6.6.05 – Update with applications
Dual-duct units, electrical re-heater and radiator heating

A4 Application library CR24 V1.1 EN

Single room applications
### Layout

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### Key

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Overview IRC applications

The application library consists of various single room applications based on the proofed Belimo actuators for motorized air and water applications and the new CR24 single room controller range. The applications are subdivided according to its system type.

The library is being updated regularly, please check for the latest issue: on the INTRANET or under www.belimo.ch

The detailed function description and technical data of the CR24 controller can be found in the CR24 Product Information: www.belimo.ch

Air-Systems, pressure dependent

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VAV-Systems, pressure independent

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<th>CR24 Type</th>
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<td>VAV - Single-duct application, with chilled ceiling</td>
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Water applications

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<td>2-pipe system with 3-point re heater valve, Room temperature controlled</td>
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<td>2-pipe system Heat exchanger, with Change/Over function</td>
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Heat-/Chilled Ceiling-Systems

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<td>CR24-B3</td>
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<td>IRC-CLC-0015.0</td>
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## Air-Systems, pressure dependent

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<td>Single-duct – Damper control, with Change/over function</td>
<td>CR24-B1</td>
</tr>
</tbody>
</table>
**Air-System, pressure depending**

**IRC-AIR-0011.0**

**Single-duct Damper control,**

**Room temperature controlled – cooling mode**

**Wiring diagram CR24-B1**

**Description, functional diagram**

Pressure depending damper application. The room temperature aims as the demand related control value of the connected damper actuators.

**In- & Output assignment**

**Inputs**
- ai/di1  EHO / ext. Sensor *
- di2  Stand by *
- ai2  Remote setpoint shift *

**Outputs**
- ao1  System output (0)2…10V

* Optional

**Note**
The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information for technical data and detailed information.

**Configuration, settings CR24-B1**

**Options**
- di1 – EHO Energy hold off, e.g. window switch, ext. time switch
- di2 – Stand by, e.g. motion detector
- ai1 – external temperature sensing – exhaust duct
- ai2 – external setpoint shift, e.g. So/Wi-compensation

**Operations - MMI**

| CR24-A1 without user interface | Mode: AUTO |
| CR24-B1 with user interface | Mode: AUTO-ECO-MAX |

Subject of changes

V1.0  5.04 Trk  IRC-AIR-0011.0
Air-System, pressure depending

IRC-AIR-0015.0

Single duct – Damper control, with Change/Over function

Wiring diagram CR24-B1

Description, functional diagram

Pressure depending single-duct damper application with Change/Over-function heating - cooling. Change/over Heating <-> cooling switching action via dry contact depending e.g. via the temperature of the supply system.

Functional diagram

In- & Output assignment

Inputs
- ai/di1 EHO / ext. Sensor *
- di2 Change/Over
- ai2 Remote setpoint shift *

Outputs
- ao1 Change/over actuator 2...10V

* Optional

Note
The pin numbering corresponds to the Belimo actuator connections.

Configuration, setting CR24-B1

DIP-Switch setting:
- P-Band: normal – wide
- di2: Stand by – Change over

Setpoint \( W_{sp} \) range:

15...36 °C

Options
- di1 – EHO Energy hold off, e.g. window switch, ext. timeswitch
- ai1 – external temperature sensing – exhaust duct
- ai2 – external setpoint shift, e.g. So/Wi-compensation

Bedienung
CR24-A1 without user interface Mode: AUTO
CR24-B1 with user interface Mode: AUTO-ECO-MAX

Refer to the CR24 Product Information for technical data and detailed information.
### VAV-Systems, pressure independent

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<tr>
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<td>VAV – Dual duct application, with room temperature controller</td>
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<td>CR24-B3</td>
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<tr>
<td>IRC-VAV-0015.1</td>
<td>VAV - Single-duct application, Room temperature controlled with 3-Point re heater valve</td>
<td>CR24-B2</td>
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<tr>
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<td>VAV - Single-duct application, Room temperature controlled with 2-stage electrical re heater</td>
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<tr>
<td>IRC-VAV-0018.0</td>
<td>VAV - Single-duct application, Room temperature controlled with ON/OFF radiator valve</td>
<td>CR24-B2E</td>
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<tr>
<td>IRC-VAV-0010.0</td>
<td>VAV - Single-duct application, with chilled ceiling</td>
<td>CR24-B3</td>
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</table>
VAV-System, pressure independent

IRC-VAV-0011.0  VAV – Single duct application
Room temperature controlled

Wiring diagram CR24-B1

Description, functional diagram

The room temperature aims as the demand related control value of the connected VAV units. The variable volumetric flow range V'min...V'max equals to:
- V'min - to the hygienic air change
- V'max - to the maximum cooling demand.

