

SECTION 2 OVERVIEW OF THE GESTAL_{FM} SYSTEM

2.1 TYPES OF FEED DELIVERY UNITS (CONT...)

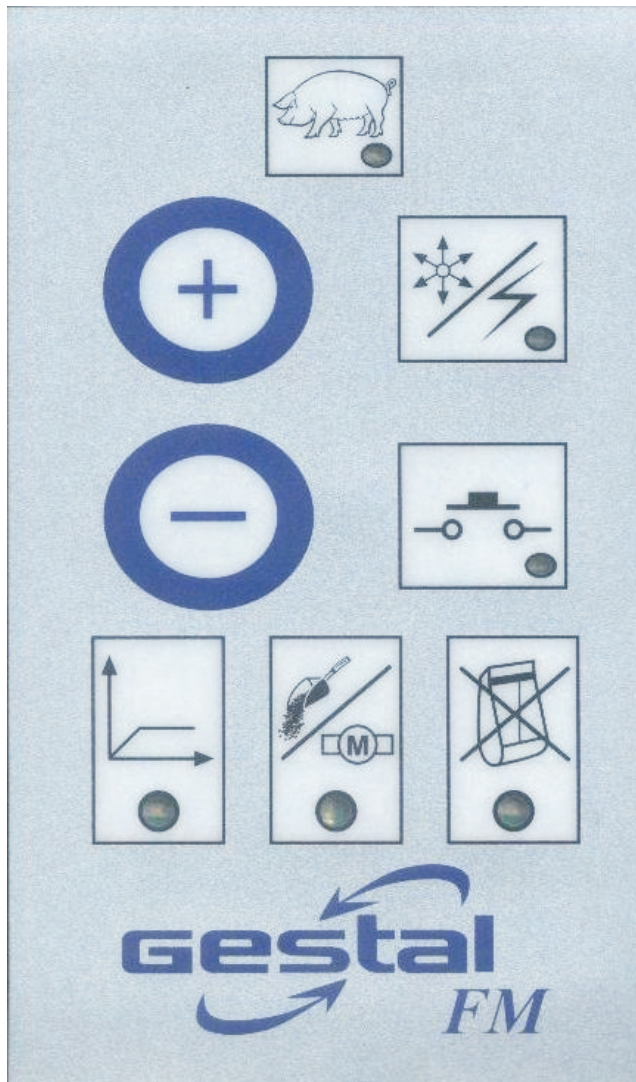
GESTAL_{FM} SYSTEM with a dual auger conveyor mounted on a crate door.



- | | |
|----|---------------------------|
| A: | Feed delivery unit |
| B: | Feed outlet |
| C: | Fixtures |
| D: | Electrical cord |
| E: | Electronic and motor case |
| F: | Keyboard (optional) |
| G: | Electronic agitator |

SECTION 3 OPERATING MODE

3.0 OVERVIEW



Each feed delivery unit's operation is controlled by the program that runs on the computer located at a certain distance.

Each feed delivery unit can be equipped with a keyboard protected with a membrane resisting the conditions of the environment which allows, remotely of the computer, to:

- Add or remove a sow from a crate;
- Indicate that the sow has farrowed and that it has to be fed according to its lactation curve ;
- Do a motor test;
- Do an ID check;
- Increase or decrease the feeding strategy level;
- Know if the feed delivery unit is powered;
- Know if the feed delivery unit is connected to the Gestal_{FM} network of the farm;
- Know if a sow has been attributed to this feeder and if it has been identified;
- know if a feeding curve has been attributed to a sow in lactation;
- know if a sow has intake problems.

For more information on the GESTAL_{FM} software, please refer to its manual.



WARNING: AVOID directing high pressure washer spray directly on the keyboard this could result in equipment damage.

