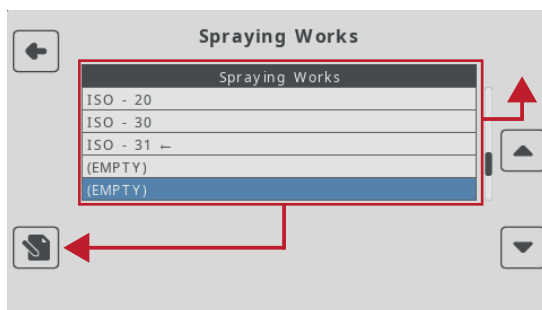


07 - SPRAYING SETTINGS



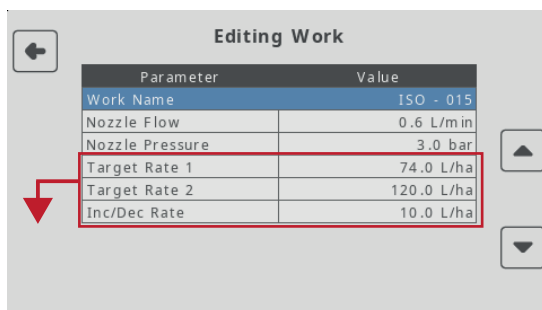
➤ Spraying Type

1. Select the desired operation



➤ Work

1. Select the desired ISO standard nozzle.
2. Check its parameters using the "Edit" option



3. The values of Target Rates 1 and 2 can be modified.
4. Set the increment/decrement value for the target rate when the control valve switch is activated in Automatic mode



To customize a new work configuration, select **"Work (EMPTY)"** and edit the fields

Editing Work

Parameter	Value
Work Name	(EMPTY)
Flow/Pressure	Edit
Target Rate 1	40.0 L/ha
Target Rate 2	60.0 L/ha
Inc/Dec Rate	0.0 L/ha

Red arrows point from the 'Work Name' and 'Inc/Dec Rate' fields to the edit icon (pencil) at the bottom left.

Boom Configuration

Parameter	Value
Nozzles Number	20 (10.00 m)
Spacing Nozzles	50.00 cm
Sections Number	2
Nozzles Section 1	5 (2.50 m)
Nozzles Section 2	5 (2.50 m)

Red arrows point from the 'Nozzles Number' and 'Nozzles Section 1' fields to the edit icon (pencil) at the bottom left.

► Boom

Configure the parameters of the implement's boom



O número de seções deve seguir o mesmo número de chaves do painel do equipamento.

Flow control

Parameter	Value
Flow Control Type	Regulator Valve

A red arrow points from the 'Flow Control Type' field to the edit icon (pencil) at the bottom left.

► Flow Control

Check the selected flow control type

Flow Control Type

Flow Control Type
Regulator Valve
Not available

Red arrows point from the 'Regulator Valve' and 'Not available' options to the checkmark icon at the top right.

If there is no regulating valve, select the option **"Not available"**.

➤ Válvulas

Configure os parâmetros das válvulas elétricas do implemento de pulverização.

Parameter	Value
Main Valve	2 ways
Section Valve	2 ways
Sections Dependence	Dependent
Regulator Valve	2 ways
Regulator V. Time	7.0 s
Stopped Vehicle Spray..	Disabled
Min. Rate Speed	Disabled
Minimum Pressure	Disabled

➤ Sensors

Configure the types of sensors integrated into the spraying implement.

Parameter	Value
Inputs/Outputs	Configure
Control Sensor Type	Pressure Sensor
Pressure Sensor	Configure
Tank level sensor	Configure

Parameter	Value
Inputs/Outputs	Configure
Control Sensor Type	Flowmeter
Tank level sensor	Configure
Flowmeter	Configure

Control Sensor Type

- **Not available:** automatic rate control is not possible, and the screen indicators will show value "0".
- **Flowmeter:** uses the liquid flow rate through the system as a reference.
- **Sensor pressão:** utiliza a pressão do líquido no sistema como referência. This option must be configured in "Inputs/Outputs" under **ANA1** or **ANA2**

Tank Level Sensor

- **Tank level:** informs the system of the configured levels. This option must be configured under "Inputs/Outputs" in position **ANA1** or **ANA2**

