# LC-4 Climate Controller

LC-4 Climate controller - The idea, the development, the result: An adaptive controller

We are leading you into a new dimension of stable climate control:

The LC-4 with TFT colour screen and touch screen operation. The controller learns from your corrections to the conditions in your stable and changes the control. It detects malfunctions in the heating system before the stable gets too cold. It detects when the normal control mode has changed, e.g. due to a loose vent shaft, and immediately informs you about the problem and where you need to look via text message.

With all of the new developments, as well as constant updates to the software, the highest priority was placed on simple and clear operation. Our clients' experience and the results from our test stables were especially taken into account with the newly developed LC-4 concept. This controller generation is characterized by high potential for expansion. Digital inputs ensure that the LC-4 climate control computer will not reach its limits in the hardware area of the SPS control in future.
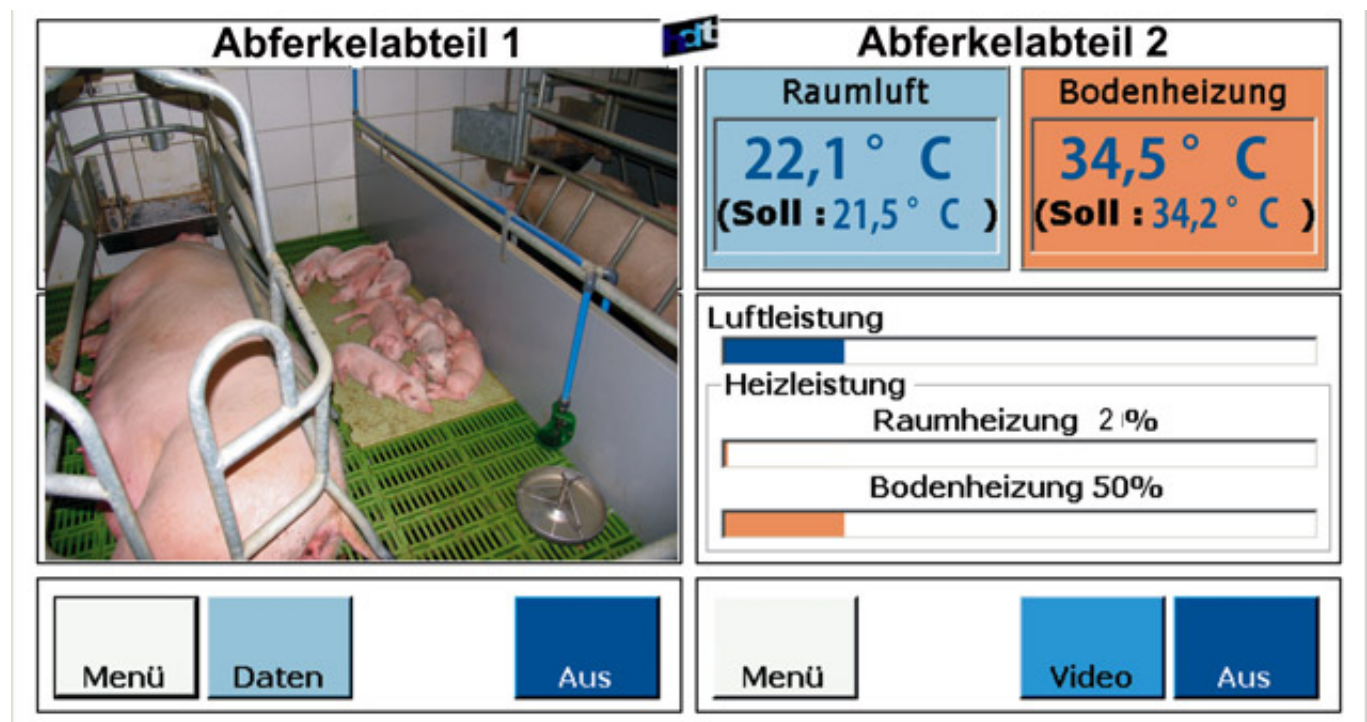
Touch screen display

 The operation has been simplified even more through integrated help screens, which were made possible by the large touch screen. Program updates can be made on-line. Several functions were taken from the proven LC 3 series. All automatic controller functions were completely redeveloped. Seasonal temperature adaptations, daily cycles, test functions, and all other automatic functions were enhanced and are standard in the LC-4 controller.