SECTION 3 OPERATING MODE

3.1 SELECTING OPERATING MODE

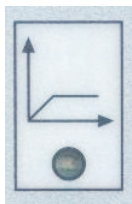
The keyboard gives access to one of the four operating modes of the feed delivery unit on which it is installed. These modes are:

- **Normal:** basic operating mode of the feed delivery unit;
- **Strategy:** mode which makes it possible to adjust the level of the feeding strategy ;
- **Sow:** mode which informs the computer of:
 - The presence of a new sow to be fed;
 - The sow which was in the crate is removed and no longer needs to be fed ;
 - The sow present in farrowing crate has to be fed according to its feeding curve in lactation;
- **Test and Identification:** mode which makes it possible to:
 - Check the operation of the motor, of the position coder (also called a revolution meter)and of the electronic agitator ;
 - To transmit information necessary to the identification of the feed delivery unit to the computer.

The feed delivery unit is generally in the **Normal** mode. We access the other modes to check the operation of the feed delivery unit or to transmit certain information to the computer.

To access the different operating modes, one proceeds the following way:

In **Normal** mode press and hold down simultaneously the keys + and -. The keyboard lights turn off and the following sequence begins:



By releasing the + and - keys when this symbol is illuminated, we can access the **Strategy** mode.



By releasing the + and - keys when this symbol is illuminated, we can access the **Sow** mode.



By releasing the + and - keys when this symbol is illuminated, we can access the **Test and Identification**.

To exit from the **Strategy**, **Sow**, or **Test and ID** mode and return to the **Normal** mode :

- Press again on the + and - keys simultaneously ;
- Wait: after approximately 30 seconds of inactivity in either modes, the feed delivery unit will automatically return in the **Normal mode**.

