

# Low voltage underfloor heating for houses, apartments, cabins etc.

## SYSTEM SPECS

- Low initial investment.
- No maintenance costs.
- Extremely low consumption.
- Long lifespan.
- Space-saving (no radiators and pipes).
- Even heat distribution.

*This electric underfloor heating is ideal for combining with existing ones and electric solar panels yet to be installed.*

Main switch

Low voltage transformer

Room thermostat

Ceramic tiles, laminate, pvc or wood

Cement top floor

Plaster mesh (reinforcement)

**Heating strip**

Polystyrene or PU plates with cached aluminium

Concrete floor

**ECOTERM, cheap for 4-12 square meters!!!**  
Simple system configuration - Eco friendly - Sealed - 24/7 Support

# FLAT STRIP LOW VOLTAGE UNDERFLOOR HEATING

**ECOTERM**  
ELECTRIC UNDERFLOOR HEATING



## BASIC FEATURES

### Save space

There are no physical obstacles in rooms such as radiators, pipes, etc.

### No maintenance costs

There are no maintenance costs due to the extremely durable properties of heating strips long-term resistance to mechanical loads. Very reliable electronics guarantee a long lifespan.

### Safe and certified

Safety is guaranteed by high-quality, reliable construction of heating strips and installation according to construction standards. The complete system is safety certified.

### Optimal temperature distribution

Lower body at higher temperatures than the head. Evenly distributed temperature over the floor and the surface of the room, as well as heat transfer. Large heating surface (entire floor area).

### Ecology

Less dust, fewer mites, fewer bacteria. Increased hygiene in the room, less allergens.  
No noise, unpleasant odors and dust circulation.

## TECHNICAL PROPERTIES

### System power supply

Power supply: 230 V / 50 Hz Heating supply: 5V-40V / 50 Hz

### Temperature

Heating strips up to 40 °C. Floor up to 28 °C ideal temperature profile.

### Method of installation and application:

Underfloor or wall heating. Application: homes, catering establishments, business premises, halls, etc.

### Guarantee

For electronics 5 years. For heating strips 20 years.

### Safety

According to regulations and CE certificate

### Heating element

Aluminum foil, insulated on both sides with polypropylene, mechanically and chemically resistant

- Low consumption and extremely low energy transmission losses.
- Efficient use of energy in the lower part of the room.
- No transmission losses as with other systems.
- It has an optimal temperature profile and operating mode.
- Savings in consumption compared to other systems of at least 25%.

MONTHLY CONSUMPTION WITH WELL APPLIED THERMAL INSULATION; INDICATIVE 75 W/m<sup>2</sup>

Monthly heating consumption for 60 m<sup>2</sup> is 460 kWh. Even more savings are possible with a nightly rate.

Monthly maintenance € 0.00

## SAMPLE SETS TECHNICAL INFORMATION (CLASS C INSULATION)

Space (floor per m <sup>2</sup> )	Needed power (W/m <sup>2</sup> )	Total power (W)	Fused ampere (C-characteristics)	Amount of transformers and sizes	Maximum consumption per heating season (kWh)	Consumption per month (kWh)	Standard Wi-Fi thermostat (pieces)
25 -30	70 -80	2.300	16A	300x450x120mm (1 trafo)	2.000	350	1
50 -60	70 -80	4.300	2x16A	500x600x120mm (2 trafos)	3.250	540	1
70 -90	70 -80	6.000	2x20A	500x600x120mm (2 trafos)	4.300	720	1
90 -100	70 -80	9.000	3x20A	800x650x120mm (3 trafos)	6.000	1.000	1

