

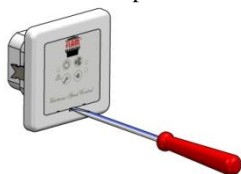
## **FLAM ELECTRONIC SPEED CONTROL (ESC)** **INSTRUCTIONS FOR INSTALLATION** (CE-approved)

**Attention: When Works are in progress on the Electricity net, always turn off the electricity!**

The regional, national and in particular the European legislation concerning this issue always primes on these recommendations and instructions. By any doubt or large discrepancies, please inform us by writing before the installation and/or before taking any action. When there is insufficient knowledge one needs to refrain from taking any action on the appliance or installation.

### **DISASSEMBLY OF THE ELECTRONIC SPEED CONTROL:**

First remove the printed frontfoil by putting a small flat screwdriver in the therefore foreseen cut-outs. Under this frontfoil there is a closed coverplate which can be removed with the screw in the middle. Underneath this plate are the connection clamps.

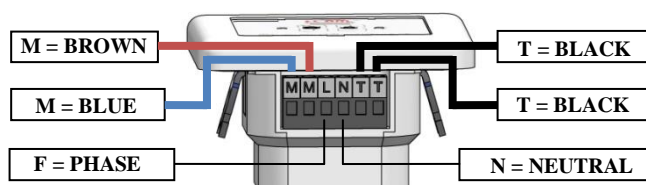


### **CONNECTION OF THE ELECTRONIC SPEED CONTROL:**

The Flam appliance has a 5-thread cable.

Connect the threads of the cables as follows:

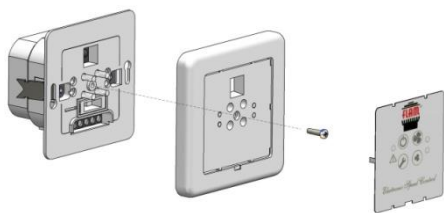
- The two black threads to the "T" clamps.
- The brown and blue threads to the "M" clamps.
- The yellow /green thread is the grounding and needs to be connected to the grounding of the 230V net.
- On clamps "L" and "N" the phase and the neutral of the 230V net will be connected.



### **1) ASSEMBLY OF THE ELECTRONIC SPEED CONTROL (standard built-in version):**

Use a large enough build-in box, available at Flam with order nr : Kast HEL.MD.

Connect the ESC as mentioned above, assemble the ESC in the build-in box and screw the coverplate back onto the ESC. Replace the frontfoil in the coverplate. Slide the foil first above in the coverplate, then at the bottom and to finish in the side parts by using a screwdriver.

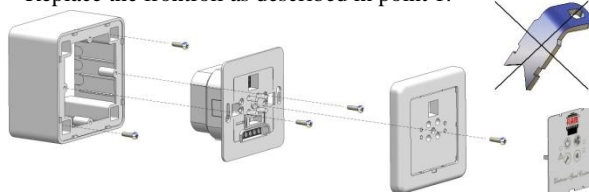


### **2) ASSEMBLY OF THE BUILT-ON VERSION OF THE ELECTRONIC SPEED CONTROL:**

Use the built-on frame, available at Flam with order nr : REGELOK/ESC.

Place the end of the 5-thread cable of the Flam appliance in the opening of the built-on frame and mount the built-on frame onto the wall. Connect the 5-thread cable to the electronic speed control and mount the ESC onto the built-on frame. Therefore, the clamps of the electronic speed control need to be removed. The screws of the claps are used to fix the ESC to the built-on frame.

Replace the frontfoil as described in point 1.



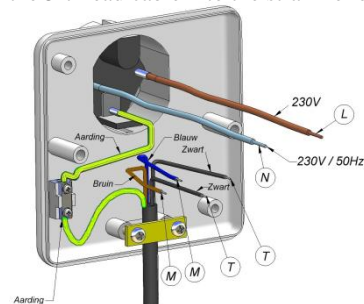
### **3) ASSEMBLY OF THE PLUG-IN VERSION OF THE ELECTRONIC SPEED CONTROL:**

Use the built-on frame with order nr:

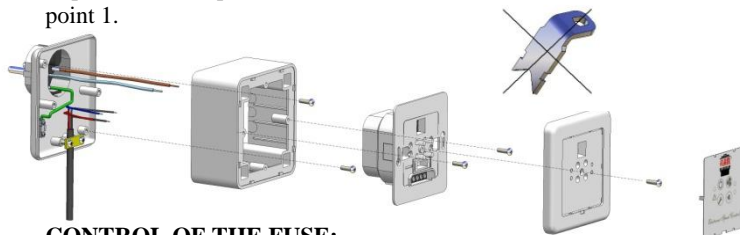
REGELOK/ESC. and the plug-plate with order nr:

REGELSP/ESC, only available at Flam

Place the end of the 5-thread cable into the strain relief.



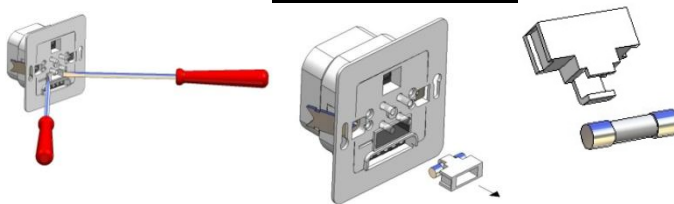
Mount the built-on frame onto the plug-plate. Connect the electronic speed control and mount the ESC onto the built-on frame. Therefore, the clamps of the electronic speed control need to be removed. The screws of the clamps are used to fix the ESC to the built-on frame. Replace the coverplate and the frontfoil as described in point 1.



