

Need-based – Lighting and heating – energy can be saved by using a small number of functions.

Stabilising room climate – Functions for room climate control and blind control decrease the energy expenditure for heating and cooling.

Setting up energy management – The intelligent Gira KNX system opens up the potential for energy savings throughout the entire building.

Polling energy data while away – With the Gira KNX system, the status of the building technology can be viewed on a notebook or smartphone.

Readapting at any time – The Gira Interface provides direct access to energy management and user profiles for individual rooms.

Saving energy with Gira

From its solution for fast and simple retro-fitting up to its system for comprehensive, function-overlapping energy management – intelligent building technology from Gira results in a noticeable reduction in energy consumption. In addition to lowering operating costs, this also contributes significantly to climate protection.

Potential for energy savings

up to 13%¹⁾

Energy savings with automation of solar protection

up to 25%²⁾

Energy savings with single-room temperature control

up to 35%¹⁾

Energy savings with automation of lighting

up to 45%²⁾

Energy savings with automation of ventilation

Sources:

¹⁾ Becker, M./Knoll, P.: Study of potential for energy savings with the use of integrated building automation systems based on analysing DIN 18599 and EN 15232. Study on behalf of LonMark Deutschland, June 2007.

²⁾ Potential for energy savings with modern electrical installation, ZVEI - Zentralverband Elektrotechnik und Elektroindustrie e.V.

Controlling the temperature individually for each room

Gira room temperature controller



With single-room temperature control, the desired temperature can be set manually for each individual room from a central location. With only an approx. 0.5 Kelvin switching temperature differential, it makes exact temperature setting possible between +5 °C and +30 °C. In this way, need-based heating suitable for the use of the room is possible. For example, sufficient temperatures for a hallway would be too cool for a living room. In this way, only the heating energy that is necessary is used in passageways. If necessary, a time clock can be connected for automatic switching from the higher day temperature to a moderate night one.

- Conventional installation
- Radio bus system
- KNX system

Need-based room heating

Gira room temperature controller with clock



The connection to a seven-day time clock allows a great deal of need-based control of heating and cooling. Switching points which can be distributed during the week can be set up to adapt the temperature control of the rooms exactly to the weekly schedule of the users. If the rooms are unused, unnecessary heating is prevented. In addition, this heating optimisation offers comfort and savings and ensures that the desired temperature is reached on time. The KNX system offers further intelligent applications: The temperature can not only be time-controlled but also controlled taking further ambient conditions into account, such as the weather forecast from the Internet or presence recognition using the locking system.

- Conventional installation
- Radio bus system
- KNX system

Keeping humidity to a minimum, preventing heat loss

Gira hygrostat



The automatic regulation of humidity ensures that ventilation is only switched on if the humidity exceeds a preset value. The humidity is recorded using sensors, and if the desired value is exceeded, a connected fan is switched on for dehumidifying. Thus, unnecessary ventilation and the consequential loss of valuable heat are prevented. In addition, counteracting increased humidity guarantees a comfortable and healthy room climate and prevents the damaging growth of mould.

- Conventional installation
- Radio bus system
- KNX system

Targeted ventilation taking the CO₂ concentration into account

Gira ambient air sensor CO₂



Monitoring the CO₂ concentration not only enables improved well-being but also helps to ventilate only as long as is really necessary, thus saving energy. If a set limit is exceeded, windows can be automatically opened or fans switched on until the concentration returns to normal. The CO₂ concentration in the room is displayed with an LED in traffic light colours on the device. Optionally, an increased CO₂ concentration can be indicated using the internal buzzer of a connected signal light. The KNX variant of the Gira CO₂ sensor does not feature internal display elements, but it does also enable measuring the room temperature and humidity.

- Conventional installation
- Radio bus system
- KNX system

Lighting outdoor areas when motion is detected

Gira Tectiv 220°



The grounds outside do not have to be illuminated constantly in the dark. In many cases it is sufficient if outdoor lighting is only switched on when motion is detected, meaning only when it is actually needed. That not only saves energy but also ensures comfort and safety. Without having to press a switch each time, the path is illuminated in the dark for each guest; in contrast, unwelcome visitors are often deterred simply by the light.