Functional diagram

In- & Output assignment

Inputs
- ai/di1  EHO / ext. Sensor *
- di2  Stand by *
- ai2  Remote setpoint shift *

Outputs
- ao1  VAV system output (0)2…10V

* Optional

Note
The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information for technical data and detailed information.

Configuration, settings CR24-B1

DIP-Switch setting:

1  P-Band:  normal  -  wide
2  di2:  Stand by  -  Change over

Setpoint Wht range:
15...36 °C

Options

- di1 – EHO Energy hold off, e.g. window switch, ext. timeswitch
- di2 – Stand by, e.g. motion detector
- ai1 – external temperature sensing – exhaust duct
- ai2 – external setpoint shift, e.g. So/Wi-compensation

Operations - MMI

CR24-A1  without user interface  Mode: AUTO
CR24-B1  with user interface  Mode: AUTO-ECO-MAX

Hints
Application requires VAV - controller mode setting: 2...10 V
VAV-System, pressure independent

VAV – Single duct application
with Boost ‘Temperature controlled’

Wiring diagram CR24-B3

Description, functional diagram

The room temperature aims as the demand related control value of the connected VAV units. The variable volumetric flow range $V_{\text{min}}...V_{\text{max}}$ equals to: hygienic air change … maximum cooling demand.

Room preconditioning can be triggered via Boost input di3, e.g. via external timer, building management system.

Function ‘Boost Temperature controlled’
- ON: $\text{di3}$ active $\rightarrow$ VAV output $\text{ao1}$ 10 V ($V_{\text{max}}$)
- OFF: $\text{di3}$ inactive or $\rightarrow$ Auto operation
  comfort setpoint reached $\rightarrow$ Auto operation

Functional diagram

Hints
Application requires VAV - controller mode setting: 2...10 V

Options
- $\text{di1}$ – EHO Energy hold off, e.g. window switch, ext. timeswitch
- $\text{di2}$ – Stand by, e.g. motion detector
- $\text{ai1}$ – external temperature sensing – exhaust duct
- $\text{ai2}$ – external setpoint shift, e.g. So/Wi-compensation

Operations - MMI
CR24-A3 without user interface Mode: AUTO
CR24-B3 with user interface Mode: AUTO-ECO-MAX

Note
The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information for technical data and detailed information.

Configuration, settings CR24-B3

DIP-Switch setting:

1  P-Band: normal – wide
2  $V_{\text{max}}$ Hz: Off – 80%
3  $\text{ai2}$: heating – cooling/C-O
4  $\text{di3}$: Boost – Dewpoint/C-O
5  Boost: Temp. – $V_{\text{max}}$
6  controller: P

Setpoint $W_{H}$ range:
15...36 °C

In- & Output assignment

Inputs
- $\text{ai/di1}$ EHO / ext. Sensor *
- $\text{di2}$ Stand by *
- $\text{di3}$ Boost
- $\text{ai2}$ Remote setpoint shift *

Outputs
- $\text{ao1}$ VAV system output (0)2…10V

* Optional

Subject to changes

V1.0  5.04 Trk
IRC-VAV-0011.1
**VAV-System, pressure independent**

**IRC-VAV-0013.0**

**VAV – Dual duct application with room temperature controller**

**Wiring diagram CR24-B1**

**Description, functional diagram**

The cold and the hot air supplied by the dual duct system get mixed by the two volume controller according to the required room demand.

The hot air constant volume (CAV) controller is supporting the required hot air for the heating condition. At cooling demand the cold air (VAV) controller adds the cold air part as required by the CR24 room temperature controller. In case the cold air parts exceeds the hot air part, the hot air damper gets closed and the cold air supply is in work only.

