

Installation and Operation Manual

UR1 A-DT Analog Differential Controller

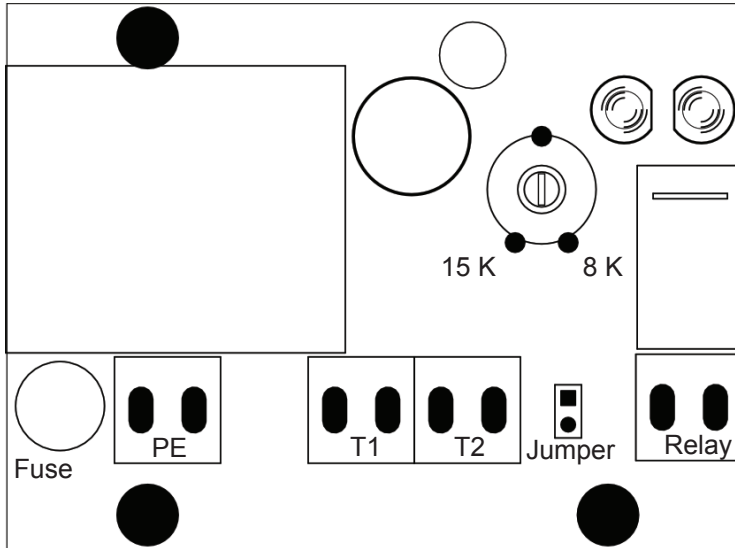


UR1 A-DT Analog Differential Controller

The Controller switches a circulation pump depending on the adjustable temperature difference. It can be also used as a simple controller for solar thermal heating of DHW, pool, thermal store etc.

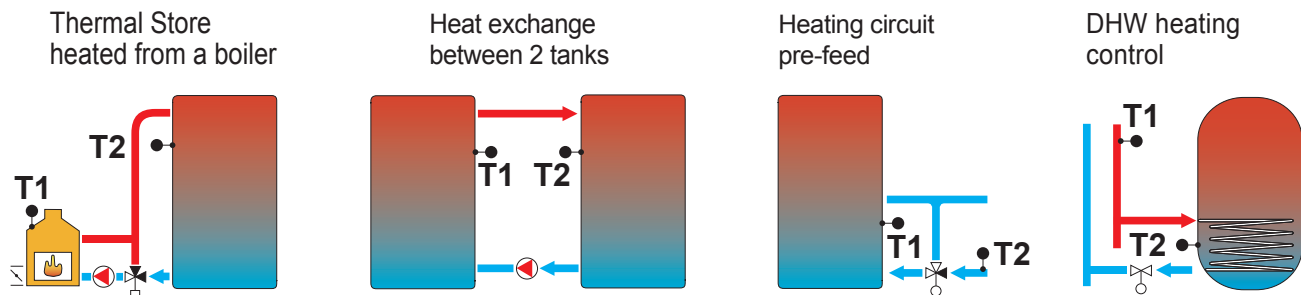
The Controller is designed for indoor installation only, for dry and frost-free rooms. When installed into other environments, esp. outdoors, defects that appear are not covered by warranty.

