Innovative control technology for alternative heating systems
Control Products & Systems OEM
Perfectly matched components for alternative heat generation

Based on decades of experience and in close cooperation with renowned customers in the field of heat pumps and boiler components, Siemens has become a leading supplier of heating control systems. This expertise enables us to pursue the further development of solutions and systems for alternative heat generation. From basic solar control integrated in heating controllers to multifunctional controllers for heat pumps providing cooling, as well as controlled room ventilation and micro combined heat and power, you will find proven and extendable systems of modular design that meet almost any requirement.

When creating a system solution tailored to your specific requirements, Siemens as your partner will be pleased to assist at any time.
Innovative solutions for all market segments

Matching solutions for alternative forms of energy
Siemens stands for reliable and innovative products and systems for use in alternative heating systems, heating boilers, district heat and air conditioning systems. The extremely versatile product range comprises complete system solutions including an extensive choice of actuators, sensors, control systems, and valves.

Our expertise in this field, decades of experience and our comprehensive product portfolio enable us to offer optimum solutions for both single- and multi-family houses (residential buildings) as well as commercially used spaces (commercial buildings).

Energy efficiency
The need to protect our climate necessitates sustained changes in the entire energy sector. Networking and intelligent control technology are key to meeting these challenges all of us face. This includes measures taken to increase the efficiency of heat pumps (COP), new functions, such as intelligent charging strategies for domestic hot water (DHW), frost protection sequences for heat pumps, and the use of electronic expansion valves.

New energy directives
New energy directives call for ever stringent measures designed to increase energy efficiency. Two examples would be heat recovery and controlled room ventilation. This means that information on energy usage and efficiency will become a mandatory requirement. Our new product developments give full consideration to these new regulations. Also, over time, our control systems will become increasingly smart grid-ready. As a result, more flexibility will be required, enabling people to make optimum use of the varying tariffs offered by the electric utilities.

Remote control and system integration
Remote control, maintenance and monitoring, including alarm management, trend logging via cloud service, for example, and integration into building automation and control are becoming more and more important.

Trouble-free and smooth operation
Once installed and configured, Siemens ensures comfort and efficiency under all operating conditions.

The current range of CPS OEM controllers offers a large number of applications and uses. The focus is placed on comfort and efficiency.

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Highlights
- Heating based on resources-preserving technologies
- Innovations for enhanced efficiency
- Remote control and monitoring of system
**Complete system solutions from Siemens**

**Alternative heating systems**
The customized products and systems made by Siemens help reach compliance with the Kyoto protocol. Our declared objective: Increased usage of environment-friendly and inexhaustible energy by deploying optimized controls and efficient solutions in the field of renewable energy. Siemens markets a consistent range of products for use with heat pumps, micro combined heat and power (mCHP), solar plants, etc.

**Solutions for heat pumps**
Heat pumps excel in high efficiency and thus in environment-compatible use of resources. To ensure efficient control of heat pumps, Siemens markets an extensive range of innovative products.

Electronic controllers and valves, matching sensors, and a wide choice of operating and display units can be easily combined to create basic systems, be it for single-family houses or larger, more complex buildings – with no extra effort for engineering.

**Solutions for mCHP**
Micro combined heat and power embodies the next generation of heating systems. Today, our heat is produced by conventional heat sources, such as boilers and heat pumps, and electric power comes from the outlet in the wall. In Europe, electric power is produced primarily by thermal power stations. For every kWh delivered, 1.3 kWh are lost due to waste heat and transportation losses. It makes sense if, at the same time, the heat source also generates electric power – in the house, for the house.

**Solutions for solar**
Heat production based on solar energy has proven its worth for decades. It is technically mature, environment-friendly, and protects our climate. Solar energy is capable of covering 60 to 90 percent of the annual energy required for DHW heating and 25 to 50 percent for space heating.
Heating and cooling
With the help of heat pumps, the natural heat freely available in the air or the ground is exploited and optimally used for space heating, cooling, and DHW heating. High levels of efficiency, low maintenance costs, and inexhaustible resources are the benefits offered by these efficient applications.