A key aspect in the re-creation of the LC-4 control was adaptability and that it should be available to register changes in settings by the farmer or changes in the facility and to react to them, so that the farmer can then act. This improves the comfort of the animals and at the same time gives the farmer security.

LC-4 Function data

IP 68 Kamera (zur Überwachung)

All >> LC-3 Serie functions are included! Additionally only in the LC-4:

- Touch display with self-explanatory menu functions, large 152 x 90 mm colour display with video display option via IP68 camera
- various digital input ports, which provide for good future expandability
- two additional pre-programmed floor heating cycles for piglet rearing and farrowing sections
- help windows located directly in the display for all important settings
- function test for all connected devices such as ventilators, heater blowers, exhaust air flaps etc.
- graphic display of all temperature cycles and performance over the last 24 hrs. can be displayed
- improved heat exchanger control, as well as modified adaptation of the total airflow rate in the exhaust canal
- soft adaptation of a set point adjustment (SANPA), easy correction (KRE) of cycle and floor curves
- PT 1000 measuring technology (very high measurement accuracy, no change to sensor values over years)
- the controller automatic tuning program for learning and monitoring...

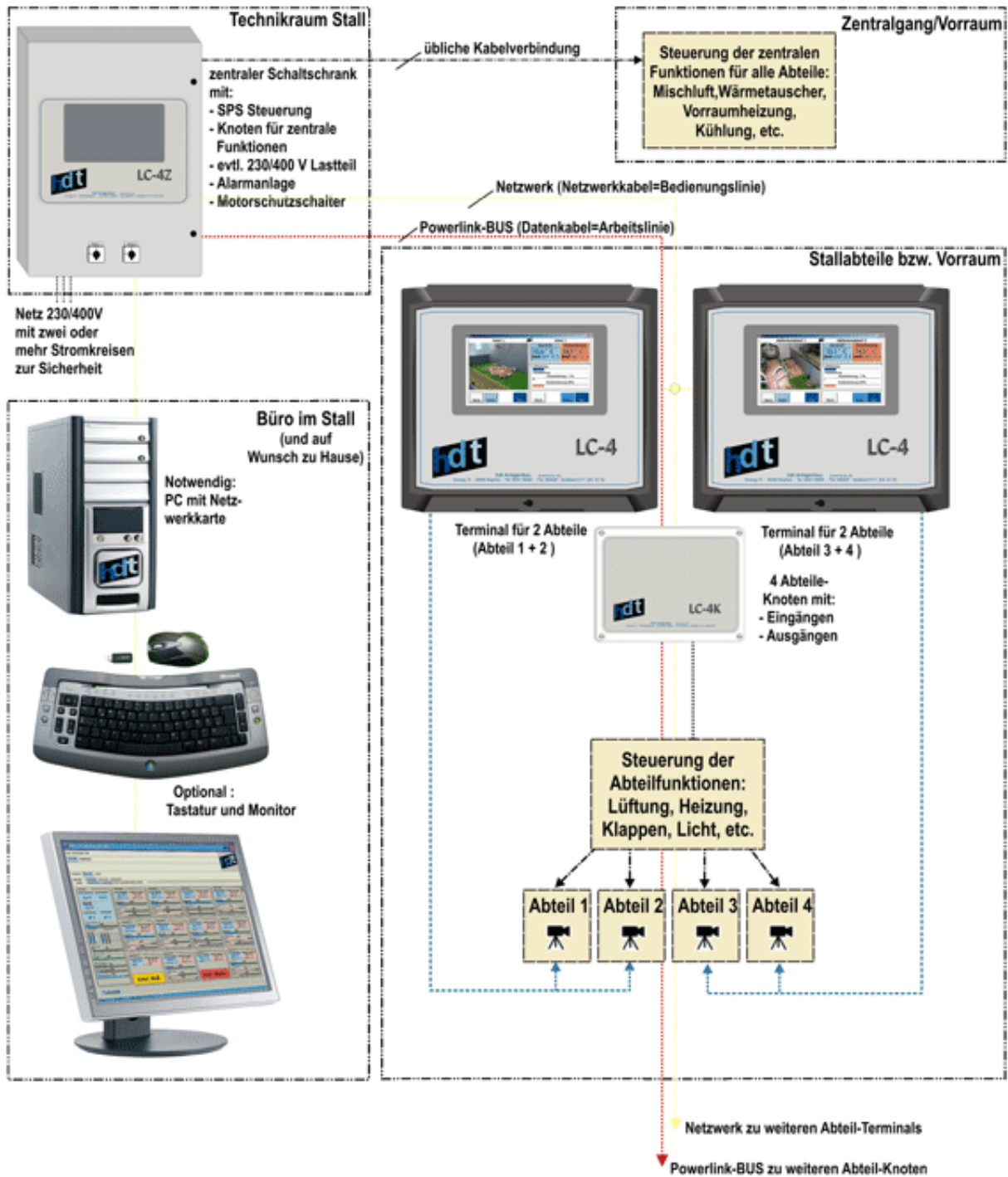LC-4 BUS-network - software and hardware, personalized and user-friendly

