# OJ Microline® range . Type OCC2
# 4-Event Clock Thermostat

***Elegant European design***
*can be mounted in combination with various types of light switches*


### 4-event clock thermostat type OCC2

- Recommended for control of heating systems for heating comfort with minimum power consumption.
- Electronic on/off control max. 3600W, 16A, of underfloor heating and electrical heating etc.
- Built-in interrupter.
- Back-lit display.
- Built-in clock function with display for automatic comfort and setback temperature.
- Flush mounting or wall mounting.
- Monitoring of energy consumption.
- Inclined display for better read-out.

### PRODUCT PROGRAMME

| Type | Product |
|---|---|
| OCC2-1991H1 | Clock thermostat incl. floor sensor 3 m |
| OCC2-1999H1 | Clock thermostat with built-in room sensor |
| **Accessories** | |
| ETF-944/99-H | Remote room sensor for surface wall mounting<br>*Used together with OCC2-1991H1* |
| OTN-VH | Baseplate for surface wall mounting |

### THERMOSTAT FUNCTIONS
### Thermostat control:

Type OCC2 is an electronic on/off thermostat for control of temperature by means of a sensor either placed externally or built into the thermostat. The heat output is switched on and off with a difference of only 0.4°K.

### Housing IP 21:

Can be mounted in bathrooms and other humid rooms.

### BUILT-IN CLOCK FUNCTION

OCC2 is with built-in 4-event program for automatic comfort and setback temperature.

### Factory-set of events:

The OCC2 types are delivered with factory-set programs as follows:

| Day 1-5 | | | | |
|---|---|---|---|---|
| **Event** | **Time** | **Temperature** | **w/floor sensor** | **w/room sensor** |
| 1 | 06:00-08:00 | Comfort | 25°C | 20°C |
| 2 | 08:00-16:00 | Setback | 20°C | 15°C |
| 3 | 16:00-22:30 | Comfort | 27°C | 22°C |
| 4 | 22:30-06:00 | Setback | 20°C | 15°C |
| **Day 6-7** | | | | |
| **Event** | **Time** | **Temperature** | **w/floor sensor** | **w/room sensor** |
| 1 | 08:00-23:00 | Comfort | 27°C | 22°C |
| 4 | 23:00-08:00 | Setback | 20°C | 15°C |

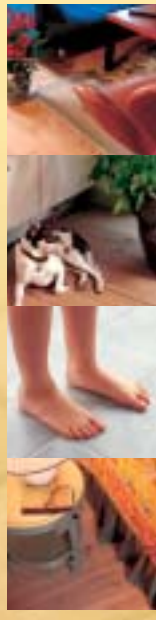
### Individual programming of events:

The factory-set periods and/or temperatures can be deleted or changed according to requirement.
Furthermore, the following programs can be selected:
- 4 events 6 days and 2 events day 7
- 4 events per day

OCC2 is with adaptive function meaning the thermostat calculates when the heating has to be switched on to make sure that the comfort temperature is obtained at the required time.

### Comfort mode:

The temperature can be temporarily changed for a single event. The comfort mode temperature is reset at the next event, and the thermostat will return to the scheduled event program.



## Manual mode:
The scheduled event program can be cancelled e.g. during holidays, instead the temperature can be adjusted to e.g. 5°C for frost protection. The new setpoint is valid until the manual mode is cancelled.

## Monitoring of energy consumption:
Total switch-on time in percentage can be read-out within the latest 2 days, 30 days or 365 days. In this way the heat consumption can be controlled.

## TECHNICAL DATA

| | |
|---|---|
| Supply voltage | 230V ±15%, 50/60 Hz |
| Output relay SPST | 16A, 3600W resistive load or 1A inductive load |
| Built-in interrupter | 2-pole, 16A |
| Temperature range | +5/+40°C |
| Limitation of range | Min./max. |
| Clock function | 4-events program |
| Ambient temperature during operation | 0/+40°C |
| On/off differential | 0.4°K |
| Housing | IP 21 |
| Sensor type | NTC |
| Dimensions (H/W/D) | 80 x 80 x 48 mm |
| Size of display (H/W) | 25 x 22 mm |

## Backup function:
All settings and the clock are maintained in case the thermostat is switched off on the built-in interrupter. In case the main power supply is interrupted for more than 50 hours the current time and date must be reset.
In power term installations with daily disconnection of the main power to the heating installation, it is recommended to connect the thermostat to the primary line that is not disconnected, and connect the heating installation over an external relay.

