



CAI

Room controller

Room controller with 0...10 V or 3-point output, primarily intended for control of heating or cooling in zone control systems.

- Setpoint 0...40°C
- Internal or external sensor
- Setting for heating or cooling output
- Change-over input for sensor or relay contact

CAI is a room controller for wall mounting. It has 0...10 V or 3-point control signal output. The output is reversible, so the controller can control heating or cooling. The control function can be set to P- or PI-control.

The P-band can be set to 0.5...50 K and the reset time to 2 or 20 minutes.

Sensor

CAI has a built-in temperature sensor.

It is also possible to connect an external sensor to the controller. In this case, the jumper BY1 is set to position External (see description overleaf).

Setpoint

The setpoint is set with the knob on the right side of the housing. The setting can be fixed with a locking screw under the cover.

CAI has an input for change-over that causes the control function to switch between heating or cooling. This input is connected to a closing relay contact. On closed contact the controller works with heating output and on open contact with cooling output.

Change-over

CAI has an input for change-over, that causes the control function to switch between heating or cooling. This input can be connected to a AB Industrietechnik NTC-sensor or a closing relay contact. On closed contact the controller works with heating output and on open contact cooling.

When using sensor for change-over, the temperature range must be 0...30°C and the sensor mounted on the supply to the battery in order to give accurate temperature values.

When the temperature at the sensor exceeds 22°C, the output function is switched to heating and when the temperature falls below 18°C the output is set to cooling.

- 0...10 V or 3-point output
- P- or PI-function
- Adjustable P-band and I-time
- Occupied/Unoccupied mode

Internal indications

A green LED on the front of the cover indicates supply power on.

The heating/cooling function is indicated by a red LED, marked "H". Red light indicates heating, no light indicates cooling.

There is also an indication for occupancy, a green LED marked "Occ". Green light means occupied mode, no light means unoccupied mode.

Occupied/Unoccupied mode

The setpoint can be adjusted in accordance with an input for occupancy. On open contact on the occupancy detector, the controller setpoint is determined by the setpoint adjuster (occupied mode). On closed contact on the occupancy detector, the setpoint is determined by an internal trimpot (unoccupied mode).

The base setpoint value for the unoccupied mode is 22°C. It can be reset depending on the setting of the potentiometer "Unoccupied". It is adjustable with a span of +/-6°C. See overleaf under the heading "Function selection".

Technical data

| | |
|---------------------|---|
| Supply voltage | 24 V AC +/- 15% 50...60 Hz |
| Power consumption | 2 VA |
| Ambient temperature | 0...50°C |
| Storage temperature | -40...+50°C |
| Ambient humidity | Max 90% RH |
| Protection class | IP20 |
| CE | This product carries the CE-mark. More information is available at www.industrietechnik.it |

Inputs

| | |
|-----------------|---|
| External sensor | NTC-sensors, 0...40°C (STCC-NTC15-04 or SA-NTC15-04) |
| Change-over | For NTC-sensor (0...30°C) or potential-free relay contact |
| Occupancy | Potential-free contact |

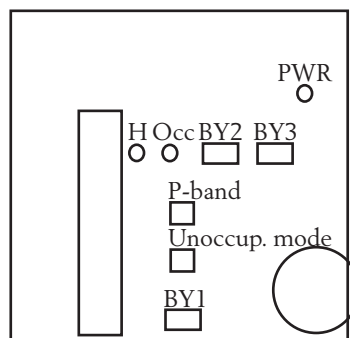
Outputs

| | |
|----------------|---|
| Control signal | 0...10 V DC, 1 mA or 3-point 24 V AC, 1 A |
|----------------|---|

Settings

| | |
|---------------------|--|
| Setpoint | 0...40°C |
| P-band | 0.5...50 K |
| Reset-time (I-time) | 2 or 20 min, set with jumpers, see below |
| Unoccupied mode | 22°C +/- 6°C |

Function selection (jumpers) and Indicators



| | | |
|---|--------|--|
| Jumper BY1 | Right | = Internal sensor (<i>factory setting</i>) |
| | Left | = External sensor |
| Jumper BY2 | Closed | = Reset time (I-time) is 2 min |
| | Open | = Reset time (I-time) is 20 min (<i>factory setting</i>) |
| BY2 only has a function when jumper BY3 is set to PI-control. | | |
| Jumper BY3 | Closed | = P-function |
| | Open | = PI-function (<i>factory setting</i>) |

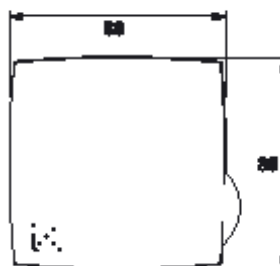
To obtain open position place the jumper on one pin only.

| Pot. Unoccupied mode | Position | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------|----------|----|----|----|----|----|----|-------|
| Cooling setp. | | 22 | 23 | 24 | 25 | 26 | 27 | 28 °C |
| Heating setp. | | 22 | 21 | 20 | 19 | 18 | 17 | 16 °C |

| | | |
|------------------------|--------------------|----------------------------------|
| H (Change-over status) | LED lit | = The heating function is active |
| | LED not lit | = The cooling function is active |
| Occ (Occupancy status) | LED lit | = Occupancy mode |
| | LED not lit | = Unoccupied mode |
| PWR | Indicates power on | |

Wiring and Dimensions

| | |
|----|---|
| 1 | Supply voltage 24 V AC |
| 2 | System neutral |
| 3 | 24 V AC (G+) output, for actuator supply |
| 4 | 3-point output increase |
| 5 | 3-point output decrease |
| 6 | 0...10 V DC control output |
| 7 | Signal neutral |
| 8 | Change-over input (heating function on closing contact) |
| 9 | Occupancy input (unoccupied mode on closing contact) |
| 10 | External sensor |



Measurements in mm.

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