

# ClimaCon F

## Room thermostats for surface heating and cooling



The ClimaCon F room thermostats are used to control the temperature of surface heating and cooling systems as well as heating and cooling ceilings in detached houses or dwellings. The room temperature is controlled via a valve, which is controlled by the room thermostat via an electrothermal actuator. When the room temperature reaches the setpoint temperature, the valve is closed.

The ClimaCon F room thermostats can be used in combination with electrothermal actuators (e.g. Aktor T 2P). Alternatively, connection to a connecting block (e.g. FloorCon) is possible. Depending on the room thermostat, switching between heating and cooling is possible via a change-over signal, e.g. from the heat pump.

The setback mode (Eco mode) saves energy, e.g. during absence or at night.

Depending on the model, there are room thermostats with reduced display, integrated time switch and setting options via app.

### Features

- + Intuitive operation
- + Energy-saving room temperature control
- + Easy installation, quick configuration
- + Appealing, modern design

### Product overview

|  |  |  |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>ClimaCon F 90</b>                                                                | <b>ClimaCon F 100</b>                                                               | <b>ClimaCon F 210</b>                                                                | <b>ClimaCon F 310</b>                                                                 |
| Item no. 1155009 (230 V)                                                            | Item no. 1155010 (230 V)<br>Item no. 1155510 (24 V)                                 | Item no. 1155021 (230 V)                                                             | Item no. 1155031 (230 V)<br>Item no. 1155531 (24 V)                                   |
| Only heating/ only cooling<br>(NC/ NO actuators)                                    | Heating or cooling<br>(switchable via change-over)                                  | Only heating/ only cooling<br>(adjustable in the app)                                | Heating or cooling<br>(switchable via change-over<br>or adjustable in the app)        |

# Product Details

## ClimaCon F 90 only heating / only cooling

The ClimaCon F 90 room thermostat is operated by means of a rotary wheel. The setpoint can be adjusted and the frost protection mode can be activated.

The ClimaCon F 90 room thermostat can be connected as a follower room thermostat. If the setback mode is activated on a leader room thermostat (e.g. ClimaCon F 210/ F 310), the ClimaCon F 90 lowers the temperature by 4 Kelvin.

When the room thermostat is used in a heating application, an electrothermal actuator “normally closed” is used. If the room thermostat is used in a cooling application, an electrothermal actuator “normally open” is used.

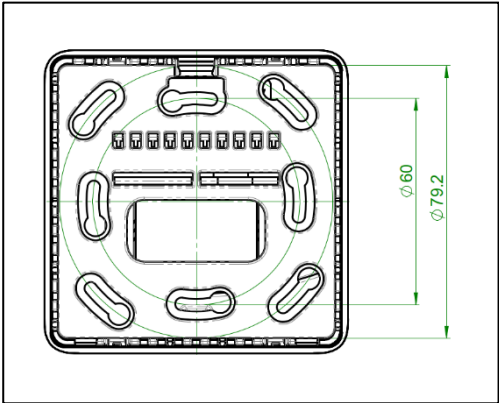
### Functions

- Rotary wheel for adjusting the setpoint temperature
- Frost protection can be activated via rotary wheel
- Setback mode is activated when the leader room thermostat sets back (time-controlled setback mode possible)



### Technical data

|                                |                              |
|--------------------------------|------------------------------|
| Temperature range              | 12...28 °C                   |
| Eco temperature                | 4 K                          |
| Control                        | Pulse-width modulation (PWM) |
| Fuse                           | SMD (not exchangeable)       |
| Switching current (short-time) | 1 A                          |
| Installation                   | Surface mounting             |
| Protection class               | IP 20                        |
| Colour                         | RAL 9003 (semi matt)         |



Dimension base plate ClimaCon

|                                                                                     | Item no. | Power supply            | Inputs                      | Outputs    | Actuators<br>(max. of 4 actuators)                    | W    | H    | D    |
|-------------------------------------------------------------------------------------|----------|-------------------------|-----------------------------|------------|-------------------------------------------------------|------|------|------|
|                                                                                     |          |                         |                             |            |                                                       | [mm] | [mm] | [mm] |
|  | 1155009  | 230 V AC/<br>50...60 Hz | Setback input<br>(follower) | PWM output | Heating: electrothermal actuator<br>“normally closed” | 88   | 88   | 25   |
|                                                                                     |          |                         |                             |            | Cooling: electrothermal<br>actuator “normally open”   |      |      |      |

## ClimaCon F 100 heating or cooling

The ClimaCon F 100 room thermostat is operated by means of a rotary wheel. The setpoint can be adjusted and the frost protection mode can be activated.

Switching from heating mode to cooling mode takes place as soon as a voltage is applied to the change-over input.