The network is made by network cable, but is also possible by W-LAN. You can access your facility from anywhere by way of T-DSL or GSM. Remote maintenance or checks are possible down to the last detail. No matter whether you make adjustments from the terminal LC-4, your stable computer or your home computer, you always have the same operator surface. You can also decide what your employees can and cannot adjust.

All controller components from this new line are made of standard industrial products. For you this means a dependable spare parts supply, and for us it means that we can offer you our advanced software at fair prices. It begins with the central SPS controller in the switching cabinet, through the data BUS and ends at the LC-4 terminal. For this purpose we equipped a standard laptop with a flash memory and a touch screen

and put it into a housing which is suitable for agricultural work. The terminals serve as remote control, the SPS with its well known dependability, assumes the actual control.

The Windows based user software is completely separate from the working software. We want to use this advantage and are currently working on making it possible for you to have access to other stable relevant data using our terminal in the walkway or the section, e.g. in the feed or sow planner.

LC-4 BUS-network possibility 1: One LC-4 terminal each, for 2 sections

Technikraum Stall

LC-4Z

zentraler Schaltschrank mit:
- SPS Steuerung
- Knoten für zentrale Funktionen
- evtl. 230/400 V Lastteil
- Alarmanlage
- Motorschutzschalter

übliche Kabelverbindung

Zentralgang/Vorraum

Steuerung der zentralen Funktionen für alle Abteile: Mischluft, Wärmetauscher, Vorraumheizung, Kühlung, etc.

Netzwerk (Netzwerkkabel=Bedienungslinie)

Powerlink-BUS (Datenkabel=Arbeitslinie)

Netz 230/400V mit zwei oder mehr Stromkreisen zur Sicherheit

Büro im Stall
(und auf Wunsch zu Hause)

Notwendig:
PC mit Netzwerkkarte

Optional :
Tastatur und Monitor

Stallabteile bzw. Vorraum

LC-4

LC-4

Terminal für 2 Abteile (Abteil 1 + 2)

Terminal für 2 Abteile (Abteil 3 + 4)

LC-4K

4 Abteile-Knoten mit:
- Eingängen
- Ausgängen

Steuerung der Abteilfunktionen: Lüftung, Heizung, Klappen, Licht, etc.

Abteil 1 Abteil 2 Abteil 3 Abteil 4

Netzwerk zu weiteren Abteil-Terminals

Powerlink-BUS zu weiteren Abteil-Knoten

Mit der Übersichtlichkeit wächst das Vertrauen in ein System.

