

Model  
**TF701**

## Oil burner safety controller

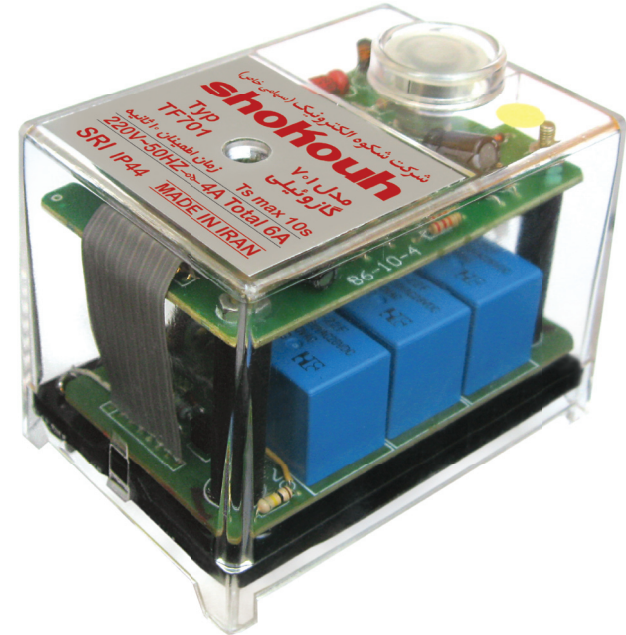
- For 1 or 2 stage oil burners up to 30 kg/h capacity periodic operation.  
Flam detection: Photo resistor FZ 711Sat.  
FZ 711 shokouh

### ■ Description:

The TF-701 oil burner safety control box is suitable for oil burners up to 30 kg/h capacity. The control box circuitry is protected by a tough transparent polycarbonate casing. The plug in control box incorporates the electronical timer, flame check and reset circuit. The reset button, an indicator lamp and the central screw fastening are situated on the upper part of the control box. A central fixing screw locks control box to the wiring base.

### ■ Technical data

- |                                       |                   |  |                                       |
|---------------------------------------|-------------------|--|---------------------------------------|
| ■ Operating voltage                   | 220v (±15%) 50HZ  | ■ Lockout safety time  | 10 sec                                |
| ■ Fuse rating                         | 10A fast, 6A slow | ■ Flame detector   | photo resistor FZ 711S, FZ711 shokouh |
| ■ Power consumption                   | 3 VA              | ■ Mounting position  | any                                   |
| ■ Max. Current rating output terminal | 4A total 6A       | ■ Delay time to oil valve V2   | 24 sec                                |
| ■ Pre-purge time                      | 12 sec            | ■ Recommended ambient operating temperature for control and flame detector | -10°C...+ 60°C                        |
| ■ Pre-ignition time                   | 12sec             |  |                                       |
| ■ Net weight                          | 180g              |  |                                       |



## ■ Commission and routine checks

---

### 1. Important notes:

- On commissioning it is advisable to carefully check the wiring according to the appropriate diagram. Incorrect wiring can damage the unit and endanger the installation.
- The fuse rating has to ensure that the limits specified in technical data will not be exceeded. If these precautions are not observed, the effect of a short circuit can cause severe damage to the control and installation.
- For safety reasons a minimum of one control shut down per 24 hours has to be ensured.
- Disconnect the mains before the control box is plugged in or out.
- The control box is a safety device and must not be opened.

### 2. Safety:

For safety reasons the flame detection system should be tested on commissioning and the installation as well as after a service or longer shut down.

a) Start – up with covered flame detector: After lockout safety time: Lockout

b) Start-up with exposed flame detector: After 20sec. pre-purge: Lockout

c) Normal start-up; with burner in the “run” position, cover up the flame detector: New start-up, after end of lockout safety time: Lockout.

### 3. Fault finding:

#### - Burner not working:

Faulty electrical wiring  
thermostat circuit open.