- Conventional installation
- Radio bus system
- KNX system

Lighting is matched to daylight and brightness

Gira presence detector



Presence detectors are motion detectors with a high sensitivity for recognising movement. They control lighting indoors depending on the presence of people and amount of daylight. They are mounted to the ceiling, monitor the surface below and switch the light on up to a preset brightness level as long as people are in the room. Constant light control is also possible: it ensures that the desired room brightness is constantly maintained and fluctuations in the natural daylight are steplessly compensated with artificial light. In case of sufficient daylight or a lack of movement, the lighting is turned down and finally switched off.

- Conventional installation
- Radio bus system
- KNX system

Need-based lighting in passageways and rooms which are rarely used

Gira automatic control switch 2



Light is only needed when the room is in use. You can easily forget to switch the light off when you have to press a switch every time. An automatic control switch carries out this function all by itself. It switches the light on when somebody enters the room and switches it off as soon as no more movement is detected within a preset period. Thus it is especially suitable for rooms which are rarely used and passageways such as stairwells and hallways. The intelligent switch also recognises ambient brightness so that the lighting remains switched off if there is already sufficient light.

- Conventional installation
- Radio bus system
- KNX system

Need-based lighting in stairwells and long hallways

Gira automatic stairwell-lighting mechanism

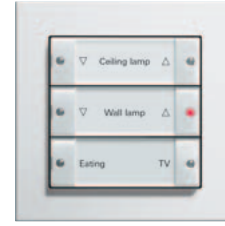


Installation of automatic stairway lighting is especially suitable for stairwells and long hallways with several switching points to activate lighting. The light remains on for a preset duration and switches itself off again automatically when the passageway is unused. Control is either with buttons or completely automatic in combination with automatic control switches. A switch-off pre-warning which can be activated optionally provides greater safety by transmitting light signals before the lighting in the stairwell is switched off.

- Conventional installation
- Radio bus system
- KNX system

Reducing electricity consumption, conserving lamps

Gira Touchdimmer, Gira push button sensor



Dimmers can certainly make a difference to the electricity bill. Lighting is matched harmoniously to your needs, for example with lowered light while watching television, and dimmed lamps consume less electricity. An advantage: the lamps have a prolonged life due to the reduced voltage. In the KNX system and the radio bus system, several lighting circuits can be connected conveniently into scenes and combined with other functions. For example, this enables control of both lighting and blinds when selected devices are activated.

- Conventional installation
- Radio bus system
- KNX system

Switching lighting time-controlled

Gira time clock



Lights which should be switched on or off at scheduled times can be controlled automatically with a time clock, e.g. for lighting a shop window, entryway or garden. But other devices can also be switched according to the time in this way, such as UV lighting for plants or a fountain. This prevents devices from accidentally being left on longer than desired. For conventional installation, the time clock can simply replace the existing light switch; for a KNX or radio bus system, there is flexible programming of the switching points from a central location.

- Conventional installation
- Radio bus system
- KNX system

Orientation in the dark with efficient LED lighting

Gira SCHUKO socket outlet with LED orientation light



Extra safety for walking in the dark can be guaranteed simply and cost effectively with the use of energy-efficient LED lights. The Gira SCHUKO socket outlet with LED orientation light has an inserted light strip that projects a light corridor downwards by means of a white LED. In this way, it provides indirect lighting which does not cause a glare and enables orientation so that the main lighting can remain switched off, for example on the way to the bathroom. Furthermore, the socket outlet is provided with a twilight sensor that automatically turns on the light when darkness sets in and switches it off again when there is enough natural light.

- Conventional installation
- Radio bus system
- KNX system

Keeping rooms cool in summer and storing heat in winter

Gira electronic blind controller 2



With automatic blind control, the times are easily set when the blinds or shutters should be operated. If desired, the integrated Astro program takes the different sunrise and sunset times throughout the year into consideration. And during holidays, the random generator controls the times differently each day. In this way the rooms remain comfortably cool in summer and do not have to be air conditioned. In winter, the shutters additionally insulate to keep warmth inside the building.