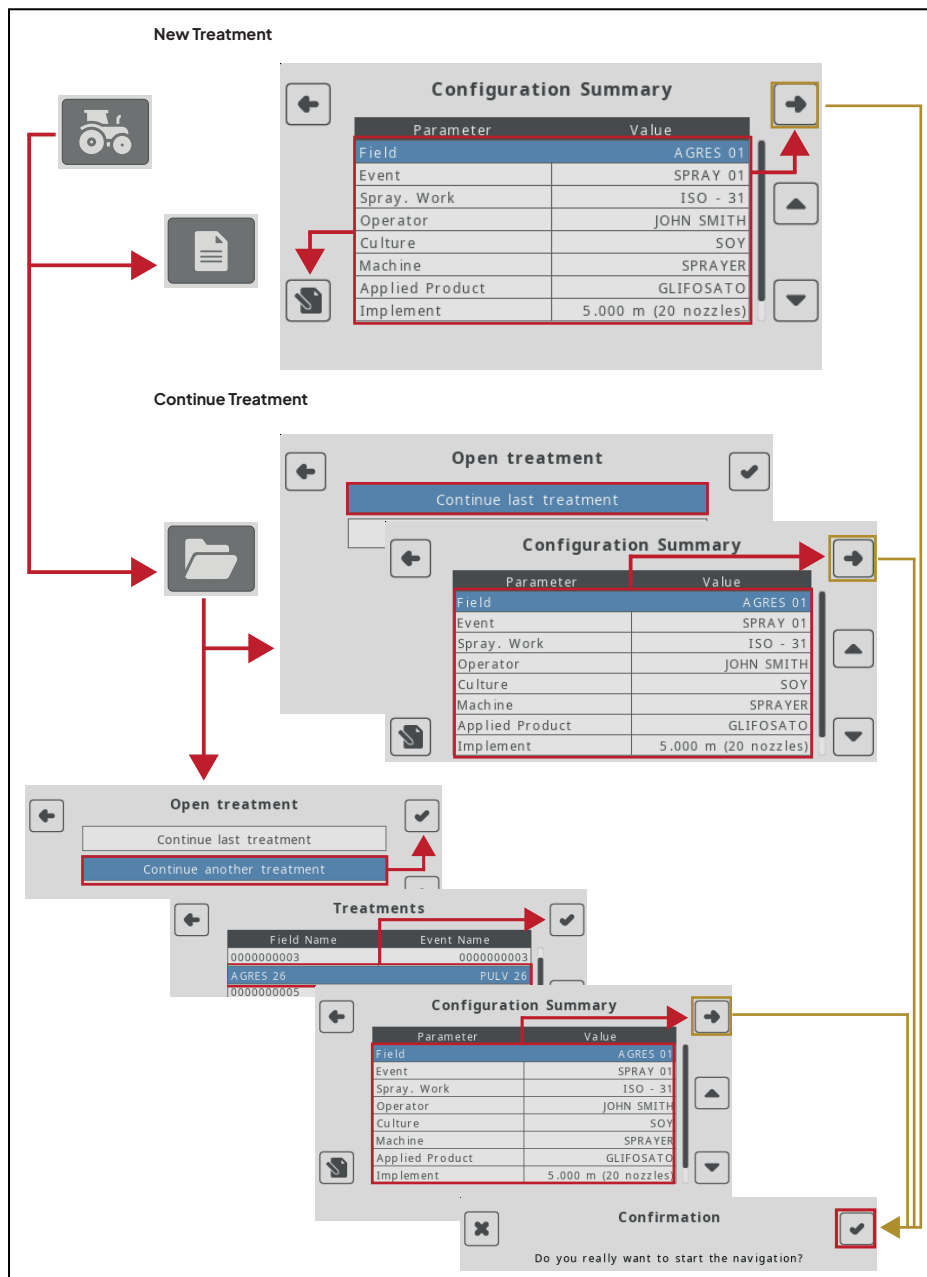
Parameter	Value
Tank Capacity	3150 L
Level Alarm	300 L

➤ Tank

If the "Tank level sensor" is not used, this option is available to configure the parameters of the tank that holds the spray mixture.

08 – STARTING THE TREATMENT

All work settings must be configured according to the machine, the operator, and the agricultural operation to be performed.



