Электронный контроллер для систем отопления 9611 Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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Псков (8112)59-10-37
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
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Самара (846)206-03-16
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Ставрополь (8652)20-65-13
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Тольятти (8482)63-91-07
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Тула (4872)33-79-87
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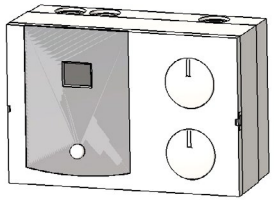
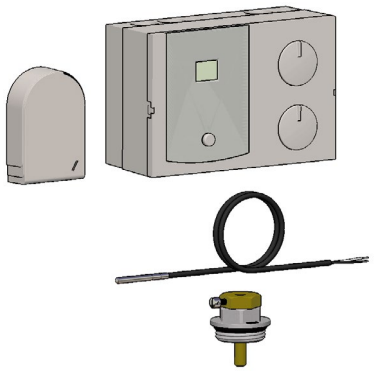
FAR ELECTRONIC CONTROLLER

Art. 9611



FAR electronic controller art. 9611 is suitable for heating systems with 3-point mixing valve and is preset for fixed point operation, or with temperature compensation dependant on the external temperature. Each electronic controller can control one 3-point mixing valve and can be connected to one flow sensor and /or one outside sensor.



The package includes:

N°1 control unit
N°1 electrical connections support
N°1 supply temperature probe
N°1 assembly kit in contact with supply probe
N°1 outside temperature sensor
N°1 seat for Ø6 mm probe
Instruction manual

Front panel description:

DISPLAY:

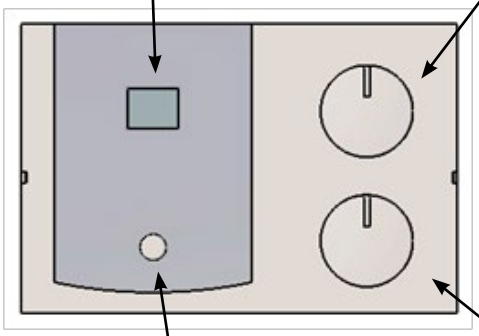
Valves opening Mix.

Valves closing Mix.

Pump starting.

Communication ok

The presence of an arrow next to a symbol indicates that the function is active.



MAIN SELECTOR:

Switched off regulation (anti-freeze only).

RUN — Automatic function.

°C — Fixed point: not provided. With external probe: nominal room T .

°C — Fixed point: system supply T. With external probe:max supply T.

Not provided

Fixed point: not provided. With external probe: heating curve

Mixing valve dynamics.

BUS ID — BUS address.

Manual operation /test.

INCREMENTAL SELECTOR:

+ - Changes parameter value.

Increase.

Decrease.

FUNCTION BUTTON:

OK

Select a value to modify.
Confirm the value modified.
Reset controller.

The electronic controller art. 9611 permits control of a mixing valve and a pump in relation to the mixed circuit of a heating system.

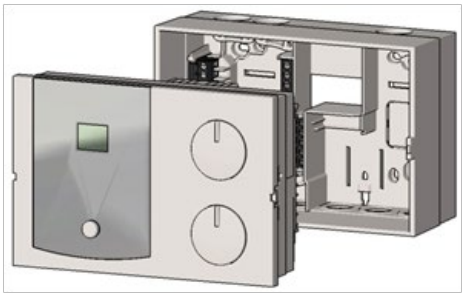
It is supplied pre-programmed and it can operate **at a fixed point** with delivery probe only or **with temperature modulation**, if both supply probe and external probe are connected.

Before putting the product into service it will be necessary to set the values relating to the desired functions.

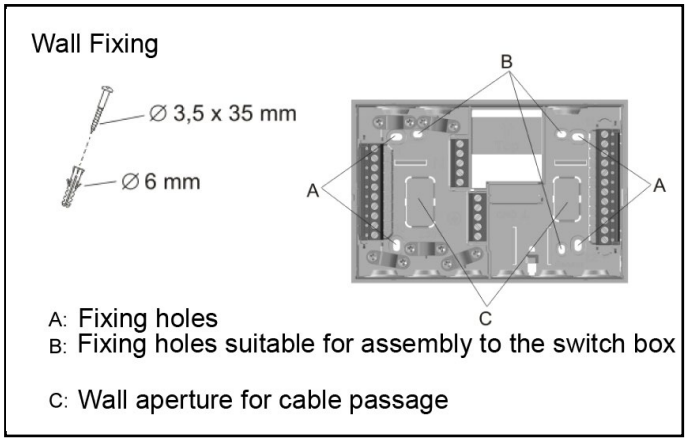
Installation:

