

INSTRUCTIONS

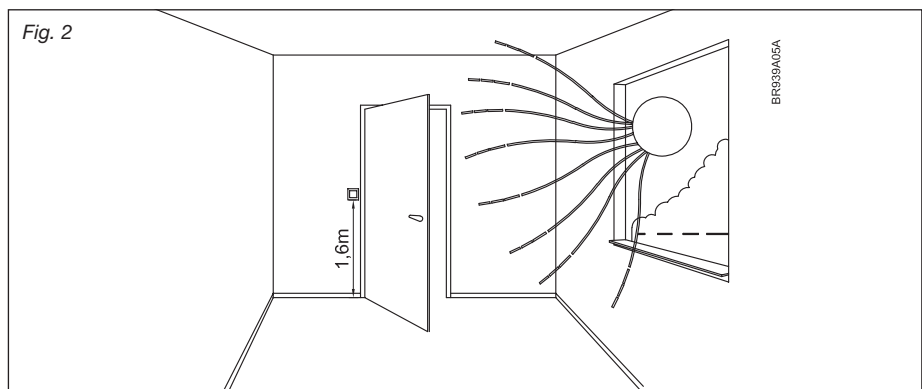
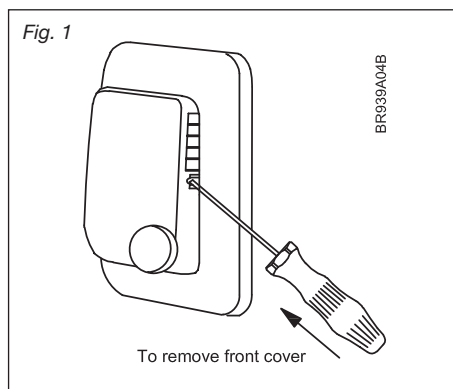
Waterline thermostats type WL...



57540B 11/05 (KIB)

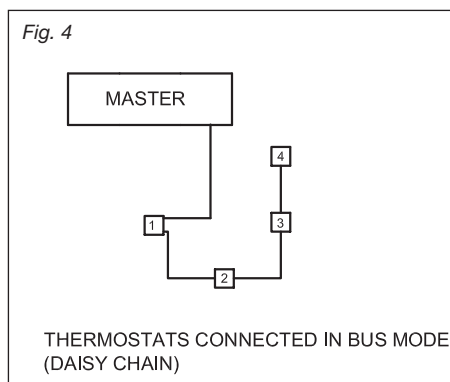
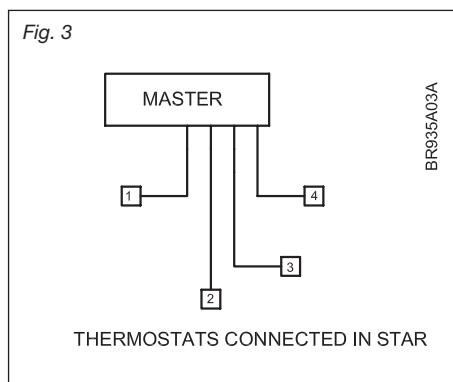
Product programme

- WLTP-19 Thermostat tamper proof
- WLTA-19 Thermostat with adjustment
- WLTM-19 Thermostat with adjustment and mode switch Auto, Day, Night, OFF
- WLTD-19 Thermostat with adjustment, mode switch Auto, Day, Night, OFF and limit sensor
- WLCT-19 Thermostat with 4-event clock



Mounting of thermostat (fig. 2)

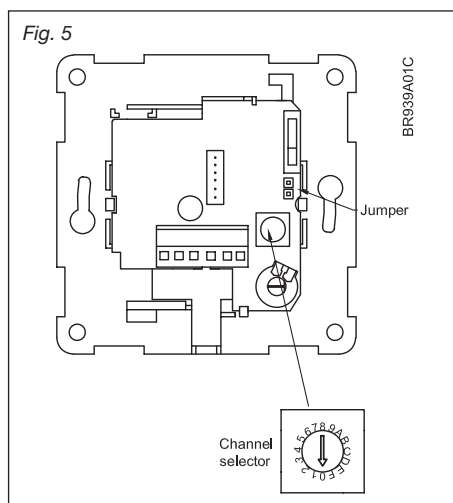
The thermostat is used for comfort temperature control in rooms. The thermostat is mounted on an internal wall with free air circulation about 1.6 m above the floor. Draught, direct sunlight, or any other direct heating source must be avoided.