Choice of applications
Siemens offers solutions for the control of electric heat pumps, such as air-to-water, water-to-water, or brine-to-water heat pumps. Modern hybrid solutions – combinations of heat pump and additional heat source, such as a gas-, oil- or wood-fired boiler – help when upgrading to ensure efficient and cost-effective heating and cooling operation. All heat pump controllers from Siemens are supplied complete with solar functions.

Efficient control technology
Siemens controllers are designed for universal use. Multifunctional inputs and outputs are available to match the controllers to the specific requirements of a plant. Extension modules, extra zone controllers and other boiler controllers, such as oil/gas controllers, also enable larger systems like bivalent or multivalent cascaded systems to be easily implemented via plug & play. To acquire temperatures, pressures and humidity, Siemens offers a comprehensive range of sensors, including electronic expansion valves, flow meters for energy, and humidity sensors to ensure control in cooling mode. Naturally, programming and logging are made possible with PC tools while remote querying takes place via modem. Modules are available to facilitate integration into the Internet or for remote querying via mobile phone.

Customized solutions
The heat pump controllers can be perfectly matched to the specific requirements of heat pump manufacturers. This ensures efficient overall solutions for end-users, straightforward commissioning for installers, and a high level of market differentiation for heat pump manufacturers.

Highlights
- Universal controllers, suited for all types of heat pump
- Straightforward commissioning thanks to preprogrammed applications
- High overall efficiency thanks to hybrid solution
- Efficient cooling (passive and active)
mCHP
Micro combined heat and power – the latest generation of heating appliances. Production of heat, DHW, and generation of electric power – this is the concept behind mCHP solutions. Power not needed is fed back to the electric grid. To cope with short-term peak loads, the system also controls a supplementary boiler.

Choice of applications
Siemens supplies the complete control system, including sensors, gas valves, and operating units. The control system can be extended in a modular fashion, thus facilitating the control of more complex plants, such as plants with buffer storage tanks, several heating circuits, integration of extra heat sources, or thermal solar plant. These application extensions can be easily implemented via plug & play.

Efficient control technology
The electronic system marketed by Siemens controls heat generation in the permissible range and delivers the desired temperatures for space and DHW heating at the right time. The intelligent buffer management with different charging strategies can be matched to individual needs. If there is great demand for electric power, forced storage tank charging can be initiated. In that case, the plant switches temporarily to electric power compensation. Programming and logging are made possible with the help of PC tools while remote querying takes place via the Internet.
Solar applications

Efficient use of solar energy
The production of heat based on solar energy has proven its worth for decades. Solar panels are reliable products for DHW heating and for the support of space heating.

Choice of applications
Siemens offers a host of solar applications. There are plants with up to 2 collector fields, buffer storage tanks, DHW storage tanks, and swimming pool. Using different priorities and charging strategies, the storage tanks can be matched to the requirements of the facility manager.

Efficient control technology
All Siemens Albatros® boiler, heat pump and heating controllers have the different solar applications ready integrated. This facilitates optimum matching of the individual plant sections. In addition to the solutions the controllers have on board.

The controllers have a pulse input to measure the solar yield and offer bivalent changeover with a networked heat source controller.

Operation is user-friendly just like operation of the entire Albatros® range of controllers. Thanks to graphical or text display, all important information and data, such as temperatures, operating states and maintenance messages are displayed directly. The controllers can be connected to PC service tools. Also, access is made possible from a remote system.

Customized optimization
To ensure optimum efficiency, Siemens supports you with customized products and systems, enabling you to introduce innovative solutions to the market.

Highlights
- Basic delta-T-application for DHW
- Systems with 1 or 2 collector fields
- Solar backup heating via buffer storage tank
- Optimum solar storage tank management including priority circuit for DHW, buffer storage tank, and swimming pool

Thermal solar plant: Efficiency thanks to fine tuning of all plant sections.
When building technology creates perfect places – that’s Ingenuity for life.


With our knowledge and technology, our products, our solutions and our services, we turn places into perfect places.

We create perfect places for their users’ needs – for every stage of life.

#CreatingPerfectPlaces
siemens.com/perfect-places