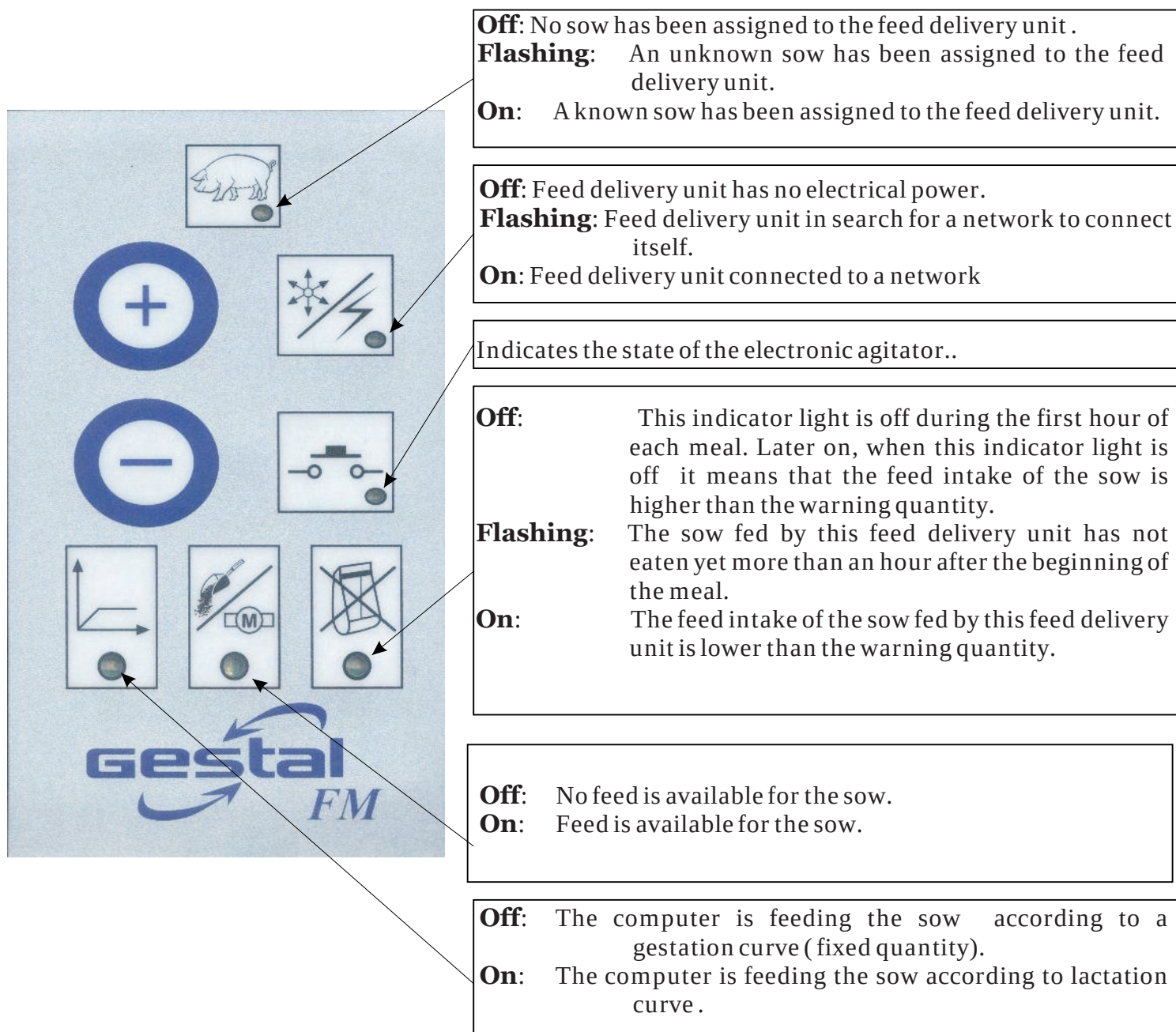
SECTION 3 OPERATING MODES

3.2 NORMAL MODE

The Normal operating mode is the mode in which the feed delivery unit is generally found. Normally we exit from this mode to check how the unit is operating or to transmit certain information to the management program which runs on the computer.

In this mode, the + and - keys can be used to accede the other modes: **Strategy**, **Sow** et **Test and Identification mode**.

Here is the meaning of the various indicator lights on the membrane keyboard when the feed delivery unit is in the **Normal mode**:



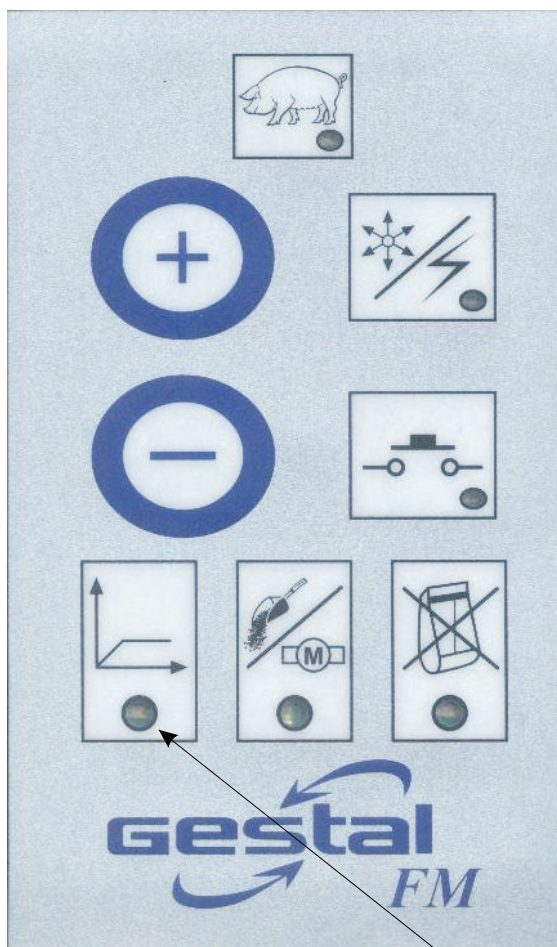
The diagram shows a membrane keyboard with several indicator lights. Arrows point from text boxes to specific lights:

- Sow Assignment:**
 - Off:** No sow has been assigned to the feed delivery unit.
 - Flashing:** An unknown sow has been assigned to the feed delivery unit.
 - On:** A known sow has been assigned to the feed delivery unit.
- Electrical Power:**
 - Off:** Feed delivery unit has no electrical power.
 - Flashing:** Feed delivery unit in search for a network to connect itself.
 - On:** Feed delivery unit connected to a network
- Electronic Agitator:**
 - Indicates the state of the electronic agitator..
- Feed Intake:**
 - Off:** This indicator light is off during the first hour of each meal. Later on, when this indicator light is off it means that the feed intake of the sow is higher than the warning quantity.
 - Flashing:** The sow fed by this feed delivery unit has not eaten yet more than an hour after the beginning of the meal.
 - On:** The feed intake of the sow fed by this feed delivery unit is lower than the warning quantity.
- Feed Availability:**
 - Off:** No feed is available for the sow.
 - On:** Feed is available for the sow.
- Feeding Curve:**
 - Off:** The computer is feeding the sow according to a gestation curve (fixed quantity).
 - On:** The computer is feeding the sow according to lactation curve.

