DIGITAL DEVICES

BURNER CONTROLLER
Model DD 810 FR1

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 ABS plastic enclosure with over all size of 100 X 70 X 110 mm. (LXBXH) . The controller can be mounted on standard 35 mm DIN rail or on back panel with two screws.

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	6	Blower/Pump
Neutral	2	7	Start Interlock
Ext. Reset	3	8	Lockout Alarm
Fuel valve	4	9	Flame Sensor - Electrode
Ignition	5	10	Burner Ground

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.

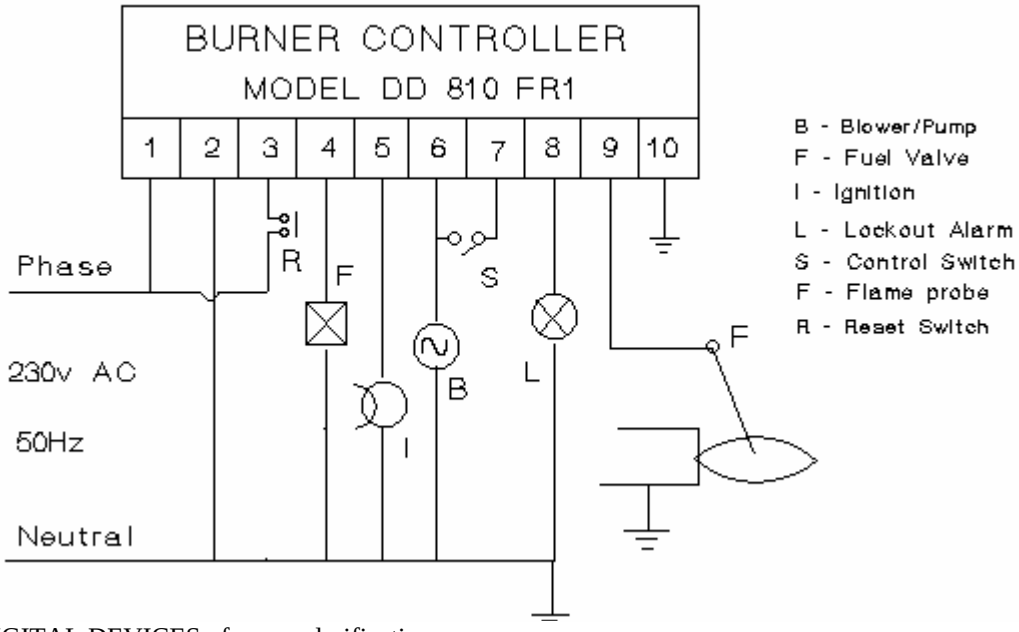
Blower at terminal No. 6 is switched ON. If the Start Interlock at terminal 7 is closed, The controller will now wait for **5 seconds** during this time the controller will check for leakage current in the flame circuit in the absence of flame. After the pre purge the controller will switch On Fuel Valve at terminal 4 and Ignition at terminal 5.

If flame is sensed by the flame sensor (F) , connected at terminal 9, Ignition will be switched Off and the controller will monitor the flame there on.

If flame is not sensed with in **8 seconds** since the start of Ignition, the controller will goto Lockout condition. When in lock out , the Alarm is switched at terminal No. 8 and all other outputs will be switched Off. Blower will continue to run.

Lockout: When in lock out , the controller can be reset by momentarily pressing the Reset P.B. (R) provided locally on the controller. Momentary interruption in power supply the controller will also have the same reset effect on the controller.

Controlled shut down : When under normal firing condition, if the control interlock initiating the firing sequence is opened, the firing is switched Off and Fuel valve and Fuel pump will be switched Off. Blower will continue to run. Now the control will wait for the closure of the control switch for a fresh start up.



Please contact DIGITAL DEVICES for any clarification.