Front panel



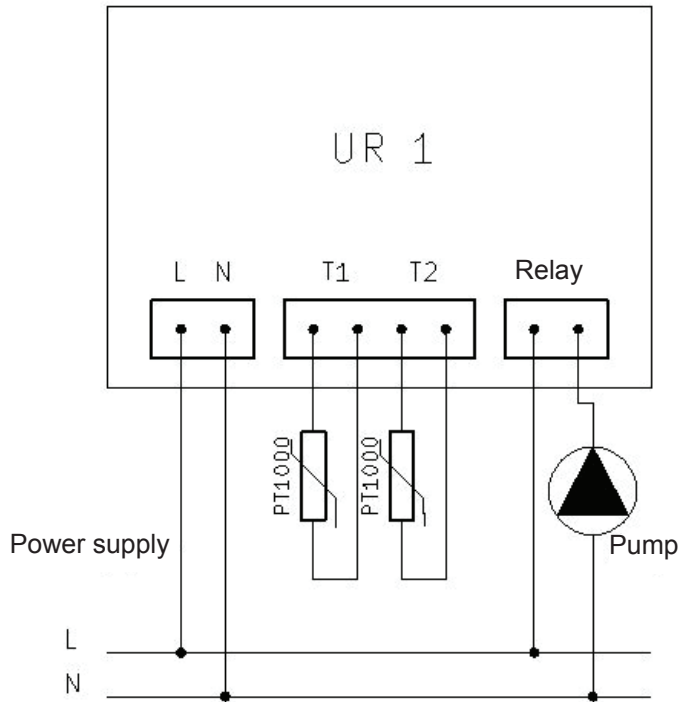
- „Power“ - green LED
(on=the appliance is energized at 230V)
- „Pump“ - yellow LED
(on=the pump is running)

Examples of hydraulic connection



Controller wiring and sensor locations

- The electric installation shall respect valid rules! Electric wiring may be done by a qualified person only!
- Temperature sensor for a solar collector shall be placed into a sheath or into a sheath of a T/X-piece at the outlet from the last collector.
- Temperature sensor for a heat-consuming appliance shall be placed in a sheath near the heat exchanger, in the lower part of a storage water heater (thermal store), or at the inlet of pool water into a heat exchanger. The min. distance of 100 mm from an electric heating element shall be respected. Never place the sensor above an electric heating element.
- Use a twisted cable, 2×1 mm², unshielded, separate from power conductors. Its max. length is 100 m.
Try to minimize the number of wiring boxes and terminal boards.
 - connection length: up to 25 m, cross section area: 0,25 mm²
 - connection length: up to 50 m, cross section area: 0,5 mm²
 - connection length: up to 100 m, cross section area: 1,0 mm²
- The thermal and mechanical resistance of the conductor used shall correspond to the environment it runs through.
- The temperature sensors are of PT1000 type, with resistance of 1kΩ at 0 °C, 3850 ppm / °C.
- Sensors shall be always connected.



Electricity data

Controller

Power supply	2 AC 230 V
Nominal voltage	230 VAC
Nominal current	16 mA
Operating temperature	5 to 40 °C non-condensing
Storage temperature	0 to 60 °C
Mounting	on a wall
Fuse	200 mA / 250 V
IP rating	IP 20
Max. conductor cross section area	1,5 mm ²

Relay

Max. voltage	250 VAC, 30 VDC (min. 100 mA / 5 VDC)
Max. current	5 A
Load	resistive

Terminal marking

PE – power supply

T1 – temperature sensor

T2 – temperature sensor

Rele – relay terminals

Jumper - when closed, the relay is permanently closed disregarded of sensor temperatures (however the sensors need to be connected).

Trimmer – to set temperature difference between T1 and T2 temperature sensors. At the counterclockwise end stop, the difference is 15 K, at the clockwise end stop, the difference is 8 K. The pump is switched off as soon as the temperature difference between the sensors drops below 4 K.

WARRANTY CERTIFICATE

UR1 A-DT Analog Differential Controller

THE SELLER GRANTS THE BUYER (CONSUMER) A GUARANTEE PERIOD
OF 24 MONTHS

WARRANTY CONDITIONS

1. When claiming warranty, this Warranty Certificate must be submitted together with the purchase receipt.
2. The warranty is valid only when the technical conditions set by the Manufacturer, installation manual and instructions in the documentation and on the product itself are maintained.
3. The product will be installed and commissioned by a competent person.
4. The warranty does not cover defects caused by external conditions or improper operation conditions, defects caused by usual wear and tear, further when the product is not used in compliance with its purpose and when the defect was caused by:

- electrical surge or insufficient voltage from the mains
- improper handling
- tampering by a third person
- improper installation manner
- improper stocking and installation place
- natural disaster

Date of Purchase

COMMISSIONING NOTE

Company:

User:

Technician:

Signature:

Date:

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