## Read-out of sensor temperature:
The actual temperature of the floor sensor can be read-out.

## CE Marking:
The thermostat meets the requirements of the following standards:

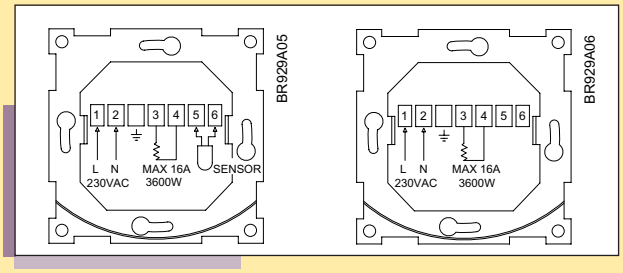
| *EMC directive:* | *Low voltage directive:* |
|---|---|
| EN61000-6-1:2001 | EN60730-1 |
| EN61000-6-3: 2001 | EN60730-2-9 |

## MOUNTING
## Mounting of the thermostat:

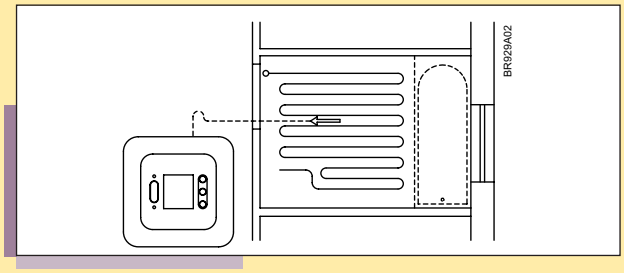
| | |
|---|---|
| 1 | Flush mounting in standard wall socket. |
| 2 | In combination with light switch types Busch-Jaeger, Merten, Ensto, and Eljo. Relevant type double frame is used. |
| 3 | Surface wall mounting with baseplate type OTN-VH. |

## Mounting of floor sensor:
The floor sensor is used for comfort heating of the floor. The sensor is mounted in conduit for replacement purposes. The conduit is placed between heating cables and is ended towards the floor surface. If required, the sensor cable may be extended up to 100 m with standard installation cable.

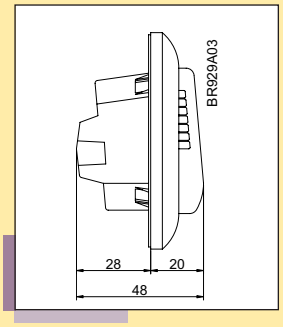
## Mounting of room sensor:
The room sensor is used for room heating. Thermostat with internal sensor is mounted approx. 1.6 m above the floor. Draught, direct sunlight or any other direct heating outlet must be avoided. If it is not possible to mount the thermostat in the correct position, remote room sensor type ETF-944/99-H is recommended. A thermostat incl. floor sensor is used, but the room sensor is connected instead of a floor sensor.



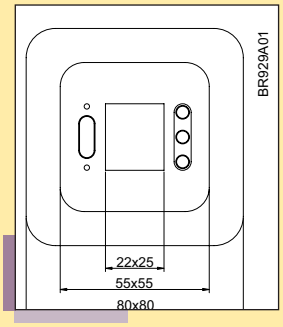

*Electrical connections w/floor sensor* *w/room sensor*



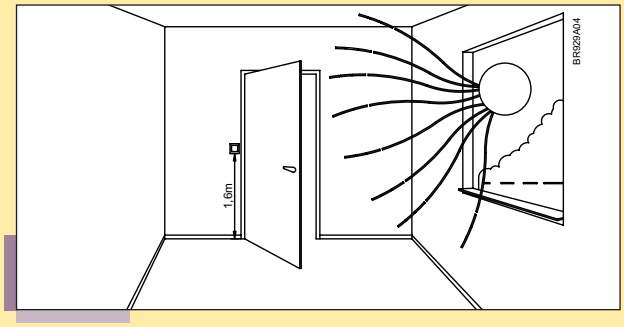

*Mounting of floor sensor*




*Dimensions*




*Dimensions*




*Mounting of thermostat with internal or remote room sensor*

OJ Microline®

**OJ thermostat programme includes:**
- Thermostats for flush mounting
- Thermostats for wall mounting
- Thermostats for DIN rail mounting
- Thermostats for snow melting and frost protection
- Triac thermostat and controllers from 1-44 kW

