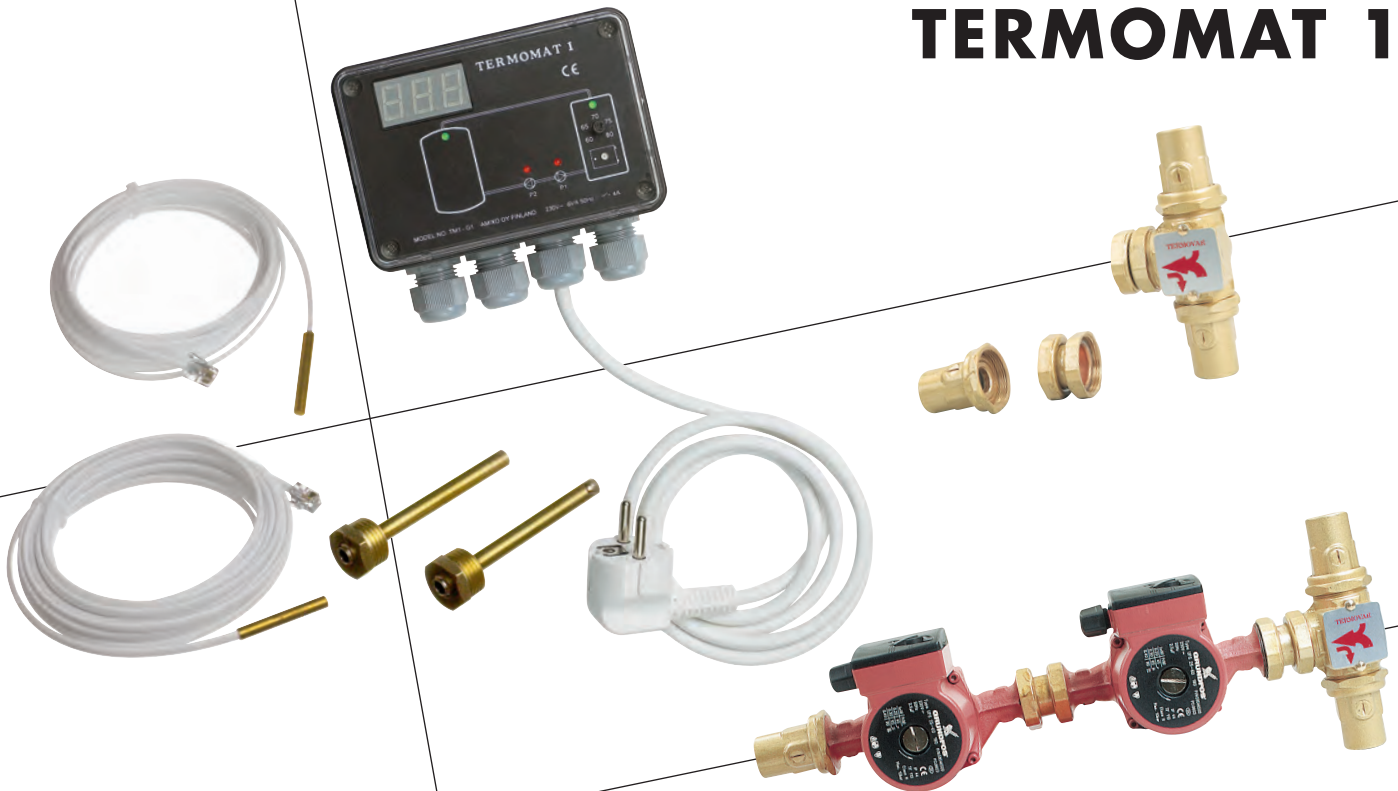


TERMOMAT 1



TECHNICAL DATA

Type of control	On-off, microprocessor
Voltage	230 VAC 50/60 Hz
Power consumption	5 VA
Output relay contact ratings	2 A 250 VAC
Temperature range of sensors	Tmax +110°C
Length of sensors	On delivery T1 = 3 m, T2 = 5 m
Temperature display	+10°C ... +110°C, 13 mm, three digits
LED-indicators	Two LED-indicators: Pump P1 and P2 running
Protection class	IP 41
Thermic valve	Opening temperature 72°C, with two return flow preventers Max. operating temperature +110°C Max. operating pressure 1,0 MPa (10 bar)
Dimensions	75 x 90 x 130 mm
Weight, electronic control / valve set	0,8 / 2,1 kg

TERMOMAT 1 is a differential temperature control and performance monitor for storage tank applications in which heat is collected from the storage tank to the heating boiler. TERMOMAT 1 controls the charging pump and the heat collecting pump. It has a digital display for boiler and tank temperatures and two LEDs for indication. All essential settings are adjustable. TERMOMAT 1 has a relay to automatically operate an additional heat source. TERMOMAT 1 is delivered factory wired which minimizes installation problems in the field. The main supply and all sensors have plug-in connections. TERMOMAT 1 plug-in control unit is simple to install, program and operate. The quick and easy installation saves on labor charges.

