DIGITALDEVICES

BURNER CONTROLLER
Model DD 817 FR 1

General:

The controller is state of art microprocessor based design. The controller's basic functionality is to manage a safe start up of the Burner and continuos monitoring of the flame there after.

The controller is housed in elegant metal enclosure with over all size of 96 X 96 X 100 mm. (LXBXD) . The controller can be mounted on front panel in standard 92 X 92 mm cutout.

Description:

The Burner Controller is designed for automatic start up of small capacity Burners with instant start up and flame monitoring of Gas fired Burners using Flame Electrode for sensing the flame .

Flame sensing:

The controller senses the flame using flame rectification technique. The Controller provides a high voltage for the Flame electrode. The flame electrode is immersed in the flame to be sensed. The current thus generated by the flow of electrons though the flame to the ground is detected by the controller for presence of flame.

Note: A Earth wire from the Burner should be connected to the controller. The Flame electrode must be properly insulated while mounting. Use HV cable for connecting Controller and the flame electrode. Any leakage will result in reduction of flame signal which will result in lockout.

Terminal Connections:

Phase	1	7	Blower
Neutral	2	8	Ignition
Ext. Reset	3	9	Fuel valve
Ext. Reset	4	10	Lockout Alarm
Flame Electrode	5	11	Control Switch
Burner Ground	6	12	Control Switch

Note:

1. Supply voltage – 230 V AC, 50 Hz.
2. A Earth wire from the Burner should be connected to the controller. Do not connect Phase or Neutral wires to Flame sensor terminals.
3. The Flame electrode must be properly insulated while mounting.

Operation:

All the connections are made as per the electrical schematic diagram. All the Control Interlocks in series with supply are to be closed. When supply is provided to the terminal No. 1, The Controller will go through the following sequence of operation.

Supply at terminal No. 1 is switched On. If the Start Interlock at terminals11 & 12 is closed, The Blower at terminal 7 is energized. The controller will now wait for **5 seconds**

during this purge time the controller will check for leakage current in the flame circuit in the absence of flame. After the pre purge, The controller will switch On Fuel Valve at terminal 9 and Ignition at terminal 8.

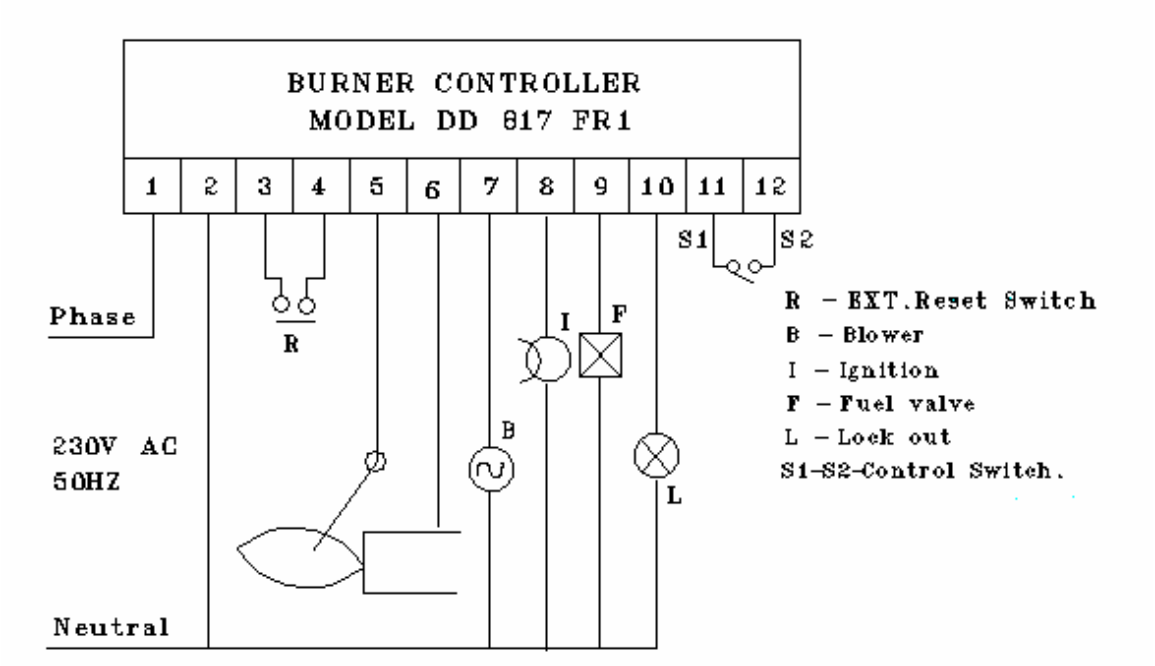
If flame is sensed by the flame sensor (F) , connected at terminal 5, Ignition will be switched Off and the controller will monitor the flame there on.

If flame is not sensed with in **6 seconds** since the start of Ignition, the controller will go to Lockout condition. When in lockout , the Alarm is switched at terminal No. 10 and all other outputs will be switched Off.

False flame check: Check for false flame will be carried out the beginning of the sequence start. If flame is sensed before the start of Fuel and Ignition, which is may be due to false light ingress or faulty flame sensor. The controller will goto Lockout with out starting the firing sequence. Thus making the start up sequence safe.

Controlled shut down : When under normal firing condition, if the control interlock initiating the firing sequence , across terminals 11&12, is opened, the firing is switched Off and Fuel valve and Blower will be switched Off. Now the control will waits for the closure of the control switch. If the control switch is closed the controller will start the firing sequence from the start.

Lockout: When in lockout , the controller can be reset by momentarily pressing the Reset P.B. (R) provided locally on the controller or through the remote reset switch wired across terminals 3 & 4. Momentary interruption in power supply the controller will also have the same reset effect on the controller.



Please contact Digital Devices for any clarification.