Solutions

Home Automation
ABOUT CARLO GAVAZZI

Carlo Gavazzi Automation is a multinational electronics group active in the design, manufacture and marketing of electronic equipment targeted at the global markets of industrial and building automation.

Our history is full of firsts and our products are installed in a huge number of applications all over the world. With more than 80 years of successful operation, our experience is unparalleled.

We have our headquarters in Europe and numerous offices around the world. Our R&D competence centres and production sites are located in Denmark, Italy, Lithuania, Malta and the People’s Republic of China. We operate worldwide through 22 of our own sales companies and also selected representatives in more than 65 countries, from the United States in the West to the Pacific Rim in the East.

Our core competence in automation spans four product lines: Sensors, Switches, Controls and Fieldbuses.

Our wide array of products includes sensors, monitoring relays, timers, solid-state relays, electronic motor controllers, energy management equipment and fieldbus systems. We focus our expertise on offering state-of-the-art product solutions in selected market segments.

Our customers include original equipment manufacturers of packaging machines, plastic-injection moulding machines, food and beverage production machines, conveying and materials handling equipment, door and entrance control systems, lifts and escalators, as well as heating, ventilation and air-conditioning devices.

Our offer for the Home Automation consists of innovative solutions, designed to make a comfortable living environment, according to your mood and requirements as well as weather conditions.

Comfort, Security, Control, Flexibility and Ease are the synthesis of our commitment for an “intelligent” Home Automation system.
DESIGNED TO MEET MARKET REQUIREMENTS

The new home automation system by Carlo Gavazzi is the evolution of the well-known smart-house system: it looks after your houses in the best possible way, making them comfortable for you and your loved ones. It combines this comfortable living with energy saving, using state-of-the-art technology to improve your well-being and to reduce your carbon footprint.

The complete range of products is designed in Italy.

The system is based on a centralised structure, where the controller is the “brain” that supervises all the domestic functions such as lights, temperatures, rollerblinds, shutters and intruder, gas and water leaks alarms.

New modules and functionalities can be added at any time, making the home “alive” and letting you adapt it according to your wishes, which might change over time.

It also allows you to be aware of energy consumption, providing diagrams of current consumption as well as the logging of what has been consumed in the previous days, months or years. All this data is easily accessible using smartphones, PCs or tablet PCs.

Retrofit installations can also be made when using this new Carlo Gavazzi system, as it features a full range of wireless products that can be used when wiring is not possible or not desired.

The new web server complements traditional methods of managing sophisticated home automation technologies. It is embedded into the SH2WEB controller and it is completely configurable so that you can select your own themes.

The webserver is also designed as webapp to be accessible via any smartphone, tablet pc.

The intuitive, user-friendly interface allows the control of lights, rollerblinds, alarms, timers, temperatures and more, both remotely and on site, all from a multi-function device.

Furthermore, the webserver/webapp enable access to the datalogger where energy data, temperatures and other events are stored, in order to have a clear overview of which appliances are on and how much they are consuming.
**Home Automation**

**Bus intelligence made by experience**

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**Bus and power in the same cable**

The bus and power wires follow the same logical path. The “switch wires” needed in conventional installations can be eliminated by use of de-central relays. The installation is fast and simple and last-minute changes are easily accommodated. No special cable or cable termination is required for the bus.

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**Fast commissioning with no addressing**

One of the most innovative features of this system is that no addressing of modules is needed. The installer only has to mount all the components, launch a network scan and the system will automatically find and recognize the connected devices, making the correct association or addressing. This will result in time and cost savings, besides providing an error-free configuration process.

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**Scenarios**

- Simulated habitation
- Automatic blinds
- Climate control
- Fan control

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**Scheduler**

- Scenarios
- Habitation
- Automatic blinds
- Climate control
- Fan control
Diagnostic function
Immediate trouble-shooting is assured as the system monitors all the connected devices and advises if one is faulty. The load of the bus is constantly monitored and any anomaly is at once detected and reported.
All the information about short-circuits, bus voltage and load, noise level and quality of the bus signals is logged in a file both locally and remotely accessible.
This can be checked anytime, providing effective time and money savings.

Easy configuration software
The system configuration can be easily done by means of its wizard tools. The user-friendly interface of this software guides the user in the creation of the pre-defined functions.
At the same time, thanks to many basic functions, the most skilled user can also create customized applications.
Test modes are getting easier by the several debug features available.
Carlo Gavazzi offers integrated lighting automation and control. Lighting sets the perfect scene and creates the desired ambience for any occasion. Whether it is a movie night, an intimate dinner for two or a party with friends, lighting establishes the right mood. The lights can create pre-programmed scenes to simulate the chosen lifestyle patterns. Dimmers do not just set the right atmosphere and create specific entertainment options, they can save money too. Most of the time we do not need to set our lights to full brightness to light a room, and if you dim your lights you are using less energy to run them. This is the aim of the new dimming technology by Carlo Gavazzi, in addition to the integration of energy-saving alternatives such as LED lamps.

The garden lights can be turned on by a light level sensor, whereas the entrance lights can be activated by a movement sensor. Occupancy sensing, which turns off lights when they are not needed, makes Carlo Gavazzi solutions ideal also for special applications such as light management in corridors and staircases.