- Conventional installation
- Radio bus system
- KNX system

Blind control depending on sunlight and twilight

Gira solar/twilight sensor



Solar and twilight sensors can be connected in addition to programming times, the integrated Astro program and the random generator that can be activated. These sensors measure the light intensity and lower the blinds if a preset brightness is exceeded. This prevents the rooms from heating up sharply due to direct sunlight on hot summer days. The energy expenditure for air conditioning can be reduced in this way since any fans have to be switched on significantly less often. Another practicality is that the sensor lowers the blind again once it becomes dark outside.

- Conventional installation
- Radio bus system
- KNX system

Controlling devices centrally

Gira push button sensor, Gira radio remote control Comfort



With a central command, all previously selected devices can be switched off, e.g. individual lights, lighting rails and entire circuits. It reassures you that everything is off when you leave the building. This is a perfect function for standby devices: these so-called silent consumers are then disconnected from the mains supply at the press of a button. Switching occurs with a push button sensor programmed as a central circuit breaker or by radio with a radio wall transmitter or a mobile radio remote control.

- Conventional installation
- Radio bus system
- KNX system

Energy and weather data at a glance

Gira radio energy and weather display



The radio energy and weather display combines the display of weather and energy consumption data within one device. In addition to the measurements of an outdoor sensor and a reliable weather forecast from the Internet, the display indicates how much electricity and gas is being consumed currently or used within a certain time period. You can always keep an eye on energy costs with this device which can be retrofitted easily. Colour bars clearly contrast the consumption trends from different periods under evaluation, and using an energy adapter, the power consumption of individual devices can be measured for the targeted identification of consumers. The information is transferred by radio from outdoor sensors, LAN and energy adapters as well as electricity and gas meter sensors. Thanks to its battery supply, the display can be positioned freely within the house. Power supply via an optional power-supply unit is also possible.

- Conventional installation
- Radio bus system
- KNX system

Building control taking weather data into account

Gira KNX weather station Standard, Gira KNX weather station Comfort



The Gira KNX weather station makes recording weather data possible for use in building control. For example wind speed, precipitation, twilight and temperature can trigger certain switching actions and contribute to energy savings with targeted switching of lighting, heating, blinds, awnings and ventilation using fans or motor-driven windows. For example, if the brightness exceeds a set value, selected blinds are lowered according to the position of the sun in order to prevent the room from heating up sharply and reduce the burden on the air conditioner. In contrast, the blinds stay safely raised in case of strong winds.

- Conventional installation
- Radio bus system
- KNX system

Operating devices for the Gira KNX system

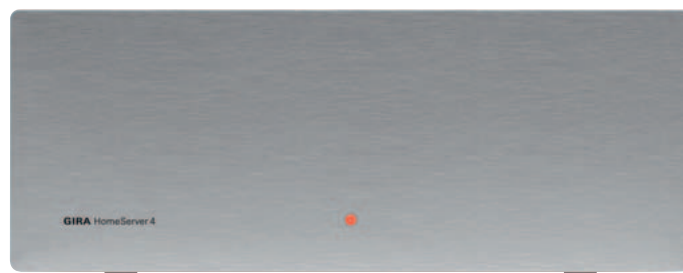
Gira Interface on the Gira Control 19 Client, iPod touch, notebooks, smartphones and tablets



The Gira KNX system enables central control and automation of the electrical installation as well as direct access to the functions of the individual rooms. It is possible thanks to the uniform and intuitive menu guidance of the Gira Interface via the Gira Control 9 Client, Gira Control 19 Client or from a mobile device such as a notebook, smartphone, iPod touch or tablet. In this way, residents can also view consumption data while away. With the aid of diagrams, the data can be clearly visualised and evaluated. This provides the basis for further energy optimisation.