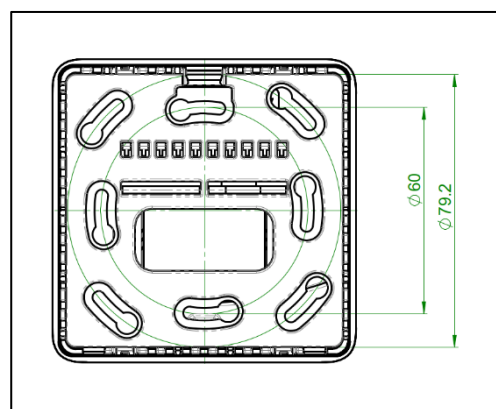
The ClimaCon F 100 room thermostat can be connected as a follower room thermostat. If the setback mode is activated on a leader room thermostat (e.g. ClimaCon F 210/ F 310), the ClimaCon F 100 increases or decreases the temperature by 4 Kelvin, depending on whether it is currently in heating or cooling mode.

### Functions

- Rotary wheel for adjusting the setpoint temperature
- Frost protection can be activated via rotary wheel
- If the room thermostat receives a change-over signal, the cooling mode is activated
- Setback mode is activated when the leader room thermostat sets back (time-controlled setback mode possible)

### Technical data

|                                           |                                                |
|-------------------------------------------|------------------------------------------------|
| <b>Temperature range</b>                  | 12...28 °C                                     |
| <b>Eco temperature</b>                    | ±4 K                                           |
| <b>Control</b><br>(switchable via switch) | Pulse-width modulation (PWM)<br>On/off control |
| <b>Actuators</b><br>(max. of 4 actuators) | Use electrothermal actuators "normally closed" |
| <b>Switching current</b><br>(short-time)  | 1 A                                            |
| <b>Fuse</b>                               | SMD (not exchangeable)                         |
| <b>Installation</b>                       | Surface mounting                               |
| <b>Protection class</b>                   | IP 20                                          |
| <b>Colour</b>                             | RAL 9003 (semi matt)                           |



Dimension base plate ClimaCon



|                                                                                     | Item no. | Power supply            | Inputs                                        | Outputs             | W<br>[mm] | H<br>[mm] | D<br>[mm] |
|-------------------------------------------------------------------------------------|----------|-------------------------|-----------------------------------------------|---------------------|-----------|-----------|-----------|
|  | 1155010  | 230 V AC/<br>50...60 Hz | Setback input (follower)<br>Change-over input | On/off / PWM output | 88        | 88        | 25        |
|                                                                                     | 1155510  | 24 V AC/<br>50...60 Hz  | Setback input (follower)<br>Change-over input | On/off / PWM output | 88        | 88        | 25        |

ClimaCon F 210 only heating / only cooling

The ClimaCon F 210 room thermostat with reduced display includes a dot-matrix display (58 white LEDs) for temperature indication. There are also backlit symbols (heating/cooling) and touch surfaces (Automatic and Eco modes as well as plus and minus). The room thermostat can be configured with the ClimaCon App and an active Bluetooth connection (e.g. for setting time programmes). The ClimaCon app is available for Android and iOS smartphones. The settings are stored in the room thermostat.

The app is used to set whether the room thermostat is in a heating or cooling application.

The ClimaCon F 210 room thermostat can be used as a leader room thermostat. If setback mode (Eco mode) is activated on a ClimaCon F 210 leader room thermostat, the connected follower room thermostat (e.g. ClimaCon F 90/ F 100) also reduces the temperature.

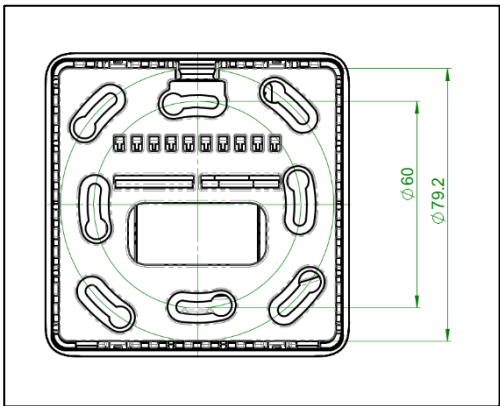
Functions

- Dot-matrix display for visualisation of the setpoint temperature, the actual temperature, various error codes and the OFF display when the device is switched off
- LED display heating or cooling
- LED display with touch surfaces for adjusting the setpoint temperature via the Plus and Minus keys and for switching between Automatic and Eco mode
- Possible modes: Automatic (daily or weekly schedule), Eco/Setback, Manual
- Frost protection (6 °C/ 43 °F) is activated when the room thermostat is switched off
- Temperature limitation and offset temperature adjustable



