



## Proportional control to maximize the energy saving

e-Room ECO is a fan-coil controller for new generation buildings, that provides a very precisely fan-coil speed proportional control to optimize the climate temperature in a room, to achieve the desired temperature in the shortest time and with the maximum energy saving possible. The device provides an optimal comfort of the installation thanks to a fine fan-coil speed tuning, through a proportional and integral control algorithm that performs a 0-10V analog control of the speed.

Through different configurations, it is possible to choose different operating valve actuator modes, being possible to select between an on/off control or a proportional control for thermal valve actuators.

The device is supplied at 24 Vdc using an external power supply and has different inputs to manage the climate control depending on the zone occupancy and the window state. Occupancy zone detection is carried out through a key card contact or motion sensors. An auxiliary output provides a potential free contact relay to manage the lighting control.

Throughout a simple setting menu, it is possible to modify multiple configuration parameters to adapt the product to any installation request. In the different product references, there is one model with Modbus RTU communication and another one with both protocols simultaneously LonWorks TPFT-10 and BACnet-IP over TP.

RC.624421-000s

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Proportional fan-coil control

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0-10V analog output control

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Energy saving for unoccupied room

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BMS communication Modbus RTU /  
LonWorks TP / BACnet-IP TP

# DATASHEET

## Proportional control of fan-coil speed for a perfect comfort

### Energy Savings

- Fan-coil speed proportional control
- Valve actuator ON/OFF control
- Climate control for occupancy detection
- Occupancy detection based on key card or motion sensor
- Window contact stops operating
- Changes to OFF/ECO mode if unoccupied room

### Device configurations

- Centigrade/Fahrenheit displayed
- Switch-off fan-coil state with no demand
- Device OFF or ECO by changing to unoccupied
- HEAT/COOL mode operation
- 2 Pipes / 4 Pipes installation
- Temperature/set-point displayed
- Configurable Max/Min set-point
- Set-point in occupied/ECO states
- Device state after a reset
- Auto-switch on device HEAT/COOL
- Valve actuators NO/NC type
- Window contact NO/NC type
- Lighting courtesy/contact output
- Display backlight level

### Features

- Supply Voltage: 24 Vdc
- Stand-alone operation
- BMS communication: Modbus RTU (RS-485) or LonWorks TP/FT-10 + BACnet-IP TP
- Front panel ambient temperature sensor
- White backlight LCD display
- Digital inputs (Contact type):
  - Keycard / Door
  - Window
  - Motion sensor
- Analog input for external temp. sensor
- Fan-coil 0-10V analog output
- Relay outputs 5A:
  - Cool valve actuator
  - Heat valve actuator
  - Auxiliary lighting
- BTicino frame
- Flush mounting in 504E enclosure
- Dimensions: 142x86x54 mm
- Weight: 230 g

### Ordering numbers

**RC.624421-000**  
e-Room ECO 4I/4O TP/FT-10  
LonWorks TP/FT-10, BACnet/IP-TP  
4 Inputs: Keycard, Window, Motion sensor, Temperature  
1 Output fan-coil EC 0-10V, 3 Relay outputs: 2 valves, 1 aux

**RC.674421-000 - Black**  
e-Room ECO 4I/4O Modbus RTU  
Modbus RTU (RS-485)  
4 Inputs: Keycard, Window, Motion sensor, Temperature  
1 Output fan-coil EC 0-10V, 3 Relay outputs: 2 valves, 1 aux



**RC.674421-001 - White**



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0-10V



## Control diagram Input / Output Diagrams



More efficient  
EN 15232

