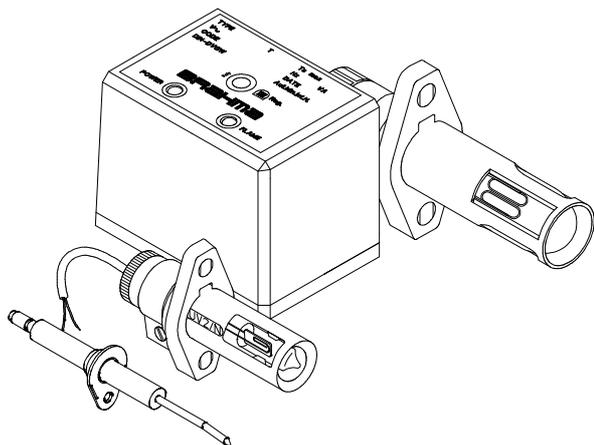


## **FLAME DETECTOR FOR GAS TYPE RE3**



### **DESCRIPTION**

The RE3 control is suitable to verify the presence of flame on gas burners. In fact it can use either a UV phototube or an electrode to exploit the flame rectification effect (ionization).

### **FEATURES**

- in accordance with EN 60730;
- electrical service life at max. declared loading > 250.000 operations;
- compact and easy installation;
- connecting socket with screws or fast-on terminals (types A, B, N and T);
- signalization with LEDs of different colour: green (POWER) and red (FLAME).

### **MAIN APPLICATIONS**

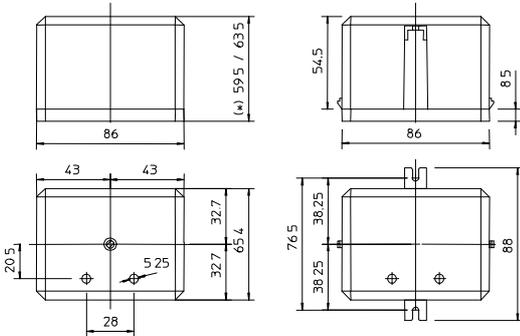
The RE3 flame detector is mainly used for industrial applications and for the installation of semiautomatic ignition and control systems, when it is necessary to control simultaneously and sequentially several burners.

The presence of LEDs to signalise the operation also permits the use of RE3 control simply as flame detector.

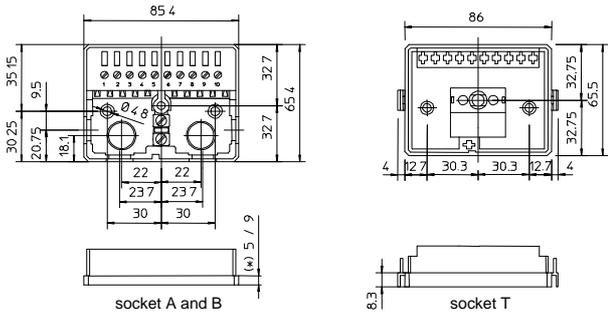
### **OPERATION**

Supply is signalled by the turning on of the green coloured LED (POWER) fitted on the front of the plastic enclosure. A second LED, red coloured, placed next to the first one, turns on when the flame detection has occurred. This event corresponds to the switching on of the independent contacts available in output.

## OVERALL DIMENSIONS



(\*) It depends on the socket type:  
59.5 socket A  
63.5 socket B  
62.8 socket N and T



(\*) It depends on the socket type:  
5 socket A  
9 socket B

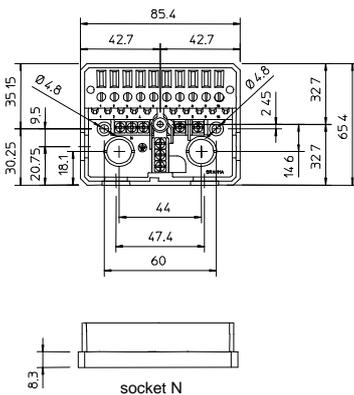


Fig.1

This control can use the connecting sockets with screw terminals mod. A, B, N or socket mod. T. for fast - on terminals, which couples with lateral bolted enclosure. Please note that socket type B is higher than type A and its terminals can hold a greater number of cables.

