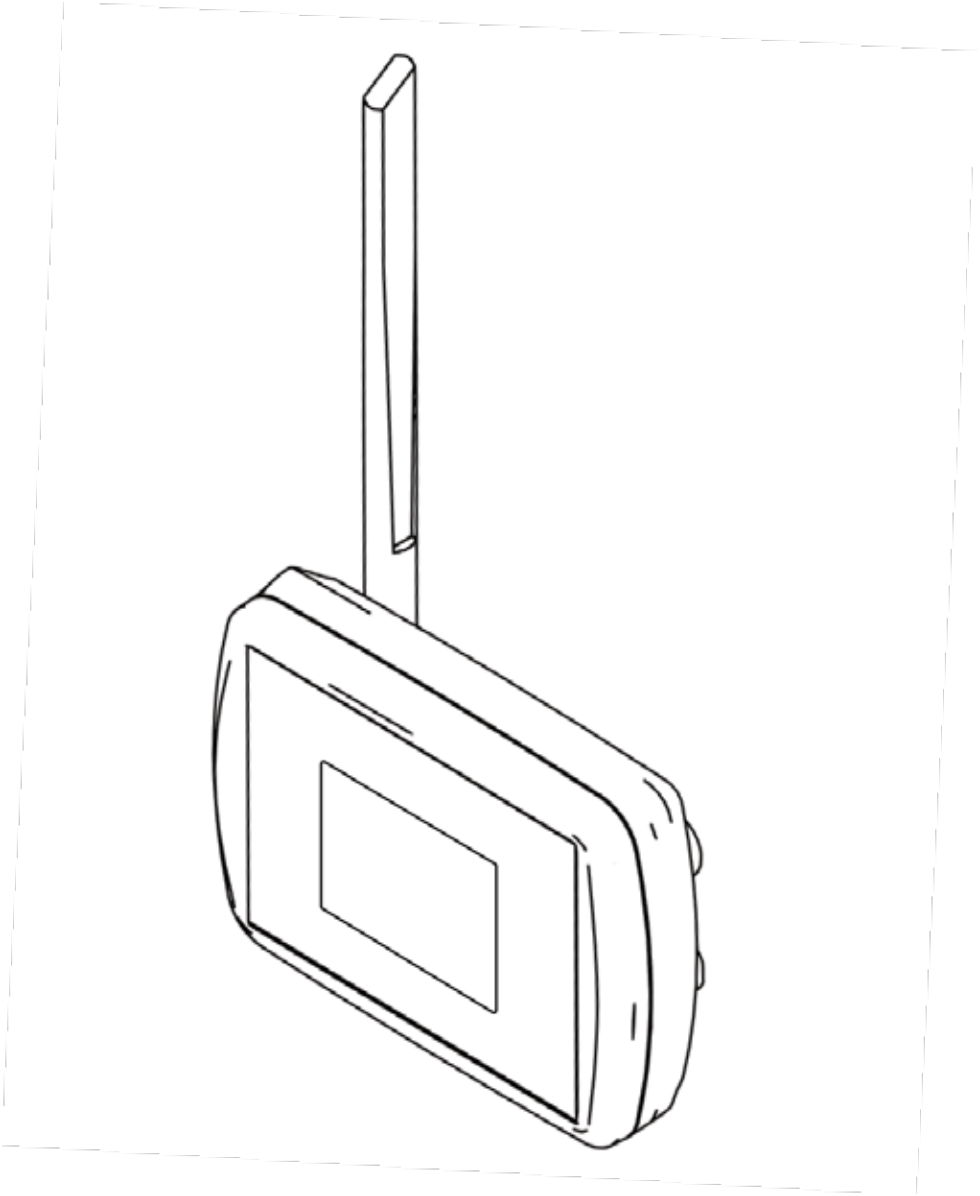
THUNDERSTRUCK®
AG EQUIPMENT

FertiSystem

AT200
MONITOR

OPERATION MANUAL

AT200 MONITOR OPERATION MANUAL



AT200 Monitor
Version 10/2025

FertiSystem Company Profile

FertiSystem is a Brazilian leader in the development, research, and production of fertilizer metering devices attachable to planters and seeders. Currently, FertiSystem supplies approximately 95% of Brazilian agricultural machinery and implement manufacturers, and has been operating in numerous international markets since 2008. They have received several state and national awards for its market differentiation and remarkable technological innovations, as well as for the practicality and commercial viability of its products. Notable awards include the RS Industry Distinction Award - FIERGS/CIERGS 2008, the Gerdau Best of the Land Award 2008, and the Três Porteiras Trophy from Federasul - RS in 2015 and 2016.

For over five years, FertiSystem has been investing in research and development of new technologies and services. Since 2018, FertiSystem has been designing and delivering solutions through intelligent systems, introducing new products and digital processes such as embedded software, human-machine interfaces, electronic hardware, and sensors. These technological advancements play a strategic role in the company's future and in the sustainability of agribusiness, making a significant impact across various sectors - particularly in planting processes - through automation of fertilizer dosing and the integration of data and knowledge. The technology they bring to the field has been key to reaching their current level. They believe continuous evolution is now solidified through the concept and vision of digital agriculture.