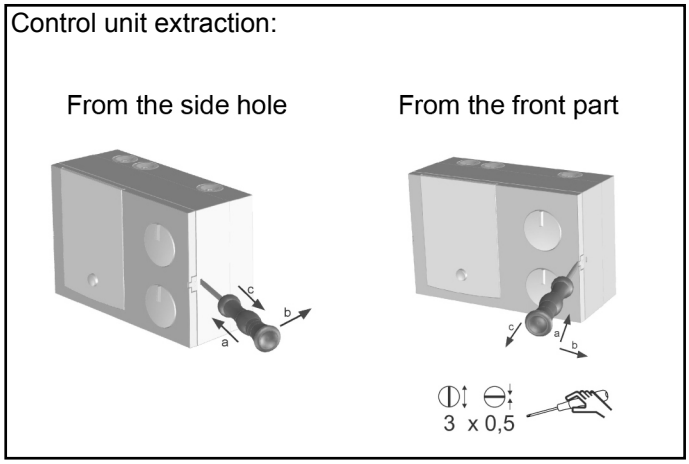
The control unit comprises two parts:

- a rear support for wall mounting with terminals for electrical connections.
- the control unit for quick installation.



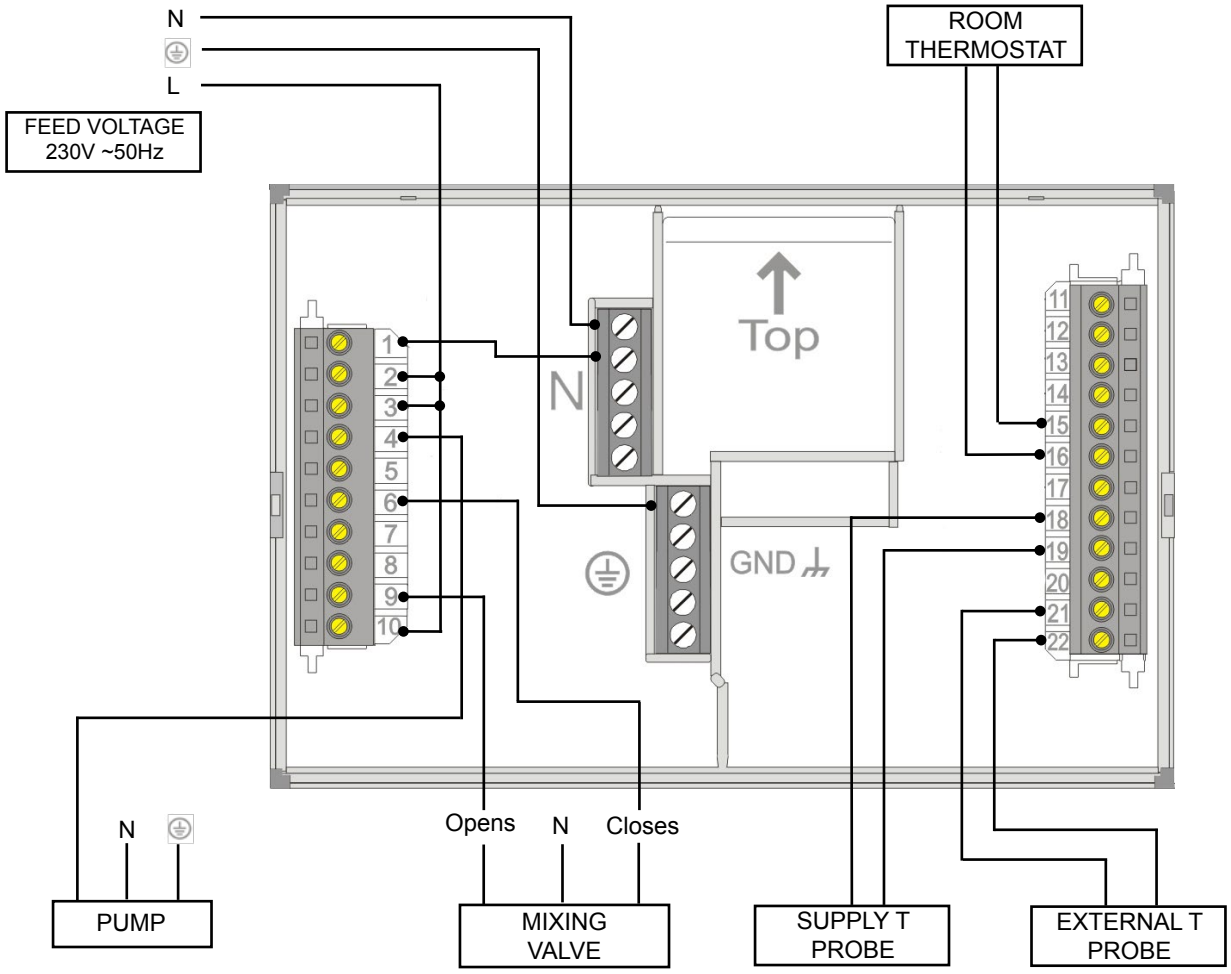
Once electrical connections are completed, it will be necessary to insert the unit into the support, taking care to position it in the correct groove.