THERMOSTATS – BUS CONNECTION

Only OJ thermostats type WLxx that are suitable for 2 wire communication can be used. Standard installation cable, minimum 2 x 0.25 mm² can be used. The thermostats can be connected in the conventional star wiring format, or in a bus connected mode (Daisy chain). The master has 3 sets of terminals marked THERMOSTAT BUS that can be used for connecting the 2-wire signal from the thermostats. There are 3 identical sets of terminals for convenient installation. Any thermostat can be connected to any pair of terminals. The total length of the 2-wire system can be up to 300 m with a maximum length of 100 m between any 2 thermostats.

Remember to connect + to + and – to – .



SETTING UP WHICH THERMOSTAT SHOULD WORK WITH WHICH THERMAL ACTUATOR

Each thermostat can be selected to operate a specific output which in turn controls the thermal actuators on the manifold. Under the front cover of the thermostat, a selector can be accessed, and the number of its output (its CH channel) can be set with a screwdriver. Up to 14 channels can be set on the selector, and there are two auxiliary channels with special functions. A WLM master has 6 outputs and additional slave modules each with 4 outputs can be connected creating a system of 14 individual zones.

Please note that channels 10 to 14 are marked as A through E on the selector.

A thermostat set for CH1 will activate the thermal actuator connected to output 1 on the master. The channel number can be selected without any power connected to the system. The channel of the thermostat can be changed afterwards if needed. If two thermostats are placed in the same room and set to the same channel, the temperature control will work according to the average temperature of both thermostats.

Channel 0:

Each thermostat is delivered with the switch in position 0 ensuring that it must be set to operate correctly. Channel 0 can also be used for a clock thermostat controlling a group of thermostats where the control position could be somewhere central, e.g. the kitchen, rather than in the area where the thermostats are installed. Setting it to Ch 0 means that times and temperatures are set on the WLCT for the group, but that the WLCT will not control a specific output itself.

Channel 15 (F):

Special function. Further instructions in the instruction for the master.

Setting of Room Temperature

The master is supplied with default temperature settings which are used by all non clock thermostats that are connected to the system. In Master WLM-1BA & WLM-3BA, the DAY temperature setting is fixed at 20°C and the NIGHT temperature is fixed at 15°C.

In Master WLM-1FS & WLM-3FS, the DAY, NIGHT and OFF default temperatures are adjustable through the display.

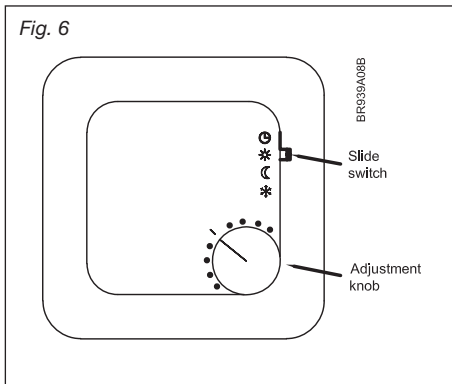
Automatic switching between DAY and NIGHT temperatures is done by either connecting a separate timing device to the master, or using a WLCT clock thermostat and allocating other non clock thermostats as part of its group. It is possible to have two or more clock thermostats in the system, with each one having its own group of non clock thermostats.

Each WLTA, WLTM or WLTD thermostat is locally adjustable with its own adjustment knob. With this knob the temperature setting from the Master can be increased or decreased by 4°C for that specific room.

If the WLTM-19 or WLTD-19 thermostat has been allocated to a clock controlled group, then when AUTOMATIC mode has been chosen with the built-in slide switch, the temperature settings will be as programmed in the clock thermostat and not in the master, but the same local ±4°C adjustment is available.

On the Master WLM-1FS and WLM-3FS, if the temperature setting is changed, then the default temperature for all the rooms is changed, but the local adjustment can still increase or decrease this new setting by ±4°C. Turn the knob clockwise to increase the temperature.