SPECIFICATIONS

Specifications

Dimensions: 5.51 in x 3.93 in x 1.77 in (without accessories)

Weight: 0.6 lb

Power Supply: 12 VDC

Average Power Consumption: 0.3 A

Communication Frequency: 915 MHz

Power Cable: Automotive Cable PP 2 x 0.01 in^2 - 500 V

Fuse: External - Blade Type - 3A

Rain Protection Rating: IP54 (protection against water splashes from any direction)

User Interface: Graphic Display

Visual/Audible Alert: Graphic Display / Siren

Number of Monitored Rows: Up to 120

Mounting Accessories: Ram Mount® Suction Cup and Clamp

Auxiliary Siren Input

Failure and Operation Alarm

Brightness/Volume Adjustment

Failure History

Low Battery Indicator

Sensor Addressing

Water Splash Resistance

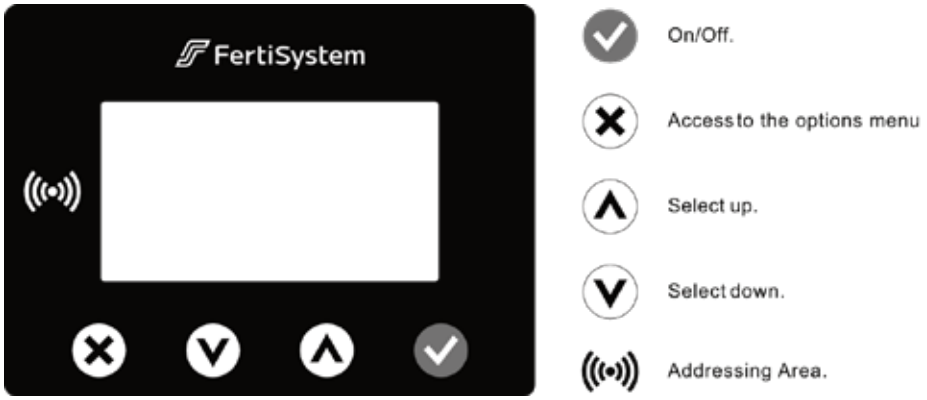


Fig. 01

INSTALLATION

Components

The AT200 Monitor comes with all the components necessary for its installation and operation.

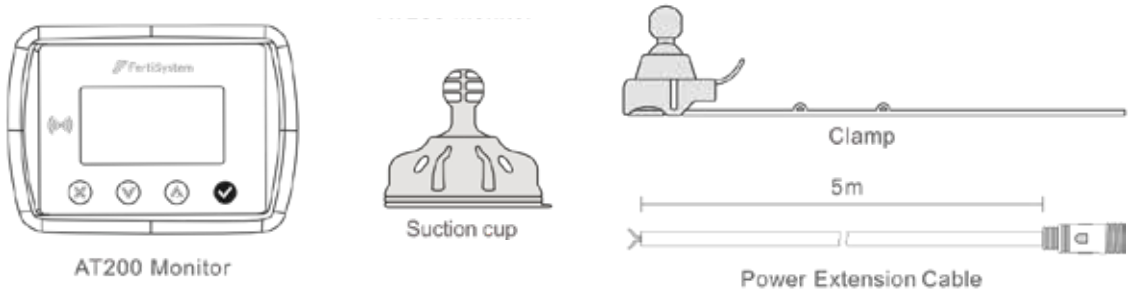


Fig. 02

Installation

The AT200 Monitor can be mounted either on the tractor's glass or on any bar inside the cabin.

Suction Cup Mounting

To attach the monitor to the glass using the suction cup mount, follow these steps:

1. Carefully clean the surface where the suction cup will be attached. The surface must be free of dust and grease.
2. Attach the suction cup to the back of the monitor, pressing it firmly (Fig. 03).
3. Position the monitor and press the suction cup firmly against the glass, ensuring all air is expelled.
4. Keep the suction cup pressed and turn the lock to secure the mount (Fig. 04).
5. Aim the monitor towards the operator's seat to ensure easy viewing.
6. Position the antenna so that it remains upright at all times (Fig. 05).