Electrical connections:

Simplified scheme .



In the event that room thermostat has not been connected, it is essential to make a jumper between terminals 15 and 16.

It is always necessary to create a jumper between terminals 2 and 3 and also between terminals 3 and 10.

ELECTRICAL CONNECTIONS SUMMARY:

• Terminal 1	N - feed voltage 230V
• Terminals 2-3-10	L - feed voltage 230V
• Terminal 4	Pump control
• Terminal 6	Mixing valve closing control
• Terminal 9	Mixing valve opening control
• Terminals 15-16	Room thermostat
• Terminals 18-19	Supply T probe
• Terminals 21-22	External T probe

IMPORTANT!

The electrical connections must be carried out by skilled personnel. An uncorrect connection to the power source could damage the system. It is necessary to preset all electric and electromechanical devices to guarantee the safety of the system.

WARNING!

Avoid installation of control units in following conditions:

- relative humidity higher than 90% or condensing.
- heavy vibrations or shocks.
- exposure to continuous jet of water.
- exposure to aggressive and polluting environments (for ex.:sulphurous and ammoniac gases, saline mist, smoke) to avoid corrosion and/or oxidation.
- high magnetic and/or radio interferences.
- exposure of controllers to direct solar radiation and to atmospheric agents in general.

When connecting control units you must:

- use appropriate cable-terminals suitable to the terminals used.
- slaken each screw and insert the wire terminals, then tighten the screws again and check.
- keep separate the cables of sensors and digital inputs from the inductive and power cables.to avoid interference.

Putting the control unit into service:

Once the electrical connections have been made, it is necessary to position the main selector on the symbol ⏻ and power up the unit; both the version and the index of the software installed will be displayd for an instant. After this the controller is ready for operation.

IMPORTANT!

To effect the controller RESET it is necessary to turn off the power for a few seconds and then power up again pressing the button *OK*. During this operation the letters "***EE***" must appear on the display.

Turn the *main selector* to the RUN position, in order to put controller into service.

Operating mode:

Before putting the controller into service, a check of the preset values is recommended - adjusting them to the kind of functions required:

	Parameter description	Range	Default value
°C	Fixed point: not provided.	- -	- -
	With external probe: nominal room T.	5 - 40°C	20°C
°C	Fixed point: nominal supply T.	20 - 110°C	40°C
	With external probe: max supply T.	20 - 110°C	80°C
	Not provided.	- -	- -
	Fixed point: not provided.	- -	- -
	With external probe: heating curve.	0,0 - 3,0	1,2
	Mixing valve dynamics.	05 - 25	12
BUS ID	BUS address.	01 - 15	01
	Manual operation/test.	00 - 03	00

In order to modify the values it is necessary to:

- Turn the main selector to the value to be modified and press the OK button.
- Set the value by turning the incremental selector and press the OK button to confirm.

Mixing valve dynamics

The control unit is set with a mixing valve dynamics at a standard value of 12, in a variable range from 5 to 25.
This values indicates the speed setting, at which the mixing valve has to be activated on regulation stage.
By varying this value it is possible to adjust mixing valve function to the various system requirements.

Attention:
Too low a value could cause a valve oscillation around the Set-point of the temperature preset value.