Comfort and energy saving at a single touch are assured, without sacrificing style or convenience.
Carlo Gavazzi maintains your home at a comfortable level at all times, monitoring temperature and humidity levels automatically. There is no need to get up or even be at home to adjust the temperature: with our Home Automation range of products you can control multiple zones from one location and easily pre-set temperature set points. You can keep your home at a more energy efficient temperature while you are out and programme it to automatically adjust to more comfortable levels by the time you get home.

Coming home early? Use your mobile phone or PC to control the climate remotely, even monitoring the wine cellar or greenhouse temperature and humidity level.

The Home Automation system by Carlo Gavazzi also helps you to save energy and money: demand-based energy use can be achieved via a timer program with a temperature profile or even via a presence signal.

As the temperature variables of all the rooms are available centrally via the bus system, heating and cooling energy can be generated according to demand and with a high level of efficiency.
Home Automation

Blind and awning control

The installation of intelligent control technology in houses allows for the flexible control of blinds and shutters. In this way you can select various control options as:

- Classic control with conventional buttons and switches
- Control from remote PCs and smartphones
- Connection of multiple blinds/shutters to groups
- Realization of central functions such as “all up” buttons, “all blinds on the south side up” or similar

Thanks to full flexibility, it is possible to change switch assignment. Shutter-groups can be created at any time through our configuration software.

Furthermore, automation can be specified to respond to a number of different factors:

- Solar control, where the device operates automatically when a certain intensity of light is received by the sensor.
- Timers may be specified.
- An anemometer (wind speed sensor) is fitted so that the blind is retracted in windy conditions.
- Rain sensors may be used in order not to wet the blinds or dirty the window glass.
Alarms

Carlo Gavazzi protects your home. A water leakage in your kitchen or laundry room can be immediately detected by a sensor at floor level and the water supply will be interrupted, preventing loss and damage. At the same time an SMS message will promptly inform you when you are away from home.

Smoke detectors at different locations in your house are the main elements in the fire alarm system, and can be combined with other functions, for example lights can be switched on and fans switched off in case of fire. The intruder alarms can be programmed so that house lights flash when there is a security breach, as well as sounding the siren. Switching lights on and off in each room at two-second intervals is psychologically distracting and makes it extremely difficult for an intruder to search for jewellery and information such as credit card details. It also draws attention to the house from outside, further deterring any intruder from their actions. The system can also play back loud music or alarm sounds in each room, to further persuade the intruder to leave. Naturally, the police can be notified automatically, along with key-holders and other designated people.

### Presence detectors
- SHSGP360L
- BSx-PIR90-U
- Bx-X-PIR90-U

### Smoke detectors
- BSG-SMO-U
- BSG-SMOA-U

### Water detectors
- BSF-WAT-U

### Wireless window sensors
- SHDWWISEN
- SHDWWISENIN1

### Programmable keypad
- BACC-KEYPAD-DC-U
Incorporating a home automation system into a new or existing structure makes it easier to reduce energy consumption, also in combination with energy efficient lighting, Energy Star appliances and alternative energy sources.

Another effortless way to enhance the energy efficiency in your home is to take control of your energy consumption, by finding out exactly how much you are using.

Many electricity companies offer lower rates during off-peak hours, such as evenings and weekends. Using appliances such as washing machines, dryers, air conditioners and dishwashers during these hours can lead to substantial savings on your electricity bill.

These real-time energy usage measurements will lead you to become more efficient with your energy consumption needs and will result in significant energy savings.

The system reads and logs the energy consumption of the whole installation or of a single load.

Data can be accessed anytime by means of a webserver/webapp and shown as instantaneous values, or in the form of graphs and/or diagrams.
**Scenarios**

**Holidays scenario**
- Heating
- Alarms
- Roller Blinds
- Doors and Windows
- Automatic Irrigation
- Automatic turn on/off of lights

**Night & Day scenario**
- Roller Blinds & Awnings
- Exterior Lighting
- Heating or Air Conditioning
- Automatic Irrigation (at the set time)

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**Entertainment scenario**
- TV and Home Theatre
- Music Surround
- Lights
- Heating or Air Conditioning
- Roller Blinds

**Touch screen 4”**

**Touch screen 7”**

BTM-T4-24  BTM-T7-24

CARLO GAVAZZI Automation Components. Specifications are subject to change without notice. Illustrations are for example only.
Home Automation

The controller

The Carlo Gavazzi smart-house system is based on a central CPU, the SH2WEB24, a Linux based embedded PC that manages all the smart functions.

It is programmed by means of powerful software, the SH tool.

The SH2WEB24 has Ethernet communication capability in order to be remotely controlled and monitored by smart-devices/PCs. It also acts as a datalogger, which can record any kind of value/event coming from the many buses it can be connected to (Wireless and Dupline buses, two RS485 ports).

The master unit is also provided with an sd-card and USB port, which allow data uploading/downloading and system configurations.

Where wired Internet access is not available, Carlo Gavazzi provides a specific mobile modem to be added to the SH2WEB24. This modem makes it possible to control any remote installation, whether it be a cabin in the mountains or a house at the seaside.

If the SH2WEB24 can be considered the “brain” of the smart-house system, the two bus generators are the pulsating “heart” that makes all the information flow.

They are connected to the SH2WEB24 via the high speed bus that is present both on the local bus and on the terminals at the bottom.

This means that the connection is very fast and easy in a cabinet, since the modules just have to be plugged together without any wiring.

At the same time it is very straightforward if the bus generators have to be mounted in different cabinets.

Up to 7 bus generators can be connected to one SH2WEB24.

