

# NECK TAG CP ACT

The NECK TAG CP ACT is a label that is attached to the cow's neck and it determines where the cow is located in the stable also it also monitors the behavior of individual cows 24/7 and the system will detect the cow's in heat. A cow in heat shows more activity than being in a "normal" state of condition.

The main parts of the NECK TAG CP ACT for the purpose of cow positioning and activity meaning heat – and health detection are:

1. Cow positioning together with the beacon VP4201
2. An acceleration sensor detecting motions.
3. A battery (active) assisted RFID (=Radio Frequency Identification) tag for individual cow activity monitoring, operating on 433.3, 433.6, 433.8, 434.0, 434.2 and 434.5 MHz.
4. The 134.2 kHz inductive RFID tag (passive) is optional.

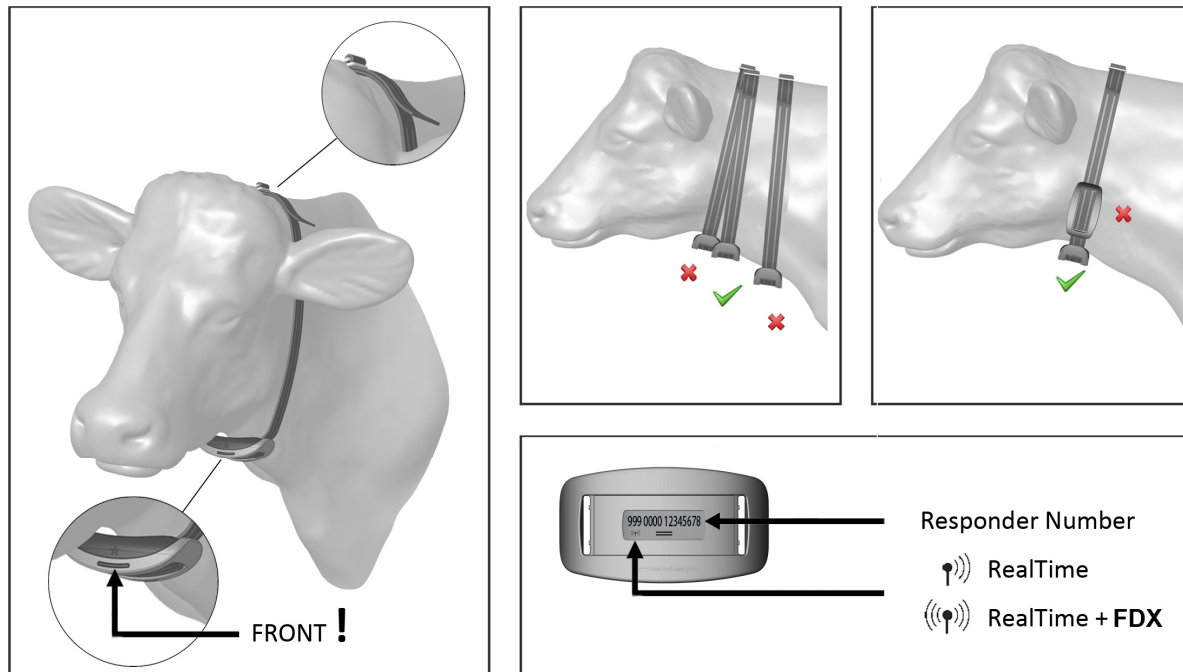
The location of the cow in the stable is monitored every .10 seconds.

The motions of the cow are stored in the memory of the RFID tag transmitting this data. The repetition rate of this transmission is min. 5 minutes and max. 15 minutes depending on the cow's activity.

The antenna in the barn receives the activity information from the RFID tag of the individual animals and the information is transported by means of the receiver VP4102 over CAN bus or Ethernet to the host computer process controller and is e.g. used for ovulation/heat detecting, automatic cattle feeding, separation of animals, milk registration etc.

The Velos program determines the activity increase of an animal. If an animal is a lot more active than usual it will get an heat attention. The red light on the process unit will indicate this attention. The Velos program displays overviews of animals with a clear increased heat attention on the PC screen.

Figures below show how the NECK TAG CP ACT is attached to the cow's neck



## NOTE:

The label can only monitor the behavior of the animals if placed on the cow's neck in the right position.

## Wrong Position of the label:

1. **Back to front**  
Label attached backwards, the groove (and the arrow on the back of the label) is pointing towards the cow's body instead of the cow's head.
2. **Check position**  
Turned sideways on the neck or twisted on the collar.

# Specification

## Transmitter Information

Frequency : 433.3, 433.6, 433.8, 434.0, 434.2 and 433.5 MHz  
Modulation : FSK modulated  
DataRate : 100 kbit/s  
Frequency deviation : 25 kHz  
On time : 11msec  
Repeat time : >10 seconds  
Duty cycle : ≤ 1 %  
Transmitted Power : EIRP < 1 mW

## Power

Power : Battery powered 3.6 V

## Antenna

Antenna : Integral, Ceramic Chip antenna

## Environment

Operating Temperature : -10 to + 50 °C  
Storage : -25 to + 70 °C  
Relative humidity : 10 – 93% non condensing  
Enclosure : IP class 67

### Compliance statements

This device complies with part 15 of the FCC Rules and to RSS210 of Industry Canada.

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 may cause undesired operation.

Cet appareil se conforme aux normes RSS210 exemptés de license du Industry Canada. L'opération est soumis aux deux conditions suivantes:

- (1) cet appareil ne doit causer aucune interférence, et
- (2) cet appareil doit accepter n'importe quelle interférence, y inclus interférence qui peut causer une opération non pas voulu de cet appareil.

### Warning

Changes or modifications not expressly approved by party responsible for compliance could void the user's authority to operate the equipment.