Chapter 6 Regarding environmental thermoregulation, the requirements of designers, installers and the actual customers have become increasingly higher over the years. More appropriate climate comfort, considerable savings in energy consumption, optimised maintenance and greater safety are now required in every type of building, from residential to tertiary. To allow all this, we offer innovative thermoregulation systems, developed based on the most current technologies and focused expressly on the climate regulation of radiant systems for heating and cooling.
Thermoregulation

Products

146  Thermoregulation - KLIMAdomotic TRV
148  Thermoregulation - KLIMAdomotic RAD
149  Thermoregulation - KLIMAbus
151  Thermoregulation - Stand-Alone
152  Thermoregulation - Wireless
KLIMAdomotic is a smart and easy control system optimized for radiant panel and thermoregulation systems with radio controlled thermostatic valves (wireless). It thus enables to control, with one single user interface, all aspects of indoor comfort, from heating to summer air conditioning, through air exchange and humidity control. The KD410 Connect control unit is configured based on the installed system. The product will feature a software version specific for the different type of systems: Connect-Rad for radiant systems, Connect-TRV for systems with thermostatic valve thermoregulation. With KD410, the user is constantly connected to his system: easy to configure with user-friendly graphic interface and remotely controllable through webpage for desktops or with most smartphones through “Giacomini Connect” dedicated APP.

**KLIMADOMOTIC**

SIMPLE TO INSTALL, EASY TO ADJUST.
OFFER YOUR CUSTOMERS THE WI-FI CLIMATE.

DISCOVER THE NEW KLIMADOMOTIC BY GIACOMINI.
The Wi-fi HVAC system for radiators and radiant systems.

Control domestic comfort with the innovation of Klimadomotic. Offer your clients the perfect tool to adjust climate in every room, with wireless technology, touch display and remote control with Giacomini’s Connect App. Available for both radiator and radiant systems applications. All the comfort smartness right in your hands.
**KD410**

**PRODUCT CODE** | **POWER SUPPLY**
---|---
**KD410Y002** | Connect-TRV (230 V)

Control unit with touch screen display for climatic control. It can be properly configured based on the installed system. The control unit features a specific software version according to the different type of system:
- KD410Y002: Connect-TRV for thermoregulation systems with thermostatic valves

It supports the following communication protocols:
- ZigBee (wireless communication with K470W chronothermostat for radiators)
- WiFi (wireless communication with WiFi Router)
- LoRa (wireless communication with KA410 control actuator and K410W temperature/humidity sensors)

**INFO**
KD410Y002 Connect-TRV
Power supply:
- Table mount connection: 5 Vdc (through external power supply 230 Vac / 5 Vdc mini-USB)
- Wall mount connection: 12 Vdc (through rear quick connector 230 Vdc / 12 Vdc)

**KA410**

**PRODUCT CODE** | **POWER SUPPLY**
---|---
**KA410Y001** | 230 V

Wireless control actuator to turn ON/OFF the heat generator (boiler, heat pump, electric actuator). Communication with KD410 Connect-TRV control unit through LoRa protocol. Power supply: 230 V.

**KE410**

**PRODUCT CODE** | **POWER SUPPLY**
---|---
**KE410Y001** | 230 V (ITA 16 A)
**KE410Y002** | 230 V (SHUKO 16 A)

ZigBee wireless signal repeater (Extender) to extend the radio coverage between the KD410 Connect-TRV control unit and the farthest K470W chronothermostats for radiators. Power supply: 230 V.

**K410W**

**PRODUCT CODE** | **POWER SUPPLY**
---|---
**K410WY001** | Temperature sensor

Temperature/humidity or temperature only wireless sensors.

**INFO**
KLIMAdomotic-TRV K410WY001: wireless temperature sensor to be placed in rooms controlled by the K470W chronothermostat for radiators. Communication with KD410Y002 Connect-TRV through LoRa protocol.
Power supply: 2 batteries AA 1,5 V.