<table>
<thead>
<tr>
<th>Controller</th>
<th>Wired bus generator</th>
<th>Wireless bus generator</th>
<th>DALI bus generator</th>
<th>USB dongle modem accessory</th>
<th>Digital input module</th>
</tr>
</thead>
<tbody>
<tr>
<td>SH2WEB24</td>
<td>SH2MCG24</td>
<td>SH2WBU230N</td>
<td>SB2DALI230</td>
<td>SH2DSP24</td>
<td>SH2INDI424</td>
</tr>
</tbody>
</table>
**SH2MCG24 - the wired bus generator of smart Dupline®**
The SH2MCG24 module is the smart Dupline bus generator, which provides the dupline bus on the local bus and on the terminals at the top.

Thanks to this, the DIN-rail slave modules (dimmers, relays, rollerblind modules, etc...) can simply be plugged into the SH2MCG24, without the need for any wiring. The decentral modules, such as light switches, PIR sensors and temperature display, are connected to the SH2MCG24 with the two wires coming out from the terminals at the top.

**SH2WBU230N - the wireless bus generator of WiDup**
The smart-house system also provides a solution where it is not possible to use existing wiring, especially during the renovation of buildings. The SH2WBU230N is the wireless bus generator that can control wireless light switches and output relay modules. The wireless bus is based on the standard IEEE 802.15.4 @2.4Ghz.

Up to 250 modules can be managed by one SH2WBU230N. The open-space operating distance is 700 metres.

<table>
<thead>
<tr>
<th>Solid state relay output module</th>
<th>Relay modules</th>
<th>Relay module with energy reading</th>
<th>Up/down modules for AC/DC motors</th>
<th>Dimmer module with energy reading</th>
<th>1-10 V Dimmer module</th>
</tr>
</thead>
<tbody>
<tr>
<td>SH2SSTRI424</td>
<td>SH2RE16A4</td>
<td>SH2RE16A2E230</td>
<td>SH2ROAC224</td>
<td>SH2D500WE230</td>
<td>SH2D10V424</td>
</tr>
<tr>
<td>SH2SSTRI424</td>
<td>SH2RE1A424</td>
<td>SH2ROAC224</td>
<td>SH2RODC224</td>
<td>SH2D500WE230</td>
<td>SH2D10V424</td>
</tr>
</tbody>
</table>
# Home Automation

## Our product range

### Controllers

**SH2WEB24**
- **Main unit**: home automation functions and energy data logging configurable by software
- Two RS485 communication ports (Modbus)
- One Ethernet port
- Two multi-purpose USB 2.0 ports
- Micro SD

**MAIN FEATURES**
- Dimensions: 2-DIN modules
- DC power supply

### Wired bus generators

**SH2MCG24**
- Connection to SH2WEB24 via internal bus or terminals via the high speed bus
- Up to 7 SH2MCG24 can be connected on the same network, considering the sum of SH2MCG24, SH2WBU24 and SH2WBU230N

**MAIN FEATURES**
- Dimensions: 2-DIN modules
- DC power supply

### DALI bus generators

**SB2DALI230**
- Interfaces the Dupline® bus to standard DALI lighting actuators
- Operates as DALI controller and power supply with possibility to connect up to 64 ballasts to the DALI bus output
- Can be linked to Dupline® at any point in the installation
- Multiple SB2DALI230 units can be connected to the same Dupline® bus

**MAIN FEATURES**
- Allows the powerful combination of Dupline® and DALI
- Compact dimension: 2-DIN module
- 230 VAC power supply

### Accessories

**USB dongle modem**
- USB port to supply dongle modem HUAWEI MS2131 DINK DWAN 157
- Support for wifi USB key
- Watchdog features to prevent common mobile network hassles

**MAIN FEATURES**
- Dimensions: 2-DIN modules
- 24VDC supplied

**Digital input modules**
- **4 inputs**

**SH2INDI424**
- 4 digital inputs NPN, PNP, voltage free
- The 4 inputs can be configured as contact or counter
- LED indication for power supply, dupline bus, input activated
- Connection to other cabinet modules via local bus

**MAIN FEATURES**
- Dimensions: 2-DIN modules
- DC power supply

**Output modules**
- **Solid state relay**

**SH2SSTRI424**
- 4 triac output
- Module load: 4 x 10 W
- LED-indications for supply, bus and outputs status
- Connection to other cabinet modules via local bus
- Push button for local on/off switching

**MAIN FEATURES**
- Dimensions: 2-DIN modules
- DC power supply
## Our product range

<table>
<thead>
<tr>
<th>Relay modules</th>
<th>Relay modules</th>
<th>Roller blind modules for AC/DC motor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SH2RE16A4/SH2RE1A424</strong></td>
<td><strong>SH2RE16A2E230</strong></td>
<td><strong>SH2ROAC224 / SH2RODC224</strong></td>
</tr>
<tr>
<td>- 4 separate outputs relay</td>
<td>- 2 outputs relay</td>
<td>- Up/down control of 2 AC / DC roller blind motors</td>
</tr>
<tr>
<td>- LED indications for supply, bus and outputs status</td>
<td>- Energy reading</td>
<td>- LED indication for power supply, skylight bus, motor up, motor down</td>
</tr>
<tr>
<td>- Connection to other cabinet modules via local bus</td>
<td>- LED indications for supply, bus and outputs status</td>
<td>- Connection to other cabinet modules via local bus</td>
</tr>
<tr>
<td>- Push button for local on/off switching</td>
<td>- Connection to other cabinet modules via local bus</td>
<td>- Push button for local on/off switching</td>
</tr>
</tbody>
</table>