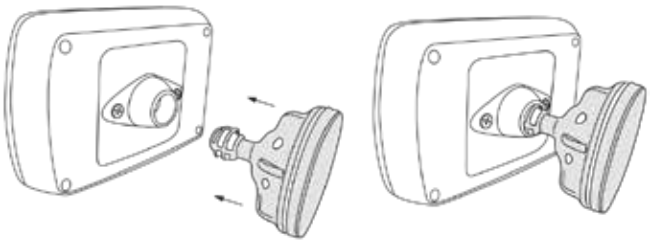


Fig. 03

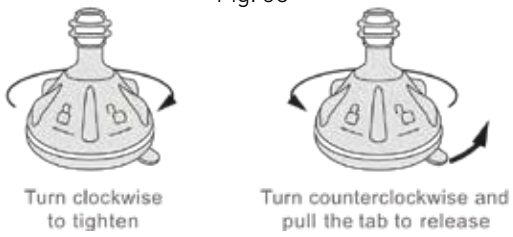


Fig. 04

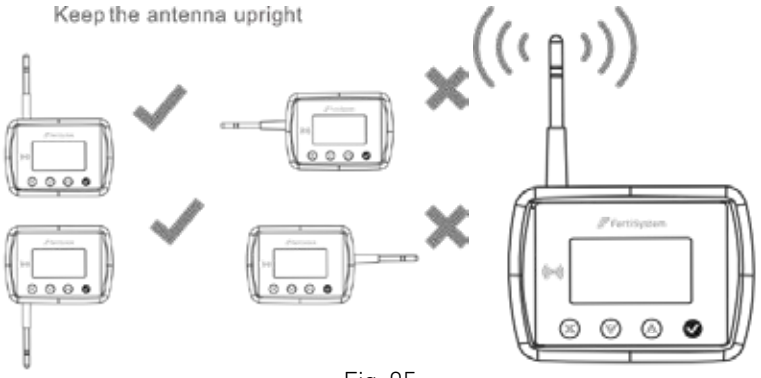


Fig. 05

INSTALLATION

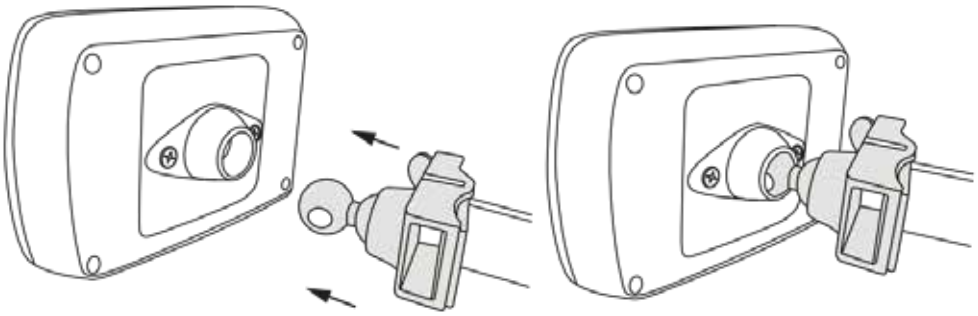


Fig. 06

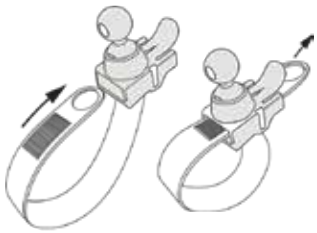
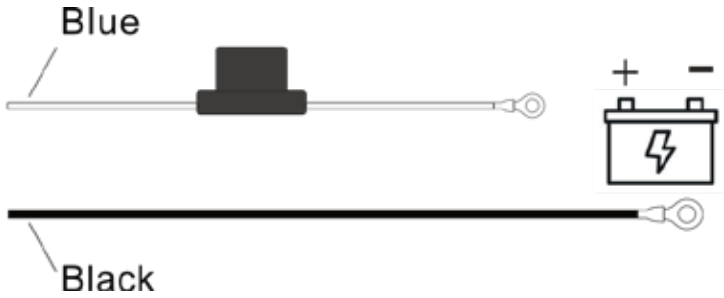


Fig. 07

Clamp Mounting

To mount the monitor on the bar, use the clamp-type mount, following these steps:

1. Attach the clamp to the back of the monitor, pressing it firmly (Fig. 06).
2. Position the clamp on the bar and pull the ziptie until a firm fixation is achieved (Fig. 07). Excessive force may damage the clamp.
3. Aim the monitor towards the operator's seat to ensure easy viewing.
4. Position the antenna so that it remains upright at all times.



Red Cable (with fuse) – Positive (+) battery terminal

Black Cable – Negative (-) battery terminal

Electrical Connection

The power cable connection of the monitor must be made directly to the tractor battery (12VDC) by following these steps:

1. Check on the tractor for the best way to route the power extension cable, avoiding contact with moving parts, sharp surfaces, or surfaces that may become excessively hot during operation.
2. Route the extension cable, leaving the connector end inside the cabin in the position where the monitor will be installed, and the other end at the tractor battery.
3. Secure the cables to the battery by attaching the ring terminals to the battery terminal screws (Fig. 08).

OPERATION

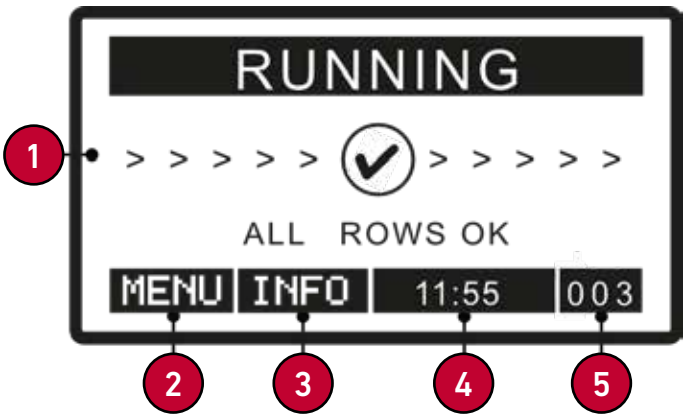


Fig. 09

Main Screen

1. Monitoring status
2. Menu: to access this screen, press ⊗.
3. Information: to access this screen, press ⓥ.
4. Clock/Low battery alert.
5. Number of addressed rows communicating with the monitor.