### ACCESSORIES

The users' different requirements regarding flame detection for gas systems, can be met by using the following probes of our production:

- **UV1** standard phototube (Fig.2);
- **UV1/A** selected phototube;
- **UV1/H** high sensitivity phototube:
  - Case: nylon
  - Case diameter: mm 22
  - Case length: mm 85
  - Cable length: mm 600 (standard)
- **UV2/N** (Fig.3):
  - Case: nylon
  - Case diameter: mm 17
  - Case length: mm 76
  - Cable length: mm 600 (standard)

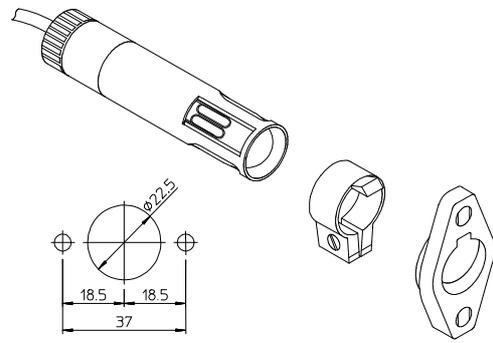


Fig.2

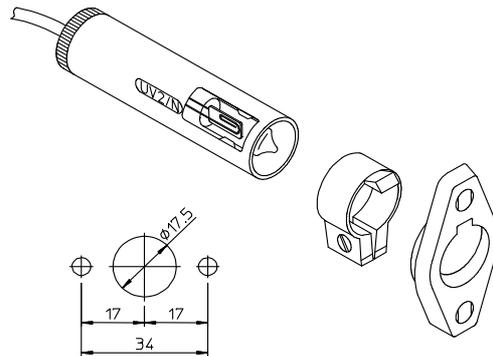


Fig.3

The phototube UV2/N has an intermediate sensitivity between standard and selected UV1.

As regards the phototube life, we suggest to replace it after 10.000 hours to avoid the danger of a "flame on" signal also after the flame has been extinguished, which is likely to happen when the tube gets too old.

### DETECTION ELECTRODE

The detection electrode we produce can be supplied in different shapes and dimensions (see Fig.4).

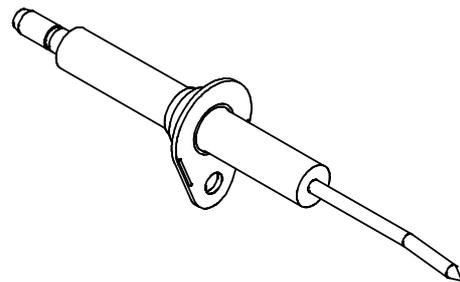
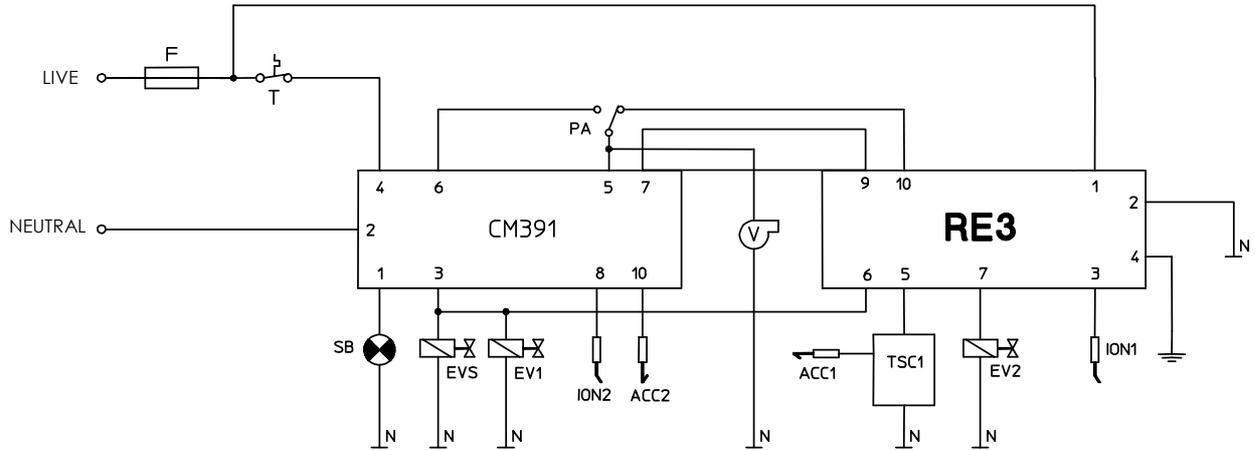
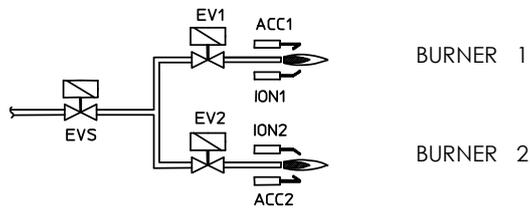