>> to large screen view (PDF)

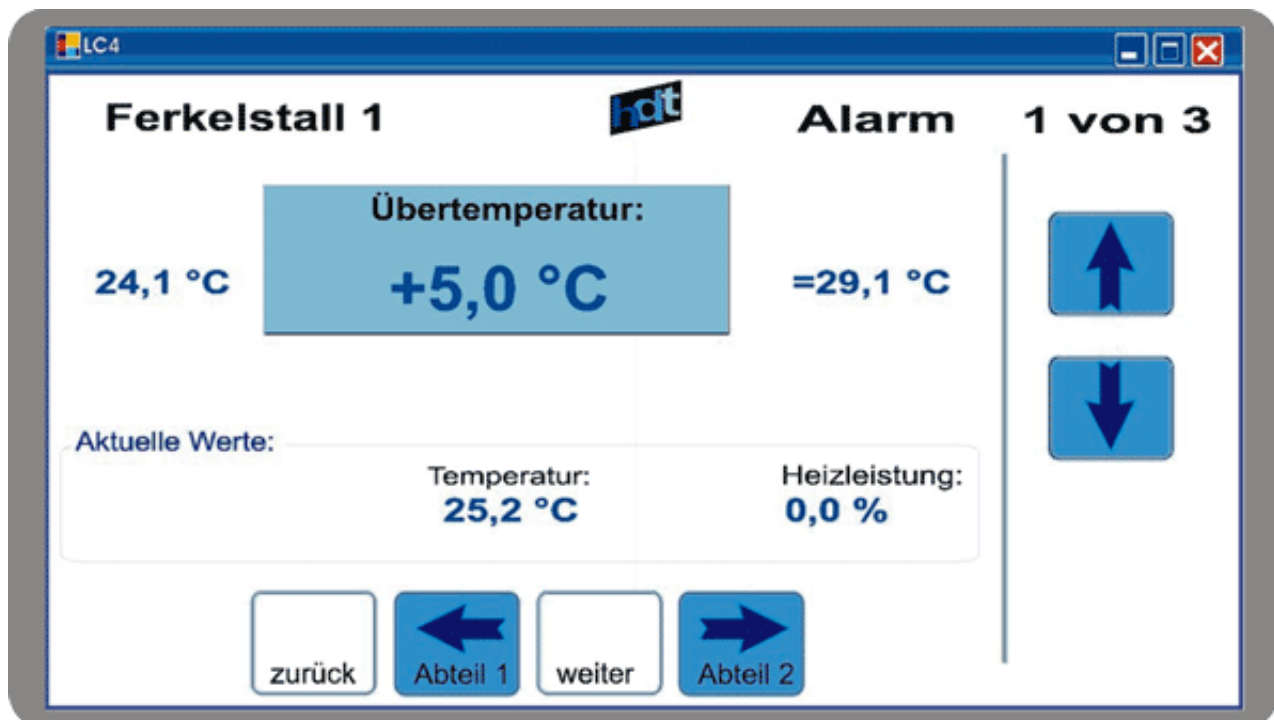LC-4 control displays - can be operated with a finger (practical and intuitive)