09 – BASIC OPERATION



Table 2

Switch								
Function	Opens or Closes Main Valve		Controls Pressure Regulating Valve		Opens or Closes Section Valve		Selects treatment rate distribution mode	
Action	Open	Close	Increase	Decrease	Open	Close	**Automatic	***Manual
Indication	Red	-	Red	Green	Red	-		

* Depending on the model of the console, some switches may not be available.

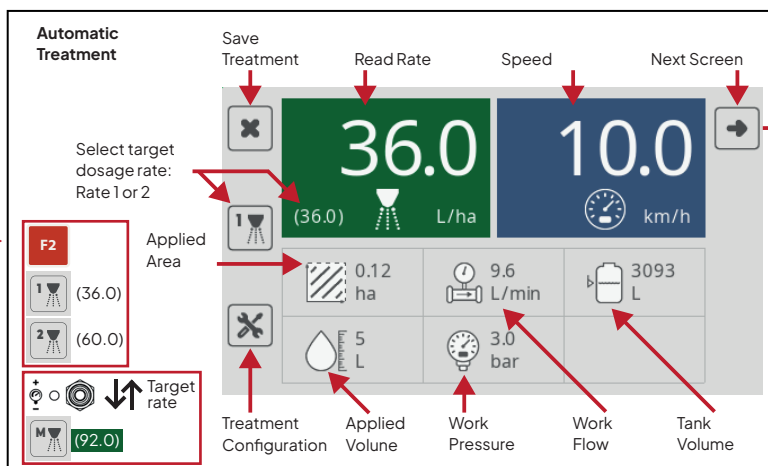
** In **automatic** mode, the dosage values for **rate1** and **rate2** configured by the user will be controlled by the system through the regulating valve, aiming to maintain a constant dosage even during vehicle speed variations.



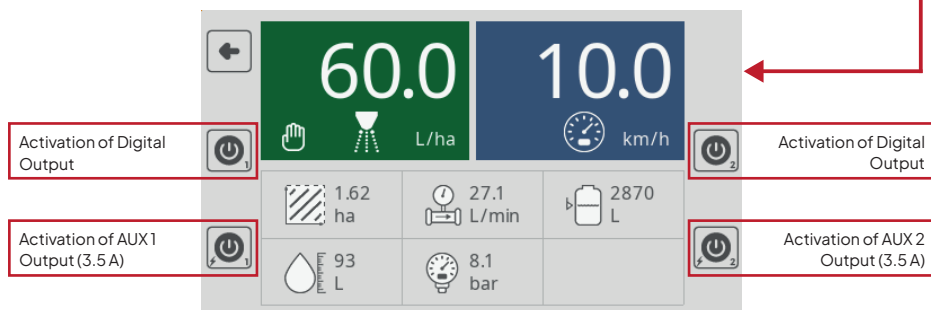
A value "M" for increasing/decreasing the target application **rate 1** or **2** can be defined in the "**Spraying Work**" menu prior to treatment. In other words, when the regulating valve switch is activated, the dosage will increase or decrease accordingly.

*** In manual mode, the user will operate the regulating valve directly using its respective switch to control the desired dosage rate.

10 - TREATMENT SCREENS

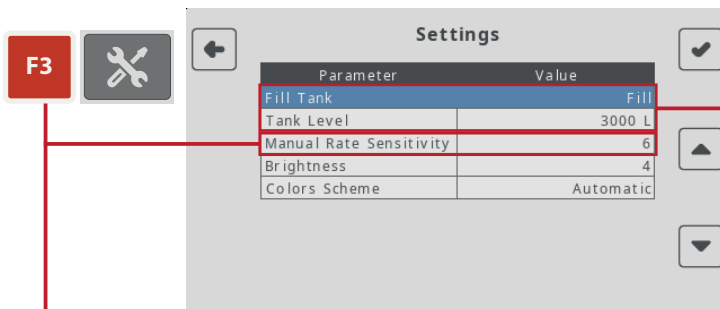


Output Commands



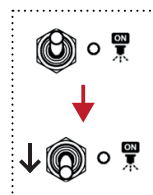
Depending on the sensor settings in "Inputs/Outputs", some buttons may not be available.