Fix Point operation

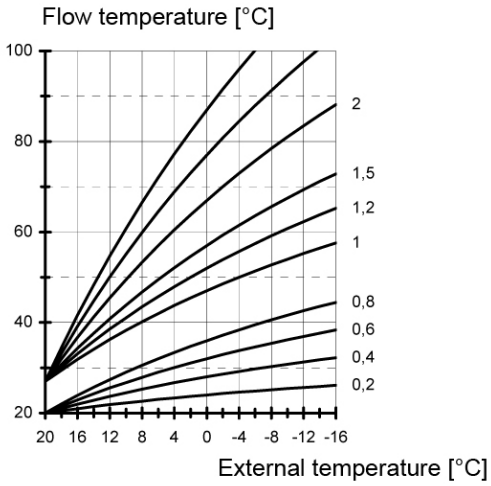
For fixed point operation you have to **connect only the supply probe** to Terminals 18-19.
If the room thermostat is not connected it is necessary to create a jumper between Terminals 15-16.
To set the desired temperature it is necessary to change only the value of parameter °C and it is not necessary to reset any other parameters.

Selector	Parameter description
°C	- -
°C	Desired supply T° value
	- -
	- -
	Mixing valve dynamics
BUS ID	BUS address (1)

Turning the handle to the RUN position, with the room thermostat switched on, the temperature reading of the supply probe will be shown on the display, then the Set-point of the preset T° can be displayed by pressing the OK button.
For this operation it is advisable to install a safety thermostat in the supply pipework after the pump.

Operation with Compensation depending on the External Temperature

For the operation with compensation dependant on external temperature it is necessary to **connect only the supply temperature probe** to Terminals 18-19 and **the external** probe to Terminals 21-22.
The setting of desired heating curve is achieved by changing the value of the parameter or all the curves can be moved upwards by increasing the value of the parameter °C, which represents the nominal room T°.



Recommended values:

underfloor heating system
da 0,4 a 0,6

radiators heating system
da 1,0 a 1,5

Selector	Parameter description
°C	nominal room T°
°C	max flow T°
	- -
	Heating curve
	Mixing valve dynamics
BUS ID	BUS address (1)

Turning the handle to the RUN position brings up the flow temperature on the display. Press the OK button, in the event of demand from the room thermostat and the display shows the required flow temperature as calculated by the control unit. This value depends on the temperature detected by the external probe and on the preset heating curve.
In offset operation it is advisable to install a safety thermostat on the supply pipework after the pump.

In RUN mode, position the incremental translator on the symbol , in order to to read the temperature detected by the external probe.

Additional functions:

Frost protection function

Such function prevents water in the heating system from freezing by means of a circulating pump. The anti-freeze function is activated when the temperature detected by the external probe drops below 0 °C, or when the temperature detected by the supply probe drops below 7°C.

EEPROM control function

The software loaded on the control unit checks automatically all the preset parameters every 10 minutes. If one parameter is not within the limits indicated, it will be replaced by the corresponding standard value.
The value limit excess will be shown on display with the number E81.

Pump blocking protection

The controller prevents from pump blocking following longer periods out of operation.The function activates the pump for 5 seconds , every 24 hours.

Mixing valve blocking protection

If the mixing valve is not operated for more than 24 hours, the controller switches off the pump and fully opens the valve once only, monitoring the flow temperature. This function is cancelled at maximum preset flow temperature – 5K.

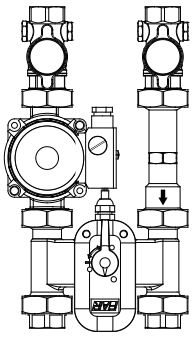
Manual operation /test

Positioning the main selector on it is possible to carry out a mixing valve opening/closing and a pump starting test. Press OK and the “r0” symbol will be shown on the display. Then turn the incremental selector to test the valve and the pump and on the display will appear the following values.

Display value	Selector position ▼	Parameter description
r1	//	Mixing valve opening
r2	//	Mixing valve closing
r3		Pump starting

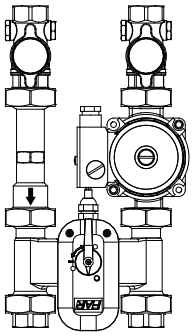
Examples of connection:

For the connection of the actuator to the FAR BOOSTER UNIT art. 2170 proceed as follows:



Booster unit with delivery on the left (standard FAR).

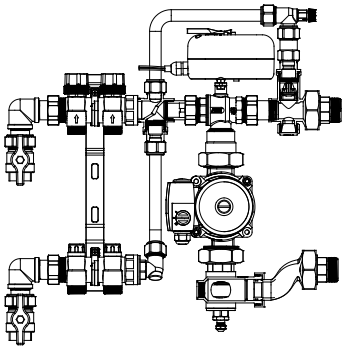
Connect the **BROWN** wire of the actuator to the terminal identified by number **9**.
Connect the **BLACK** wire of the actuator to the terminal identified by number **6**.



