

Activity - Lying time -Temperature - pedometer

Introduction

The ALT pedometer serves for the continuous recording and collecting from animals data – activity, lying time and the environmental temperature at the bond leg – in a free eligible time interval in cattle. The attachment of the ALT pedometer will be at the bond leg from the left forefoot with a strap (Picture 1). Data transmission can be connected manual or automatic wireless.

Construction and operation

Construction: The ALT pedometer (Figure 1) contains the sensors for the digital recording of the environmental temperature (S1), the lying positions (S2, S3) as well as the analoguous recording of the activity (S4), the μ processor, the data memory as well as the radio module for the wireless data assignment. The Pedometer has in addition a magnetic switching off.



Picture 1 : Dairy cow with ALT-pedometer

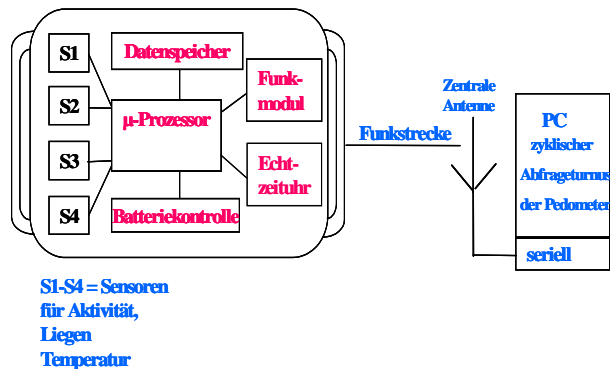
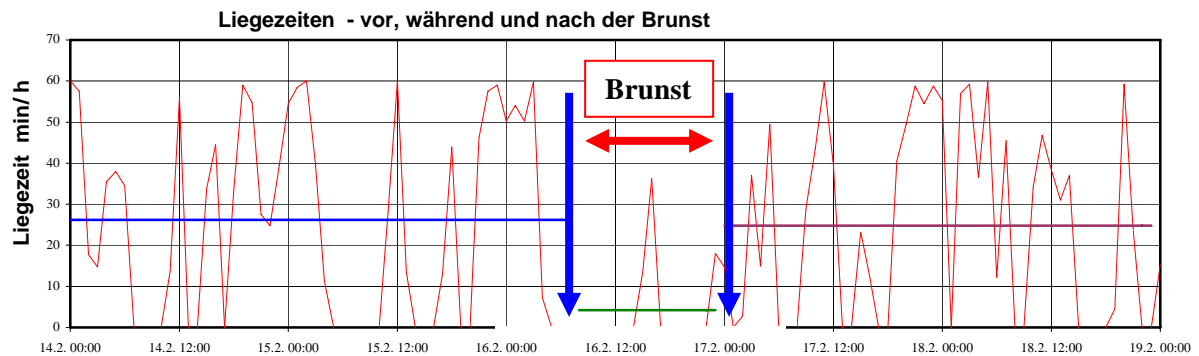


Figure 1 : Circuit diagram ALT- pedometer

Operation: The μ processor includes the activity, the rest periods of the animal continuously and sums these up about the measuring interval (e.g. 15 minutes) configured by the user. After expiry of this time the values are put down in the data memory. The sum of the activity, the rest periods and the environmental temperature (recording single on the end of the measuring interval) as well as the time stamp (date / time) form one data set each. To ensure a continuous data note the data get cyclical by means of radio modem and PC to select. The data are filed in a data base (ms Access) for the further processing (Figure 2).

Figure 2: Rest periods from a cow in MS EXCEL – diagram



Technical data

ALT - pedometer

Power supply:	3.6 V/2.1 Ah
Battery operation time:	approx. 1 year
Case tolerances:	60 mm (L) × 50 mm (B) × 20 mm (H)
Weight:	approx. 125 g (without belt)
Storage capacity:	736 data sets
Assignment reach:	to 50 m
Assignment rate:	75 data sets per min.

Radio - modem

Power supply:	over PC or notebook computer
Case tolerances:	40 mm (B) × 150 mm (H) × 20 mm (T)
Weight:	< 100 g
Connection:	serial interface RS232 Modem cable (max. 10 m)

Select software functions

Start	... start of the ALT-pedometer (start time delay + possible for max. 12 h)
Reading	... reading the data from this manually
Readauto	... reading the data from this automatically
Set-up	... choice of the serial interface of the PC (COM 1, 2 ...)
Config	... configuration of the measuring interval by the user 1.... 60 min.)
ID Number	... number of ALT-pedometer (for reading manually)
Battery control	... reading data updates everybody at
Operating hours counter	... reading data updates everybody at

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