The keyboard also features a large blue '+' button, a large blue '-' button, and the **Gestal FM** logo at the bottom.

SECTION 3 OPERATING MODES

3.3 STRATEGY MODE



The **Strategy** mode makes it possible to consult or modify the feeding strategy of the sow assigned to a feed delivery unit.

In this mode, the indicator light indicates the present level of the strategy.

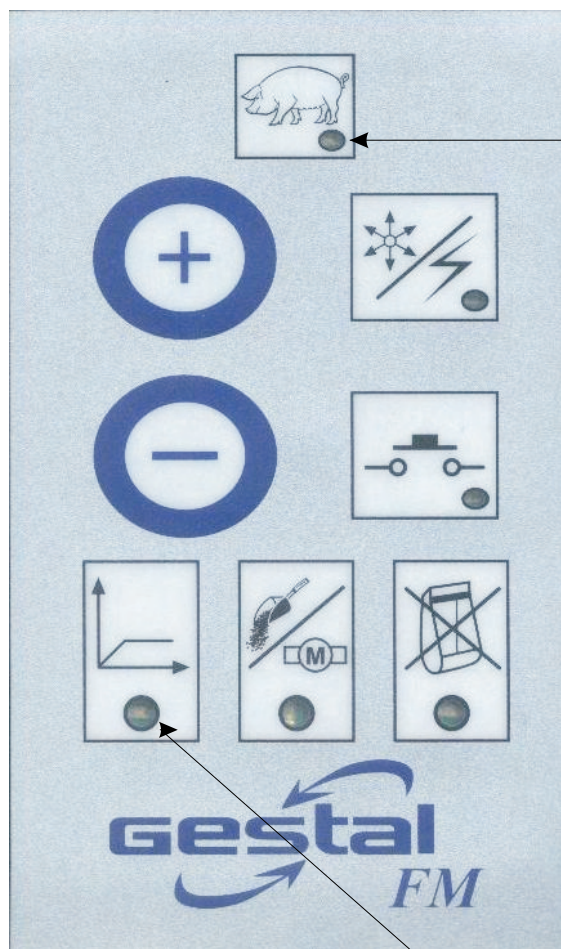
To increase or decrease the strategy level, press respectively on + or -.

Note that the **GESTAL_{FM}** allows to increase or decrease by only one level the feeding strategy of the day.

Off:	The strategy level has not changed since the beginning of the day.
Flashing:	The strategy level was decreased compared to the one at the beginning of the day.
Allumé:	The strategy level was increased compared to the one at the beginning.

SECTION 3 OPERATING MODES

3.4 “SOW” MODE



Off:	No sow has been assigned to the feed delivery unit.
Clignotant:	An unknown sow has been assigned to the feed delivery unit.
Allumé:	A known sow has been assigned to the feed delivery unit.

The **Sow** operating mode makes it possible to inform the computer that :

- A new sow, unknown is going to be fed by a feed delivery unit;
- An unknown sow will no longer be fed by a feed delivery unit;
- The known sow assigned to the feed delivery unit according to its feeding curve in lactation.

When the indicator light is **OFF**, meaning that there is no sow assigned to the feed delivery unit, press on + to indicate to the computer that an unknown sow was assigned to it to be fed.

When the indicator light is flashing, meaning that there is an unknown sow assigned to the feed delivery unit, press on - to indicate to the computer that the unit no longer has an assigned sow.

When the indicator light is on, meaning that there is a known sow assigned to the feed delivery unit, press on + to indicate to the computer that the sow will be fed according to its feeding curve in lactation. As from this moment, the indicator light will be lit in **Normal** mode.

