

ESP Sequential Controller
Model No. : ESP 07

POUSHALI ELECTRONICS

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INTRODUCTION :

The Poushali Electronics make **ESP Sequential Controller** has been designed to control the rapping used for Electrostatic Precipitator. It is designed to be used with electrical solenoid type Magnetic Impulse Gravity Impact rappers.

The Microprocessor based Instrument is front panel-mounting type and hazard free in operation. It is designed in four types of basic cards, namely 'Main Card', 'Power & Output Card' 'Solenoid Driver Card' and 'CPU & Display Card'. The components are used, which have proven their reliability and easily availability in the local market

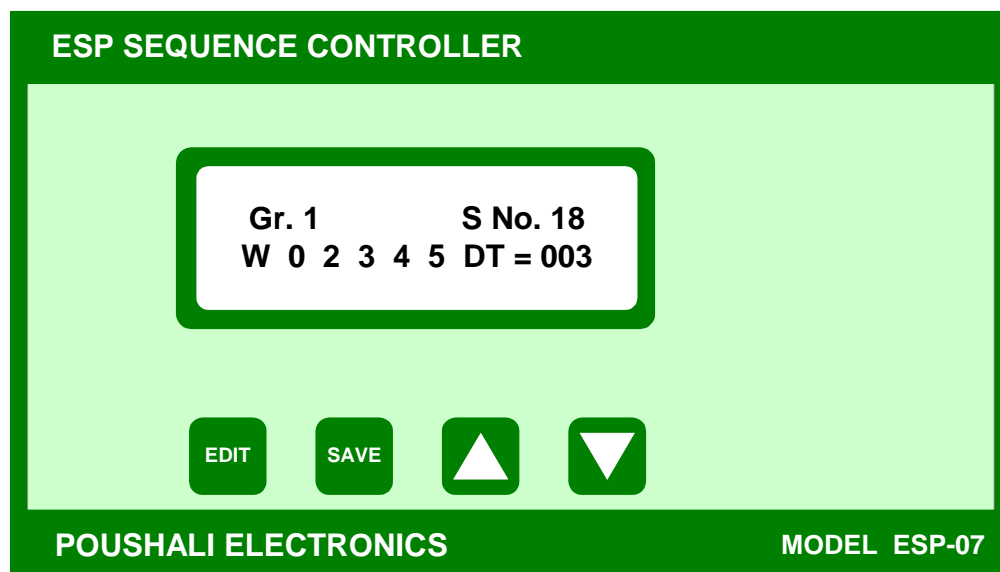
The Instrument provides a high degree of flexibility due to field programmability of the operating parameters. It has five predefine group. The 'Cycle Time', 'ON Time', 'Off Time' and 'No. Of Solenoid Output' can be program for each group individually. Rapper voltage can be programmed also. For the successful operation of the precipitator, programmability of those parameters is required. Using these features a good rapping system can achieve minimum re-entertainment of collected particle and keep the precipitator clean. The instrument provides

In the following pages features and operation of the Instrument are described, which will give User a brief idea about the systems. The User/Operator should go through the Instruction manual carefully before operating the system.

The Instrument is having a two line back lit LCD Display and four touch keys for programming and control as describe bellow.

KEYS:

- 1) EDIT KEY
- 2) SAVE KEY
- 3) UP KEY
- 4) DOWN KEY



OPERATION:

There are two modes of operation, one is “EDIT” (Supervisory Mode) and another is “RUN” mode.

EDIT Mode:

Note: after entering the edit mode, “UP” key and “DOWN” key are both active to go to next menu or previous menu.

AT the time Power ON, by pressing the “EDIT” key it will enter to edit mode. The first display will be

SET DC Vol.

If press “SAVE” key, it will enter to solenoid voltage setting mode. The display will show the previous set value, like

875

For maximum voltage output the value will be ‘500’ and for minimum voltage output the value will be ‘999’.