#### - Burner starts, flame not established=Lockout:

Stray light on flame detector  
No ignition or no fuel

#### - Burner starts, flame established and after safety time flame is not stable and goes off:

Flame detector dirty or faulty  
Insufficient light on detector

## ■ Circuit diagram of TF-701

HS: main switch

ST: limit thermostat

RT: control thermostat

F: flame detector FZ 711S

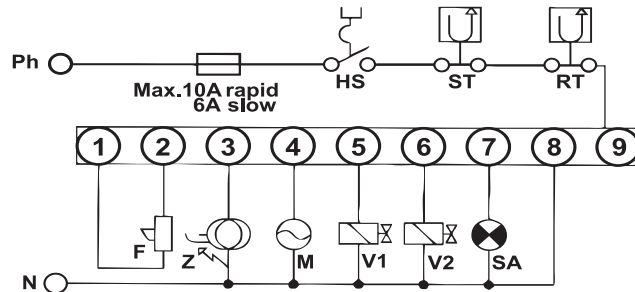
Z: ignition TR.

M: motor (Fan)

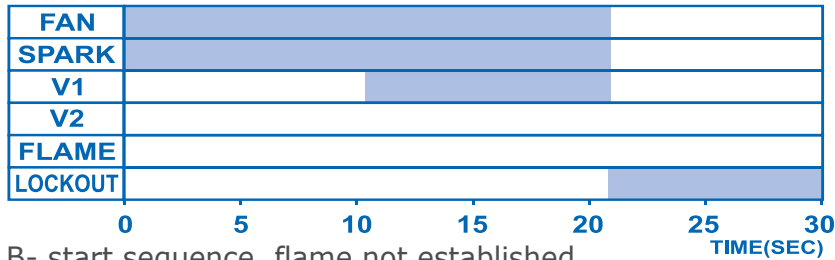
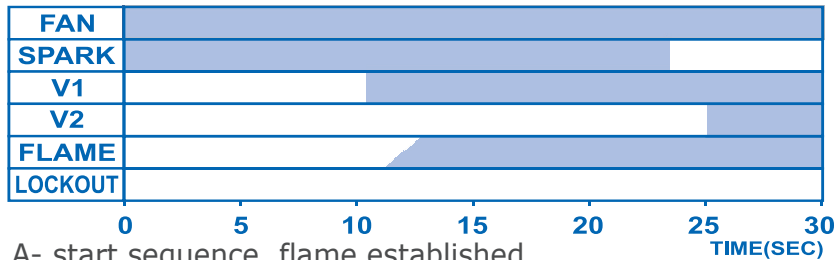
V1: oil solenoid valve, 1 ST-stage

V2: oil solenoid valve, 2 nd-stage

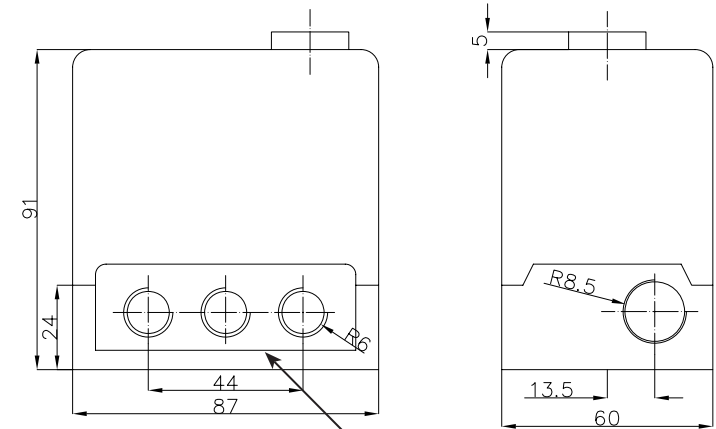
SA: external lockout signal



## ■ Timing diagram

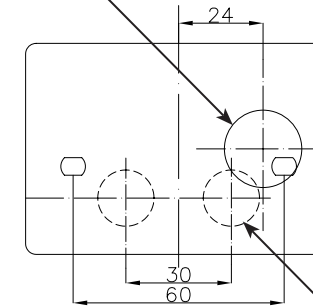


## ■ TF-701 with base



slide-in plate

Reset button



underside cable entry  $\varnothing$  16mm