### MAIN FEATURES
- **Dimensions:** 2-DIN modules
- **Bus supplied:**
  - **SH2RE16A4:** bus supplied
  - **SH2RE1A424:** DC power supply

<table>
<thead>
<tr>
<th>Dimmer modules with energy reading</th>
<th>Dimmer modules up to 500 W</th>
<th>Dimmer modules 1-10 V</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SH2D500WE230</strong></td>
<td><strong>SH2D500W1230</strong></td>
<td><strong>SH2D10V424</strong></td>
</tr>
<tr>
<td>- Universal dimmer switch for R, L, C up to 500 W and LED loads</td>
<td>- Universal dimmer switch for R, L, C up to 500 W and LED loads</td>
<td>- Switching and dimming adjustable ballasts 1 to 10 V</td>
</tr>
<tr>
<td>- Integrated heat sink for temperature dissipation</td>
<td>- Integrated heat sink for temperature dissipation</td>
<td>- 4 independent dimmable outputs</td>
</tr>
<tr>
<td>- Energy reading</td>
<td>- Automatic load detection for L, R, C load</td>
<td>- LED indications for supply, bus and outputs status</td>
</tr>
<tr>
<td>- Connection to other cabinet modules via local bus</td>
<td>- Connection to other cabinet modules via local bus</td>
<td>- Connection to other cabinet modules via local bus</td>
</tr>
<tr>
<td>- Push button for local on/off switching</td>
<td>- Push button for local on/off switching</td>
<td>- Push button for local on/off switching</td>
</tr>
</tbody>
</table>

### MAIN FEATURES
- **Dimensions:** 2-DIN modules
- **230 V supplied:**
  - **SH2D500WE230:** 230 V supplied
  - **SH2D500W1230:** 230 V supplied
  - **SH2D10V424:** DC power supply

CARLO GAVAZZI Automation Components. Specifications are subject to change without notice. Illustrations are for example only.
# Home Automation

## Our product range

<table>
<thead>
<tr>
<th>Smart-dupline energy meters</th>
<th>Transparent modules</th>
<th>Decentral output modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>SH2EM16A230</td>
<td>SH1DUPFT</td>
<td>BDA-RE13A-U</td>
</tr>
<tr>
<td><strong>MAIN FEATURES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Direct connection: 16A</td>
<td>• Transparent dupline module</td>
<td>• Small sized single relay output</td>
</tr>
<tr>
<td>• Connection to other cabinet modules via local bus</td>
<td>• The dupline bus is present on the top/bottom connectors and internal bus</td>
<td>• Load: 16 A/250 VAC</td>
</tr>
<tr>
<td>• Energy measurement: kWh</td>
<td>• Connection to other cabinet modules via local bus</td>
<td>• Withstands 130 A inrush current</td>
</tr>
<tr>
<td>• Instantaneous variables readout: A, V, W, Wdmd, VA,</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analogue input modules</th>
<th>Analogue output module</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHPINV2T1P124 / SHPINT1P1 / SHPINI2 / SHPINV324</td>
<td>SHPOUTV224</td>
</tr>
<tr>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
</tr>
<tr>
<td>• Input modules for thermistor, resistor and voltage measuring</td>
<td>• Output modules with two 0-10 V outputs</td>
</tr>
<tr>
<td>• Ranges: 10 K3 thermistor input, 1-11 K resistor input, 0-10 V input, pt1000/ni1000</td>
<td>• Small dimensions for decentralized installations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deentral roller blind modules</th>
<th>Analogue input modules</th>
<th>Analogue output module</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHDRODC230</td>
<td>SHPINV2T1P124 / SHPINT1P1 / SHPINI2 / SHPINV324</td>
<td>SHPOUTV224</td>
</tr>
<tr>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
</tr>
<tr>
<td>• Up/down control of 1 AC rollerblind motor</td>
<td>• DC power supply</td>
<td>• Design for mounting in eurobox</td>
</tr>
<tr>
<td>• Up/down interlocking for motor</td>
<td></td>
<td>• Relay load 5 A</td>
</tr>
<tr>
<td>• AC power supply</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CARLO GAVAZZI Automation Components. Specifications are subject to change without notice. Illustrations are for example only.
## Our product range

<table>
<thead>
<tr>
<th>Light switch interfaces</th>
<th>Digital input modules</th>
<th>Voltage input modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDB-INCON4-U / BDB-IOCON4-U</td>
<td>BDD-INCON4-U</td>
<td>BDA-INVOL-U</td>
</tr>
<tr>
<td>BDB-IOCP8x-U</td>
<td>• Small-sized 4 or 8 I/O modules</td>
<td>• Input voltage module for building automation</td>
</tr>
<tr>
<td></td>
<td>• 4 or 8 contact inputs for push buttons</td>
<td>• 1 opto-isolated voltage input 90-265 VAC</td>
</tr>
<tr>
<td>MAIN FEATURES</td>
<td>• Compact housing</td>
<td>• Compact housing</td>
</tr>
<tr>
<td></td>
<td>• Bus powered</td>
<td>• Bus powered</td>
</tr>
</tbody>
</table>