Fig. 10

Menu Screen

On this screen are the monitor functions such as: display brightness adjustments, alarm volume, alarm history, sensor and system data.

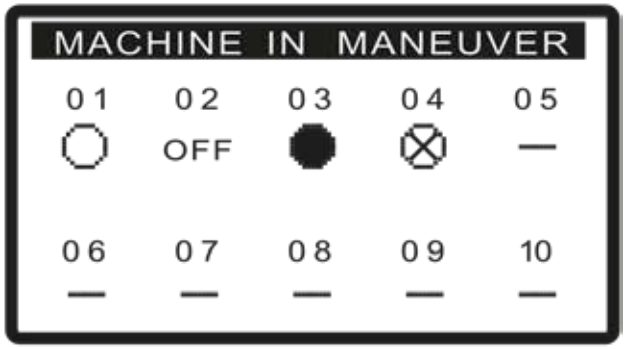


Fig. 11

Information Screen

To access, press ⓥ on the main screen.

This screen provides specific information for each sensor addressed to the respective row.

To navigate between screens, use the ⓐ ⓥ buttons.

○ Sensor operating, but no flow.

OFF Sensor operating, power-saving mode.

● Sensor operating with proper flow.

⊗ Sensor missing.

— No communication with the sensor. Row not being monitored.

OPERATION

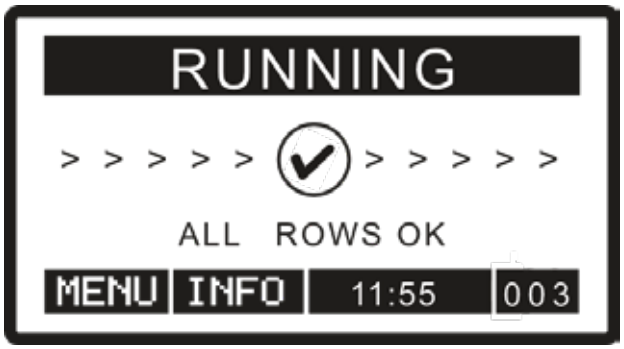


Fig. 12

All communicating rows are OK.

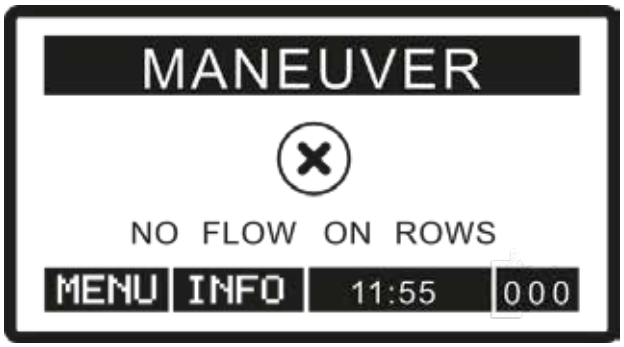


Fig. 13

Flow interrupted due to maneuver, implement stop, or lack of flow in sections or throughout the entire implement.

Fig. 14

Lack of flow in specific rows; check for blockages or lack of material in the corresponding rows.

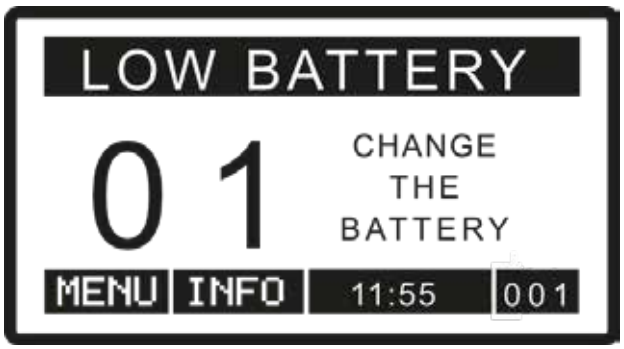


Fig. 15

The corresponding sensor's battery must be replaced for the sensor to continue monitoring the row.

OPERATION - BRIGHTNESS & VOLUME

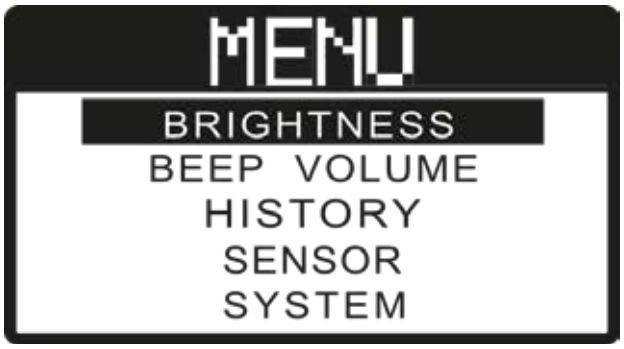


Fig. 16

The AT200 Monitor features 5 levels of display brightness and 5 levels of volume. These settings can be adjusted for greater comfort during operation.