**K470W**

**PRODUCT CODE** | **POWER SUPPLY**
---|---
**K470WX001** | Wireless chronothermostat for radiators (ZigBee standard).

Operation combined with the KD410 Connect-TRV for remote management of heating systems. Equipped with adaptors for installation on Giacomini “TG” or “H” series valves.
Power supply: 2 batteries AA 1,5 V.
Thermoregulation - KLIMAdomotic RAD

**KD410**

**PRODUCT CODE** | **POWER SUPPLY** | **QTY**
--- | --- | ---
KD410Y001 | Connect-RAD (12 V) | 1

Control unit with touch screen display for climatic control. It can be properly configured based on the installed system. The control unit features a specific software version according to the different type of system: KD410Y001: Connect-RAD for radiant systems. It supports the following communication protocols:
- WiFi (wireless communication with WiFi Router)
- Modbus (wired communication with KPM40 actuator modules)

**INFO**

Power supply: 12 Vdc through KPM40 actuator module

**KPM40**

**PRODUCT CODE** | **POWER SUPPLY** | **QTY**
--- | --- | ---
KPM40Y002 | Modbus | 1

“Hydro” actuator module of the radiant system hydraulic components. It carries out the following actions:
- Opens/closes the thermo-electric actuators (up to 20)
- Opens/closes the mixing valve
- Turns ON/OFF the system circulator and the air treatment units
- Summer/winter commutation
It can control up to 8 rooms, bathrooms excluded (controlled by a dedicated relay outlet). Power supply: 230 V.

**KPM45**

**PRODUCT CODE** | **POWER SUPPLY** | **QTY**
--- | --- | ---
KPM45Y002 | Modbus | 1

“Air” actuator module to control various types of air treatment units: dehumidifiers, dehumidifiers with integration and possible heat recovery, fan-coil. Power supply: 230 V.

**K465**

**PRODUCT CODE** | **POWER SUPPLY** | **QTY**
--- | --- | ---
K465Y001 | 12 V | 1

External temperature probe. To be connected to KPM40 actuator module through wired bus. Temperature measurement range -40° to 85°C. Power supply: 12 V through KPM40 actuator module.

**K410W**

**PRODUCT CODE** | **POWER SUPPLY** | **QTY**
--- | --- | ---
K410WY002 | Temperature/Humidity | 1
K410WY003 | Temperature sensor | 1
K410WY012 | Temp./Humidity (Access point) | 1

Temperature/humidity or temperature only wireless sensors.

**INFO**

KLIMAdomotic-RAD

K410WY002: wireless temperature/humidity sensor to be placed in any rooms treated by the radiant system and put in communication with the KPM40 Hydro actuator module through the K410WY012 Access-Point via LoRa protocol. Power supply: 2 batteries AA 1.5 V.

K410WY003: wireless temperature sensor to be placed in any rooms treated by the radiant system and put in communication with the KPM40 Hydro actuator module through the K410WY012 Access-Point via LoRa protocol. Power supply: 2 batteries AA 1.5 V.

K410WY012: Access-Point wireless temperature/humidity sensor to be placed in a room treated by the radiant system. It takes wireless data from the others K410W sensors and send them to the KPM40 Hydro actuator module through Modbus wire. Power supply: 12 V via KPM40 actuator module.
Thermoregulation - KLIMAbus

KLIMABUS - BUS THERMOREGULATION SYSTEM

New bus system for control of radiant heating and cooling systems. Modular system to control both simple heating and cooling mixing groups and more complex residential and commercial systems, with air treatment systems for dehumidification, cold integration, air recirculation and controlled mechanical ventilation. Possible connection with main control protocols available on the market. KLIMAbus can be used with domestic communication standards, such as Modbus and KNX. Applications easy to configure through guided menus for easy installation and commissioning. For more details on how to use the system, please contact our Technical Assistance service.

KPM30

<table>
<thead>
<tr>
<th>PRODUCT CODE</th>
<th>POWER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPM30Y001</td>
<td>24 V 1</td>
</tr>
<tr>
<td>KPM30Y002</td>
<td>24 V 1</td>
</tr>
<tr>
<td>KPM30Y003</td>
<td>24 V 1</td>
</tr>
<tr>
<td>KPM30Y004</td>
<td>24 V 1</td>
</tr>
<tr>
<td>KPM30Y005</td>
<td>24 V 1</td>
</tr>
</tbody>
</table>

Regulation unit for heating/cooling systems. With display panel for system monitoring, configuration and management. Dimension 6 DIN modules. Possibility of controlling the mixing valve, circulator and voltage-free contact outputs. Optional connection with KD201 remote display. Possibility of connection (via Bus) with KPM35 expansion board and K492B/K495B/L or K493T/1 ambient probes. EC certification.