11 – SETTINGS DURING THE TREATMENT

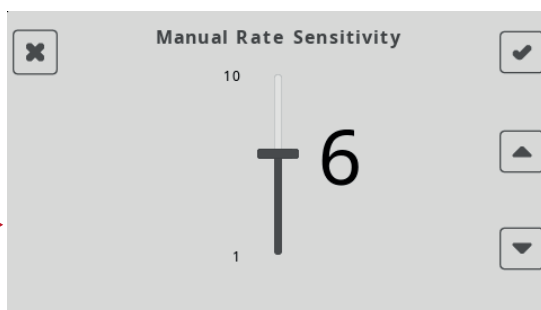


With the equipment stopped and switches turned off, it is possible to:

- Refill the tank with the value configured in “Spraying Settings”.
- Change the tank level to a desired value.



- Adjust the valve switch sensitivity when the operating mode is **Manual**.



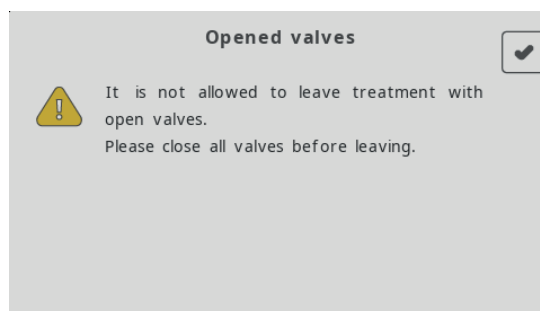
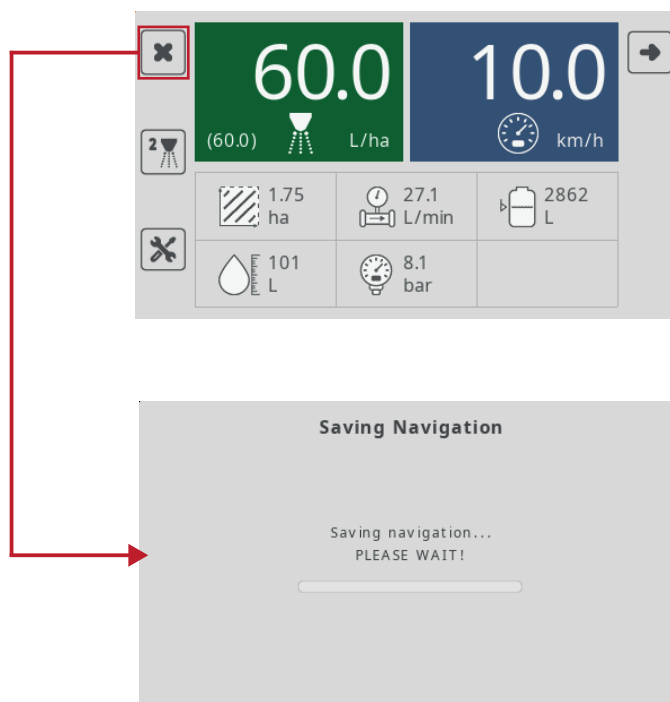
Example:
10 = Fast response



1 = Slow response

12 – FINISHING TREATMENT

The information from the parameters relevant to the treatment will be saved in the task list. The system stores data for up to 20 treatments.



If the valves are open at the moment of ending the treatment, a warning screen will be display

13 – EXPORTING OR DELETING A TREATMENT

The information from the parameters relevant to the treatment can be exported to a USB flash drive or deleted from the system memory to free up space (maximum of 20 treatments).



Memory Management

Parameter	Value
Used Memory	95.0 %
Treatments	19
Settings	Manage
Languages	Manage
Delete treatments	Delete All

Treatments

Field Name	Event Name
0000000035	0000000035
0000000016	0000000016
0000000017	0000000017
0000000018	0000000018
0000000019	0000000019
0000000020	0000000020

Created on: 13/05/2025 - 11:37

Delete treatment?

Do you want to delete this treatment?