Gira HomeServer and Gira FacilityServer

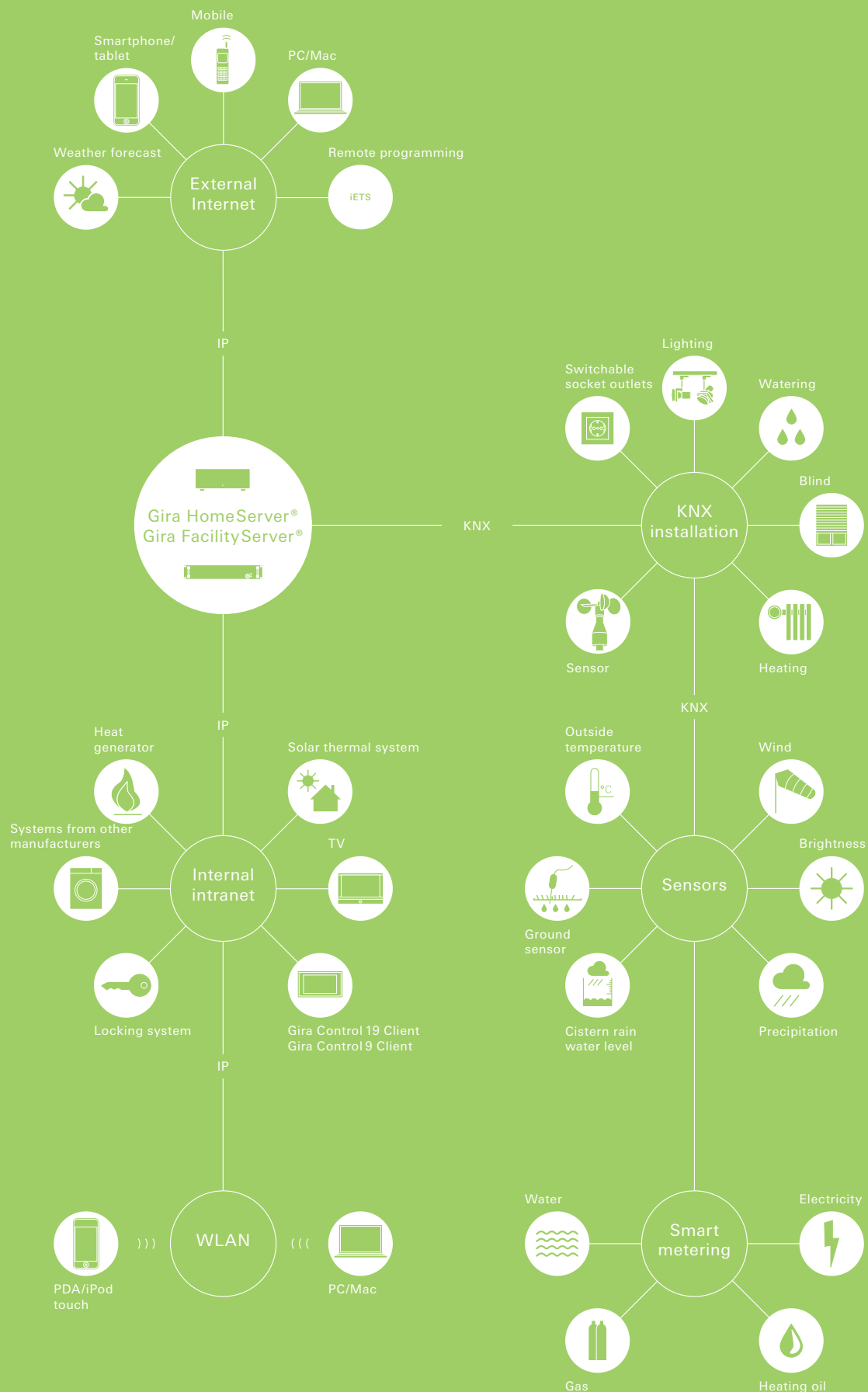
Gira HomeServer



The Gira HomeServer or FacilityServer is the on-board computer for the building. It acts as a gateway for the entire Gira KNX installation within a building, allows central control and automation of the functions and thus automatically controls the complete energy management according to preset user profiles. The Gira HomeServer allows operation of the KNX functions using the computer or other Internet-compatible devices – directly via the local network, an internal radio network or the Internet. In this way, home technology can be checked and controlled at any time.

Building technology with Gira KNX

All functions are integrated in the Gira KNX system and their control is combined intelligently and reacts to outdoor conditions such as brightness, outside temperature and other weather effects. Such information is constantly added to the system via sensors or data from the Internet. The Gira HomeServer controls the complete energy management in the building and saves the operating and consumption data. It also communicates with systems from other manufacturers such as telephone systems or a solar thermal system. The occupants can view and access the data from the Gira HomeServer via Internet-compatible devices such as laptops, smartphones or tablets.



