



## How does the Anti-Theft System (SAF) work?

The Anti-Theft System (SAF) is used to protect pivots and intakes against theft through a satellite system powered by battery/solar panel and installed on the equipment to be protected.

**In order to explain the operation and operation of the SAF System, this article answers the following questions:**

1. What is the operating principle of the SAF?
2. What is the difference between the SAF and traditional Alarm Systems?
3. If the alarm goes off, how is the customer notified?
4. How does the Monitoring Center work? How many people are there?
5. In case of power failure, does the SAF stop working?
6. And if the battery runs out? How to detect?
7. And if you cut the tracker/communicator cable?
8. How do I assist the Pivot or Intake without triggering the SAF?  
What are the functions of the remote control?
9. Can I have more than one control? Do I need to buy more controls?
10. What are the main cases of false trigger?
11. What accessory comes with the SAF for pivot and SAF for pump house?
12. Do I need a SAF for each pump in the pumping? How does it work?
13. How does the alarm work on the central pivot? What does it protect?
14. If I forget the alarm off, will it turn back on?
15. When do I need to turn off the satellite?
16. How is the installation done on Multibrand pivots and Bauer pivots? How long would it take?
17. How does the alarm work in the pump house? What does it protect?
18. How is the installation done in pump houses? How long would it take?
19. What tools do I need to install on Bauer pivots?
20. What tools do I need to install on Multibrand pivots?
21. What tools do I need to install at the intake?
22. On the first installation, who will do the training?
23. What can burn in this equipment?
24. What is the time spent between the alarm trigger and the receipt of the satellite message?

### 1. What is the operating principle of the SAF?

SAF is an alarm system in which, at the moment when a signal rupture process is perceived, the audible alarm is triggered, and satellite messages are sent.

### 2. What is the difference between the SAF and traditional Alarm Systems?

The SAF uses state-of-the-art technology with 100% Satellite Signal, sending signal 24 hours a day. In case of Panel opening or Cable cutting without authorization, it cuts the signal, thus changing the transmission status to the application. No type of sensor is used, only mechanical contacts, thus avoiding false triggers. In the pivot alarm, it is composed of:



1. Solar Panel;
2. SAF Panel (Battery and Logical Actuators);
3. Plastic Box with the Satellite Communicator.
4. Pivot panel where it is installed:

- Electromechanical click to perceive door opening.
- Addition of an internal Contactor to enable monitoring when the pivot is stopped.
- The above items will become part of the SmartConnect Panel.

5. Installation of the multichannel cable coming out of the aerial boxes to the gearmotors in the multibrand pivots. For Bauer pivots, the multichannel cable will already come from the factory in all towers compatible with the SAF;

6. Contactor in the last tower that makes the short between the final cannon cable and the last tower cable (percentimeter) when the pivot is stopped.

### 3. If the alarm goes off, how is the customer notified?

Once the alarm is triggered and the satellite message is received, the Monitoring Center team takes action and immediately informs the customer of the situation, through messages in a Whatsapp group. If no one in this group responds within 3 minutes, calls are started to the people on the farm until a response is actually obtained.

### 4. How does the Monitoring Center work? How many people are there?

The Monitoring Center operates 24 hours a day, 7 days a week, where Brasil Verde has 2 operators per 12-hour shift and 3 more during business hours.

### 5. In case of a power outage, does the SAF stop working?

No, because the system is powered by a solar panel, which in turn charges a stationary battery that keeps the system running even with several days of rain or cloudy weather.

### 6. And if the battery runs out? How to detect?

If the battery loses its charge, the platform will receive a specific warning in which the operators of Brasil Verde will send a message to the customer, who in turn can check what happened. By opening the SAF panel, it will be possible to identify through the charge controller panel if the working voltage is correct, between 10 to 14.4 Volts. If the value is less than 10 V, the system will disarm.

### 7. And if you cut the tracker/communicator cable?

The tracker/communicator is located externally, inside a protected plastic box in case of opening, so that communication with the satellite can be carried out. From this plastic box, a communication cable goes directly to the SAF Panel.



In case of cutting the tracker/communicator cable, the siren will sound and the cable cut and door open signal will be emitted at the same time, but the system will continue to operate because the satellite tracker contains batteries to sustain its operation for days. Both in cases of cable cutting or the battery charge being low, both the application and operators will notify the customer about these occurrences. In case of loss of communication with the satellite, the Brasil Verde platform detects after 3 communication attempts, which can happen within a period of 10 to 15 minutes, thus triggering an alarm.

### 8. How do I provide assistance to the Pivot or Intake without triggering the SAF? What are the functions of the remote control?

To perform maintenance on the pivot, it is necessary to use the control to deactivate the alarm. The SAF comes with a remote control, which contains the following functions: Left button: Enables and disables the part of the alarm system, such as protections for doors, cabinets and gates. Right button: Turns the satellite signal on and off, as in certain cases, there may be interference from the satellite signal with the autopilot of some machines. In this case, the system also returns to operation automatically after a pre-programmed time or immediately in case of control activation.



#### 9. Can I have more than one control? Do I need to buy more controls?

The SAF comes with one control per point, that is, for each SAF purchased it comes with one control. If the Farm wants to reprogram all these controls, the system allows this to be done. However, if necessary, the customer can purchase more controls and reprogram for as many points as they find necessary.