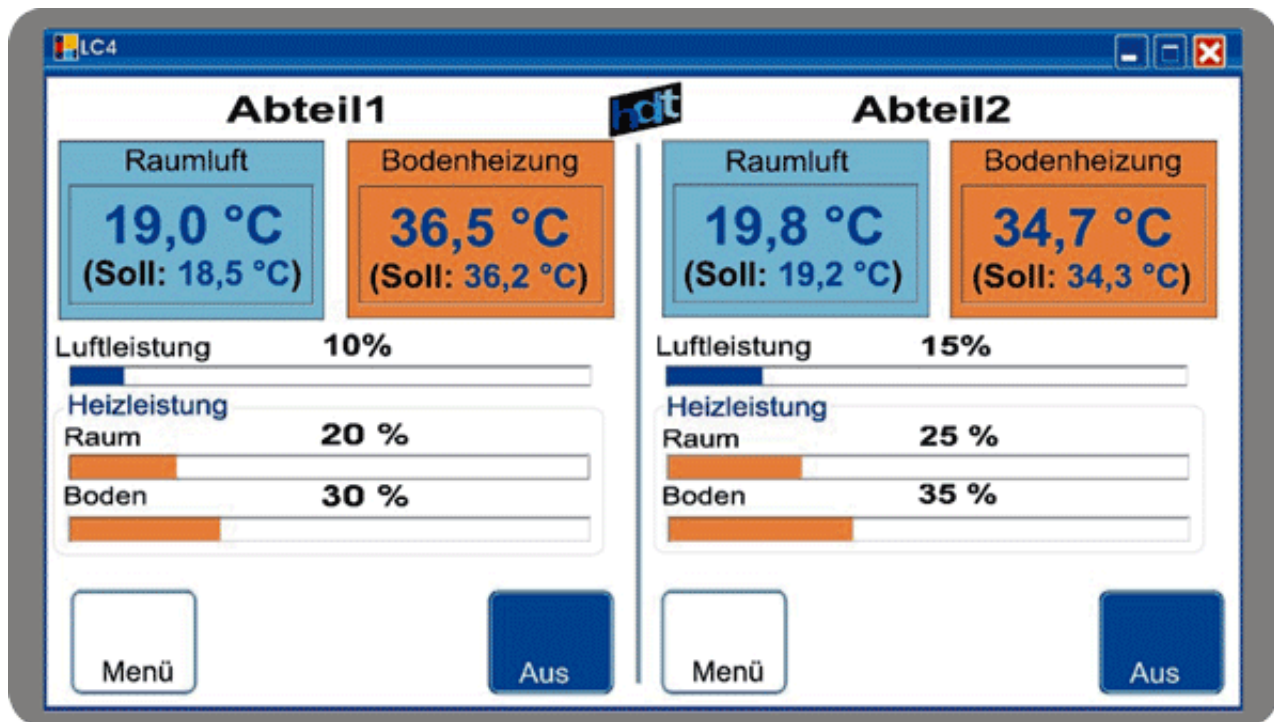
Beispiel: 2 Abteilanzeige ohne Video
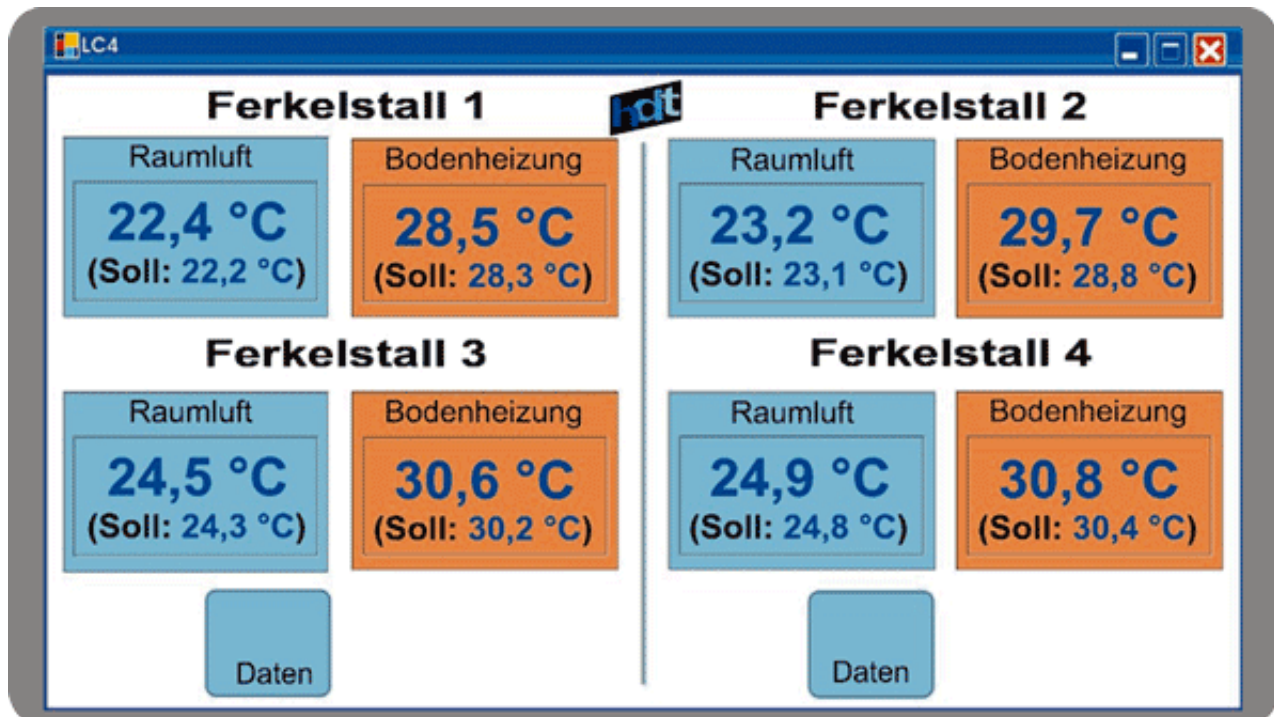
Example: 4 section display without video