*Please, require catalogue*

OJ ELEKTRONIK A/S · Denmark · www.oj.dk

# OJ Microline® range . Type OCD2
# 4-Event Clock Thermostat incl. 2 Sensors

***Elegant European design***
*can be mounted in combination with various types of light switches*


### 4-event clock thermostat type OCD2
- Recommended for control of heating systems for heating comfort with minimum power consumption.
- With min./max. temperature limitation of installations or constructions.
- Electronic on/off control max. 3600W, 16A, of underfloor heating and electrical heating etc.
- Built-in interrupter.
- Back-lit display.
- Built-in clock function with display for automatic comfort and setback temperature.
- Flush mounting or wall mounting.
- Monitoring of energy consumption.
- Inclined display for better read-out.

### PRODUCT PROGRAMME

| Type | Product |
|---|---|
| OCD2-1999H1 | Clock thermostat with built-in sensor and incl. limitation sensor 3 m |
| **Accessories** | |
| OTN-VH | Baseplate for surface wall mounting |

### THERMOSTAT FUNCTIONS
**Thermostat control:**
Type OCD2 is an electronic on/off thermostat for control of room temperature by means of a NTC sensor. The heat output is switched on and off with a difference of only 0.4°K.

**Temperature limitation:**
OCD2 is with a floor sensor that can be used for one of the following:
- Min. temperature limitation
- Max. temperature limitation.
- Min. and max. temperature limitation

Using limitation sensor provides optimal comfort temperature and avoid too high temperatures destroying the floor construction.

**Housing IP 21:**
Can be mounted in bathrooms and other humid rooms.

### BUILT-IN CLOCK FUNCTION
OCD2 is with built-in 4-event program for automatic comfort and setback temperature.

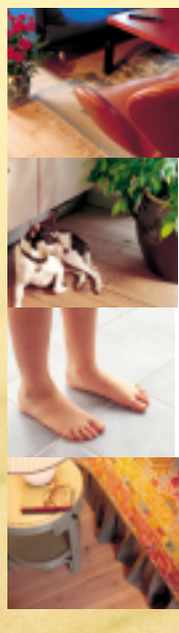
**Factory-set of events:**
The OCD2 thermostat is delivered with factory-set programs:

| **Day 1-5** | | |
|---|---|---|
| **Event** | **Time** | **Temperature** |
| 1 | 06:00-08:00 | Comfort 20°C |
| 2 | 08:00-16:00 | Setback 15°C |
| 3 | 16:00-22:30 | Comfort 22°C |
| 4 | 22:30-06:00 | Setback 15°C |
| **Day 6-7** | | |
| **Event** | **Time** | **Temperature** |
| 1 | 08:00-23:00 | Comfort 22°C |
| 4 | 23:00-08:00 | Setback 15°C |

**Individual programming of events:**
The factory-set periods and/or temperatures can be deleted or changed according to requirement.
Furthermore, the following programs can be selected:
- 4 events 6 days and 2 events day 7
- 4 events per day

OCD2 is with adaptive function meaning the thermostat calculates when the heating has to be switched on to make sure that the comfort temperature is obtained at the required time.

**Comfort mode:**
The temperature can be temporarily changed for a single event. The comfort mode temperature is reset at the next event, and the thermostat will return to the scheduled event program.



Section 3

## Manual mode:
The scheduled event program can be cancelled e.g. during holidays, instead the temperature can be adjusted to e.g. 5°C for frost protection. The new setpoint is valid until the manual mode is cancelled.

## Monitoring of energy consumption:
Total switch-on time in percentage can be read-out within the latest 2 days, 30 days or 365 days. In this way the heat consumption can be controlled.

## TECHNICAL DATA

| | |
|---|---|
| Supply voltage | 230V ±15%, 50/60 Hz |
| Output relay SPST | 16A, 3600W resistive load or 1A inductive load |
| Built-in interrupter | 2-pole, 16A |
| Temperature range | +5/+40°C |
| Limitation of range | min. 15°C/max. 28°C |
| Clock function | 4-events program |
| Ambient temperature during operation | 0/+40°C |
| On/off differential | 0.4°K |
| Housing | IP 21 |
| Sensor type | NTC |
| Dimensions (H/W/D) | 80 x 80 x 48 mm |
| Size of display (H/W) | 25 x 22 mm |

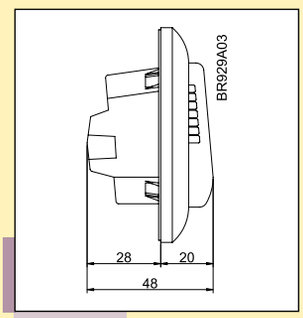
## Backup function:
All settings and the clock are maintained in case the thermostat is switched off on the built-in interrupter. In case the main power supply is interrupted for more than 50 hours the current time and date must be reset.