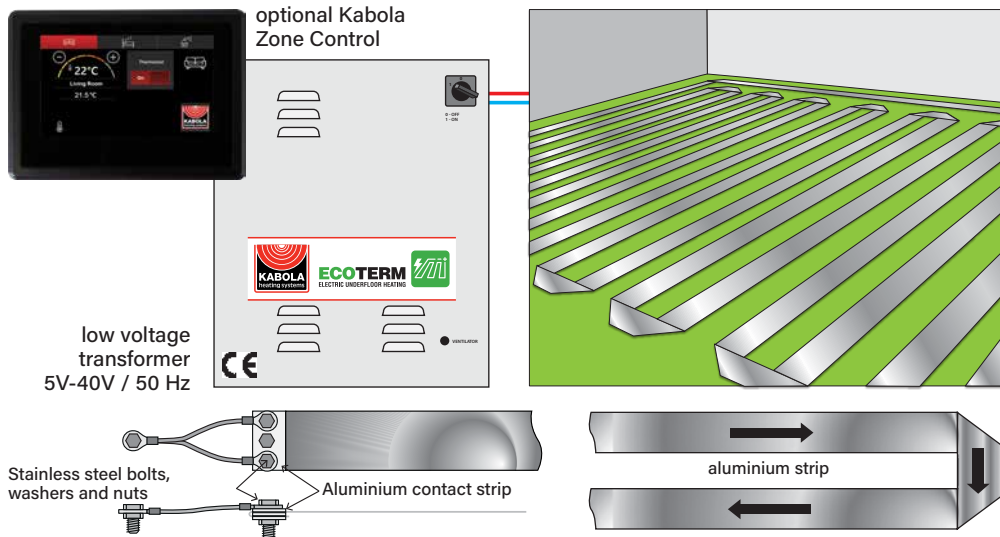


## Low voltage underfloor heating: Ideal for houses, apartments, office cabins, holiday homes, caravans, garden sheds and garages

### INSTALLATION METHOD

Installation can be done under all types of floor coverings.

The heating strip is installed in the floor: Styrofoam or PIR panels (at least 5 cm) are mounted on the basic floor. Reflective aluminum foil is applied to the Styrofoam or use PIR panels with cached aluminium layers. The heating strips are placed / taped on the panels. We advise to place facade mesh on which a cast floor can be applied. When applying ceramic tiles, laminate, PVC or wood use a thin layer of Styrofoam between the underfloor heating and your choice top finish.



### COMPONENTS

#### Control unit: Wi-Fi Thermostat

Wi-Fi thermostat (the most modern way of control, the control is controlled via the internet, i.e. with your phone.

*Option: can also be linked to our Kabola Zone Scheme. Please inquire for this option.*

#### Custom part: Distribution box

The distribution box built into the wall contains a soft start and a transformer (one or more). We use a toroidal transformer, which has small energy transmission losses compared to a classical transformer.

#### Heating element: Aluminium strips

Aluminium strip that is heated by the current. This is generated by a secondary transformer, which has a safe low voltage.

### OPERATION

The desired temperature is set on the thermostat (or on the WiFi thermostat).

If the set temperature is higher than the room temperature, the transformer is switched on via soft start and current flows via the transformer through the aluminum strip in the subfloor; the heating element.

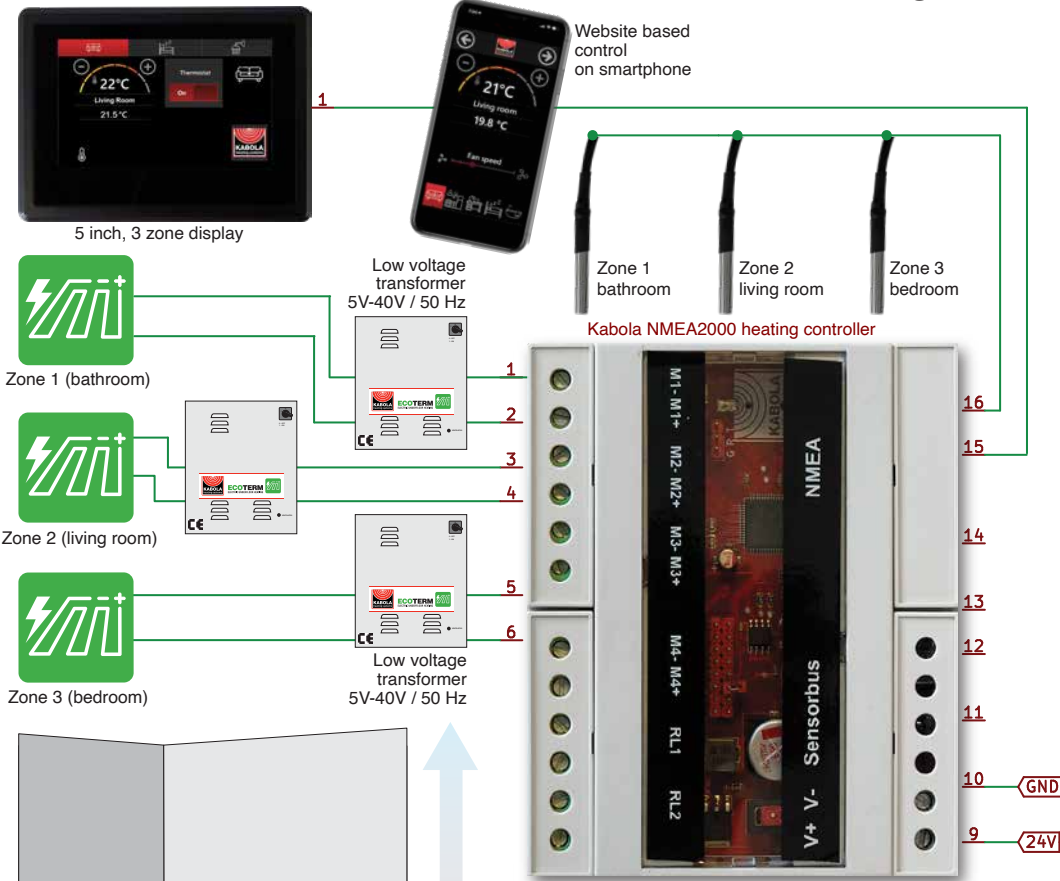
The aluminum strip, and thus the layer above the strip, is heated (heat rises) until the set temperature is reached. Then the system shuts down.