Technical data

|                                    |                                                                 |
|------------------------------------|-----------------------------------------------------------------|
| Temperature range                  | 12...28 °C<br>54...82 °F                                        |
| Eco temperature                    | Adjustable in the app                                           |
| Control<br>(switchable via switch) | Pulse-width modulation (PWM)<br>On/off control                  |
| Hysteresis                         | Adjustable, presetting values:<br>PWM = 1.0 K, on/off = 0.2 K   |
| Actuators<br>(max. of 4 actuators) | Use electrothermal actuators "normally closed"                  |
| Switching current<br>(short-time)  | 1 A                                                             |
| Correction offset                  | Adjustable, ± 3.0 K in 0.5 K                                    |
| Fuse                               | SMD (not exchangeable)                                          |
| Bluetooth                          | BLE 5.0                                                         |
| App                                | For smartphones in portrait format<br>(Android: 7.x; iOS: 13.x) |
| App languages                      | DE, EN, FR, PL, BG, ES, HR, NL, UA, RU,<br>CN, RO, HU, DK, IT   |
| Installation                       | Surface mounting                                                |
| Protection class                   | IP 20                                                           |
| Power reserve                      | 12 hours                                                        |
| Colour                             | RAL 9003 (semi matt)                                            |



Dimension base plate ClimaCon

| Item no.                                                                                    | Power supply            | Outputs                                        | Actuators                                                                                                          | W<br>[mm] | H<br>[mm] | D<br>[mm] |
|---------------------------------------------------------------------------------------------|-------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------|-----------|-----------|
|  1155021 | 230 V AC/<br>50...60 Hz | On/off / PWM output<br>Setback output (leader) | Heating: electrothermal actuators<br>"normally closed"<br><br>Cooling: electrothermal actuators<br>"normally open" | 88        | 88        | 20        |

## ClimaCon F 310 Heating or cooling

The ClimaCon F 310 room thermostat with reduced display includes a dot-matrix display (58 white LEDs) for temperature indication. There are also backlit symbols (heating/cooling) and touch surfaces (Automatic and Eco modes as well as plus and minus). The room thermostat can be configured with the ClimaCon App and an active Bluetooth connection (e.g. for setting time programmes). The ClimaCon app is available for Android and iOS smartphones. The settings are stored in the room thermostat. When the change-over input is active, the cooling mode is activated.

The ClimaCon F 310 room thermostat can be used as a leader room thermostat. If setback mode (Eco mode) is activated on a ClimaCon F 310 leader room thermostat, the connected follower room thermostat (e.g. ClimaCon F 90/ F 100) also reduces the temperature.

### Functions

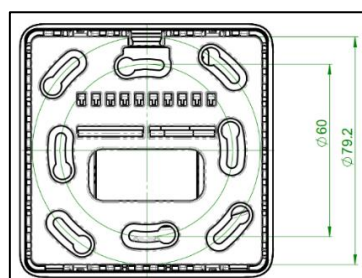
- Dot-matrix display for visualisation of the setpoint temperature, the actual temperature, various error codes and the OFF display when the device is switched off
- LED display heating or cooling
- LED display with touch surfaces for adjusting the setpoint temperature via the Plus and Minus keys and for switching between Automatic and Eco mode
- Switching between heating and cooling via change-over signal
- Possible modes: Automatic (daily or weekly schedule), Eco/Setback, Manual
- Frost protection (6 °C/ 43 °F) is activated when the room thermostat is switched off
- Temperature limitation and offset temperature adjustable

### Functions exclusively of item no.1155531

- 0 - 10 V output for controlling e.g. Air Handling Units (AHU)
- Limiter function (ext. NTC temperature sensor)
- External NTC temperature sensor supplies the actual temperature instead of the internal sensor
- Dew point monitor and / or safety temperature limiter can be connected directly

### Technical data

|                                           |                                                                 |
|-------------------------------------------|-----------------------------------------------------------------|
| <b>Temperature range</b>                  | 12...28 °C<br>54...82 °F                                        |
| <b>Setback/Eco temperature</b>            | Adjustable in the app                                           |
| <b>Control</b><br>(switchable via switch) | Pulse-width modulation (PWM)<br>On/off control                  |
| <b>Hysteresis</b>                         | Adjustable, presetting values:<br>PWM = 1.0 K, on/off = 0.2 K   |
| <b>Actuators</b><br>(max. of 4 actuators) | Use electrothermal actuators<br>"normally closed"               |
| <b>Switching current</b><br>(short-time)  | 1 A                                                             |
| <b>Correction offset</b>                  | Adjustable, ± 3.0 K in 0.5 K                                    |
| <b>Potential-free contact</b>             | 90 mA, short-time up to 120 mA                                  |
| <b>Fuse</b>                               | SMD (not exchangeable)                                          |
| <b>Bluetooth</b>                          | BLE 5.0                                                         |
| <b>App</b>                                | For smartphones in portrait format<br>(Android: 7.x; iOS: 13.x) |
| <b>App languages</b>                      | DE, EN, FR, PL, BG, ES, HR, NL, UA,<br>RU, CN, RO, HU, DK, IT   |
| <b>Installation</b>                       | Surface mounting                                                |
| <b>Protection class</b>                   | IP 20                                                           |
| <b>Power reserve</b>                      | 12 hours                                                        |
| <b>Colour</b>                             | RAL 9003 (semi matt)                                            |



