Webinar “ABB Caldion® Room Temperature Controller”

Webinar – Competence Center Europe – Smart Buildings

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Agenda

Introduction, Projects and Product Overview
Technical Features and Connection Diagram
ETS Application
Commercial and Marketing Aspects
Webinar “ABB Caldion® Room Temperature Controller”
Introduction, Projects and Product Overview
ABB Caldion® Truly The One

ABB Caldion® is a new range of fan coil room temperature controller that is part of the ABB i-bus® KNX portfolio and ClimaECO.

It is a KNX RTC sensor for hotels, commercial buildings, offices and public buildings with a dual option on the type of installation (stand alone or KNX).

It has a built-in temperature sensor, LED display, buttons and Fan Coil actuator to provide an efficient and cost-effective solution.

The perfect frameless casing and intuitive icons using capacitive touch make customer life smarter and easier than ever.
Projects

Hospitality – Hotel guest room, common area

Commercial – Office building, common area
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Product Overview

**Black version**

2 devices
- On/Off - **BS standard** with/without electrical heater
- 0 - 10V - **BS standard** with/without electrical heater

**White version**

2 devices
- On/Off - **BS standard** with/without electrical heater
- 0 - 10V - **BS standard** with/without electrical heater
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Technical Features and Connection Diagram
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Features

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– For BS (British Standard) installation
– Frameless design
– Large LED display, illuminated capacitive touch buttons
– Intuitive icons for ease of operating mode identification
– Display and button illumination – efficiency mode (sleep mode when not in use) / constantly on
– Display illumination and button illumination can be activated/deactivated via group object
– °C/°F/ECO button – long press/short press function
– First trigger command – awake device/awake and send command
– On/Off button – long press/short press function
– Recall of last setpoint after On/Off of device
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Features

ABB Caldion®

- “In operation” monitor – antitheft and function monitoring
- In built temperature sensor for accurate room temperature measurement
- Lock and unlock of the device via group object to prevent unauthorized adjustment
- Compatible configuration similar to Fan Coil Controller FCC/S, also forced operation, temperature limitation or valve purge, PI-Controller, PWM, ...
- Two Binary inputs – temperature sensor/binary input/window/alarm function selectable
- ABB Caldion® can work as standalone device without KNX power supply thanks to power connection
- Occupancy presence detection logic: combination of door contact and presence detector to function as keycard holder for room occupancy status
- Occupancy presence detection logic – with the combination of door contact & presence detector signal, ability to determine the status of guests in the room (room occupancy status)
- Change between ECO, Standby and Comfort mode
- Door contact and presence detector signal can either be received by group object or physical input via E1 and E2 binary input
- Detection checking duration is configurable via ETS
- In 2 pipe configuration only, VB/RO output can be configured as an relay output to energize the power for the room (via a external contactor) like keycard holder
- When logic is active and E1 and E2 are not configured as physical input, it can be used for other binary input functions

Solution ready for non keycard holder installation in hotel guest rooms
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Connection Diagram - On/Off version and 3 step fan

2 pipe/electrothermal valve
2 pipe/3 point motor valve
2 pipe/electrical heater
4 pipes

Standalone default
E1 - Window contact
E2 - Temperature sensor NTC 10K

Standalone default
E1 - Window contact
E2 - Temperature sensor NTC 10K

Standalone default
E1 - Window contact
E2 - Temperature sensor NTC 10K

Standalone default
E1 - Window contact
E2 - Temperature sensor NTC 10K

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Connection Diagram - 0-10V version and 3 step fan

2 pipe/0-10V valve

2 pipe/0-10V valve + electrical heater

4 pipes /2 x 0-10V valves

Standalone default
E1 – Window contact
E2 – Temperature sensor NTC 10K

Standalone default
E1 – Window contact
E2 – Temperature sensor NTC 10K

Standalone default
E1 – Window contact
E2 – Temperature sensor NTC 10K
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Architecture

**Standalone configuration**
- Configuration via DIP switches
- works without KNX power supply
- All options as KNX device with configuration via ETS

**KNX configuration**

Flexible!! Install as standalone and be future proof to upgrade as system control
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ETS Application
ETS Application similar to Fan Coil Controller FCC/S

Parameter block ‘General’
- Various parameter for display and buttons
  - Display Illumination
  - On/Off operation
  - Device lock/unlock
  - Temperature Display
  - …
Occupancy presence detection logic (Block Application Parameters)

- Duration of first checking of presence, e.g. 10 min
- Duration of second checking of presence before activating ECO mode, e.g. 60 min
- Presence- and door contact detection via physical device input or group object
- In 2 pipe configuration only, VB/RO output can be configured as an relay output to energize the power for the room (via a external contactor) like keycard holder
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Commercial and Marketing Aspects
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**Range**

### ABB Caldion®

<table>
<thead>
<tr>
<th>Article Code</th>
<th>Order Code</th>
<th>Type</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR/U4.1.1.1-71</td>
<td>2TAZ740010R2001</td>
<td>On/Off valve</td>
<td>Black</td>
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<tr>
<td>CAR/U4.2.1.1-71</td>
<td>2TAZ741010R2001</td>
<td>0 – 10 V valve</td>
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<td>2TAZ740010R0001</td>
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<td>2TAZ741010R0001</td>
<td>0 – 10 V valve</td>
<td>White</td>
</tr>
</tbody>
</table>

Available in markets with British Standard installation or countries which allow this installation.
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Further information

Product Overview

- **Features:**
  - An integrated control and actuator room temperature controller
  - Single-package multiple input types of application
  - Option to select one or two zones
  - Enhanced function configurable via ETS application

- **Benefits:**
  - Easy replacement for existing conventional thermostat
  - Cost-effective installation
  - Quite design for ease of controls
  - Simple and effective application with options for expansion

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**Product overview**

<table>
<thead>
<tr>
<th>Technical data</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>AC 230V, 50/60 Hz, 1-10V</td>
</tr>
<tr>
<td>Min. load</td>
<td>1 W</td>
</tr>
<tr>
<td>Max. load</td>
<td>50 W</td>
</tr>
<tr>
<td>Temperature measuring</td>
<td>-5°C +70°C</td>
</tr>
<tr>
<td>Humidity measuring</td>
<td>5 – 95%</td>
</tr>
<tr>
<td>Input/output</td>
<td>1 x 10V, 1 x 4-20mA</td>
</tr>
<tr>
<td>Current consumption</td>
<td>1 W</td>
</tr>
<tr>
<td>Overcurrent protection</td>
<td>5 A</td>
</tr>
</tbody>
</table>

**Technical specifications**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current output</td>
<td>10 A</td>
</tr>
<tr>
<td>Voltage output</td>
<td>240 V</td>
</tr>
<tr>
<td>Temperature range</td>
<td>0 – 100°C</td>
</tr>
<tr>
<td>Humidity range</td>
<td>5 – 95%</td>
</tr>
</tbody>
</table>

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Further information

Product page will all relevant files

LINK

Link on this page to Related Products (ABB Caldion® Room Temperature Controller” CAR/U) shows all relevant files:

– ETS Application
– Product Manual
– Installation and Operating Instructions
– CE Declaration
– …

Link works only in countries with availability of this product
Option: Simulate Country via Country Selector
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