Sensomatic unit operational description

There are two operations options:

1st Operation: sensomatic with an active tags system

In this operation, system uses: Sensor, Sensomatic , Activator + External antenna, Active Tag, Receiver, Communication Card, PC, I/O Card (Gate controller).

How it works

When the Sensomatic starts the milking presses it will send a signal (wired signal) to the Activator the activator will send an LF RF signal , through the External Antenna (125KHz , 480bps) , to the Active Tag identifies the Post ID from the Sensomatic (Ext. Antenna directly connect to the activator that is inside the sensomatic enclosure).

The Active tag will transmit the post ID at 433.92 MHz 19200 bps, transferring the information (Post ID and the Tag I.D) to the Receiver.

The receiver sends the information to the communication card on the RS485 line at 19200bps and the com card sends this data to the PC at 115200 bps.

The PC receives the information and then sends it back to the Sensomatic through the Com. Card on the RS485 lines, to close a unique cycle between all the system parts.

The milk flows through the Sensor (Sensor is directly connect to the Sensomatic); the Sensor uses 3 electrodes to mesure the milk quantity, temperature and conductivity.

Sensomatic collect all the information from the Sensor, translate it and then the computer on the RS485 lines .

I/O Card knows how to operate according to the Sensomatic or the PC commands on the RS485 lines at 19200bps.

2nd Operation: sensomatic with a passive tags and watch id system

In this operation, system uses: Sensor, Sensomatic,Activator, Internal Antenna, Passive Tag, Watch ID, Receiver, Communication Card, PC, I/O Card (Gate Controller).

How it works

When the Sensomatic starts the milking process it will send a signal (Wired signal) to the Activator. The activator will send an LF RF signal (125khz , 480bps) to the Watch ID through the Internal Antenna , indentifies the post ID from the Sensomatic , (Int. Antenna is directly connect to the activator).

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The Watch ID will save the post ID and turn on the TIRIS RFID module , that is inside the watch id enclosure , and will to look for an RFID tag (at 134 KHz).

When the RFID module will pick up a tag signal (at 134 KHz) it will transfer the tag ID to the Watch that is attach to it .

Then the Watch ID will transmit the data (Post number and Tag I.D) to the Receiver (at 433.92MHz, 4800pbs).

The Receiver will send the information to the PC trough the Communication Card on the RS458 lines at 19200bps.

The PC receives the information and returns it back to the Sensomatic trough the Com. Card on the RS485 lines to close a unique cycle between all the system parts.

Sensor and I/O Card is working in the same way as 1st Operation.

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SENSOMATIC EXTERNAL ANTENNA DATA

Description

External Antenna is placed in a body made from Polyethylene and covered with Epoxy, connected directly to the Activator PCB.

General Measure

Diameter: 65mm

Number of wrapping: 9

Wire thickness: 0.95mm

Wire type: 1X0.5 / 0.95mm PVC covered

Electrical Specifications

Center Freq – 125KHz

COIL VALUE : 16uH

Q = 47

SENSOMATIC INTERNAL ANTENNA DATA

Description

Internal Antenna is attached to the front panel of the Sensomatic enclosure, connected directly to the Activator PCB.

General Measure

Diameter: 150mm

Number of wrapping: 12

Wire thickness: 0.95mm

Wire type: 1X0.5 / 0.95 PVC Covered

Electrical Specifications

Center Freq – 125 KHz

COIL VALUE : 116uH

Q = 60

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