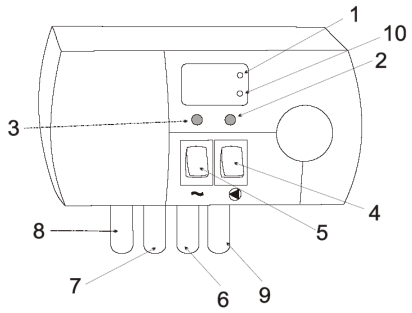
EUROSTER 1100B

1. FUNCTION

EUROSTER 1100B is a processor-based unit used for controlling the operation of DHW circulating pumps in systems including hot water cylinders, equipped with cylinder cooling protection to avoid excessive drop of temperature on the hot water cylinder following the decrease of heating boiler temperature.
The function of EUROSTER 1100B is to maintain the temperature of water in the hot water cylinder at a constant level.
The unit is equipped with a digital sensor measuring the temperature of water on the heating supply pipe and on the hot water cylinder.
When combined with a circulating pump it provides DHW circulation in systems supplied with hot water by coal- or gas-fired boilers.

EUROSTER 1100B is equipped with ANTI-STOP system, to prevent seizure of pump rotor in idle periods. Throughout the non-heating season it automatically cycles the pump for 30 seconds every 14 days. For this function to be operational, the thermostatic controller must not be switched off at the end of heating season.



1. Status indication - DHW pump in operation
2. Hysteresis and temperature adjustment – up
3. Temperature adjustment – down
4. On/off switch for continuous pump operation
5. On/off mains switch
6. Temperature sensor on the heating circuit
7. Pump supply, 230 V AC
8. Controller supply, 230 V AC
9. Temperature sensor on the DHW circuit (5m)
10. Indication of cylinder cooling protection on

2 INSTALLATION

DANGER!

Prior to installation by a qualified electrician make sure that the unit has been disconnected from power supply to avoid the risk of electric shock. Units with mechanical damage should not be installed.

a. mounting of the controller:

- the controller is fixed directly to the wall or to any other support with two screws (plastic plugs c/w screws are part of delivery)
- the cables extending from the controller are fixed to the wall with cable clips

b. mounting of the temperature sensors on heating and DHW circuits:

- **the sensor is NOT intended for immersion in liquids and installation on flues between the boiler and chimney**
- install the heating water temperature sensor on a bare outlet pipe of the boiler (as close to the boiler as possible)
- install the DHW sensor on the hot water cylinder (5 m cable)
- secure the sensors on the pipes by tightening the supplied buckle clip.

NOTE: As a recommendation, the outlet pipe should be provided with thermal insulation on the section between the boiler and the temperature sensor. If the central heating system is supplied from both a coal- and a gas-fired boiler, the temperature sensor should be installed at the meeting point of the two outlet pipes and insulated.

c. connecting of the power supply cable to the pump:

- connect the yellow or yellow/green wire (protective conductor) to terminal ⏚
- connect the blue wire to terminal (N)
- connect the brown wire to terminal (L)

d. check-up of connections:

- make sure the connections have been made as indicated and secure the cover of the pump motor terminal box

e. connection of the controller:

- upon securing the cables against accidental pullout, **connect the power supply cable to a 230V/50Hz grounding socket.**

NOTE: At the mounting location of the controller ambient temperature should not exceeding 40ºC.

3. OPERATION

a. start up:

- set the left-hand toggle switch (~) to position I,
- upon energising all the segments of the display light up for 2 seconds,
- the current temperature measured on the hot water cylinder is displayed and the controller operates according to the factory preset values (temperature limit of 50°C, cooling protection hysteresis: 10°C).

b. description of display functions

- display continuously on – current temperature on the hot water cylinder,
- blinking display – temperature setpoint,
- red LED on – DHW pump in operation (►)
- green LED on – cooling protection active

c. setting the temperature and hysteresis

- press the left-hand switch under the display – the figures will start blinking indicating that the current DHW temperature setpoint is being displayed,
- use the right-hand or left-hand switches to increase or decrease the displayed temperature setpoint,
- after ca. 4 sec. the display will stop blinking indicating that the preset DHW temperature has been stored. The display will return to displaying the DHW temperature (as measured by the sensor on the hot water cylinder).
- viewing of the heating sensor temperature – simultaneously press and hold the two switches under the display, the current temperature on the heating sensor will be displayed for 5 sec. and then the display will automatically return to displaying the DHW temperature.
- viewing of the hysteresis setpoint – press the right-hand switch under the display, the value will start blinking indicating that the current hysteresis setpoint is being displayed,
- use the right-hand or left-hand switches to increase or decrease the displayed hysteresis setpoint,
- after ca. 4 sec. the display will stop blinking indicating that the preset DHW hysteresis has been stored. The display will return to displaying the DHW temperature (as measured by the sensor on the hot water cylinder).
- the hysteresis is adjustable in the range 0-20°C only with the cooling protection on. With the cooling protection off, the unit operates with the factory preset hysteresis of 3°C.