The essence of the saving is that the bottom plate accumulates (stores) thermal energy, so that the accumulation of energy can occur mainly at night, i.e. during a period when electricity is cheaper. Ideal when you want to limit additional floor height, when underfloor heating is applied.

FLAT STRIP  
LOW VOLTAGE  
UNDERFLOOR HEATING



Kabola Zone control system  
in combination with ECOTERM underfloor heating



IDEAL TEMPERATURE PROFILE:

CEILING TEMPERATURE 20 °C

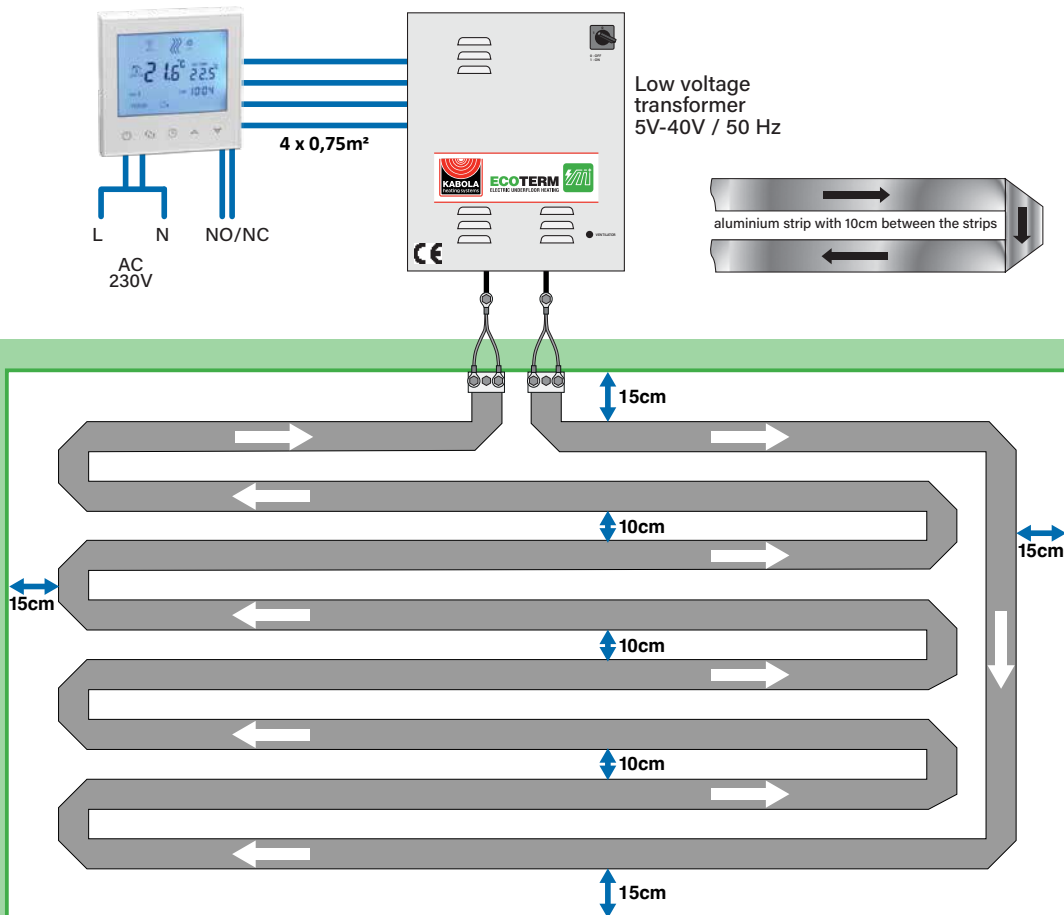
HEAD TEMPERATURE 21 °C

HAND TEMPERATURE 22 °C

FOOT TEMPERATURE 23 °C



## Technical manual installation underfloor heating



### Installation and dimensions for the underfloor heating strip:

From the wall-mounted transformer cabinet, mount 1 connection cable at the beginning of the conductor strip with the necessary stainless steel screws, washers, bolts and aluminum contact strips.