**Options**
- di1 – Shot off cold air duct, e.g. ext. time switch
- di2 – Stand by, e.g. motion detector
- ai1 – external temperature sensing – exhaust duct
- ai2 – external setpoint shift

**Configuration, settings CR24-B1**

**DIP-Switch setting:**

1. P-Band: **normal** - wide
2. di2: **St-By** - Change over

**Setpoint W_H range:**

15...36 °C

**CR24-A1 without user interface Mode: AUTO**

**CR24-B1 with user interface Mode: AUTO-ECO-MAX**

**Note**

The pin numbering corresponds to the Belimo actuator connections

Refer to the CR24 Product Information for technical data and detailed information.

**Hints**

Application requires VAV - controller mode setting: 2...10 V

**In- & Output assignment**

**Inputs**
- ai/di1 ext. Sensor / Shut-off cold air duct *
- di2 St-By Stand by *
- ai2 Remote setpoint shift *

**Outputs**
- ao1 VAV system output (0)2...10V
  * Optional

Functional diagram

Supply air mixing area cooling Vmax

Volumetric flow V'max hig clg

hot air V'min

cold air room P-band cooling

CR24-B1
VAV-System, pressure independent

**IRC-VAV-0015.0**

### VAV – single duct application with 0...10V re heater valve

#### Wiring diagram CR24-B3

**Description, functional diagram**

The room temperature aims as the demand related control value of the connected VAV units. The variable volumetric air flow range V'min...V'max equals to: - V'min - to the hygienic air change - V'max - to the maximum cooling demand.

The re heater gets controlled via the connected 0...10 V valve at heating request. To ensure the required airflow over the re heater the volumetric air flow gets controlled V'min... 80% V'max during that condition.

**Option:**
Digital input di3 driven by a Boost signal allows the preconditioning of the room. Two Boost modes can be used:
- Boost – ‘Temperature controlled’: quick-heating and/or, -cooling
- Boost – V'max: room flush, support smoke extraction

**Functional diagram**

- Application requires VAV - controller mode setting: 2...10 V
- Heating output ao2: 0...10 V

**Hints**
- EHO closed
- Volumetric air flow
- 1) Master-Slave
- 2) parallel

**Configuration, settings CR24-B3**

**Options**
- di1 – EHO Energy hold off, e.g. window switch, ext. time switch
- di2 – Stand by, e.g. motion detector
- di3 – Boost, e.g. BMS, ext. time switch
- ai1 – external temperature sensing – exhaust duct
- ai2 – external setpoint shift, e.g. So/Wi-compensation

**Operations - MMI**
CR24-A3 without user interface Mode: AUTO
CR24-B3 with user interface Mode: AUTO-ECO-MAX

**In- & Output assignment**

**Inputs**
- ai/di1  EHO / ext. Sensor *
- di2  Stand by *
- di3  Boost *
- ai2  Remote setpoint shift *

**Outputs**
- ao1  VAV system output (0)2…10V
- ao3  Heating output 3-point

* Optional

**Note**
The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information for technical data and detailed information.

**Configuration, settings CR24-B3**

**DIP-Switch setting:**

1. P-Band: **normal**
2. V'max Hz: **Off**
3. ao2: **heating**
4. di3:  **Boost**
5. Boost:  **Temp.**
6. controller:  **P**

**Setpoint W_{13} range:**
15...36 °C
**VAV-System, pressure independent**

**IRC-VAV-0015.1**

**VAV - single duct application with 3-point re heater valve**

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**Wiring diagram CR24-B2**

- AC 24 V
- **external NTC - sensor**
- Remote setpoint shift

**Inputs**
- ai/di1 EHO / ext. Sensor *
- di2 Stand by *
- di3 Air flush *
- ai2 Remote setpoint shift *

**Outputs**
- ao1 VAV system output (0)2…10V
- ao3 Heating output 3-point

* Optional

---

**Description, functional diagram**

The room temperature aims as the demand related control value of the connected VAV units. The variable volumetric air flow range V’min...V’max equals to:
- V’min - to the hygienic air change
- V’max - to the maximum cooling demand.

A re heater gets activated via the connected 3-point valve at heating request. To ensure the required airflow over the reheater the volumetric air flow gets controlled V’min.... 80% V’max during that condition.