Dimension base plate ClimaCon



|                                                                                     | Item number | Power supply            | Inputs                                                 | Outputs                                                                                     | W [mm] | H [mm] | D [mm] |
|-------------------------------------------------------------------------------------|-------------|-------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------|--------|--------|--------|
|  | 1155031     | 230 V AC/<br>50...60 Hz | Change-over input                                      | On/off / PWM output<br>Setback output (leader)<br>Potential-free contact                    | 88     | 88     | 20     |
|                                                                                     | 1155531     | 24 V AC/<br>50...60 Hz  | Change-over input<br>External temperature sensor (NTC) | On/off / PWM output<br>Setback output (leader)<br>Potential-free contact<br>0 - 10 V output | 88     | 88     | 20     |

## Accessories

### FloorCon F Electrical connecting block

With automatic hydronic balancing for surface heating/cooling.

|                                                                                   | Suitable for                   | Room thermostats | Item no. |
|-----------------------------------------------------------------------------------|--------------------------------|------------------|----------|
|  | 230 V, without room allocation | 8                | 1400984  |
|                                                                                   | 230 V, with room allocation    | 8                | 1400985  |

### Electrical connecting block for surface heating

When using item no. 1400980/82 with 24 V, an external power supply of 24 V must be available. Item no. 1153053 can be used as transformer.

|                                                                                    | Suitable for                                                                  | Control zones | Item no. |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|---------------|----------|
|  | 24 V and 230 V, heating                                                       | 6             | 1400980  |
|                                                                                    | 230 V, heating/cooling (C/O), pump control                                    | 10            | 1400981  |
|                                                                                    | 24 V, heating/cooling (C/O), pump control                                     | 10            | 1400982  |
|                                                                                    | 230 V, heating/cooling (C/O), pump and boiler control, integrated time switch | 10            | 1400983  |

### Aktor T 2P Electrothermal actuator

On/off control, connection thread M 30 x 1.5.

|                                                                                    | Suitable for                  | Item no.   |
|------------------------------------------------------------------------------------|-------------------------------|------------|
|  | • ClimaCon F                  | 1012415    |
|                                                                                    | • FloorCon F                  | (230 V NC) |
|                                                                                    | • Electrical connecting block | 1012425    |
|                                                                                    |                               | (230 V NO) |
|                                                                                    | • ClimaCon F                  | 1012416    |
|                                                                                    | • Electrical connecting block | (24 V NC)  |
|                                                                                    |                               | 1012426    |
|                                                                                    |                               | (24 V NO)  |

### Temperature sensor for FloorCon

One flow temperature sensor is required per heating circuit distributor/collector and one return temperature sensor is required per heating circuit.

|                                                                                      | Suitable for | Item no.         |
|--------------------------------------------------------------------------------------|--------------|------------------|
|  | FloorCon F   | 1029093 (supply) |
|                                                                                      | FloorCon F   | 1029094 (return) |

### ClimaCon F Temperature sensor

Serves as an external temperature sensor to detect the temperature in the room or as an external temperature sensor to detect the floor temperature as a safety temperature limiter (STB).

|                                                                                     | Suitable for                            | Item no. |
|-------------------------------------------------------------------------------------|-----------------------------------------|----------|
|  | ClimaCon F 310 24 V<br>item no. 1155531 | 1155599  |

### Sensor GA FD Dew point monitor

Is required in conjunction with room thermostats to protect against condensation on cooling surfaces.

|                                                                                     | Suitable for       | Item no. |
|-------------------------------------------------------------------------------------|--------------------|----------|
|  | • Connecting block | 1141951  |
|                                                                                     | • ClimaCon 24 V    |          |
|                                                                                     | • Room thermostats |          |
|                                                                                     | • Connecting block | 1141952  |
|                                                                                     | • FloorCon F       |          |
|                                                                                     | • ClimaCon 230 V   |          |
|                                                                                     | • Room thermostats |          |

### Safety temperature monitor

For limiting the surface heating temperature.

|                                                                                     | Suitable for                  | Item no. |
|-------------------------------------------------------------------------------------|-------------------------------|----------|
|  | • FloorCon F                  | 1344583  |
|                                                                                     | • Electrical connecting block | 1143000  |