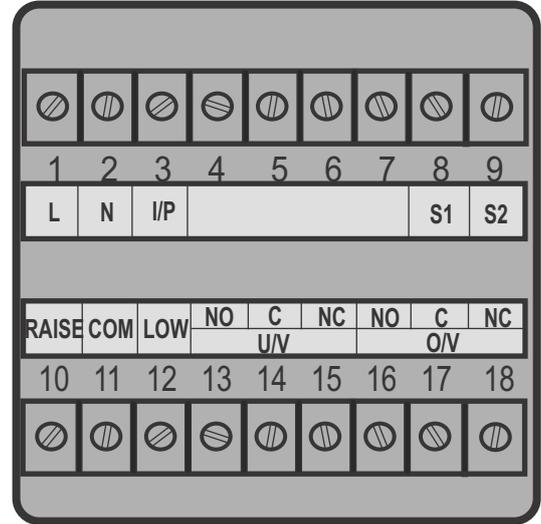




FRONT VIEW



REAR VIEW

The Servo Controller is an automatic Voltage stabilizer that provides a stable Voltage output when installed in fluctuating Voltage environment preventing the equipment from potential damage and excess heat. Once acceptable ranges of Voltage along with other parameters are set by the operator, the device raises or lowers the fluctuating Voltage accordingly.

FEATURES

- ✓ Displays Frequency, Current, Input / Output Voltage levels
- ✓ Programmable CT for calculating Load Current
- ✓ Control Range of 110 V- 320 V
- ✓ Enables power saving and prevents equipment damage
- ✓ Under Voltage/ Over Voltage Trip with Time delay (TTD) and Indications
- ✓ Raise/ Lower action with Time delay (can also be used for tripping only at major fluctuations)
- ✓ Programmable set Voltage and Tolerance
- ✓ Under 1% Error
- ✓ 6 LEDs to indicate the Device state
- ✓ Latest Micro Controller based Technology
- ✓ Size 96 * 96mm
- ✓ 3 bright red 0.56" digit display (also available in 4 digit version)
- ✓ Max count of 999 (9999 in 4 digit version)
- ✓ Panel Mounted Meter

Parameters Display (displayed by LEDs on the left)

The Servo Controller displays measured input Voltage, Current, Frequency and Output Voltage for the operating field. The three bright red LEDs on the left are used to indicate which parameter is being displayed. Assume three LEDs on the left as 1, 2, and 3 (Top to bottom). Use the Increment Button to read value of the parameters indicated by following LED state to check any desired parameter in Hold mode. In scroll mode following will be displayed.

Input Voltage	Only LED 1 turned on for 30 Sec
Current	Only LED 2 turned on for 30 Sec
Frequency	Only LED 3 turned on for 30 Sec
Output Voltage	All LEDs turned off

**NOTE: After displaying the requested parameter for certain time, display automatically scrolls to show output Voltage again with all left three LEDs turned off.*

Trip Indication (displayed by LEDs on the right)

The three LEDs on the right of the display are used to indicate fluctuations in Voltage. Suitable actions are taken to mitigate the problem. The input Voltage can be higher or lower than the desired value (which is programmable). In order to keep their varying values of Voltage in check and bring them to acceptable allowed range, relay connected to the device are triggered on and off accordingly.

Assume three LEDs on the right as 1, 2 and 3 (Top to bottom)

LED ON	INDICATES	ACTION BEING TAKEN
LED 1	Input Voltage is less than the accepted output Voltage range and is being raised.	Relay no. 10, 11 is activated in order to raise the voltage
LED 2	Input Voltage is higher than the accepted output Voltage range and is being lowered	Relay no. 11, 12 is activated In order to lower the voltage
LED 3	Input Voltage is below the under Voltage point	Relay no. 13, 14, 15 is activated along with Relay no. 10, 11 to raise the Voltage
	OR	
	Input Voltage is higher than Over Voltage point	Relay no. 16, 17, 18 is activated along with Relay no. 11, 12 to lower the Voltage

***NOTE:** Voltage needs to be out of the set range for at least certain time delay (TD i.e. time delay for raise/Lower actions and TDD for UV/OV trip action) before suitable action can be triggered.

Programmable Parameters

The following parameters can be programmed (in the same sequence) as per requirement

Output Control Voltage (VOL)	The adjustable voltage on which the operator wants the relay to take action. It is assigned value as per operator's requirement. Range is 100V to 350V.
Gap (GAP)	It refers to the allowed +/- variations in the set Output Voltage (tolerance). The allowed range is 1-9. It is added to VOL and the relays take action on this value.
Time Delay (TD)	This is the time interval for which the fluctuated Voltage needs to be out of set value of output control Voltage for the suitable raise/lower action to be triggered. The allowed range is 0.1 sec to 9.9 sec
Over Voltage (OV)	Value of Voltage above the output control Voltage range (VOL +/- GAP) at which the over Voltage relay (on 16, 17, 18) is triggered on. Highest possible value for OV is 320V.
Under Voltage (UV)	Value of Voltage below the output control Voltage range (VOL +/- GAP) at which the under Voltage relay on 13, 14, 15 is triggered on. <<<<<<<<Lowest possible value for UV is 120V.
Trip Time Delay (TTD)	This is the time interval for which the fluctuating Voltage needs to be above OV or UV limit for Tripping action to be triggered.
CT	CT value needs to be fed in the device as per operating environment. It is used to calculate the CT ratio. If this ratio is less than 100, the value of Current (indicated by second LED on the left) is shown in one decimal point (no decimal point is used otherwise). Secondary value for CT ratio is fixed at 05

Steps to Program Parameters

The device has three buttons – Increment, Enter and decrement.

1. Press Enter button until the first parameter name (i.e. VOL for Voltage) appears on the display (approx 03 seconds).
2. Press Enter again to assign desired value (0-9) to this parameter (or press increment button to jump to next parameter).
3. After pressing Enter, the rightmost digit will start blinking. Use Increment button to assign a value to this digit and Decrement button to move to next digit on the left and assign value to it in same way.
4. After assigning the value again press Enter to save it.
5. Press increment button to move to next parameter.
6. Reaching the parameters name that needs to be set, press Enter again. Parameter goes into editing mode. Use first four steps to assign and save the desired value to it.
7. Repeat above steps to assign values to all the parameters.

***Note:** *Over Voltage (OV) can only be given values between (VOL+GAP) and 320V.*

Under Voltage (UV) can only be given values between 120 and (VOL-GAP).

Under Voltage (UV) can only be given values between 120 and (VOL-GAP).

If wrong value is entered, ERR (error) is displayed followed by automatic assignment of correct value from the nearest boundary of the allowed range.

Device does NOT halt its functioning while in control panel.

Device will automatically exit the control panel after it detects an inactive period of 30 seconds