Example: Main menu

Example: Alarm - Input for overheating

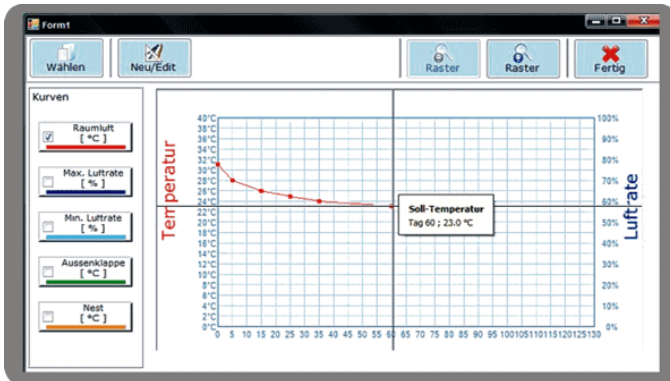Beispiel: Example: Ventilation - Set temperature input

Beispiel: Example: Heat - Nest heat input
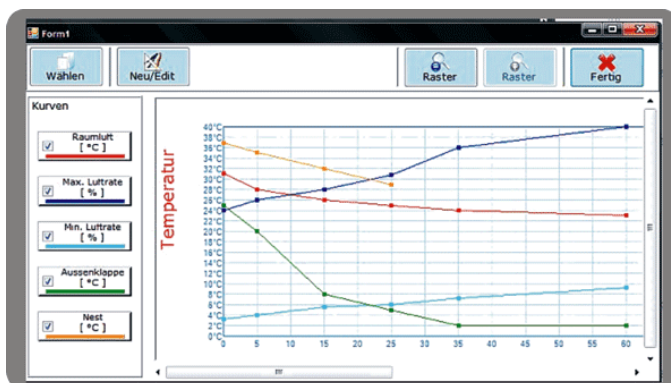
Beispiel: Example: Graphic display of a fattening graph
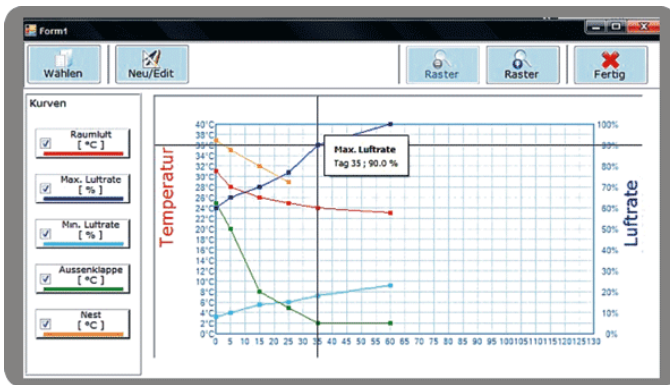
Example: Graphic display of a piglet rearing graph

Example: Graphic display of only room air values

Images of this subject

Videos on the subject of Control technology

Videos zum Thema: Regelungstechnik und Klimaregler LC4 und LC4-C

Video vom: **12.05.11**

Regelung per LC-4 im
Schweinestall...

[»zum Video](#)

Interessantes zum Thema aus dem hdt -Online Archiv

- [Und wieder ein Mastbetrieb mit einer spitzen Luftqualität](#)
- [Wieder ein neuer Mast- Ferkelaufzuchtstall am Niederrhein](#)
- [Herbstzeit = Schwankungszeit = Hustenzeit](#)
- [Tag der offenen Tür (Vorankündigung)](#)
- [Zwei neue Ställe in Baden Württemberg in Betrieb gegangen](#)
- [Abdeckungen im Ferkelnest](#)
- [In Finnland wird Energie auch teurer !](#)
- [Herbstzeit - Problemzeit ! ?](#)
- [Kühlung ist angesagt !](#)
- [Einstellungen und Klimakurven **PDF**](#)
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