Fig. 17

Fig. 18

To adjust the brightness or volume:

1. Access the menu by pressing ✖ on the main screen.
2. Select the function you want to configure (Brightness/Volume). Use the ∧ ∨ buttons to navigate and the ✓ button to access the function.
3. Using the ∧ ∨ buttons, select the appropriate level and confirm by pressing ✓. Upon completing the operation, a confirmation message will be displayed, and the monitor will return to the main screen. To assist with volume adjustment, the monitor will emit a beep at each level selected.

Note: To cancel the operation at any time, simply press the ✖ button. The monitor will return to the main screen.

OPERATION - HISTORY

The monitor has a detailed alarm history for the implement.

To access the history:

1. Access the menu by pressing ⊗ on the main screen.
2. Select the History function by using the ∧ ∨ buttons to navigate and the ✓ button to access the function.
3. Use the ∧ ∨ buttons to navigate between screens.
4. To return, simply press the ⊗ button. The monitor will return to the main screen.

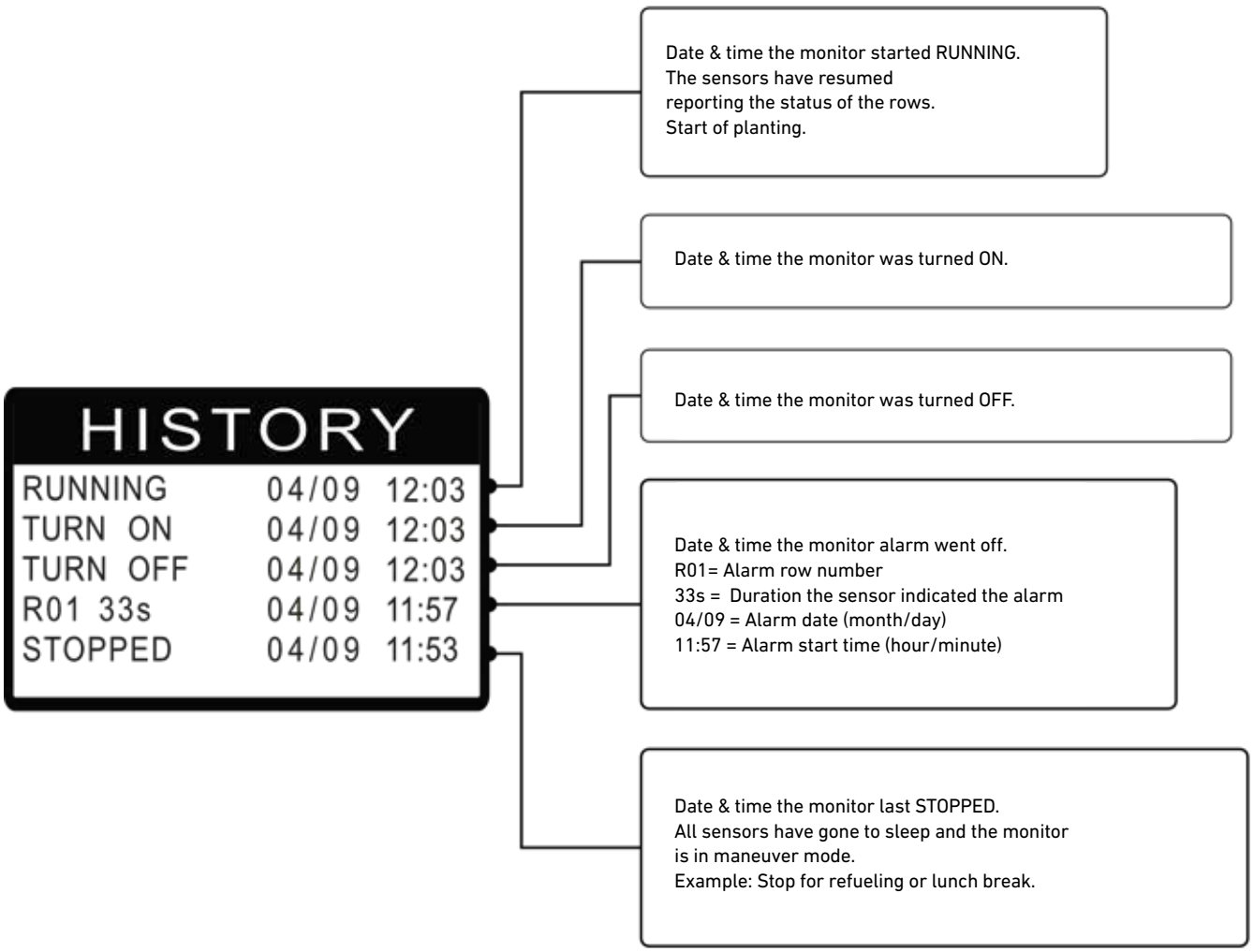


Fig. 19

OPERATION - SENSORS

Sensors

In the Sensor function, you can assign addresses and disable sensors on the monitor's network using the Address and Disable options, or read sensors that have already been added. Before starting the actual addressing procedure, it is necessary to number the Fert Sensors.