Recording and evaluating consumption data

The operating and consumption data for e. g. electricity, water, heating oil and gas are recorded by the sensors, continuously saved by the Gira HomeServer or FacilityServer and can be viewed and evaluated in clear diagrams via PC/Mac, mobile devices or the Gira Control 9 Client or Control 19 Client. Trends throughout the entire year can thus be documented, comparative calculations made and the potential for savings determined.



Automatically switching to energy-saving mode

The Gira HomeServer or FacilityServer detects when its occupants are absent and automatically switches to energy-saving mode. This can be triggered for example when the house door is locked twice or when the alarm system has been activated. Energy-saving mode chokes the flow temperature of the heating boiler and the service water temperature, switches off all lights, closes the windows and separates selected consumers from the mains.



Single-room control of heating and ventilation

A separate requirement profile can be created for each individual room with times in which the room should be heated or ventilated, for example with the bathroom in the mornings and evenings. Living areas are heated up during the working week half an hour before occupants return from work and heated continuously on the weekend. This means that heating and ventilation systems never run unnecessarily.



Watering according to plan

Optimal watering now occurs automatically: ground sensors measure water requirements at various locations throughout the garden and in combination with the watering system allow use of water supplies according to needs, and if desired in accordance with weather forecasts on the Internet.



Window open, heating off

The system registers by means of door and window contacts when a door or window is opened. After a period that can be set, the system then automatically turns down the radiator valve using a valve drive. The heating is not switched on again until all doors and windows in the room have been closed.



Environmentally friendly supply of hot water

If a washing or rinsing cycle is due, the Gira HomeServer or FacilityServer guarantees the inexpensive and environmentally friendly provision of hot water from the solar thermal system. Because the water has already been heated, electrical energy is conserved that would normally be required for heating the water.



Energy management functions via the Gira Interface



The Gira Control 19 Client is an intuitive/operating unit for the Gira HomeServer. It enables monitoring and control of the complete building technology as well as use of the Internet connection. All functions can be simply operated with a single finger. On the touch screen with a screen diagonal of 47 cm (18.5"), the clearly designed, multi-award-winning Gira Interface clearly and concisely displays the complete building technology. In this way, the energy management can be reviewed easily. All operating and consumption data of the building technology can be visualised and evaluated.

The user profiles for all rooms can be viewed. The respective set times for heating, ventilation and blind control can be changed quickly and readapted if the living conditions of the occupants have changed. In this way energy is only consumed when it is actually required.



Controlling all room functions centrally

Ceiling lamp	ON	43%	▶ ⌚
Reading lamp	OFF	0%	▶ ⌚
Showcase lamps left	ON	100%	
Showcase lamps right	ON	79%	
Blind South	▲ ▼	70%	
Blind North	▲ ▼	42%	
Heating	❄️ 🔊	Nom. 21° Act. 20.5°	▶ ⌚
Window South	closed	🔒	
Window North	call up		

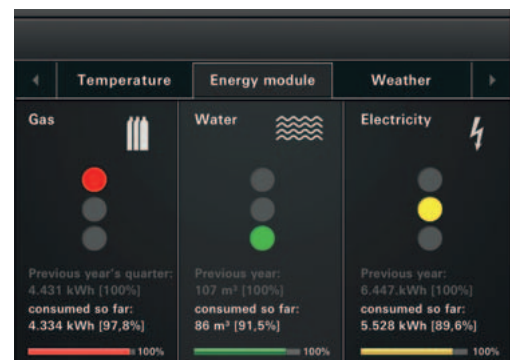
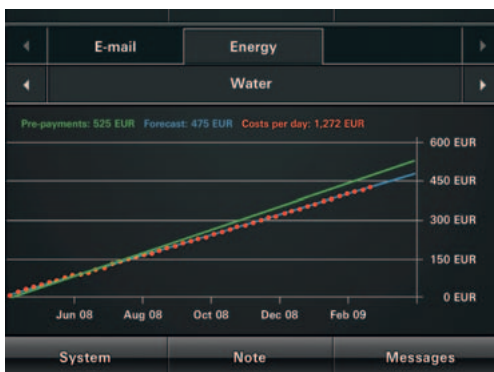
All functions within a room and their status can be seen at a glance. All functions can be operated directly from this display. In this way for example, lights can be switched on and off with a single touch or blinds raised and lowered.