## Light switches

<table>
<thead>
<tr>
<th>B4X-LS4-U / B5X-LS4-U</th>
<th>SHG060WLS4 / SHG060BLS4</th>
<th>SHG060BSLD / SHG060W5LD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• 4 or 6 individually programmable keys</td>
<td>• 4 dimmable outputs or on/off functions.</td>
</tr>
<tr>
<td></td>
<td>• Black or white glass</td>
<td>• The push buttons can be programmed to control up to</td>
</tr>
<tr>
<td></td>
<td>• Backlight ON when the hand nears the glass</td>
<td>• The dimming level is changed by moving the finger over</td>
</tr>
<tr>
<td></td>
<td>• Programmable buzzer when a key is pressed</td>
<td>• the slider</td>
</tr>
<tr>
<td></td>
<td>• Integrated temperature sensor, range -9° to 50°C</td>
<td>• Black or white glass</td>
</tr>
<tr>
<td>MAIN FEATURES</td>
<td>• Power supply: 24 VDC</td>
<td>• Backlight ON when the hand nears the glass</td>
</tr>
<tr>
<td></td>
<td>• B4X-LS4-U: Developed to fit into wall socket and frames from Fuga, NIKO and Bitcino</td>
<td>• Programmable buzzer when a key is pressed</td>
</tr>
<tr>
<td></td>
<td>• B5X-LS4-U: Developed to fit into wall socket and frames from Elko, Gira and Jung</td>
<td></td>
</tr>
</tbody>
</table>

## Glass touch switches

<table>
<thead>
<tr>
<th>B4X-LS4-U / B5X-LS4-U</th>
<th>SHG503WLS6 / SHG503BLS6</th>
<th>SHG503B5LD / SHG503W5LD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• 4 individually programmable push button inputs</td>
<td>• Power supply: 24 VDC</td>
</tr>
<tr>
<td></td>
<td>• 4 individually programmable LEDs for true response</td>
<td>• Mounting: 503 box, Ø60 box</td>
</tr>
<tr>
<td></td>
<td>• Bus powered, no external supply required</td>
<td></td>
</tr>
</tbody>
</table>

## Glass touch dimming

<table>
<thead>
<tr>
<th>B4X-LS4-U / B5X-LS4-U</th>
<th>SHG060WLS4 / SHG060BLS4</th>
<th>SHG060BSLD / SHG060W5LD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• 4 or 6 individually programmable keys</td>
<td>• Power supply: 24 VDC</td>
</tr>
<tr>
<td></td>
<td>• Black or white glass</td>
<td>• Mounting: 503 box, Ø60 box</td>
</tr>
<tr>
<td></td>
<td>• Backlight ON when the hand nears the glass</td>
<td></td>
</tr>
</tbody>
</table>
## Home Automation

### Our product range

<table>
<thead>
<tr>
<th>Glass touch temperature</th>
<th>90° PIR detectors</th>
<th>90° PIR + lux meters</th>
</tr>
</thead>
</table>
| **SHA4XP90L / SHE5XP90L** | • Passive infrared detector (PIR)  
• Detects movement and presence  
• Indoor applications  
• Operating angle: 90°  
• Lighting measuring range: 0 to 200 K lux | **SHA4XP90L / SHE5XP90L** | • Passive infrared detector (PIR)  
• Detects movement and presence  
• Indoor applications  
• Operating angle: 90°  
• Lighting measuring range: 0 to 200 K lux |
| **SHA4XLS4P90L / SHE5XLS4P90L** | • 4 individually programmable push button  
• Integrated 90° PIR and luxmeter sensor  
• Indoor applications | **B4X-PIR90-U / B5X-PIR90-U** | **B4X-PIR90-U / B5X-PIR90-U** | • Bus powered  
• Walk test: LED indication  
• Programmable sensitivity | **B4X-PIR90-U / B5X-PIR90-U** | • Bus powered  
• Walk test: LED indication  
• Programmable sensitivity |
| **SHG060BSLT / SHG060WSLT** | • It can control one temperature function managing 3 setpoints with the slider and on/off functions  
• Integrated temperature sensor, range -9° to 50°C  
• White and black glass  
• Backlight ON when the hand nears the glass  
• Programmable buzzer when a key is pressed  
• Shows current room temperature and a secondary temperature | **SHA4XP150L / SHE5XP150L** | • Integrated 150° PIR and luxmeter sensor  
• Operating angle: 150°  
• Operating distance: 8 m | **SHA4XP150L / SHE5XP150L** | • Integrated 150° PIR and luxmeter sensor  
• Operating angle: 150°  
• Operating distance: 8 m |
| **SHG503BSLT / SHG503WSLT** | **Light switches + 90° PIR + lux meter** | **150° PIR detectors** | **150° PIR + lux meters** | **SHA4XP150L / SHE5XP150L** | • 4 individually programmable push button  
• Integrated 90° PIR and luxmeter sensor  
• Indoor applications | **B4X-PIR90-U / B5X-PIR90-U** | **B4X-PIR90-U / B5X-PIR90-U** | • Bus powered  
• Walk test: LED indication  
• Programmable sensitivity | **B4X-PIR90-U / B5X-PIR90-U** | • Bus powered  
• Walk test: LED indication  
• Programmable sensitivity |
| **SHA4XLS4P150L / SHE5XLS4P150L** | • Passive infrared detector (PIR)  
• Detects movement and presence  
• Indoor applications  
• Operating angle: 150°  
• Operating distance: 8 m | **SHA4XP150L / SHE5XP150L** | • Integrated 150° PIR and luxmeter sensor  
• Operating angle: 150°  
• Operating distance: 8 m | **SHA4XP150L / SHE5XP150L** | • Integrated 150° PIR and luxmeter sensor  
• Operating angle: 150°  
• Operating distance: 8 m |
| **SHG060BSLT / SHG060WSLT** | **Glass touch temperature** | **90° PIR detectors** | **90° PIR + lux meters** | **SHA4XP150L / SHE5XP150L** | • 4 individually programmable push button  
• Integrated 90° PIR and luxmeter sensor  
• Indoor applications | **B4X-PIR90-U / B5X-PIR90-U** | **B4X-PIR90-U / B5X-PIR90-U** | • Bus powered  
• Walk test: LED indication  
• Programmable sensitivity | **B4X-PIR90-U / B5X-PIR90-U** | • Bus powered  
• Walk test: LED indication  
• Programmable sensitivity |