#### 10. What are the main cases of false trigger?

False triggers happen more when the user does not properly close at the intake: doors and gates, cabinet lids and/or meter boxes. Already in the pivot it is more common to happen not to properly close the second lid of the Central Panel and defective collector ring on the track (slack and/or dirt).

#### 11. What accessory comes with the SAF for pivot and SAF for pump house?

The SAF for pivots comes with an installation kit for pivots with an average of 13 spans (support, cables, terminals). Already in the SAF for intake, the kit comes with end of course for 1 gate, 1 concrete lid, 3 microswitches for panel lids, 100 meters of cables for system interconnection and support.

#### 12. Is a SAF needed for each pump in the pumping? How does it work?

The SAF intake was developed to protect everything that is part of it. If there is more than one pump set in the pumping, it will also protect, but what will determine the cost is the amount of cables, end of course and microswitches needed in the project. The transformers will also be protected in the system, but the cost depends on the quantity of the same. The kit comes with protection of 2 motor pumps, 2 panels, 1 transformer and 100 meters of cable for system interconnection. In the case of transformer, barge and boost (another intake), it cannot exceed 100 meters from the installation of the SAF panel to be considered the same point. Installation and Configuration.

#### 13. How does the alarm work on the central pivot? What does it protect?

The SAF Pivot aims to protect all the electrical part. It sends a negative signal throughout the system, in case of cable cut or door opening this signal is interrupted, generating a sound alert and sending a message through the system application, where our monitoring center receives the same information and launches the procedures of its responsibility. The SAF Pivot protects: Central panel; Collector ring; Intermediate box; Aerial cables; Motor reducer cables; Motor reducers.

#### 14. If I forget the alarm off, will it turn back on?

If you turn off the SAF Pivot and/or Intake, after a pre-programmed time it automatically turns back on. This time is programmable.

#### 15. When do I need to turn off the satellite?

The satellite needs to be turned off in cases of interference from the autopilot of some farm equipment, but it also has an automatic reconnection system.

#### 16. How is the installation done on multibrand pivots and on Bauer pivots? How long would it take?

For Multibrand pivots, the SAF comes with support, electrical connectors and cables so that modifications can be made on the main panel of the pivot on the multichannel cable of the gearmotor and addition of a contactor in the last tower. All these electrical details will be available in training. The installation time is on average 2 hours, procedure performed by three technicians. For Bauer pivots, soon, the panels and all the electrical part of the pivot will be with all the necessary modifications for the quick installation of the SAF. Therefore, the installation time should not exceed 30 minutes with a technician.

#### 17. How does the alarm work in the pump house? What does it protect?

The SAF Intake aims to protect all the electrical part of the pumping. A bait cable is used throughout the pumping system in which, in case of cutting this cable or opening the panel (with due clicks installed), a signal is interrupted, generating a sound alert and sending a message through the system application, where our monitoring center receives the same information and launches the procedures of its responsibility. The SAF Intake protects: Transformer; Cable from the Transformer to the motor; Passage box; Motor pump panel; Motor pump motor.

#### 18. How is the installation done in pump houses? How long would it take?

For pump houses, the SAF comes with support, electrical connectors and cables so that the installation of clicks on the electrical panels of the pumping, transformer and all the electrical components that encompass the pump house can be done. All the technical details of this installation will be covered in the technical training. The installation time is on average 3 hours, procedure performed by three technicians.

**Restriction note: At this first moment, Bauer will not be providing the SAF for pump houses with submerged/drowned pumping where there is exposure of the electrical cables outside the construction. Soon the engineering of Irricontrol and Bauer will be enabling the compatibility of this product.**

#### 19. What tools do I need to install on Bauer pivots?

The necessary tools are: Pliers; Screwdriver; Fixed wrench/mouth 10, 11 and 13mm; Screwdriver; Drills 1/4, 5/16 and 3.5mm.

#### 20. What tools do I need to install on Multibrand pivots?

The necessary tools are: Pliers; Screwdriver; Fixed wrench/mouth 10, 11 and 13mm; Screwdriver; Drills 1/4, 5/16 and 3.5mm; Hole Saw "5/8" and "1".

#### 21. What tools do I need to install at the intake?

The necessary tools are: Pliers; Screwdriver; Fixed wrench/mouth 10, 11, 13 and 19mm; Screwdriver; Drills 1/4, 5/16 and 3.5mm; Drills with video 6mm and 8mm; Heat blower; Cable passer; Maneuvering rod; 13 meter fiberglass ladder; 4 meter aluminum ladder.

### 22. On the first installation, who will do the training?

BAUER will send a technician to accompany the resale in the first installations of the SAF Pivot and/or Intake. If the customer only purchases one initially, be it the SAF Pivot or Intake and then the other, the technician will be sent again to accompany the installation. To schedule a date with the Brasil Verde team, just contact through the number +55 064 99646-4887 or through the email [bauer@bauer-at.com](mailto:bauer@bauer-at.com)

If the Resale wants to use the technical team of Brasil Verde to carry out the installation of the SAF, just call the contact above, requesting the budget and scheduling the visit.

### 23. What can burn in this equipment?

Usually the charge controller, which charges the battery.

### 24. What is the time spent between the alarm trigger and the receipt of the satellite message?

Between five seconds to a minute