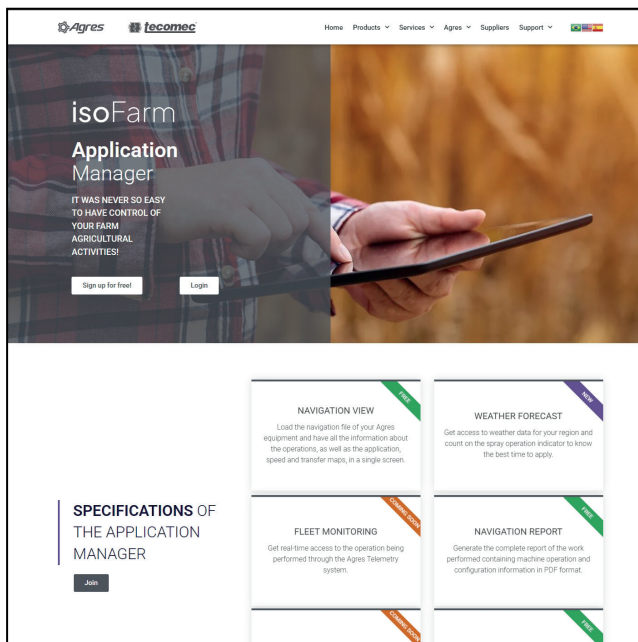
Field: 0000000019
 Event: 0000000019
 Finished in: 13/05/2025 - 11:37
 Operation: Spraying
 Area: 0.00 ha
 Duration: 00:00:00

Downloaded files

1 file has been downloaded to portable memory.

14 – CONNECTIVITY VIA APPLICATION MANAGER – ISOFARM

Access: www.isoFarm.com.br



Sign up or log in to the platform

Sign up

Create your account

Full name

E-mail

Password

The password must have at least 6 characters.

Confirm your password

The passwords entered do not match or are not the same

☐ I agree with terms and conditions of use

Create your account

I already have an account! Login

Copyright © Agres

Login

Enter your data

E-mail

email.cadastrado.na.plataforma@gmail.com

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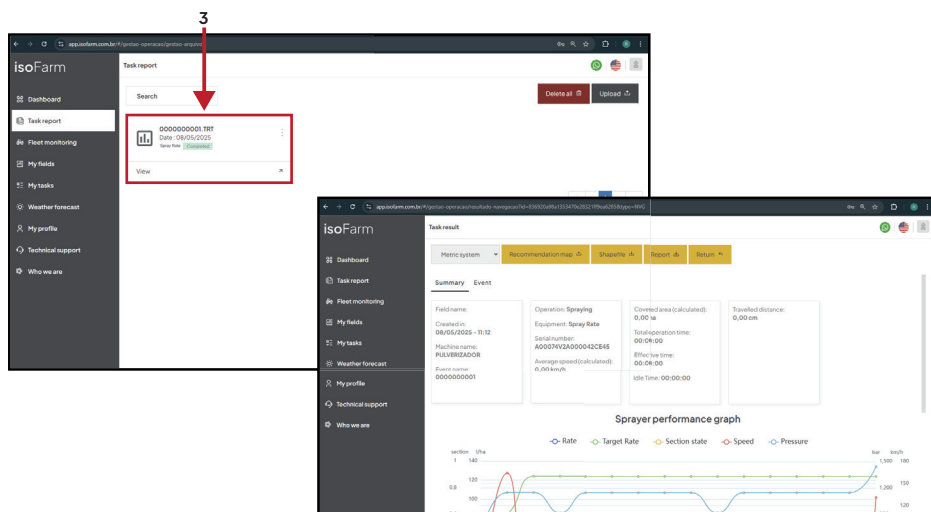
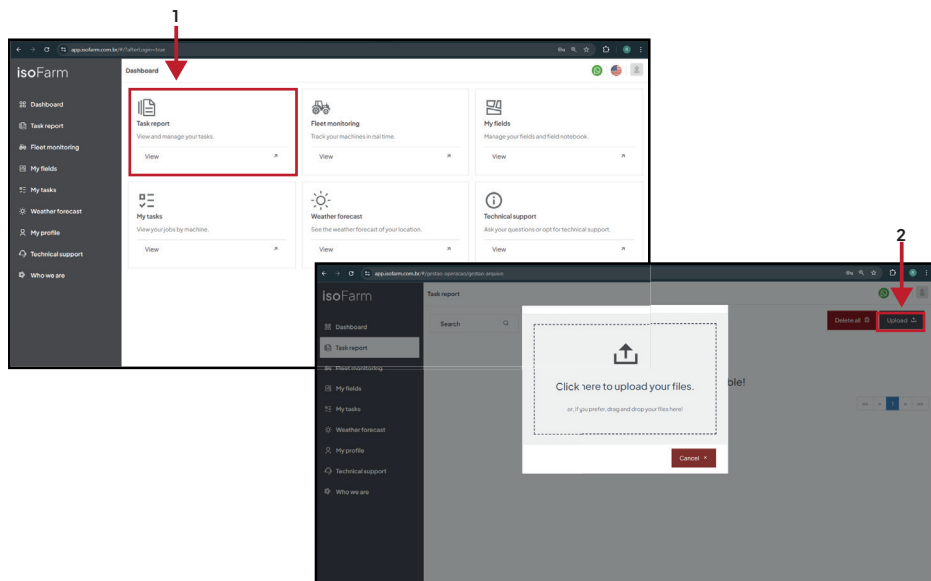
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Viewing