SECTION 3 OPERATING MODES

3.5 TEST AND IDENTIFICATION MODE

The **Test and Identification** operating mode makes it possible to:

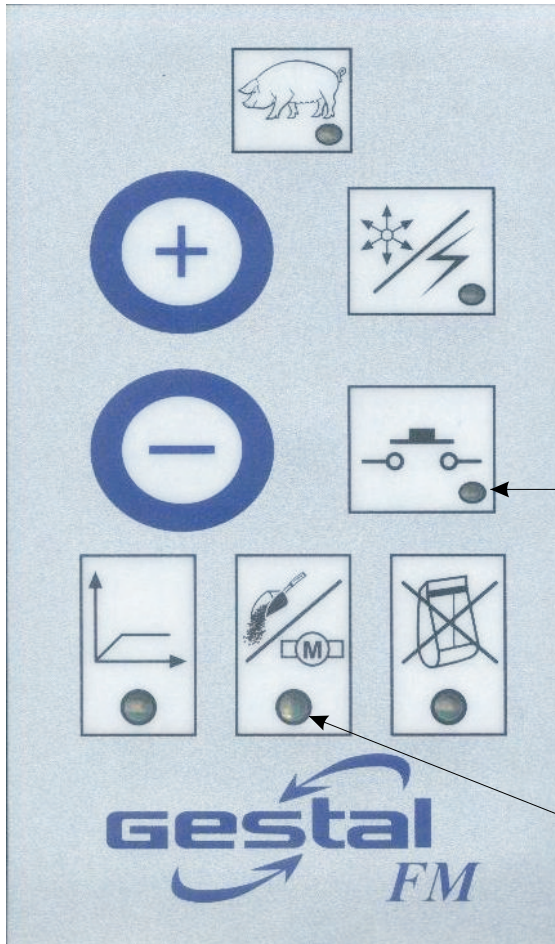
- Test the operation of the detectors and the motor.
- To transmit to the program running on the computer the information necessary to the identification of the feed delivery unit.

Once in this mode, press on:

- +: To run the motor;
- -: To transmit the information necessary to the identification of the feed delivery unit.

This indicator light shows the state of the electronic agitator.

In the **Test and ID** mode, the indicator light shows the state of the position encoder (rotation meter).



SECTION 4 GETTING STARTED AND TECHNICAL SPECIFICATIONS

4.0 INSTALLATION AND GETTING STARTED



WARNING:

- Before operating this equipment please read instruction carefully.
- Always keep the feed delivery unit unplugged from the power source during its installation. Plugging the unit to the power source is the last stage of the installation. It has to be done only when the feed delivery unit has been installed solidly on its support and that nothing is blocking its operation.
- DO NOT MAKE ANY MODIFICATIONS TO THE UNIT.
- Do not operate if the unit has broken, is missing parts, or any unit without the protective covers.
- Follow the product manufacturer's instructions. Failure to do so could cause personal injury or equipment damage.
- The warranty shall be void and of no force of effect in the event a covered product has been modified in design or function, or subjected to abuse, misuse, mishandling or unauthorized repair.

The **GESTAL_{FM}** systems with a single auger conveyor are available with supports for crate doors or with supports that can be mounted directly to the feed line of most automatic feeding systems.

The **GESTAL_{FM}** systems with dual auger conveyor are available with supports to be installed on crate doors only.

Both types can be equipped with an electronic agitator.

It is important that the supports and the feed delivery unit are fixed firmly on sufficiently robust surfaces to support their weight and the weight of the feed that the feed container contains.

When a feed delivery unit is plugged in an outlet, it will try by itself to find an existing communication network of the **GESTAL_{FM} SYSTEM** and to join it. In order to form such a network, at least one wireless gateway must be in operation and accessible by communication.