**MAIN FEATURES**
- **SHA4XLS4P90L / SHE5XLS4P90L**
  - Developed to fit into wall socket and frames from Fuga, NIKO and Bitcino
  - Developed to fit into wall socket and frames from Elko, Gira and Jung
- **SHA4XP150L / SHE5XP150L**
  - Developed to fit into wall socket and frames from Fuga, NIKO and Bitcino
  - Developed to fit into wall socket and frames from Elko, Gira and Jung

CARLO GAVAZZI Automation Components. Specifications are subject to change without notice. Illustrations are for example only.
Our product range

<table>
<thead>
<tr>
<th>Light switches + temperature and humidity sensor</th>
<th>Temperature displays</th>
<th>90° PIR lux meters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SHA4XLS4TH / SHE5XLS4TH</strong></td>
<td><strong>SHA4XTEMDIS / SHE5XTEMDIS</strong></td>
<td><strong>BSD-PIR90-U / SHSDP90L</strong></td>
</tr>
<tr>
<td>• 4 individually programmable push button</td>
<td>• Temperature controller with display</td>
<td>• Passive infrared detector (PIR)</td>
</tr>
<tr>
<td>• Integrated temperature and humidity sensor</td>
<td>• Shows current room, outdoor and auxiliary temperature</td>
<td>• Detects movement and presence</td>
</tr>
<tr>
<td>• Temperature range: -40° to 60°C</td>
<td>• Turns on/off heating and cooling</td>
<td>• Indoor applications</td>
</tr>
<tr>
<td>• Humidity range: 5 to 95%</td>
<td>• Energy Save through 3 different setpoints: comfort, activity, economy</td>
<td>• Operating distance: 12 m</td>
</tr>
<tr>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
<td>• Operating angle: 90°</td>
</tr>
<tr>
<td>• SHA4XLS4TH: Developed to fit into wall socket and frames from Fuga, NIKO and Bitino</td>
<td>• Bus powered</td>
<td><strong>MAIN FEATURES</strong></td>
</tr>
<tr>
<td>• SHE5XLS4TH: Developed to fit into wall socket and frames from Elko, Gira and Jung</td>
<td>• SHA: Developed to fit into wall socket from Fuga, NIKO on Bitino</td>
<td>• Bus powered</td>
</tr>
<tr>
<td></td>
<td>• SHE: Developed to fit into wall socket from Elko, Gira and Jung</td>
<td>• Walk test: LED indication</td>
</tr>
<tr>
<td><strong>90° PIR lux meters</strong></td>
<td><strong>360° PIR lux meters</strong></td>
<td><strong>Environmental sensors</strong></td>
</tr>
<tr>
<td><strong>BSP-PIR90-U / BSP-PIR90A-U</strong></td>
<td><strong>SHSQP360L</strong></td>
<td><strong>SHSUXXXRD / SHSUXXXXL</strong></td>
</tr>
<tr>
<td><strong>SHSUXXX</strong></td>
<td><strong>SHSUXXX</strong></td>
<td><strong>SHSUXXDL / SHSUXXLA</strong></td>
</tr>
<tr>
<td>• Passive infrared detector (PIR)</td>
<td>• Room sensors for CO₂, temperature and humidity measurement</td>
<td>• Room sensors for CO₂, temperature and humidity measurement</td>
</tr>
<tr>
<td>• Detects movement and presence</td>
<td>• Available with display, RGB LED or neutral</td>
<td>• Available with display, RGB LED or neutral</td>
</tr>
<tr>
<td>• Indoor and outdoor applications</td>
<td>• Temperature range: -20°C to +50°C</td>
<td>• Temperature range: -20°C to +50°C</td>
</tr>
<tr>
<td>• Operating distance: 0.5 - 15 m</td>
<td>• Humidity range: 0 to 100 %RH</td>
<td>• Humidity range: 0 to 100 %RH</td>
</tr>
<tr>
<td>• Operating angle: 90°</td>
<td>• CO₂ range: 0 to 2000 ppm</td>
<td>• CO₂ range: 0 to 2000 ppm</td>
</tr>
<tr>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
</tr>
<tr>
<td>• Bus powered</td>
<td>• Bus powered</td>
<td>• Easily mountable</td>
</tr>
<tr>
<td>• Programmable sensitivity</td>
<td>• Programmable sensitivity</td>
<td>• Bus powered</td>
</tr>
<tr>
<td></td>
<td>• Lens: dual detecting zones</td>
<td>• Low current consumption</td>
</tr>
</tbody>
</table>
Home Automation