Always place the conductor strip at 15 cm from the walls, so that after 2 or 3 lengths along the wall the tape can be folded back to lay parallel to the first laid track. Make sure that these 2 strips are 10 cm apart.

Always keep a distance of 15 cm from the wall at the folding points.

In this way, fill the entire floor space until the end point of the conductor strip ends up under the transformer cabinet again. Here you cut the strip sufficiently, fold it also between the aluminum contact strips of the connection strip and use it to mount the second connection cable.

PLEASE NOTE! There may be differences per project.





Modern design and multifunctionality

CINI Electric Design Radiators

Finesse D is a decorative element with a simple and elegant design and multifunctional with the optional towel holders.

For extra energy saving in the pre winter and post winter period choose for extra CINI Electric Design Radiators. Heating up quickly the used room.

In those periods you don't need to switch on the Ecoterm underfloor heating, since underfloor heating increases the room temperature at a lower speed.

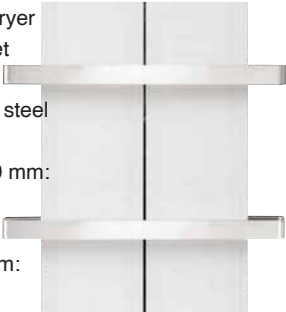
Powder coated colors

- RAL 9016 white
- RAL 1013 ivory
- RAL 9006 metallic grey
- RAL 9005 black
- RAL 1036 metallic gold

Optional towel holders

Decorative towel holder and dryer for bathroom, kitchen and toilet

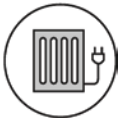
- in color or polished stainless steel
- radiator height 600/800/1000 mm: 2 holders
- radiator height 1200/1500 mm: 3 holders



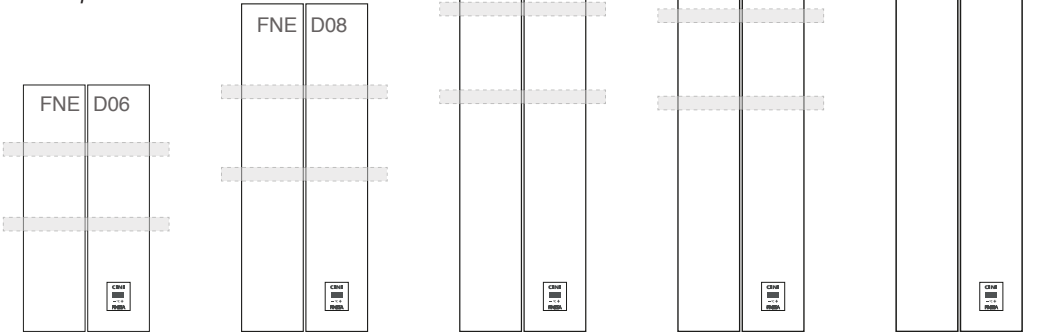
Sizes and properties

type	sizes HxB (mm)	thermal power (W)
FNE D06	600x408	400
FNE D08	800x408	500
FNE D10	1000x408	700
FNE D12	1200x408	900
FNE D15	1500x408	1200

Further technical information at request.



electrical heater



**ECOTERM ELECTRIC  
UNDERFLOOR HEATING  
COMBINED WITH  
CINI ELECTRIC DESIGN RADIATORS**

**ECOTERM**  
ELECTRIC UNDERFLOOR HEATING



**SIMPLE AND COMFORTABLE USE**



Smart regulation - precise regulation of room temperature with the help of a digital thermostat

Temperature range 5-30 °C

Maintenance of the set temperature  $\pm 0.5$  °C



Digital thermostat

**HIGH QUALITY**

The construction of extruded aluminum profiles and stainless steel enables long-term stability of the product over time.



5 year warranty

**QUICK HEATING AND SAFETY**

Finesa D is a dry radiator, with an integrated electric heater, without the presence of a heating fluid. The heat is transferred very quickly and evenly from the heaters to the front panels. The dry heating system enables safe operation of the device, without the possibility of freezing or increasing the pressure inside the heating body.

Additional modes:  
frost protection mode, overheating protection mode



High security



Overheating protection



Freezing protection



**IP PROTECTION**

Protection from spraying water from all directions



IPX4 protection



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