**Functional diagram**

**Hints**
- Application requires VAV - controller mode setting: 2...10 V
- Heating output ao3: 3-point actuator, optimized for 150 s running time

**Options**
- di1 – EHO Energy hold off, e.g. window switch, ext. time switch
- di2 – Stand by, e.g. motion detector
- di3 – Air flush, e.g. air quality control, ext. time switch
- ai1 – external temperature sensing – exhaust duct
- ai2 – external setpoint shift, e.g. So/Wi-compensation

**Operations - MMI**
- CR24-A2 without user interface Mode: AUTO
- CR24-B2 with user interface Mode: AUTO-ECO-MAX

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**Configuration, settings CR24-B2**

DIP-Switch setting:
- 1 P-Band: normal - wide
- 2 V’max htg Off - 80%

Setpoint Wt range:
15…36 °C

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**Note**

The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information for technical data and detailed information.

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Subject to changes
VAV-System, pressure independent

IRC-VAV-0016.0  VAV – single duct application  with 1-stage electrical re heater

Wiring diagram CR24-B2E

Description, functional diagram

The room temperature aims as the demand related control value of the connected VAV units. The variable volumetric air flow range \( V'_{\text{min}} \ldots V'_{\text{max}} \):
- \( V'_{\text{min}} \) - to the hygienic air change
- \( V'_{\text{max}} \) - to the maximum cooling demand.

At heating conditions the re heater gets controlled via the ON/OFF Triac-output. The volumetric flow gets increased 35 ... 80% \( V'_{\text{max}} \) to ensure the thermal transfer.

Options:
By the use of an external sensor mounted in the supply duct the air injection temperature can be limited to a maximum of about 50°C.

Functional diagram

Hints
- Application requires VAV - controller mode setting: 2...10 V

Configuration, settings CR24-B2E

Options
- \( \text{di}_1 \) – EHO Energy hold off, e.g. window switch, ext. time switch
- \( \text{di}_2 \) – Stand by, e.g. motion detector
- \( \text{di}_3 \) – Boost, e.g. BMS, ext. time switch
- \( \text{ai}_1 \) – Supply air limitation, NTC5k sensor
- \( \text{ai}_2 \) – external setpoint shift, e.g. So/Wi-compensation

Operations - MMI
CR24-A2E without user interface  Mode: AUTO
CR24-B2E with user interface  Mode: AUTO-ECO-MAX

Subject to changes!

V1.1  6.05 Trk
**VAV-System, pressure independent**

**IRC-VAV-0016.1**

**VAV – single duct application with 2-stage electrical re heater**

**Wiring diagram CR24-B2E**

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<tr>
<td>di3</td>
</tr>
<tr>
<td>ai2</td>
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<tr>
<td><strong>Outputs</strong></td>
</tr>
<tr>
<td>ao1</td>
</tr>
<tr>
<td>do3/1</td>
</tr>
<tr>
<td>do3/2</td>
</tr>
</tbody>
</table>

* Optional

**Note**
The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information and the data sheet CR24-B2E for technical data and detailed information.

**Configuration, settings CR24-B2E**

**DIP-Switch setting:**

1. Steps: 1 or 2 - binary
2. V' max Htg: Off - 80%

Setpoint $W_{set}$ range:

15...36 °C

**Description, functional diagram**

The room temperature aims as the demand related control value of the connected VAV units. The variable volumetric air flow range $V_{min} .. V_{max}$:

- $V_{min}$ - to the hygienic air change
- $V_{max}$ - to the maximum cooling demand.

At heating conditions the 2-step re-heater gets controlled via the two ON/OFF Triac-outputs in a binary mode which gives an almost modulating control mode. The volumetric flow gets increased 35 ... 80% $V_{max}$ to ensure the thermal transfer.

**Options:**
By the use of an external sensor mounted in the supply duct the air injection temperature can be limited to a maximum of about 50°C.

**Functional diagram**

**Hints**
- Application requires VAV - controller mode setting: 2...10 V

**Operations - MMI**

CR24-A2E without user interface Mode: AUTO
CR24-B2E with user interface Mode: AUTO-ECO-MAX
VAV-System, pressure independent

**IRC-VAV-0018.0**

**Wiring diagram CR24-B2E**

**Description, functional diagram**

The room temperature aims as the demand related control value of the connected VAV units. The variable volumetric air flow range $V'_\text{min}$...$V'_\text{max}$:
- $V'_\text{min}$ - to the hygienic air change
- $V'_\text{max}$ - to the maximum cooling demand.

At heating conditions the ON/OFF radiator valve gets controlled via the CR24 Triac-output.