In power term installations with daily disconnection of the main power to the heating installation, it is recommended to connect the thermostat to the primary line that is not disconnected, and connect the heating installation over an external relay.

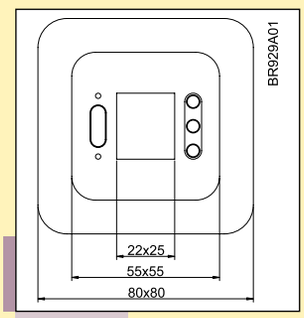
## Changing of type:
The thermostat can via the software menu be modified to one of following thermostats:

| **Type** | **Product** |
|---|---|
| OCC2-1991H1 | Clock thermostat incl. floor sensor 3 m |
| OCC2-1999H1 | Clock thermstat with built-in room sensor |

At factory reset the thermostat will for security reasons return to an OCD2 type. In case the limitation sensor has been removed it will generate a failure code “E2”.




*Dimensions*

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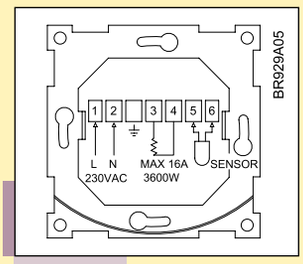
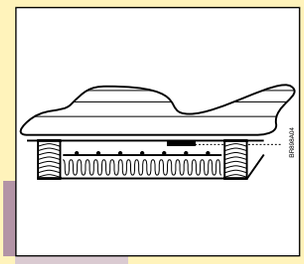



*Electrical connections*




*Mounting of limitation sensor*

## CE Marking:
The thermostat meets the requirements of the following standards:

| *EMC directive:* | *Low Voltage Directive:* |
|---|---|
| EN61000-6-1:2001 | EN 60730-1 |
| EN61000-6-1:2001 | EN 60730-2-9 |

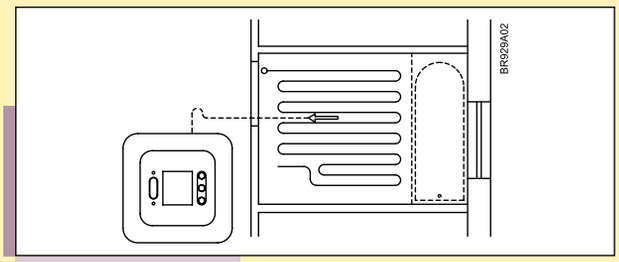
## MOUNTING
## Mounting of the thermostat:

| | |
|---|---|
| 1 | Flush mounting in standard wall socket. |
| 2 | In combination with light switch types Busch-Jaeger, Merten, Ensto, and Eljo. Relevant type double frame is used. |
| 3 | Surface wall mounting with baseplate type OTN-VH. |

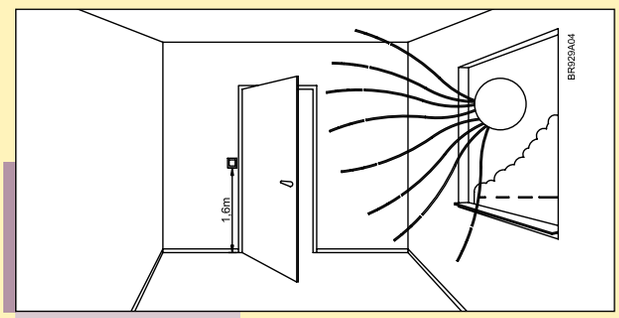
## Mounting of room sensor:
The room sensor is used for room heating. The thermostat with built-in sensor is mounted approx. 1.6 m above the floor. Draught, direct sunlight or any other direct heating outlet must be avoided

## Mounting of limitation sensor:
**Max. temperature** limitation is used for protection of installation or construction against excessive temperature. The sensor is mounted at a place where excessive temperature may arise.
**Min. temperature** is used for better heating comfort. The sensor is mounted as floor sensor.

The sensor is mounted in conduit for replacement purposes. The conduit is ended towards the floor surface. If required, the sensor cable may be extended up to 100 m with standard installation cable.




*Mounting of floor sensor*




*Mounting of thermostat with internal or remote room sensor*