Fig.4

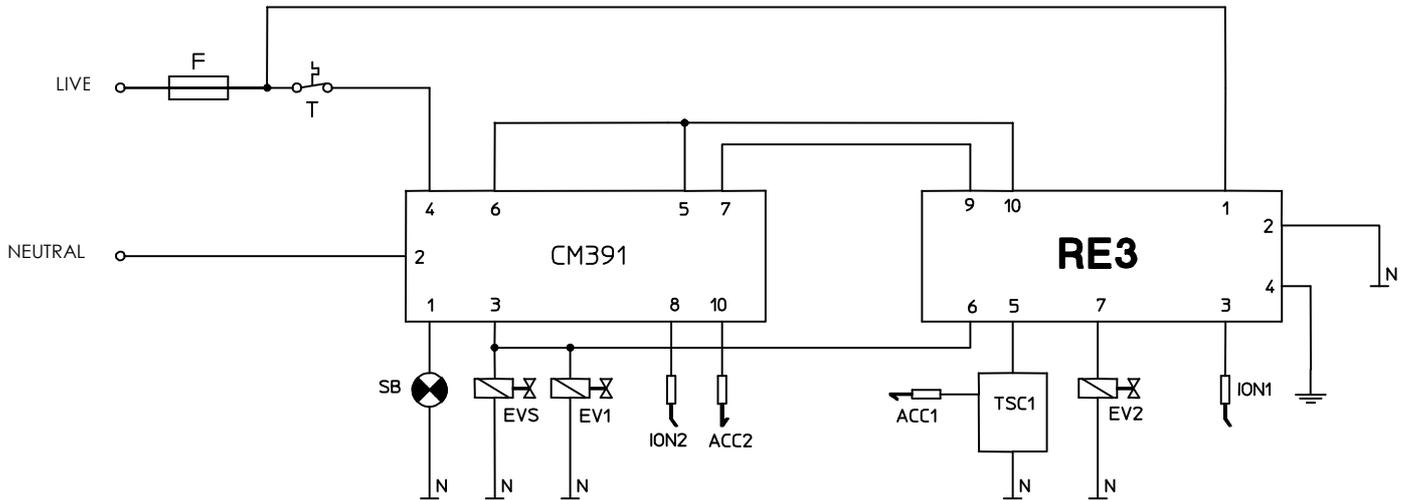
### TECHNICAL DATA

- Supply: 220V-50/60Hz
- on request: 240V-50/60Hz
- 110V-50/60Hz
- 120V-50/60Hz
- Operating temperature: 0 ÷ 60°C
- Humidity: 95% max. at 40°C
- Case Protection Degree: IP40
- Power consumption in running: 3 VA
- Contact rating: 5A 250 V AC ( cosφ = 1.0)
- 3A 250 V AC ( cosφ = 0.4)
- 5A 30 V DC
- External Fuse (F): 50 mA T
- Minimum ionization current: 0,5μA
- Recommended ionization current:
  - with UV tube: > 15μA
  - with electrode: > 5μA
- Reaction time: < 1s





(a)



(b)

Fig.8

The diagram in Fig.8a differs from the one in Fig.8b for the presence of fan control and air pressure switch. This connection permits the ignition of two burners in sequence, with cross checking of the "flame on" state. A contact of the internal relay of RE3 is used to check the efficiency of the detector to prevent the beginning of the ignition cycle if the detector doesn't operate correctly.

The ignition of burner 2 occurs only after the ignition of burner 1 and, as the flame detection is cross - checked between CM391 and RE3, the turning off of one burner causes also the immediate turning off of the other one.

**ATTENTION-> Company Brahma S.p.A. declines any responsibility for any damage resulting from the Customer's interfering with the device.**

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