**In- & Output assignment**

**Inputs**
- $di1$ - EHO *
- $di2$ - Stand by *
- $di3$ - Boost *
- $ai2$ - Remote setpoint shift *

**Outputs**
- $ao1$ - VAV system output (0)2...10V
- $do3/1$ - Heating output 24 VAC ON/OFF

* Optional

**Note**
The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information and the data sheet CR24-B2E for technical data and detailed information.

**Configuration, settings CR24-B2E**

DIP-Switch setting:

1. Steps: 1 or 2 - binary
2. $V'_\text{max}$ Htg: Off - 80%

Setpoint $W_H$ range:

15...36 °C

**Options**

- $di1$ – EHO Energy hold off, e.g. window switch, ext. time switch
- $di2$ – Stand by, e.g. motion detector
- $di3$ – Boost, e.g. BMS, ext. time switch
- $ai2$ – external setpoint shift, e.g. So/Wi-compensation

**Operations - MMI**

CR24-A2E without user interface Mode: AUTO
CR24-B2E with user interface Mode: AUTO-ECO-MAX
VAV-System, pressure independent

IRC-VAV-0111.1

VAV - single duct application
with Chilled ceiling

Wiring diagram CR24-B3

Description, functional diagram

The room temperature aims as the demand related control value of the connected VAV units and chilled ceiling. The variable volumetric air flow range $V_{\text{min}}...V_{\text{max}}$ equals to: hygienic air change ... maximum cooling demand.

Option – unit sequencing:
The two cooling units can also be used in control sequencing:
Unit 1 - Chilled ceiling: 0 ... 5 V (MFT-actuator)
Unit 2 - VAV: 5 ... 10 V (MFT-controller. E.g. NMV-D2M)

Functional diagram

HINTS
- Application requires VAV - controller mode setting: 2...10 V
- Cooling output 0 ... 10 V

By the use of the control sequencing option the control input of the MFT-actuators need to be adjusted (PC-Tool or MFT-Handy)

Options
- $di1$ – EHO Energy hold off, e.g. window switch, ext. time switch
- $di2$ – Stand by, e.g. motion detector
- $ai1$ – external temperature sensing – exhaust duct
- $ai2$ – external setpoint shift, e.g. So/Wi-compensation

Operations - MMI

CR24-A3 without user interface Mode: AUTO
CR24-B3 with user interface Mode: AUTO-ECO-MAX

Setpoint $W_{\text{eq}}$ range:
15...36 °C

Note
The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information for technical data and detailed information.

Configuration, settings CR24-B3

DIP-Switch setting:

1 P-Band: normal
2 $V_{\text{max}}$ Hz: OFF
3 $V_{\text{max}}$: wide
4 $di2$: heating
5 $di3$: Boost
6 controller: P

In- & Output assignment

Inputs
- $ai/di1$: EHO / ext. Sensor *
- $di2$: Stand by *
- $di3$: Dew point control
- $ai2$: Remote setpoint shift *

Outputs
- $ao1$: VAV system output (0)2...10V
- $ao3$: Cooling output 0...10V

* Optional

Subject to changes

V1.0 5.04 Trk

IRC-VAV-0111.0
## Water applications

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<th>Application</th>
<th>Description</th>
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<td>2-pipe system with 3-point re heater valve, Room temperature controlled</td>
<td>CR24-B2</td>
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<td>IRC-WAT-0015.0</td>
<td>2-pipe system Heat exchanger, with Change/Over function</td>
<td>CR24-B1</td>
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</tbody>
</table>
**Wiring diagram CR24-B2**

**Description, functional diagram**

Energy demand controlled re heater application, based on the room temperature.

**In- & Output assignment**

**Inputs**
- ai/di1  EHO / ext. Sensor *
- di2   St-By Standby *
- ai2   Remote setpoint shift *

**Outputs**
- ao1  Heating valve 3-point

* Optional

**Note**
The pin numbering corresponds to the Belimo actuator connections.

**Configurations, settings CR24-B2**

**DIP-Switch setting:**
- P-Band: normal - wide
- V’max htg: Off - 80%

Setpoint $W_{htg}$ range:

15...36 °C

**Options**
- di1 – EHO Energy hold off, e.g. window switch, ext. timeswitch
- ai1 – external temperature sensing – exhaust duct
- ai2 – external setpoint shift, e.g. So/Wi-compensation

**Operations - MMI**

| CR24-A2 | Mode: AUTO |
| CR24-B2 | Mode: AUTO-ECO-MAX |

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Refer to the CR24 Product Information for technical data and detailed information.
**Water application**

**IRC-WAT-0015.0**

**2-pipe Heat exchanger with Change/Over function**

### Wiring diagram CR24-B1

![Wiring diagram CR24-B1]

### Description, functional diagram

2-pipe demand controlled application supporting Change/over operation. Heating <-> cooling switching action via a dry contact depending e.g. on the flow temperature of the supply system.