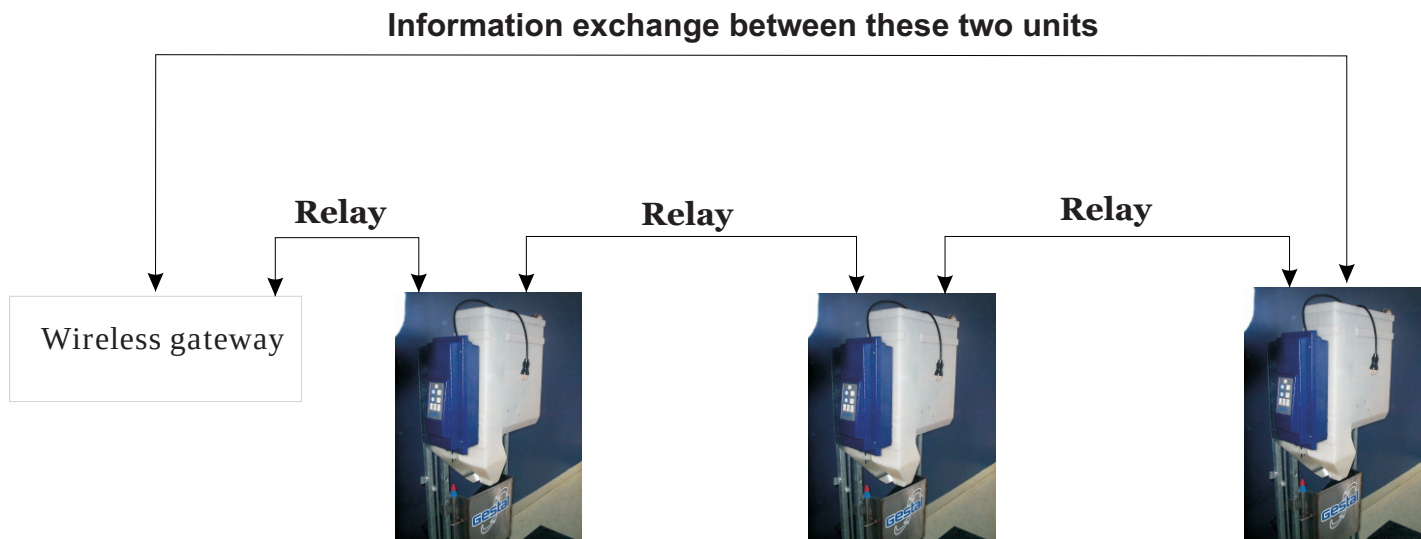
The **GESTAL_{FM}** system and the wireless gateway or gateways are equipped with transceiver/transceiver with radio frequency (RF) of low power to communicate between them. The range of communication between the two units varies according to the presence of metallic obstacles or the presence of a noise source or other causes. This range of communication will normally vary from 20m to more than 30m.

The equipment of the communication network of the **GESTAL_{FM} System** has also the capacity to relay information to allow the data exchange between two units which cannot communicate directly between them. The network can thus cover considerable distances provided that each unit can communicate with a wireless gateway.

Periodically, the communication network maintains itself to find the most effective ways of communication.

SECTION 4 GETTING STARTED AND TECHNICAL SPECIFICATIONS

4.0 INSTALLATION AND GETTING STARTED (CONT...)



.When a distributor is connected in an outlet, this indicator light should flash to indicate that the unit is under tension. Then, when the feed delivery unit joins to a network, the indicator will cease flashing to remain on permanently. As from this moment, the computer can communicate with it by passing by a wireless gateway.

The next stage of the installation is the identification of the feed delivery unit so that the computer and the user can locate it, in knowing the functions and giving it a name. For more information about the identification procedure, refer to the software user's guide of the **GESTAL_{FM} System**.

When a feed delivery unit is under tension, it is appropriate to check the operation of its motor and of its detectors by using the functions of the **Test and Identification mode**.

SECTION 4GETTING STARTED AND TECHNICAL SPECIFICATIONS

4.1 TECHNICAL SPECIFICATIONS

RATED ELECTRICAL CURRENT	1.4A
ELECTRICAL REQUIREMENT	120v, 60Hz
MOTOR ROTATION SPEED	15RPM
SINGLE AUGER CONVEYOR delivery unit	
UNIT DIMENSION	7" X 15" X 28" (L X l X H)
FEED CONTAINER VOLUME	17 Litres
NET WEIGHT	6.1Kg
FUSE RATE F1, F2 ET F3	2A
ELECTRONIC AND MOTOR CASE	ABS, waterproof and dust proof
OPERATION TEMPERATURE	0 to 40 Celsius degrees (32 to 104 Fahrenheit degrees)

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