TERMOMAT 1 INCLUDES

1. Electronic control unit TM1 -G1
2. Two temperature sensors with wires
3. Two sensor housings 90 mm with 1/2" threads
4. TERMOMAT 10 valve set with a thermic loading valve 72°C with double acting function, three union valves (Optional)
5. Two circulation pumps Grundfos UPS 25 x 60 (Optional)
6. TERMOBAC DB 40 double-acting return-flow preventer Rp 1 1/2" (Optional)

ORDERING DATA

Order No.	Type	Description
8001	TERMOMAT 1	Differential temperature control without valve set
8010	TERMOMAT 10	Valve set with thermic loading valve 72°C and three union valves Rp 1"
8011	TERMOMAT 11	Differential temperature control with valve set
8012	TERMOMAT 12	Differential temperature control with valve set and two circulation pumps
8014	TERMOMAT 14	Differential temperature control with TERMOBAC DB 40 and two union valves Rp 1"
8015	TERMOMAT 15	Differential temperature control with TERMOBAC DB 40, two union valves and two circulation pumps
8440	TERMOBAC DB 40	Double-acting return flow preventer Rp 1 1/2"

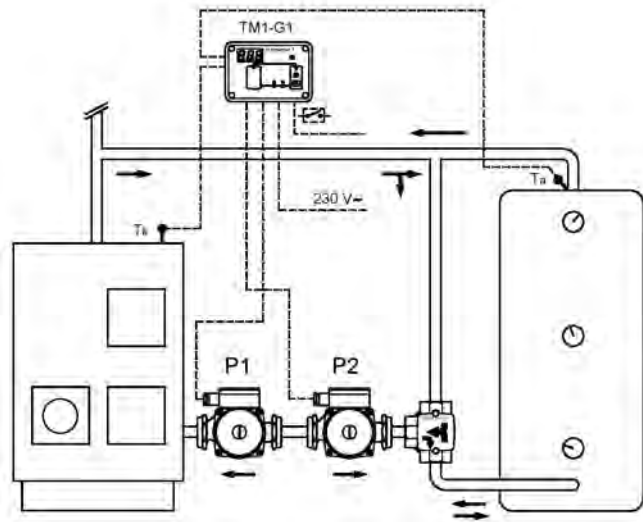
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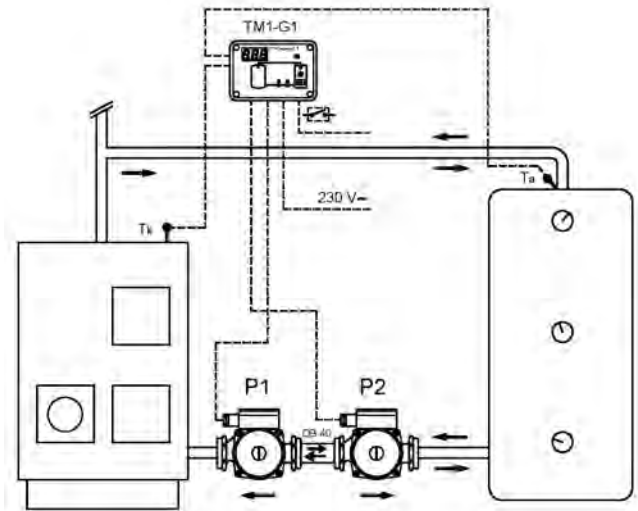
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TERMOMAT 1



FUNCTION WITH TERMOMAT 10 THERMIC LOADING VALVE

- The boiler temperature is adjustable 60°C - 80°C. Pump P1 starts charging from boiler to storage tank when the boiler temperature T_k has reached the selected temperature and stops when the boiler temperature T_k is 1°C below this temperature.
- The charging back from storage tank to boiler starts with pump P2 when the boiler temperature T_k is 4°C below storage tank temperature T_a and stops when temperature T_k is 2°C below temperature T_a .
- If the boiler temperature T_k drops below +40°C, the relay starts the additional heat source and the pumps stop. If the additional heat source is not on, the charging from storage tank to boiler continues to work normally.
- TERMOMAT 10 thermic loading valve has two built in return-flow preventers. The valve is designed to avoid self-circulation in two directions and to ensure a minimum working temperature of 72°C in the heating boiler. This increases the efficiency, prevents tarring and considerably prolongs the lifetime of the solid-fuel boiler.



FUNCTION WITH TERMOBAC DB 40 RETURN-FLOW PREVENTER

- The boiler temperature is adjustable 60°C - 80°C. Pump P1 starts charging from boiler to storage tank when the boiler temperature T_k has reached the selected temperature and stops when the boiler temperature T_k is 1°C below this temperature.
- The charging back from storage tank to boiler starts with pump P2 when the boiler temperature T_k is 4°C below storage tank temperature T_a and stops when temperature T_k is 2°C below temperature T_a .
- If the boiler temperature T_k drops below +40°C, the relay starts the additional heat source and the pumps stop. If the additional heat source is not on the charging from storage tank to boiler continues to work normally.
- TERMOBAC DB 40 double-acting return-flow preventer has a low opening pressure and a low pressure drop. The valve is designed to avoid self-circulation in two directions.



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