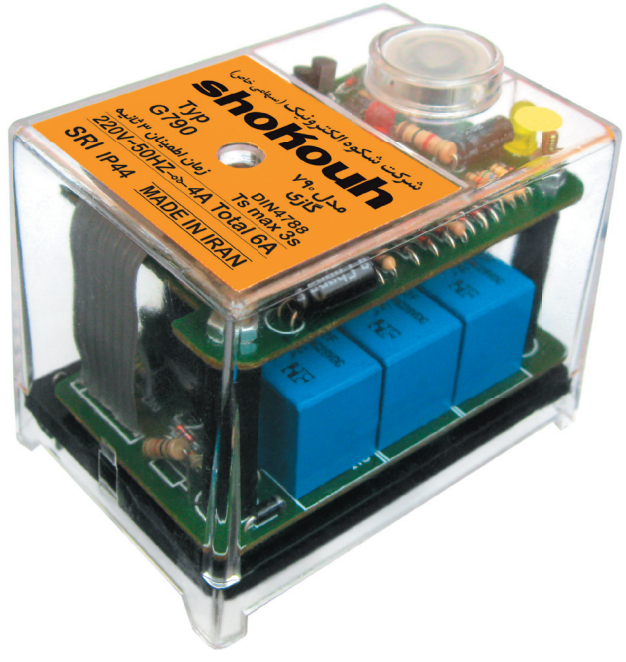
Model G790

Gas burner automatic safety controller

For forced- draught gas burners
Flame detector: Ionisation probe



Description:

1. The G-790 gas burner control box is designed to control forced-drought gas burners.
2. The control box is well protected by a tough transparent polycarbonate casing. The plug in control box incorporates the electronical timer, flame check and reset circuits.
3. The reset button, an indicator lamp and the central screw fastening are situated on the upper part of the control box.

Technical data

Supply voltage	220v (±15%) 50HZ
Fuse rating	10A (rapid) or 6A (slow)
Power consumption	3 VA
Max. Current per output terminal	4A
Max. Current total	6A
Pre-purge time	approx.40Sec
Insulation standard	IP44
Ignition safety time	3sec
Reset delay after shut down	2sec
Permissable ambient temperature	-10°c...+ 60°c
Min. Ionisation current required	7μA
Net weight	180g
Mounting attitude	any

Technical features

1. Flame detection

Flame detection is carried out by a well insulated ionization probe which is made of a temperature resistant material. (material and insulation same as for ignition electrode). Flame detection by way of an ionization probe is only possible in conjunction with main supplies which provide a neutral earth connection.

2. Burner control

Functional check of the air-proving switch before the start and monitoring of air pressure during pre-purge as well as during normal operation. In normal use switch contacts with a rating of 4A/220v are sufficient.

Commissioning & maintenance

1. Important note:

The wiring must be checked exactly when commissioning the installation. Incorrect wiring could damage the control box, putting the safety of burner system at risk.

The chosen fuse rating must not, on any account, be higher than the value given in the technical data. Failure to observe this instruction could, in the case of a short circuit, have serious consequences for the control box or burner system.

For safety reasons, it must be ensured that the control box performs at least one normal shut-down during every 24 hour period.

Switch off or disconnect the power before plugging in or unplugging the unit.

Burner control boxes are responsible for the safety of the system and should not be opened.

2. Possible faults:

2.1- Burner does not start:

- Fault in electrical supply, thermostat OFF
- Thermostat or gas-proving switch OFF
- Air proving switch not in proper air position

2.2- Switches to lockout after attempted start without establishing flame:

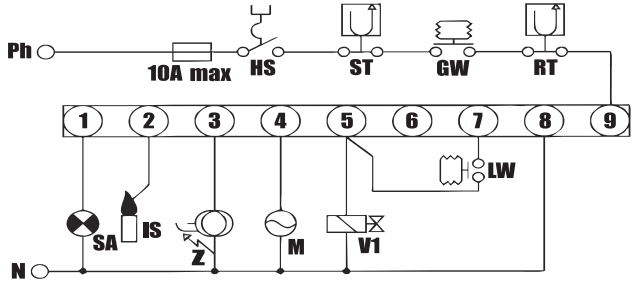
- No ignition or no fuel reaching burner
- Flame signal during the pre-purge phase

2.3- Burner starts, flame is established but control box switches to lockout after elapse of safety interval:

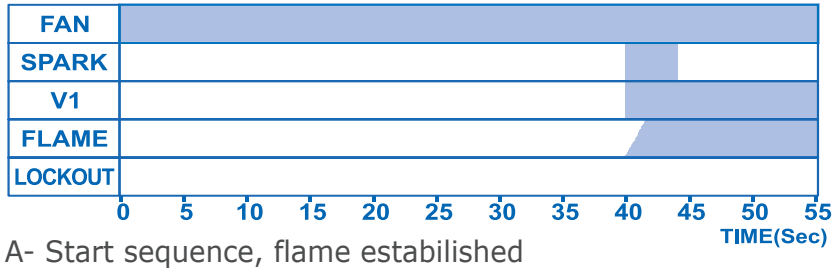
- No flame signal or signal too weak
- Flame detector is dirty or defective

Circuit diagram of G-790

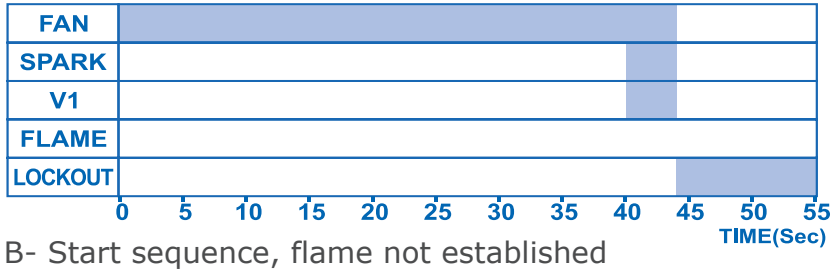
GW: Gas pressure switch
HS: Main switch
ST: Limit thermostat
RT: Control thermostat
IS: Ionisation probe
Z: Ignition transformer
LW: Air pressure switch
SA: External lockout signal
VI: Gas valve
M: Motor (fan)



Timing diagram



A- Start sequence, flame estabilished



B- Start sequence, flame not established

G-790 with base