### **CONTROL OF THE FUSE:**

The fuse of the electronic speed control is found in a special fuse-holder, near the connection clamps. The complete fuse-holder can be removed with the help of 2 screwdrivers as shown below. Make sure the fuse makes a good contact with the clamps inside the ESC.

The fuse is a fast fuse of **F 1.25 A, 5 mm x 20 mm.**



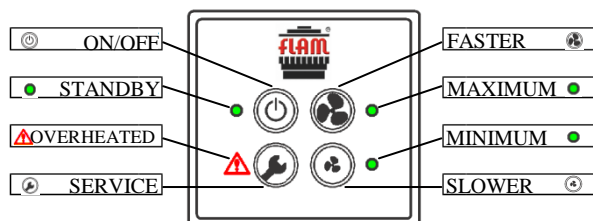
### **ATTENTION:**

- The length of the connection cable (of the Flam-appliance to the ESC) may not be longer than 6 meter. The connection cable has to consist out of one piece and be made by Flam. Extending the cable by attaching two cables to one another is forbidden.
- The ESC of the fans may not be placed near transformers, other speed controls or light faders.
- The connection cable has to be placed in a separate tube and may not come in touch with other electric appliances.
- The electric installation has to be executed by an acknowledged craftsman and following the legal norms.
- Using other materials than those delivered by Flam is not allowed. In that case the conditions of guarantee are no longer valid.
- Damages due to unauthorized use, frequent use or overcharge are excluded of the guarantee.

## FLAM ELECTRONIC SPEED CONTROL

### Operating instructions:

The Flam electronic speed control is a temperature dependant speed control, specially designed for Flam appliances. The ESC, only available in white, is included when the appliance is ordered with optional fans and can be mounted into or onto the wall (with optional built-on frame and/or plug-plate). Furthermore an optional remote control is available. The ESC is only suitable for regulating fans in a Flam appliance and vice versa. **The ESC is only suited to be used installed on a network of 230V/50Hz.**



### The Flam ESC can operate in 2 modes:


#### Mode 1) Automatic mode:

When the automatic mode of the ESC is activated the speed regulation of the fans is done completely automatic: The hotter the combustion chamber temperature will become, the faster the fans will run.


#### Mode 2) Recuperation mode:

When the recuperation mode is activated and the combustion chamber is sufficiently hot, the fans will always run on their maximum speed. Use of this function is to withdraw all the residual heat from the appliance over a short period without adding new combustibles.

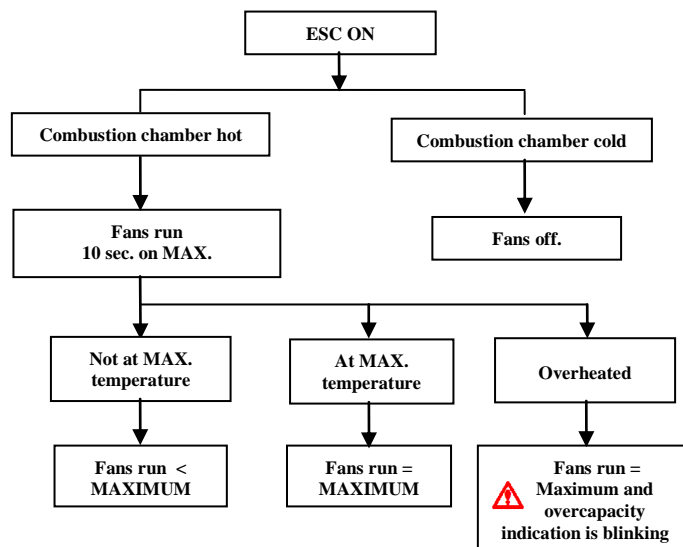
### 1) ACTIVATE AUTOMATIC MODE:

Push the button “” to activate the ESC control.


After the ESC has been activated, the temperature inside the combustion chamber is measured. When the combustion chamber is cold the fans will not run. When the combustion chamber is sufficiently hot, the fans will initially run at maximum speed for 10 seconds. Thereupon, depending on the measured temperature at that time, there are 3 possibilities:


- Appliance is not at maximum temperature:  
Fans don't run at maximum speed.
- Appliance is at maximum temperature:  
Fans run at maximum speed.
- The appliance is overheated:  
Fans run at maximum speed and the overcapacity indication “” is blinking.


### AUTOMATIC MODE (Flow chart):




### 2) ACTIVATE RECUPERATION MODE:

Push the button “” to activate the ESC control.

By pressing button “” for at least 1 second, a red LED will light up briefly, indicating that the recuperation mode will be activated.

Approximately 2 seconds later the green led next to the button “” will light up constantly to indicate the recuperation mode is active. The fans will run for 10 seconds and the temperature of the combustion chamber is measured. When the combustion chamber is cold, the fans will turn off afterwards. When the combustion chamber is sufficiently hot, the recuperation mode will remain activated and the fans will continue to run at their maximum speed.

When desired, the recuperation mode can be turned off and changed back to the automatic mode by pushing the button “”.

### RECUPERATIONMODE (Flow chart):