1. Click on **Task Report**.
2. Click on **Upload** and upload the desired *.TRT* task files.
3. Select the task to view the report



TROUBLESHOOTING

Problem	Cause	Solution
LEADs do not Light up:	Battery	Check the battery
	Power cable (Cb) failure or reversed polarity.	Check the cable and battery connection
	Internal auto-reset protection activated	Turn off the switch and wait at least 20 seconds before turning it back on. Check the connector.
The LED is on, but the command was not executed	Cc cable connector is disconnected	Check the valve connector
Functions perform opposite or incorrect operations	Reversed connectors	Check the correct position of the connectors

** If the problem persists, contact the nearest dealer.



End of service life

The equipment and its parts must be disposed of in accordance with the applicable laws in the country.

LIMITED WARRANTY TERMS

1. AGRES SISTEMAS ELETRÔNICOS S/A guarantees that the equipment, parts, and services sold will be free from manufacturing defects for the following periods:

- (i) Equipment: 12 (twelve) months;
- (ii) Parts: 90 (ninety) days;
- (iii) Services: 90 (ninety) days.

2. The warranty for equipment will be applied upon presentation of the following documents:

- (i) Invoice issued within 12 (twelve) months, referencing the equipment's serial number (if not issued by Agres Sistemas Eletrônicos S/A); and
- (ii) Completed maintenance submission form.

3. The warranty for parts will be applied upon presentation of the following documents:

- (i) Invoice issued within 90 (ninety) days, referencing the serial number (if not issued by Agres Sistemas Eletrônicos S/A); and
- (ii) Completed maintenance submission form.

4. All services, repairs, and maintenance must be carried out exclusively by Agres Sistemas Eletrônicos S/A. The service warranty will be applied upon presentation of the invoice issued by Agres Sistemas Eletrônicos S/A within 90 (ninety) days.

5. To request warranty service, the customer must:

- (i) Meet all the requirements established in this Limited Warranty;
- (ii) Send the required documents and the equipment/parts to: AGRES Sistemas Eletrônicos - Rua Oswaldo Stephanes, No. 84, Uberaba, Curitiba-PR, Brazil, ZIP 81560-285, phone +55 (41) 3132 3300;
- (iii) Deliver the equipment/parts in packaging that preserves their integrity, including all accessories in proper condition; and
- (iv) Attach a written and detailed report of the equipment or part's failures and/or anomalies.

6. The warranty will be applied only after diagnostic tests are conducted by Agres Sistemas Eletrônicos S/A.

7. The warranty excludes any damage, defect, or failure resulting from improper use or acts/omissions by the customer or any third party. It does not apply to equipment or parts not supplied by Agres Sistemas Eletrônicos S/A or its authorized distributors or dealers. No other express or implied warranties are granted by Agres Sistemas Eletrônicos S/A.

8. Agres Sistemas Eletrônicos S/A's liability is limited to repairing or replacing the defective equipment, part, or service.

9. Agres Sistemas Eletrônicos S/A shall not be liable for any loss, loss of profit, or indirect damages resulting from or related to the supply of equipment, parts, or services. Its responsibilities are limited to this Limited Warranty and shall never exceed the amount paid for the equipment, parts, or services.

10. Agres Sistemas Eletrônicos S/A is not liable for damages resulting from force majeure, acts of God, or circumstances beyond its reasonable control.

Agres declares that the Quick Guide is
in compliance with the following requirements:



The full text of the declaration of conformity is
available at the following internet address:
www.agres.com.br/manuais/



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