d. DHW cooling protection

- the function is active by default. When the function is on the green LED is lit.
- for turning the cooling protection off press either of the presetting keys while switching on the controller with the mains switch (~). If the green LED is off, cooling protection is not active.
- for switching the cooling protection follow the same procedure as described above.

e. automatic operation mode

- set the right hand switch (►) to O,
- the cooling protection is on and the controller turns the pump on and off according to the temperature setpoint,
- the DHW circulating pump is turned on when the following conditions occur simultaneously:
  1. the temperature on the heating sensor is higher then the temperature on the DHW sensor by the value of hysteresis,
  2. the current DHW temperature is lower than the temperature setpoint.
- the DHW circulating pump is turned off in either of the following situations:
  1. the DHW temperature setpoint has been reached,
  2. the heating water temperature is lower than the turning on limit by 2°C
- Example:
  Hysteresis: 1°C, temperature setpoint: 50°C, current DHW temperature 34 – turned on at 36°C and turned off at 34°C (heating water temperature)
- when the cooling protection is off, the DHW pump will be turned off when the setpoint has been exceeded by 1°C and turned on when it has dropped 1°C below the setpoint (3°C hysteresis)
- Example:
  Temperature setpoint: 50°C, turned on at 48°C and turned off at 51°C

f. continuous operation mode:

- set the toggle switches (~) and (►) to position I,
- the cooling protection is off and the pump operates all the time, irrespective of the setpoint and the current temperature, as measured by the sensor,
- when the cooling protection is activated, the pump will be turned on upon exceeding the hysteresis, irrespective of the DHW temperature setpoint.

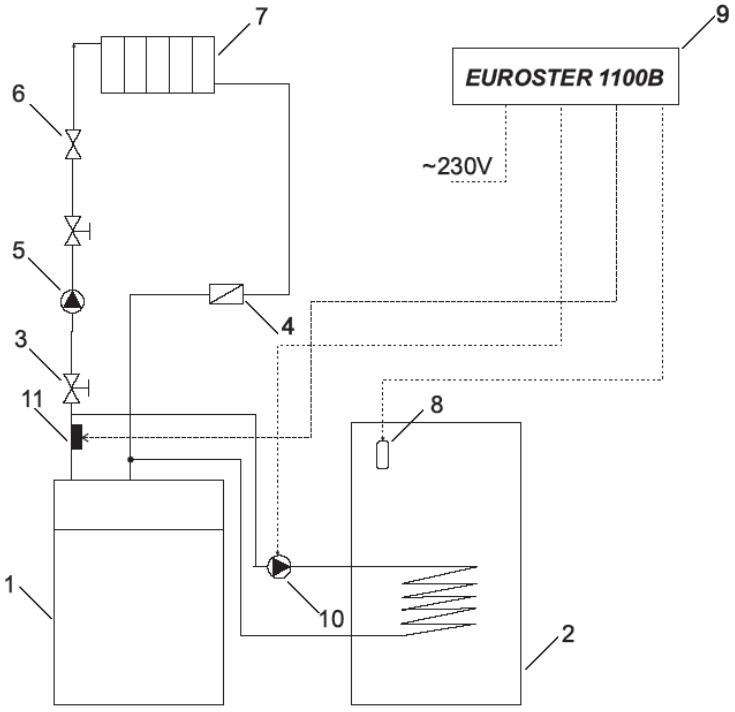
IMPORTANT!

When in the continuous operation mode, the DHW pump will be turned on in either case when the temperature has reached 85°C and turned off when is has dropped below 80°C.

4. DATA SHEET

a.	temperature setting range	10°C – 80°C
b.	temperature measurement range	1°C – 99°C
c.	DHW hysteresis (turn on / turn off difference)	0°C – 20°C and 3°C
d.	supply voltage	230V AC, 50 Hz
e.	max. current	6A AC
f.	length of output cables	1.5 m
g.	dimensions	145x72x45

WIRING BETWEEN THE CONTROLLER AND A HOT WATER CYLINDER



Legend:
1. boiler
2. hot water cylinder
3. shutoff valve
4. filter screen
5. heating water circulating pump
6. check valve
7. heating unit
8. DHW temperature sensor
9. DHW controller
10. DHW pump
11. heating water temperature sensor