**Our product range**

### Outdoor temperature sensors

**BSI-TEMANAX-U**
- Temperature range: -40°F to +60°F
- BSI-TEMANA-U is delivered with a M12 plug
- BSI-TEMANAB-U is delivered with a 2 m cable

**MAIN FEATURES**
- Easily mountable
- Bus powered

### Weather stations

**SHOWEAGPS**
- Light, wind, temperature measurement
- Ranges: 0 to 100K lux, 0 to 35 m/s, -40°F to 80°F
- Rain sensor included

**BSN-ANE-U**
- Measuring range: 2 m/s to 25 m/s
- Built-in alarm output with programmable threshold

**MAIN FEATURES**
- Easily mountable
- Bus powered

### Anemometers

**BSH-LUX-U**
- Lighting measuring range: 0 to 20K lux
- For indoor and outdoor installation
- Working temperature: -30°F to +60°F

**BSG-SMO-U / BSG-SMOA-U**
- Detection of smouldering and flaming fires with smoke development
- Without radioactive sources
- Detection of up to 60 m²
- Transmission of alarms and Alive signal via bus

**BSF-WAT-U**
- Integrated water sensor input
- Water resistant PCB with screw terminals
- External input for Felson moisture cable

**MAIN FEATURES**
- Easily mountable with unique mounting bracket
- Constant monitoring of sensor sensitivity
- Bus powered

### Lux meters for outdoor installation

**BSH-LUX-U**
- Lighting measuring range: 0 to 20K lux
- For indoor and outdoor installation
- Working temperature: -30°F to +60°F

**BSG-SMO-U / BSG-SMOA-U**
- Detection of smouldering and flaming fires with smoke development
- Without radioactive sources
- Detection of up to 60 m²
- Transmission of alarms and Alive signal via bus

**MAIN FEATURES**
- Battery backup if the connection is interrupted
- Constant monitoring of sensor sensitivity
- Bus powered

### Smoke detectors

**BSH-LUX-U**
- Lighting measuring range: 0 to 20K lux
- For indoor and outdoor installation
- Working temperature: -30°F to +60°F

**BSG-SMO-U / BSG-SMOA-U**
- Detection of smouldering and flaming fires with smoke development
- Without radioactive sources
- Detection of up to 60 m²
- Transmission of alarms and Alive signal via bus

**MAIN FEATURES**
- Battery backup if the connection is interrupted
- Constant monitoring of sensor sensitivity
- Bus powered

### Water detectors

**BSH-LUX-U**
- Lighting measuring range: 0 to 20K lux
- For indoor and outdoor installation
- Working temperature: -30°F to +60°F

**BSG-SMO-U / BSG-SMOA-U**
- Detection of smouldering and flaming fires with smoke development
- Without radioactive sources
- Detection of up to 60 m²
- Transmission of alarms and Alive signal via bus

**MAIN FEATURES**
- Battery backup if the connection is interrupted
- Constant monitoring of sensor sensitivity
- Bus powered

---

CARLO GAVAZZI Automation Components. Specifications are subject to change without notice. Illustrations are for example only.
### Our product range

<table>
<thead>
<tr>
<th>Programmable alarm keypad</th>
<th>Wireless bus generators</th>
<th>Wireless light switches</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BACC-KEYPAD-DC-U</strong></td>
<td><strong>SH2WBU230N</strong></td>
<td><strong>SHA4XWLS4 / SHE5XWLS4</strong></td>
</tr>
<tr>
<td>- Keypad for building access control and alarm control</td>
<td>- Wireless transmission based on IEEE 802.15.4, @ 2.4 GHz</td>
<td>- 4 individually programmable push buttons</td>
</tr>
<tr>
<td>- Indoor or outdoor applications</td>
<td>- Maximum slave number: 250</td>
<td>- Blue and red LEDs for wireless field power and battery level</td>
</tr>
<tr>
<td>- 28 user-programmable codes</td>
<td>- Up to 7 SH2WBU230N can be connected on the same network</td>
<td>- Battery supplied</td>
</tr>
<tr>
<td>- Programmable LED indication</td>
<td>- Connection to SH2WEB24 via internal bus or terminals via the high speed bus</td>
<td>- Range up to 100 m in open air</td>
</tr>
<tr>
<td>MAIN FEATURES</td>
<td>MAIN FEATURES</td>
<td>MAIN FEATURES</td>
</tr>
<tr>
<td>- DC power supply</td>
<td>- Dimensions: 2-DIN modules</td>
<td>- SHA4XWLS4: Developed to fit into wall socket and frames from Fuga, NIKO and Bticino</td>
</tr>
<tr>
<td></td>
<td>- DC power supply</td>
<td>- SHE5XWLS4: Developed to fit into wall socket and frames from Elko, Gira and Jung</td>
</tr>
</tbody>
</table>

### Wireless window sensors

<table>
<thead>
<tr>
<th><strong>SHDWWISEN / SHDWWISENN1</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Dimensions: sensor: 60 x 30 x 15.5</td>
</tr>
<tr>
<td>- magnet: 32 x 10.2 x 11.5</td>
</tr>
<tr>
<td>- Reed sensor</td>
</tr>
<tr>
<td>- Additional voltage free input</td>
</tr>
<tr>
<td>- 1 red LED/ 1 blue LED for battery level indication</td>
</tr>
<tr>
<td>- Range up to 100 m in open air</td>
</tr>
<tr>
<td>MAIN FEATURES</td>
</tr>
<tr>
<td>- Wall mounting, crew and double side tape</td>
</tr>
<tr>
<td>- Battery supplied</td>
</tr>
</tbody>
</table>

