**Linear Systems** **Ph/Fax: +91 22 25576002**

# BURNER CONTROLLER

## (Model 307-GI-AP)

### GENERAL

This Burner Controller is designed for automatic start-up of gas burner with UV sensor for flame sensing. The Controller has sequence specifications and terminals compatible with GU 336.02.

The Controller uses microprocessor based design and is housed in a ABS plastic enclosure with over all size of 150(L) x 70(B) x 110(H) mm. The mounting is by means of standard 35 mm DIN rail or on back panel with two screws. The outputs are relay based, with contact ratings of 230V AC, 6 A resistive load. The inputs are potential free contacts.

### SEQUENCE SPECIFICATIONS

The following sequence will start when the 230 AC supply is connected to the terminals 1 (Phase) and 4 (Neutral).

| Step No. | Time in Secs | Operation | Symbol Ref | Term Ref |
|---|---|---|---|---|
| 1 | T1 = 0 | Blower ON | B | 15 |

**The Controller will go to LOCK OUT, if,**

**a) False Flame signal is sensed due to electrical leakage or leaky valve**

**b) Air Pr Low (Term 11 & 12) switch is NOT in CLOSED position**

| | | | | |
|---|---|---|---|---|
| 2 | T2 = T1 + 9 | Damper ON | D | 16 |

*The Controller will now wait for Air Pr High (Term 12 & 13) Switch to CLOSE, to prove that air supply is okay.*

**The Controller will go to LOCKOUT, If it is not achieved with in 6 seconds.**

| | | | | |
|---|---|---|---|---|
| 3 | T3 = T2 + 66 | Ignition ON | I | 5 |
| | | Pilot ON | P | 6 |

*If the Flame is sensed*

| | | | | |
|---|---|---|---|---|
| 4a | T4 = T3 + 12 | Fuel Valve ON | V | 3 |

If the Flame is NOT sensed

| | | | | |
|---|---|---|---|---|
| 4b | T4 = T3 + 12 | All Outputs OFF | | |
| | | LOCK OUT ON | L | 2 |

| | | | | |
|---|---|---|---|---|
| 5 | T5 = T4 + 5 | Ignition OFF<br>Pilot OFF | I<br>P | 5<br>6 |
| 6 | T6 = T5 + 24 | High Flame Output ON | H | 14 |

The Controller is now in normal operating Condition. However, the Controller will go to LOCK OUT, if there is a flame failure during normal operation condition.

**LOCK OUT CONDITION**

The Controller will continuously monitor the presence of Flame. If they are not present, ALL OUTPUTS ARE SWITCHED OFF and LOCKOUT ALARM is initiated by providing supply at Terminal 2.

**Operator intervention is necessary to restart the Controller after a Lockout. It is recommended that an investigation of the "Cause" is done before restart.**

The Lock Out condition can be cleared by pressing the Reset Push Button, connected across Terminals 2 and 10. The Controller will re-start a new sequence.

**SAFEFTY INTERLOCK**

A safety interlock circuit is typically formed by connecting Temperature / Pressure switches in series. Such an interlock circuit can be wired in series across terminals
9 and 10

During normal operation, if the safety contacts are open, all outputs will be off. Blower and Damper will run for 30 seconds before switch off. The Controller will now wait for the safety switches to close again. Upon closure, the Controller will start firing sequence from Step 1.

**TERMINAL SCHEMATIC**