### In- & Output assignment

**Inputs**
- ai/di1  EHO / ext. Sensor *
- di2     Change/over signal
- ai2     Remote setpoint shift *

**Outputs**
- ao1     Change/over actuator 2...10V

* Optional

### Note

The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information for technical data and detailed information.

### Configuration, settings CR24-B1

DIP-Switch setting:

1. P-Band: normal - wide
2. di2: Stand by - Change over

Setpoint \( W_h \) range: 15...36 °C

### Options

- di1 – EHO Energy hold off, e.g. window switch, ext. timeswitch
- ai1 – external temperature sensing – exhaust duct
- ai2 – external setpoint shift, e.g. So/Wi-compensation

### Operations - MMI

- CR24-A1 without user interface Mode: AUTO
- CR24-B1 with user interface Mode: AUTO-ECO-MAX

Subject to changes

V1.0 5.04 Trk
# Heat-/Chilled Ceiling-Systems

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<th>CR24 Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRC-CLC-0011.0</td>
<td>Chilled ceiling - 2-pipe-system, Room temperature controlled</td>
<td>CR24-B3</td>
</tr>
<tr>
<td>IRC-CLC-0015.0</td>
<td>Heat-/Chilled ceiling - 2-pipe-system, with Change-over function</td>
<td>CR24-B3</td>
</tr>
</tbody>
</table>
Heat-/Chilled ceiling system

**Wiring diagram CR24-B3**

**Description, functional diagram**

The Chilled ceiling application existing of a room temperature controller and a 0...10 V cooling valve. The dew point limiter cares for perspiration water free operation as it switches of the cooling by a 2-point signal.

**In- & Output assignment**

**Inputs**
- ai/di1  EHO / ext. Sensor *
- di2  Stand by *
- di3  Dew point limiter
- ai2  Remote setpoint shift *

**Outputs**
- ao2  Cooling output 0...10V

* Optional

**Note**
The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information for technical data and detailed information.

**Configuration, settings CR24-B3**

DIP-Switch setting:

1. P-Band: normal
2. V max Hz: Off
3. ao2: Heating
4. di3: Boost
5. Boost: Temp
6. controller: P

Setpoint \( W_{h3} \) range:

15...36 °C

**Options**

- di1 – EHO Energy hold off, e.g. window switch, ext. time switch
- di2 – Stand by, e.g. motion detector
- ai1 – external temperature sensing – exhaust duct
- ai2 – external setpoint shift, e.g. So/Wi-compensation

**Operations - MMI**

| CR24-A3 without user interface | Mode: AUTO |
| CR24-B3 with user interface | Mode: AUTO-ECO-MAX |

Subject to changes
Heat-/Chilled ceiling system

**Wiring diagram CR24-B3**

This water ceiling system can be used to cover heating and cooling demand due to the build-in Change/over function of the room temperature controller controlling the common 0...10 V valve. Change/over gets activated by an external command wired to digital input di3. The dew point limiter cares for perspiration water free operation as it switches off the cooling via a 2-point signal.

**Input & Output assignment**

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<td>- ao2 Cooling/Heating 0...10V</td>
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<tr>
<td>- di2 Stand by *</td>
<td></td>
</tr>
<tr>
<td>- di3 Dew point limiter/Change/over</td>
<td></td>
</tr>
<tr>
<td>- ai2 Remote setpoint shift *</td>
<td></td>
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</tbody>
</table>

* Optional

**Note**

The pin numbering corresponds to the Belimo actuator connections.

Refer to the CR24 Product Information for technical data and detailed information.

**Configuration, settings CR24-B3**

**Options**

- di1 – EHO Energy hold off, e.g. window switch, ext. timeswitch
- di2 – Stand by, e.g. motion detector
- ai1 – external temperature sensing – exhaust duct
- ai2 – external setpoint shift, e.g. So/Wi-compensation

**Operations - MMI**

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**Setpoint Wt range:**

15…36 °C
All-inclusive.

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Short delivery times
Comprehensive support

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