KPM31

<table>
<thead>
<tr>
<th>PRODUCT CODE</th>
<th>POWER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPM31Y001</td>
<td>24 V 1</td>
</tr>
<tr>
<td>KPM31Y002</td>
<td>24 V 1</td>
</tr>
<tr>
<td>KPM31Y003</td>
<td>24 V 1</td>
</tr>
<tr>
<td>KPM31Y004</td>
<td>24 V 1</td>
</tr>
<tr>
<td>KPM31Y005</td>
<td>24 V 1</td>
</tr>
</tbody>
</table>

Regulation unit for heating/cooling systems. To be combined with KD201 remote display for system monitoring, configuration and management. Dimension 6 DIN modules. Possibility of controlling the mixing valve, circulator and voltage-free contact outputs. Possibility of connection (via Bus) with KPM35 expansion board and K492B/K495B/L ambient probes. EC certification.

KPM35

<table>
<thead>
<tr>
<th>PRODUCT CODE</th>
<th>POWER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPM35Y001</td>
<td>24 V 1</td>
</tr>
</tbody>
</table>

Input/output expansion board for KPM30 or KPM31 regulation unit. Voltage-free contact outputs with possibility of commanding the electrical actuators or air treatment systems for dehumidification or integration. Dimension 4 DIN modules. EC certification.

KPM36

<table>
<thead>
<tr>
<th>PRODUCT CODE</th>
<th>POWER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>KPM36Y001</td>
<td>ModBus board</td>
</tr>
<tr>
<td>KPM36Y002</td>
<td>Konnex board</td>
</tr>
<tr>
<td>KPM36Y003</td>
<td>Ethernet board</td>
</tr>
</tbody>
</table>

Boards for KPM30/KPM31 regulation units.

K497

<table>
<thead>
<tr>
<th>PRODUCT CODE</th>
<th>POWER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>K497Y001</td>
<td>For KPM30 or KPM31</td>
</tr>
<tr>
<td>K497Y002</td>
<td>For KPM35</td>
</tr>
</tbody>
</table>

Kit of removable terminals for KPM30/KPM31/KPM35 regulation unit.

KD201

<table>
<thead>
<tr>
<th>PRODUCT CODE</th>
<th>POWER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>KD201Y001</td>
<td>- 1</td>
</tr>
</tbody>
</table>

LCD display with keyboard for system monitoring, configuration and management. To be used in combination with the KPM30/KPM31 regulation unit. Direct power supply from the regulation unit. Surface mounting. EC certification.

K492B

<table>
<thead>
<tr>
<th>PRODUCT CODE</th>
<th>POWER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>K492BY002</td>
<td>230 V 1</td>
</tr>
</tbody>
</table>

Thermostat with backlight display and local interface for controlling ambient temperature and humidity. To be used in combination with the KPM30/KPM31 regulation unit, connected via Bus. Modbus RTU slave communication on RS485. Flush-mounting installation in round domestic box. EC certification.

K495B

<table>
<thead>
<tr>
<th>PRODUCT CODE</th>
<th>POWER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>K495BY002</td>
<td>24 V 1</td>
</tr>
</tbody>
</table>

Temperature/humidity probe without visualization and local interface (blank). To be used in combination with the KPM30/KPM31 regulation unit, connected via Bus. Modbus RTU slave communication on RS485. Surface mounting. EC certification.
**K495L**

**PRODUCT CODE** | **POWER SUPPLY** |  
K495LY002 | 24 V 1  

Thermostat with backlight display and local interface for controlling ambient temperature and humidity.

To be used in combination with the KPM30/KPM31 regulation unit, connected via Bus. Modbus RTU slave communication on RS485. Surface mounting. EC certification.

**K493I**

**PRODUCT CODE** | **POWER SUPPLY** |  
K493IY012 | 12 V 1  

Temperature/humidity probe. To be used in combination with the KPM30/KPM31 regulation unit, connected via Bus. Modbus RTU slave communication on RS485. Flush-mounting. EC certification.