The main purpose of numbering the sensor is to identify the row for addressing and to assist in mounting the sensor on the correct row of the implement. Follow the step-by-step instructions for proper sensor identification.

1. Take the sensor that will be installed on row 1 of the implement. On the front of the sensor, there are 3 label fields.
2. Using a permanent marker, fill in the fields with the row number information. If you already have other monitors, don't forget to identify which monitor is connected to this sensor, as shown in Fig. 22

The three fields can be used for row identification:
E.g., 001, 002, 003, ..., 100, 101,

Fig. 20

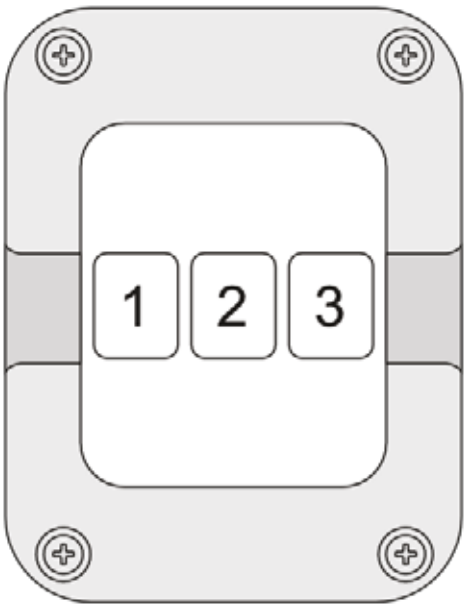


Fig. 21

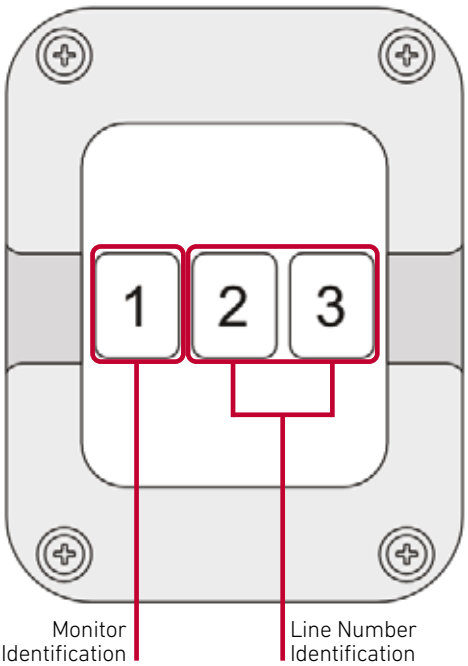
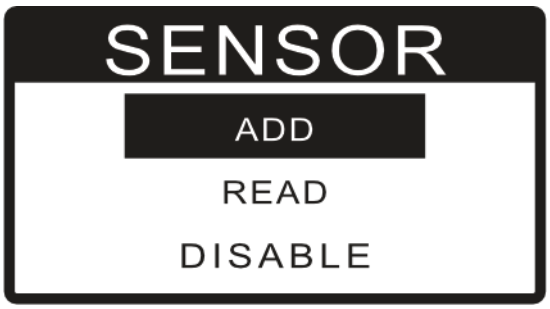


Fig. 22



OPERATION - SENSORS

After all sensors are properly identified, the addressing procedure with the monitor can begin.

1. Access the menu by pressing ⊗ on the main screen.

2. Select the Sensor function by using the ∧ ∨ buttons to navigate and the ✓ button to access the function.

3. Select the Address function (Fig. 23) by pressing the ✓ button.

4. The monitor ID and the row number to be addressed will be displayed.
   - Use the ∧ ∨ buttons to change the row number.
   - Check the number written on the sensor and adjust the monitor to the corresponding number.
   - Press ✓ to send the address. At this moment, the screen below will be displayed.

5. Place the sensor's addressing symbol ((•)) against the monitor's addressing symbol (Fig. 24)

6. With the sensor in this position, wait about 5 seconds until it is configured. At the end of the operation, an addressing confirmation will be displayed.