Press “UP / Down” key to set the desire value solenoid voltage. Then press “EDIT” key once to enter the value and then automatically it will come out to main manu. The display will be

SET DC Vol.

If press “UP” key, it will enter to ‘Group-1’ parameter setting mode. The display will be

SET Gr. 1

Press “SAVE” key, it will enter to group-1 edit mode. In this mode ‘Cycle Time’, ‘Solenoid ON Time’, ‘Solenoid OFF Time’ and ‘Number of Solenoid in this group’ can be set. The first display will be

Cycle Time

If press “SAVE” key, it will go to main manu.

If press “UP” key, it will enter to ‘Solenoid ON Time’ setting mode. The display will be

ON Time ms

If press “SAVE” key, it will go to main manu.

If press “UP” key, it will enter to ‘Solenoid OFF Time’ setting mode. The display will be

OFF Time S

If press “SAVE” key, it will go to main manu.

If press “UP” key, it will enter to ‘Number of Solenoid in this group’ setting mode. The display will be

Relay No.

By pressing “SAVE” key it will come out from group-1 parameter setting to main manu. The display will be

SET Gr. 1

By pressing “UP” key, it will enter to ‘Group-2’ parameter setting mode. The display will be

SET Gr. 2

Pressing “UP” key, it will enter to ‘Group-3’ parameter setting mode. The display will be

SET Gr. 3

Pressing “UP” key, it will enter to ‘Group-4’ parameter setting mode. The display will be

SET Gr. 4

Pressing “UP” key, it will enter to ‘Group-5’ parameter setting mode. The display will be

SET Gr. 5

By pressing “UP” key, it will enter to ‘Pass word’ setting mode, which is inactive here. The display will be

SET PSW

If press “UP” key, it will enter to ‘Save & Exit’ mode. The display will be

SAVE & EXIT

If press “UP” key, it will enter to main manu again. If press “SAVE” key it will save the changed parameter and come out from “EDIT” mode to “RUN” mode.

IMPORTANT NOTE:

If any parameter has been changed always exit through “SAVE & EXIT” mode.

GROUP-1 PARAMETER SETTING:

Cycle Time:

After entering group-1 parameter editing mode the first will be

Cycle Time

Press, “EDIT” key, it will enter to cycle time edit mode and it will show the previous set value in minute. The display shows as

001

The time can be set 1minutes to 90minutes.

Press “UP / Down” key to set the desire value. Then press “SAVE” key once to enter the value and then automatically it will come out to main manu. The display will be

ON Time:

The ON time setting display is

ON Time ms

Press “EDIT” key, it will enter to ON time edit mode and it will show the previous set value in mili second. The display shows as

060

The ON time can be set 1mili second to 1000 mili seconds. The displayed value multiplied by four is the actual value. Example-

If display value is 60, then the actual value is 240 mili second ($60 \times 4 = 240$)

Press “UP / Down” key to set the desire value. Then press “SAVE” key once to enter the value and then automatically it will come out to main manu.

OFF Time:

The Off time setting display is

OFF Time S

Press “**EDIT**” key, it will enter to OFF time edit mode and it will show the previous set value in second. The display shows as

002

The Off time can be set 1second to 255 seconds.

Press “UP / Down” key to set the desire value. Then press “SAVE” key once to enter the value and then automatically it will come out to main manu.

Number of Solenoid:

NOTE – The total solenoid number is 88. It can be divided into five groups fully or partially.

The display shows as

RELAY No.

Press “**EDIT**” key, it will enter to solenoid number edit mode and it will show the previous set value. The display shows as

018

Press “UP / Down” key to set the desire number. Then press “SAVE” key once to enter the value and then automatically it will come out to main

RUN Mode:

With the ‘Power On’ Instrument will go to “Rum Mode’ and the display will be (Values may not same).

Gr. 1 S No. 18
W 0 3 DT = 002

FAULT Finding:

- 1) No Power : Check the 230V AC supply
 - 2) Display “000.00” : Check 4-20mA input signal
 - 3) For other Faults : Consult Factory
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