**K493T**

**PRODUCT CODE** | **POWER SUPPLY** |  
K493TY002 | 12 V 1  

Temperature/humidity thermostat with backlight touch-screen display. Possibility to command N.1 fan-coil with 0-10 V signal or N.3 3-speed fan-coils in combination with KF201 module. To be used in combination with the KPM30/KPM31 regulation unit, connected via Bus. Modbus RTU slave communication on RS485. EC certification.

**K498M**

**PRODUCT CODE** | **POWER SUPPLY** |  
K498MY002 | - 1  

Signal converter from PWM to 0-10 V, for commanding a second mixing valve from a KPM30/KPM31 regulation unit. Installation on DIN rail. EC certification.

**KF201**

**PRODUCT CODE** | **POWER SUPPLY** |  
KF201Y001 | 12 V Bus 1  

Fan-coil control module to be used with K483T thermometers of the KLIMAbus thermoregulation.

**K373**

**PRODUCT CODE** | **POWER SUPPLY** |  
K373Y011 | 230 V 1 10  
K373Y012 | 230 V - with R227-1 1 10  

Safety thermostat with immersion probe and housing.

**K489**

**PRODUCT CODE** | **POWER SUPPLY** |  
K489Y001* | - 15  

Box for flush-mounting installation. * Last in production

**PM100R**

**PRODUCT CODE** | **POWER SUPPLY** |  
PM100Y001 | 230 V 1 10  

Control unit with 8 input (thermostats) and 8 output (zone valve, actuators) with 4 minutes delayed intervention of the circulator.

**PM100P**

**PRODUCT CODE** | **POWER SUPPLY** |  
PM100Y003 | 230 V 1  

Control unit for actuators with safety thermostat and 4 minutes delayed intervention.
Thermoregulation - Stand-Alone

STAND-ALONE THERMOREGULATION SYSTEM

Chronothermostat and thermostat family for exposed and concealed installation and control of thermo-electric actuators or zone valves in heating and cooling radiant systems. Combined to radiant panels, they can also control integration terminals such as dehumidifiers. 230 Vac power and battery-powered with AA and AAA alkaline batteries. Main characteristics:
- Modern and technologic aesthetics.
- Blue led back-illuminated display (for K490I and K492).
- Touchscreen (K492 only).
- For concealed chronothermostats, compatible with plates of most civil electric lines (among which Bticino Axolute).
- Possible centralized local (with a specific control module) or remote (with GSM module) control, using mobile phone text messages or downloading the dedicated APP for smartphones and tablets (versions for Android and iOS).

K490I

PRODUCT CODE POWER SUPPLY
K490IY001 230 V 1 -
K490IY002 2 batteries AAA 1,5 V 1 -

Weekly chronothermostat, flush-mounting installation.
Compatible with the plates of the most common domestic ranges, containing a wide selection of covers, frames and adaptors.
Operating mode in heating and cooling, with weekly/daily/timed program and the possibility of manual operation.
Temperature adjustment range: 2÷40 °C.
EC certification.

INFO
K490IY001: 230 Vac, 50 Hz.
K490IY002: N.2 AAA 1,5 V batteries.

K492

PRODUCT CODE POWER SUPPLY
K492DY012 230 V 1 -

Weekly chronothermostat with touchscreen display, surface mounting installation.
Operating mode in heating and cooling, with weekly/daily/timed program and the possibility of manual operation.
Built-in sensor for relative ambient humidity.
Temperature adjustment range: 2÷40 °C.
EC certification.

INFO
Powered from the mains (230 Vac, 50 Hz). Equipped with 2 output relays (voltage-free exchange contact, 5(3)A, 250 Vac) for commanding heating/cooling systems (thermo-electric actuators) and integrated management of dehumidification (air treatment units).
Possibility to connect auxiliary supply temperature probe (K463PY001) for the management of alarms and system block (Dew Point control, max. temperature in heating mode, minimum temperature in cooling mode).

K494

PRODUCT CODE POWER SUPPLY
K494AY001 2 batteries AAA 1,5 V 1 -
K494IY001 230 V 1 -
K494IY002 230 V 1 -
K494IY011 3 batteries AAA 1,5 V 1 -
K494IY012 3 batteries AAA 1,5 V 1 -

Thermostat, surface mounting installation.
Display without backlighting.
Operating mode in heating and cooling, with two attenuation levels.
Powered by N.2 AAA 1,5 V batteries.
Wall installation or in round box (diameter 60 mm).
Temperature adjustment range: 2÷40 °C.
EC certification.