Setting of thermostat operating mode



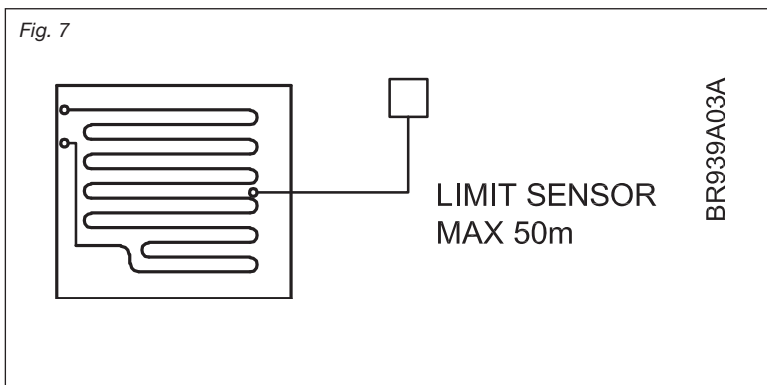
Setting of Thermostat Operating Mode

Thermostats type WLTM-19 and WLTD-19 have a slide switch (see fig. 6) for selecting the mode of operation of the thermostat. Four different modes can be selected: Auto, Day, Night and OFF.

- ☉ Auto: The thermostat will follow the temperature settings of the master, or if the thermostat belongs to a zone group using a WLCT clock thermostat, it will follow the automatic sequence of temperatures and timings set in the WLCT.
- * Day: It will control the room temperature according to the (DAY) setting defined in the master (typically 20°C).
- ☾ Night: It will control the room temperature according to the (NIGHT) setting defined in the master (typically 15°C).
- * OFF: It will control the room temperature according to the (OFF) setting defined in the master (typically 5°C). This setting is intended to be a "frost protection" mode and is used if the room is to be left unoccupied for long periods.

WLTM-19 & WLTD-19 are recommended for guest rooms and other infrequently used rooms, as they allow simple override of the automatic timing sequence.

Mounting of limit sensor type WLTD and WLCT



Jumper connected: max. limitation
 Jumper removed : min. limitation
 Location of jumper see fig. 5

Limit Sensor

Thermostats with a limit sensor have a mechanical jumper on the printed circuit board allowing the limitation to be set for MIN. or MAX. temperature regulation. If set for MAX., it will have a temperature setting of 27°C. Set for MIN., it has a setting of 17°C. These temperature are fixed when used with masters WLM-1BA or WLM-3BA unless the thermostat has been allocated to a zone group controlled by a WLCT clock thermostat. In this case, the limit settings can be increased or decreased by accessing the clock thermostat. The limits then set will apply to all relevant thermostats with limit sensors belonging to that group. If the master WLM-1FS or WLM-3FS is used, the limit settings can be changed through the programming buttons on the master.

Mounting of limitation sensor

Max. temperature limitation is used to protect the floor area from becoming too warm. This may be required if special floor surfaces (real wood) are used. The sensor should be positioned where it can read the true temperature of the floor and should always be within the heated area.

Min. temperature limitation is used to keep a floor surface warm, irrespective of room temperature. For example, water on tiled bathrooms or pool areas with dry more quickly if the floor surface is kept warm. The sensor should be positioned where it can read the true temperature of the floor and should always be within the heated area.

For easy replacement we recommend that all floor sensors are mounted in a tube which is placed between 2 heating pipes. The inner end of the tube should be sealed, and the sensor cable brought back to the wall edge. If required, the sensor cable can be extended up to 50 m with standard installation cable.

WLTM-19: Use of external room sensor

A remote room sensor can be used instead of the built-in sensor by connecting the jumper across the two pin bridge on the printed circuit board under the thermostat cover. From factory the jumper is "parked" on one pin. Location of jumper see fig. 5.

Jumper connected: External room sensor
 Jumper removed: Built-in room sensor

OJ ELECTRONICS A/S

Stenager 13B · DK-6400 Sønderborg · Denmark
 Tel +45 73 12 13 14 · Fax +45 73 12 13 13
 oj@oj.dk · www.oj.dk