Booster unit with delivery on the right.

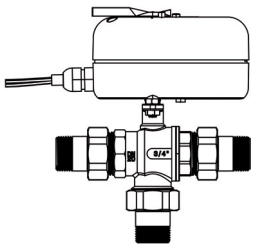
Connect the **BLACK** wire of the actuator to the terminal identified by number **9**.
Connect the **BROWN** wire of the actuator to the terminal identified by number **6**.

For the connection of the regulating units for underfloor heating systems FAR art. 3490-3491-3568-3569-3570-3571 proceed as follows:



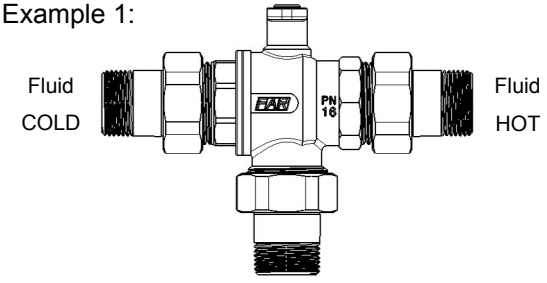
Connect the **BLACK** wire of the actuator to the terminal identified by number **9.**
Connect the **BROWN** wire of the actuator to the terminal identified by number **6**.

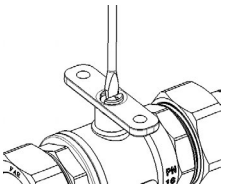
For the connection of the actuator of a mixing valve FAR art. 301020-301021-301022 proceed as follows:



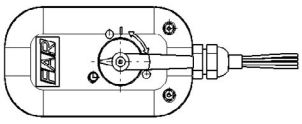
The terminal identified by number **9** corresponds to hot water demand.
The terminal identified by number **6** corresponds to cold water demand.

Example 1:



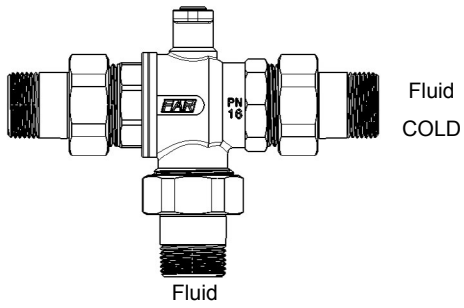


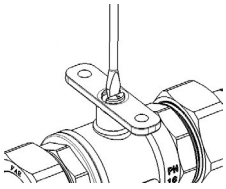
Valve pin position



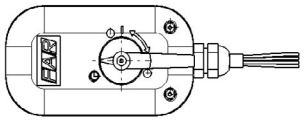
Connect the **BLUE** wire to the Neutral.
Connect the **BROWN** wire to terminal **9**.
Connect the **BLACK** wire to terminal **6**.

Example 2:





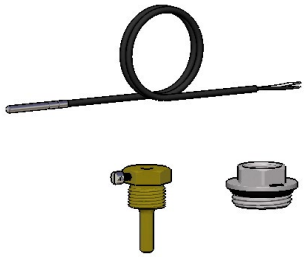
Valve pin position



Connect the **BLUE** wire to the Neutral.
Connect the **BLACK** wire to terminal **9**.
Connect the **BROWN** wire to terminal **6**.

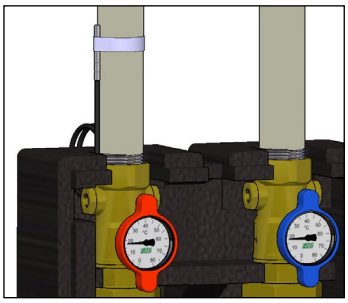
Probe Installation

Flow T probe



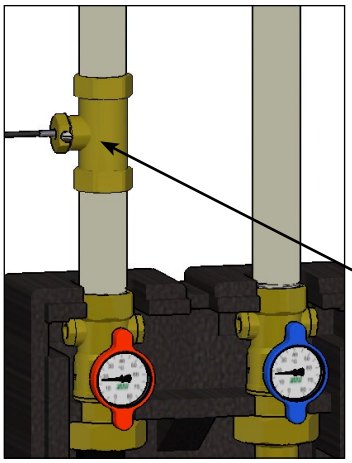
The flow T probe is supplied complete with accessories to match different kinds of installation:

- Kit for the installation direct on the pipeline
- 1/2” seat
- M1”x1/2” reduced plug



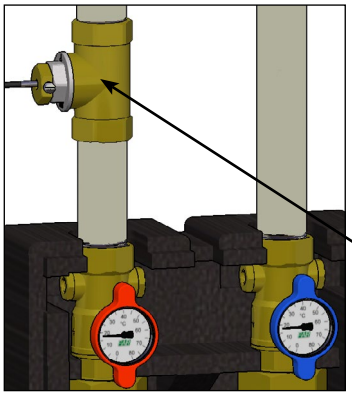
CONTACT INSTALLATION

Using the kit for contact assembly located in the box with the control unit, place the probe directly in contact with the supply pipe and secure it with the cable tie.