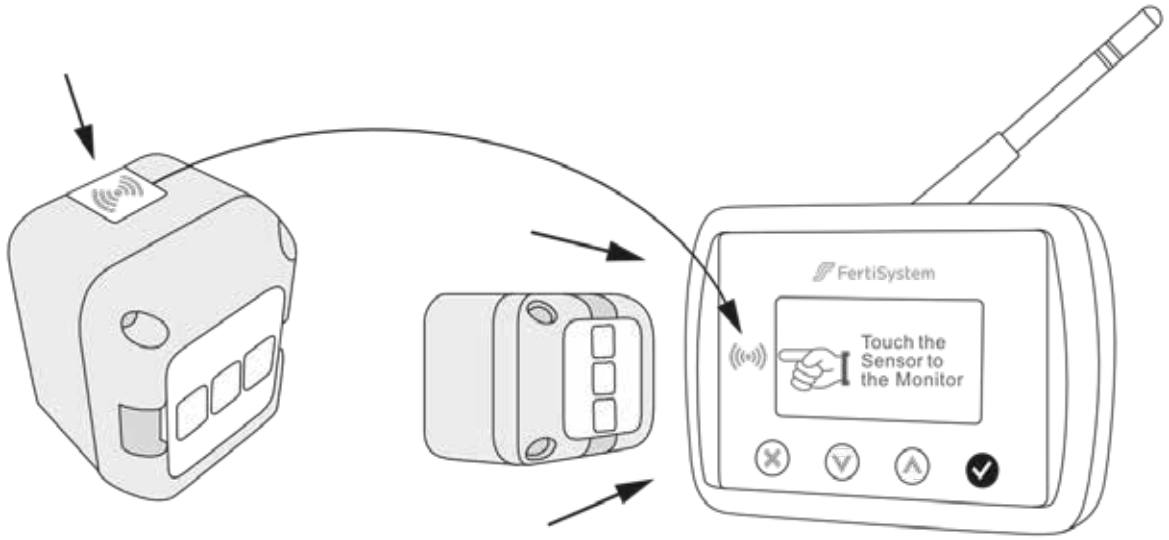


Fig. 23 & 24

With the sensor in this position, wait a few moments (approximately 5 seconds) until the sensor is read. After that, the following screen will be displayed (Fig. 26):

OPERATION - SENSORS

Note: If the sensor is not recognized by the monitor during addressing, it may be in low-power mode (sleeping). In this case, use a screwdriver to gently tap the sensor to activate it.

After addressing, the monitor will return to the addressing screen, suggesting the next row to be addressed.

- To address the suggested row, press ✓ and return to step 5.
- To address a different row number, press ∧ ∨ to adjust the row number, ✓ to confirm, and return to step 5.
- To exit the addressing operation, press ✕.

If you have accidentally addressed a sensor to two rows, the last addressed row will be valid. To refresh the screen at this moment, simply turn the monitor off and on again.

For this operation, it is not necessary for the sensor in question to be configured on the monitor's network.

To Read Sensors

This function is used to check the monitor ID that the sensor is configured to communicate with, as well as the row number assigned to the sensor during addressing.

1. Access the menu by pressing ✕ on the main screen.
2. Select the Sensor function by using the ∧ ∨ buttons to navigate and the ✓ button to access the function.
3. Select the Read function by pressing the ✓ button.
4. The screen "Place the sensor against the monitor" will be displayed.
5. Place the sensor's addressing symbol ((•)) against the monitor's addressing symbol ((•)) (Pg. 10).

OPERATION - SENSORS

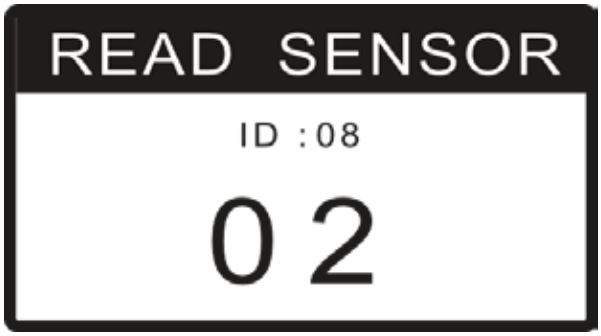


Fig. 25

01: Line number configured on the sensor.

ID: Address of the monitor to which the sensor is connected.

To return to the main screen, press . If you want to read other sensors, press and repeat the previously performed steps.

Fig. 26

System

On this screen, you can access the date and time settings, general information about the device, battery level information, and language options.

1. Access the menu by pressing on the main screen.
2. Select the Sensor function by using the . To confirm, press .

DATE & TIME

Fig. 27

The monitor has an internal clock. It is important to keep it properly set, as it is one of the reference points used in the alarm history.

To adjust the Date and Time:

1. Access the menu by pressing ✖ on the main screen.
2. Select the System function by using the ∧ ∨ buttons to navigate and the ✓ button to access the function.
3. Select the clock function; use the ∧ ∨ buttons to navigate and the ✓ button to access the function.
4. On the adjustment screen, set month by pressing ∧ ∨. To confirm, press ✓.
5. Set the day by pressing ∧ ∨. To confirm, press ✓.
6. Set the year by pressing ∧ ∨. To confirm, press ✓.
7. Set the hour by pressing ∧ ∨. To confirm the hour, press ✓.
8. Set the minutes by pressing ∧ ∨. To confirm, press ✓.

Once the operation is complete, a confirmation message will be displayed and the monitor will return to the main screen.