INFO
K494IY001, K494IY011: black color.
K494IY002, K494IY012: white color.

K494I

PRODUCT CODE POWER SUPPLY
K494IY001 230 V 1 -
K494IY002 230 V 1 -
K494IY011 3 batteries AAA 1,5 V 1 -
K494IY012 3 batteries AAA 1,5 V 1 -

Thermostat, flush-mounting installation.
Display with graphic icons combined with front buttons.
Operating modes: comfort, economy, off/antifreeze.
Temperature adjustment range: 2÷40 °C.
EC certification.

INFO
K494IY001, K494IY011: black color.
K494IY002, K494IY012: white color.
Thermoregulation - Wireless

**Wireless Thermoregulation System for Manifold Distribution in Heating Systems**

New wireless system for control of heating systems with manifold distribution and thermo-electric actuators. Especially suitable for renovation works where building works are not recommended for installation of connection cables between the thermostats and the distribution group. The system includes: control module for electro-thermal actuators, touchscreen for programming and display, one or multiple wall-mount wireless chronothermostats, temperature probe with safety thermostat function for delivery water. Do not install the system in areas subject to electromagnetic interferences or magnetic fields that may prevent proper communication between the thermostats and control unit.

For more details on how to use the system, please contact our Technical Assistance service.

**PM100W**

**Wireless control unit, for heating systems.**
Possibilities to control:
- N.16 zones of ambient temperature through K400Y002 chronothermostats;
- system circulator with safety thermostat function (if combined with the K563PY002 temperature probe);
- domestic hot water production managing (if combined with the K563PY002 temperature probe);
To be combined with KD400Y002 touchscreen display. EC certification.

**K400**

**Wireless chronothermostat with display.** To be combined with PM100WY02 control unit. Surface mounting. EC certification.

**KD400**

**Touch-screen display for programming, management and control of the PM100WY02 control unit.** Installation on wall or on the control unit. EC certification.

**K563P**

**Temperature probe, passive type, with double possibilities of operation: safety thermostat or managing of domestic hot water.** To be combined with PM100WY02 control unit.

**ERP Directive**

**Temperature Control Device Classification According to Reg. (EU) N.811/2013 - 813/2013**

<table>
<thead>
<tr>
<th>ENERGY EFFICIENCY CLASS</th>
<th>ENERGY EFFICIENCY BENEFICE</th>
<th>TYPE OF DEVICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I</td>
<td>+ 1%</td>
<td>Room thermostat ON/OFF</td>
</tr>
<tr>
<td>Class II</td>
<td>+ 2%</td>
<td>Thermoregulation control unit with modulating heating devices</td>
</tr>
<tr>
<td>Class III</td>
<td>+ 1,5%</td>
<td>Thermoregulation control unit for use with heating devices with ON/OFF outlet</td>
</tr>
<tr>
<td>Class IV</td>
<td>+ 2%</td>
<td>Room thermostat with TPI function, for use with heating devices with ON/OFF outlet</td>
</tr>
<tr>
<td>Class V</td>
<td>+ 3%</td>
<td>Modulating room thermostat for use with modulating heating devices</td>
</tr>
<tr>
<td>Class VI</td>
<td>+ 4%</td>
<td>Thermoregulation control unit and room sensor for use with modulating heating devices</td>
</tr>
<tr>
<td>Class VII</td>
<td>+ 3,5%</td>
<td>Thermoregulation control unit and room sensor for use with heating devices with ON/OFF outlet</td>
</tr>
<tr>
<td>Class VIII</td>
<td>+ 5%</td>
<td>Multiple-sensor room temperature control for use with modulating heating devices</td>
</tr>
</tbody>
</table>

**Example of Energy Efficiency Benefit Guaranteed by Temperature Control Device**

<table>
<thead>
<tr>
<th>System</th>
<th>Area</th>
<th>A+</th>
<th>A</th>
<th>A-</th>
<th>B</th>
<th>B-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat generator with 95% energy efficiency</td>
<td>95% + 2% = 97%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermoregulation module with room temperature probe</td>
<td>95% + 3,5% = 98,5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>