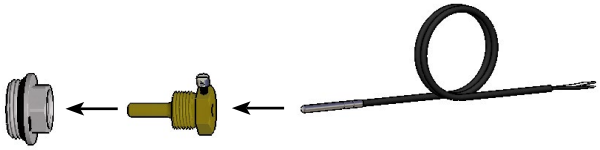
INSTALLATION WITH 1/2” TEE FITTING

Insert the probe in the 1/2” seat and place it in a suitable Tee fitting with 1/2” female connection (NOT SUPPLIED) on the supply pipe.

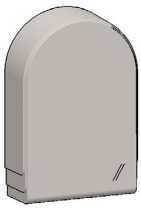


INSTALLATION WITH 1” TEE FITTING

Insert the probe in the 1/2” seat. Then screw the seat of the reduction cap and introduce it into a suitable tee fitting with 1” female connection (NOT SUPPLIED) on the supply pipe.



External T probe



The external probe must be installed on the North or North-West wall of the building at a height of not less than 3 m. from the ground. The wall should not be exposed to sudden air currents, to solar radiation or to other heat sources and should be protected against eventual tampering.

Installation of the external probe is extremely easy to achieve by means of Rawlplugs (not supplied).

Maximum length of cable between the control unit and external temperature probe: 100 m (with cable 2x1)

Technical features:

Supply voltage complying with DIN IEC 60 038	230 VAC ± 10%
Power consumption	max. 5 VA
Switching capacity of the relays	250 V, 2 (2) A
Maximum current on terminal L1'	6,3 A
Type of protection complying with DIN EN 60529	IP 40
Protection class complying with DIN EN 60730	II; totally insulated
Permitted ambient temperature during operation	0 a 50°C
Permitted ambient temperature for storage	-20 to 60°C
Probe resistances Tolerance in Ohm Temperature tolerance	NTC 5kΩ +/- -1% con 25°C +/- 0,2K con 25°C

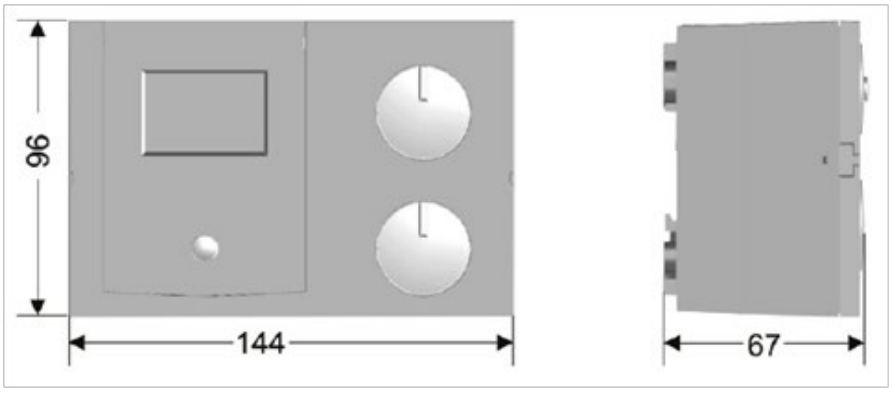
Probe characteristic curve

Temperature	5 KOhm NTC
-60°C	698961 Ω
-50°C	333908 Ω
-40°C	167835 Ω
-30°C	88340 Ω
-20°C	48487 Ω
-10°C	27648 Ω
0°C	16325 Ω
10°C	9952 Ω
20°C	6247 Ω
25°C	5000 Ω
30°C	4028 Ω
40°C	2662 Ω
50°C	1801 Ω
60°C	1244 Ω
70°C	876 Ω
80°C	628 Ω
90°C	458 Ω
100°C	339 Ω
110°C	255 Ω
120°C	194 Ω

Errors:

Error No.	Error description
E 81	EEPROM error. The invalid value has been replaced with the default value. Check parameter values!
E 70	Supply probe
E 75	External probe

Sizes:



По вопросам продаж и поддержки обращайтесь:

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