INFO

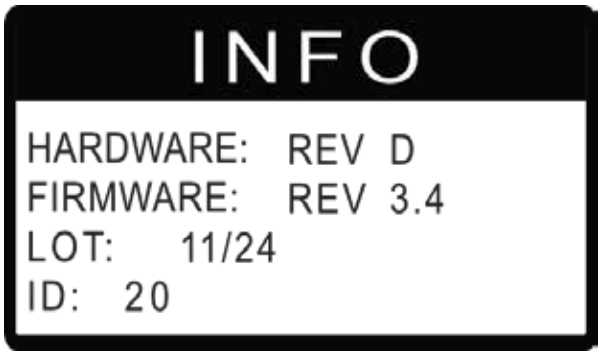


Fig. 28

The monitor provides information about the device. On this screen, you can check the monitor ID.

1. Access the menu by pressing ⊗ on the main screen.
2. Select the System function by pressing ∧ ∨. To confirm, press ✓.
3. Select the 'info' function by pressing ∧ ∨. To confirm, press ✓.

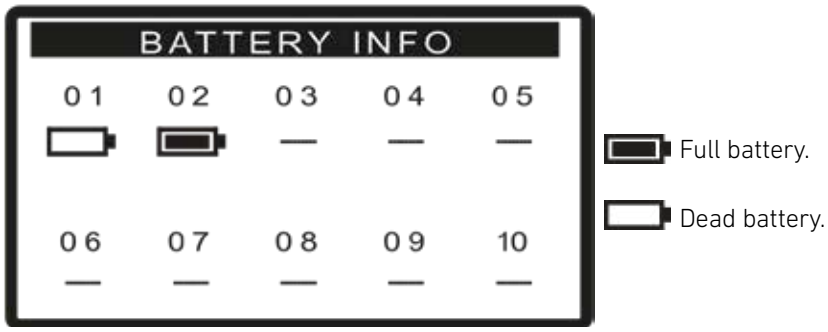


Fig. 29

Battery Info

The status of all batteries from all lines.

1. Access the menu by pressing ⊗ on the main screen.
2. Select the System function by pressing ∧ ∨. To confirm, press ✓.
3. Select the 'Batt. Info' function by pressing ∧ ∨. To confirm, press ✓.

To navigate between the screens, use the ∧ ∨ buttons.

LANGUAGE

Fig. 30

Three languages are available for selection: Portuguese, English, and Spanish. By default, the language is set to Portuguese.

1. Access the menu by pressing ⊗ on the main screen.
2. Select the System function by pressing ∧ ∨. To confirm, press ✓.
3. Select the 'Language' function by pressing ∧ ∨. To confirm, press ✓.
4. Select the desired language by pressing ∧ ∨. To confirm, press ✓.
5. After completing the operation, a confirmation of the selection will be displayed, and the system will return to the main screen.

This device contains FCC ID VVJAN1310UA-A-915
This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that cause undesired operation.
For further information, please visit www.fcc.gov

Warranty Terms

The warranty for the AT200 Monitor is valid only for the first purchaser for a period of one (1) year from the date of purchase, upon issuance of the invoice by FertiSystem, covering manufacturing defects that cause operational impairment of the product.

Conditions

A) The product is guaranteed against any manufacturing defects, provided that the parts and components have been supplied by FertiSystem;

B) Parts and components will be replaced if defects are confirmed by FertiSystem technicians, as described in item D;

C) FertiSystem guarantees free repair or replacement of parts and components, provided that the warranty conditions are met. In case the warranty period has expired or the warranty is canceled, costs for technical assistance provided by FertiSystem, as well as for replacement parts and components, will be charged at current rates;

D) All warranties for FertiSystem products are understood as EX-WORKS, meaning that no technician visits to the customer are included, whether for installations or repairs. The AT200 Monitor may only be disassembled and repaired by authorized personnel, under penalty of voiding the warranty;

E) In special situations, FertiSystem may provide its technicians free of charge for advisory purposes, aiming to address specific occasional deficiencies. Travel, accommodation, and meal expenses related to such procedures shall be borne by the purchaser.

Warranty

A) Cases of assembly outside the standard fixing procedures, misuse, abuse, negligence, or lack of proper maintenance, in disagreement with the instructions prescribed in the operator's manual;

B) Parts damaged due to misuse or lack of proper maintenance;

C) Damage or harm of any kind or nature caused immediately by a non-compliant, presumptive, or uncertain object to persons or property;

D) In particular, if the AT200 Monitor shows external damage or clear evidence of misuse by the consumer, these will be considered factors responsible for the damage, and the warranty shall become void;

E) Any losses, costs, penalties, and damages including loss of profit; crop loss; losses due to delay in any operations; any expense or loss incurred from labor, adjustments, transmissions and charts prescribed by the manufacturer, replacement by machine rental; debts of the purchaser to their clients or other persons; and all other consequential damages and losses, debts, or negligence of the company, its agents, employees, and subcontractors that may be alleged as a result of the use or technical failure of the AT200 Monitor. In the event the purchaser acts in bad faith in any exchange or return procedure, seeking undue or unfair advantage, FertiSystem shall be released from any commitments it has assumed under these conditions.

IMPORTANT: FertiSystem reserves the right to make changes to the product without prior notice. This warranty term supersedes all previous warranties.