

Case story

Electronic thermostats from **Danfoss** made a big difference for one family in Køge, Denmark

Birgit and Jan are pleased about the big savings they have made, both to their private finances and to the environment.

38%

record savings on heating consumption.

With electronic thermostats from Danfoss, the family were able to make even greater savings than the 30%, they had anticipated



Comfort and energy savings go hand in hand with *Danfoss Link™*

The family from Køge were on the look-out for ways to cut down on their heating consumption. They opted for modern, electronic thermostats from Danfoss - and they have not regretted their decision. On the contrary, the amount of energy they have saved has far exceeded their expectations, while in addition, the heating system has become much easier to control. Now, they look forward each day to new savings - both financial and in terms of CO₂.

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“With these kinds of substantial savings, the payback time for the thermostats is less than three years. It has been an extremely pleasant surprise, and we are pleased that we have been able to make a little more room in our private finances, while also doing something positive for the environment.”

Birgit,
Export engineer, Køge

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Great energy savings

“When we bought the new *Danfoss Link™* solution, we were told it could save us 30% on energy consumption. After one year with *Danfoss Link™* we can see that we have actually saved almost 38% - and we expect our heating bills to remain at the same low level from now on, year after year.

Birgit and Jan live in a charming, detached house in Køge, Denmark that was built in 1985 from recycled materials taken from an old market garden, that had previously been located on the grounds. The 200 m² house is divided into six split levels with both open and closed spaces and provides the framework for family life, with two adults and two children. In October 2011, Birgit and Jan decided to look into how they could save energy by renewing the

radiator thermostats, and over the course of just half a day at the start of November, the entire installation - consisting of 18 new radiator thermostats, four room sensors and a central control panel - was up and running.

“One of the biggest advantages is that from now on, we can set the temperature for each room individually from the central control panel. We have our bedrooms in the basement, where we generally have the temperature set lower than in the rest of the house. We have found that the comfort level in the house is even better now, because we have a pleasant and even temperature in the rooms that is adjusted to their function. We are very happy that the thermostat in the bathroom shuts off automatically when we open the window to

air the room, and starts up again automatically once the window has been closed or no more than 30 minutes after, so the bathroom is always pleasantly warm,” explained Birgit.

No need to turn the heat up and down

It is a relief for the family not to have to turn the heat up and down in each individual room: this happens completely automatically. All rooms can be set to basic temperature, reduced night-time temperature, etc. from the central *Danfoss Link™* panel. Should something need changing, this can be done with a simple press of the button for the room currently listed on the panel, after which the temperature is reset at the new level. “The automatic control means that we always have the right temperature in each individual room. We are pleasantly surprised by how

precise Connect Thermostats are, and how quickly they react to changes in room temperature,” explained Birgit.

When the family go on holiday, they simply give the *Danfoss Link™* panel a message that they are away, and the temperature is then reduced in all the rooms, and raised again so that it is nice and warm when the family return home.

Quick and easy installation

It took just one morning to get the Køge family's new *Danfoss Link™* solution up and running. The qualified installer arrived in the morning and replaced all the radiator thermostats with the new Connect Thermostats in a smart, simple and easy-to-clean design, after which all the thermostats were connected to the central Link-control and set to the desired temperatures. Three hours later, it was all working perfectly.



“We were very impressed by how pain-free the installation went, and how easy it is to operate the system every day. Its user-friendliness gets top marks. We now have one control point for all our rooms. We have underfloor heating in the basement, and this can also be operated using the *Danfoss Link™* panel. We even control our lighting via the *Danfoss Link™* panel, so the lights can be switched on and off automatically in tune with our own daily routines,” said Birgit.

Would she recommend *Danfoss Link™* to others? “Yes, absolutely. I can't think of any drawbacks, only benefits. And since our investment will pay for itself in less than three years, there is no reason to think twice about it,” concluded Birgit.

The family from Køge had this solution installed:

- The 200 m² house was built in 1985 on six split levels and with its own natural gas furnace. In November 2011, the family decided to install a complete *Danfoss Link™* solution, comprising:
- 18 electronic *Danfoss Link™* Connect Thermostats, mounted on all the radiators in the house. Connect Thermostats shut off automatically when a window is opened, and the temperature is quickly regulated.
- A *Danfoss Link™* CC Central Controller, which automatically controls all radiator thermostats, so that each room temperature can be set individually. The Central Controller serves a large number of functions, such as setting the thermostat to a reduced temperature at night or while the family is away using the 'Away' function, and can be used to control underfloor heating as well as radiators.
- Four Room Sensors, which measure the temperature of the room and can be used to fix the temperature to a set point.



The family's energy consumption has been reduced by considerably more than the anticipated 30%. The family has utilised the adjustment options in *Danfoss Link™* to the fullest, by selecting longer reduction periods than the pre-installed settings, changing their consumption habits and optimising heat consumption in general. Connect Thermostats provides its users with maximum potential to actively adjust the heating system to the family's actual needs.

The Køge family's energy consumption (over 12 months):

Previous consumption:

Natural gas without Connect Thermostats:

2,317 m³ annually = approx. € 2,535

Current consumption

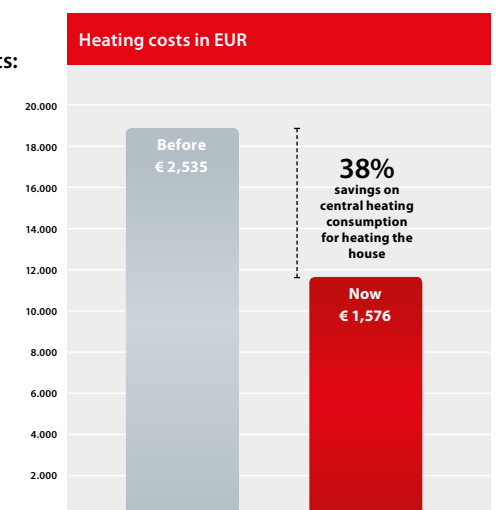
Natural gas with Connect Thermostats:

1,440 m³ annually = approx. € 1,576

Savings

877 m³ natural gas annually, corresponding to € 959, i.e. savings of almost 38% on energy consumption for heating the house.

Note: Energy consumption is measured using degree days-adjustment according to the Danish Meteorological Institution's (DMI) degree day figures.



Three good reasons to choose Danfoss

Danfoss provides intelligent, energy-efficient heating solutions for your home. Our products increase comfort, reduce heating bills and make your heating system easier to manage. With more than 75 years of experience, innovation and development, we can offer you the best solutions for the perfect indoor climate.



1 Intelligent solutions that optimise indoor climate and comfort



2 Reduce heating expenses and reap the benefits of an energy-efficient home



3 Intuitive and user-friendly products tailored to your lifestyle

Visit us online for information, support, advice and inspiration at **smartheating.danfoss.com**

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