### Wireless relays with push buttons

<table>
<thead>
<tr>
<th><strong>SHJWRE10AE230 / SHJWRE10AE115</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Smallest housing in the market</td>
</tr>
<tr>
<td>- Wireless transmission based on IEEE802.15.4 @ 2.4 GHz</td>
</tr>
<tr>
<td>- Range up to 700 m in open air</td>
</tr>
<tr>
<td>- Load: 10 A/250 VAC</td>
</tr>
<tr>
<td>MAIN FEATURES</td>
</tr>
<tr>
<td>- Energy reading</td>
</tr>
<tr>
<td>- Programmable routing function in two steps</td>
</tr>
<tr>
<td>- Mounting into eurobox</td>
</tr>
</tbody>
</table>

### Wireless relays with energy reading

<table>
<thead>
<tr>
<th><strong>SHJWRE10AEWLS230 / SHJWRE10AEBL5230</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Two capacitive push buttons</td>
</tr>
<tr>
<td>- Wireless transmission based on IEEE802.15.4 @ 2.4 GHz</td>
</tr>
<tr>
<td>- Range up to 700 m in open air</td>
</tr>
<tr>
<td>- Load: 10 A/250 VAC</td>
</tr>
<tr>
<td>MAIN FEATURES</td>
</tr>
<tr>
<td>- Energy reading</td>
</tr>
<tr>
<td>- Programmable routing function in two steps</td>
</tr>
<tr>
<td>- To substitute Bticino switches</td>
</tr>
</tbody>
</table>
Home Automation

Our product range

<table>
<thead>
<tr>
<th>Wireless dimmer with energy reading</th>
<th>Wireless dimmer with push buttons</th>
<th>Wireless energy meters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SHJWD200WE230</strong></td>
<td><strong>SHJWD200WEBLS230</strong></td>
<td><strong>SHJWEM16A230</strong></td>
</tr>
<tr>
<td><strong>SHJWD200WE115</strong></td>
<td><strong>SHJWD200WEBLS115</strong></td>
<td><strong>SHJWEM16A115</strong></td>
</tr>
<tr>
<td>Smallest housing in the market</td>
<td>Two capacitive push buttons</td>
<td>Smallest housing in the market</td>
</tr>
<tr>
<td>Wireless transmission based on IEE802.15.4 @ 2.4</td>
<td>Wireless transmission based on IEE802.15.4 @ 2.4</td>
<td>Wireless transmission based on IEE802.15.4 @ 2.4</td>
</tr>
<tr>
<td>Range up to 700 m in open air</td>
<td>Range up to 700 m in open air</td>
<td>Range up to 700 m in open air</td>
</tr>
<tr>
<td>Universal dimmer switch for R, L, C up to 200 W and LED loads</td>
<td>Universal dimmer switch for R, L, C up to 200 W and LED loads</td>
<td>Energy measurement: kWh</td>
</tr>
<tr>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
</tr>
<tr>
<td>Energy reading</td>
<td>Programmable routing function in two steps</td>
<td>Programmable routing function in two steps</td>
</tr>
<tr>
<td>Mounting into eurobox</td>
<td>To substitute Bticino switches</td>
<td>Mounting into eurobox</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Touch screen/ data logger</th>
<th>1-phase energy analysers</th>
<th>3-phase energy analysers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BTM-T4-24 / BTM-T7-24</strong></td>
<td><strong>EM111 / EM112</strong></td>
<td><strong>EM24</strong></td>
</tr>
<tr>
<td>4” / 7” colour display</td>
<td>Dimensions: 1 DIN module (2 DIN EM112); DIN-rail mounting</td>
<td>Dimensions: 4 DIN modules; DIN-rail mounting</td>
</tr>
<tr>
<td>Easy setup of graphic pages and functions with the powerful software Wizard</td>
<td>Backlit touch LCD</td>
<td>LCD display with programming joystick and function selector</td>
</tr>
<tr>
<td>Activation of internet links through touch buttons</td>
<td>Measurement of voltage, current, power, power factor and frequency</td>
<td>Measurement of voltage, current, power, power factor and frequency. Metering from external pulse sources and 4-tariff management</td>
</tr>
<tr>
<td>Support viewing from IP cameras</td>
<td>Bi-directional energy metering, 8 digits cl. B (EN50470)</td>
<td>Bi-directional energy metering on 2 8-digit counters, cl. B (EN50470-3)</td>
</tr>
<tr>
<td></td>
<td>Measuring inputs: 115/230 VAC, 45 A (100 A EM112)</td>
<td>Measuring inputs: 3x230(400)VAC, 5 A (by CT) or 65 A (direct)</td>
</tr>
<tr>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
<td><strong>MAIN FEATURES</strong></td>
</tr>
<tr>
<td>Ethernet connection</td>
<td>Self-powered</td>
<td>T15-230VAC power supply or self-powered</td>
</tr>
<tr>
<td>Wide screen display, 64,000 colours</td>
<td>Modbus RS485 port</td>
<td>3 inputs for external gas/water metering</td>
</tr>
<tr>
<td>USB port, SD memory, Modbus RTU serial port</td>
<td>Sealable terminal covers</td>
<td>Modbus RS485 port</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sealable terminal covers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CE, MID, cULus (SA version)</td>
</tr>
</tbody>
</table>
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