Central switch-off when leaving the building

Sun 06.04.2008			
Leaving			
All lights off	open		▶ ⌚
All heating standby	open		▶ ⌚
All windows closed	open		
Alarm system activated	open		▶ ⌚

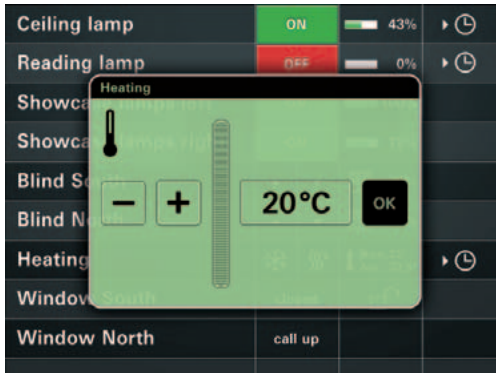
Functions such as switching off lighting, lowering heating, closing windows or activating the alarm system can be carried out centrally when leaving the building.

Recording and evaluating consumption data, recognising potential for savings



Operating and consumption data for e.g. electricity, water, heating oil and gas can be viewed and evaluated in clear diagrams. The energy module documents the consumption trends throughout the current year and compares them to the previous year's consumption. Thus comparative calculations can be made and the potential for savings determined.

Single-room temperature control



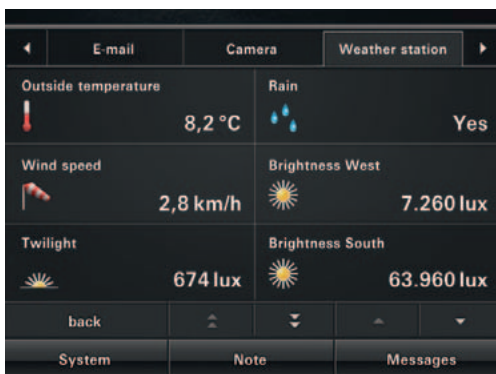
The temperature can be controlled conveniently and individually for each room. The system registers by means of door and window contacts when a door or window is opened and lowers the heating.

Setting up and calling up user profiles



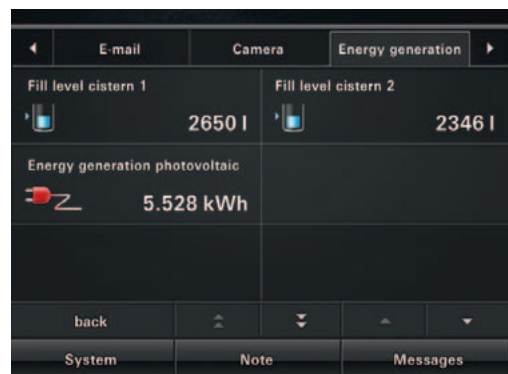
A separate user profile can be created for each individual room with times in which the room should be heated or ventilated. This means that heating and ventilation systems never run unnecessarily.

Weather station data at a glance



The data from a weather station can be viewed. The weather station measures wind speed, precipitation, twilight, temperature and brightness.

Viewing energy generation



The water level of a cistern or the energy generation of a photovoltaic system can be viewed via the Gira Interface.

Saving energy is worthwhile in two ways. When reducing consumption, costs can be reduced while making an important contribution to environmental protection. The intelligent building technology from Gira offers numerous components which provide more energy efficiency in the house and outdoors – from single functions up to entire systems.

Ask your system integrator about this important topic. They will be happy to consult you regarding your requirements and discuss the potential for energy savings.

The Gira design system

The Gira design system is modular. It consists of 9 switch ranges with over 300 functions for convenient, economical and secure living. All functions can be combined in various colours with different cover frame variants. This results in a huge design diversity. It also enables Gira products to be put together to match any furnishings.

Switch ranges

9 different switch ranges and 60 cover frame variants

Design example
Gira Esprit



Design example
Gira Event



Design example
Gira E2



Functions

Extensive range with more than 300 functions

Function example
Gira automatic control switch



Function example
Gira Touchdimmer



Function example
Gira continuous regulator



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Subject to technical modifications

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