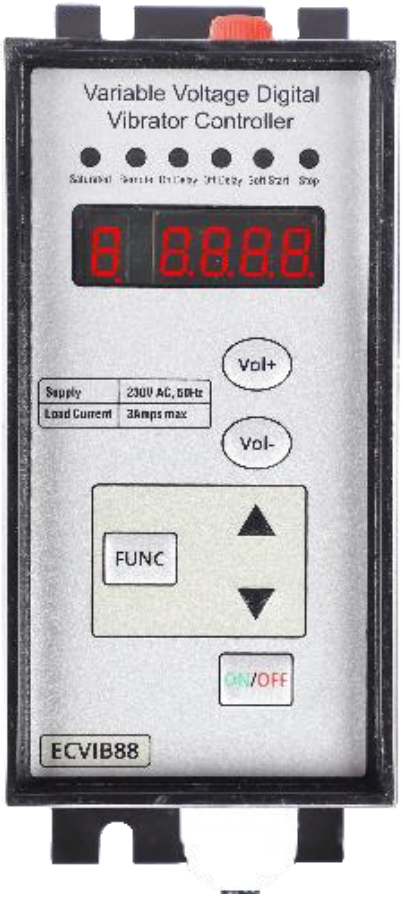
SPARK
Drives & Automation

VARIABLE VOLTAGE DIGITAL VIBRATOR CONTROLLER

230Vac, 50Hz, 6Amps Output Current, POT Input, Wall Mount

SPARK ECVIB88 series of phase angle controllers are specially designed for controlling the Bowl Feeder Vibrators. Due to the higher loads handled by Bowl Feeders, our controllers are designed to handle up to 6Amps Current / 1500VA Power. **ECVIB88** comes with mains voltage compensation algorithm, which keeps the vibration same even when the supply voltage increases or decreases.



ECVIB88 has on panel Keypad to set the Vibrator's Feed-rate, On time, Off time and Ramp-up time. On-panel fuse provides over current protection for the feeder coil as well as for the internal semiconductors. Run/Stop Control pin is provided for instant stop of the vibrator. Run/Stop LED indication is available. Thanks to the soft-start output, the feeder starts quietly and ensures gentle product handling.

Technical Specifications

Supply Voltage	: 230Vac ± 5%, 50Hz
Output Current	: 6A RMS
Control type	: Half wave
Size (l*b*h)	: 75*180*140 mm^3

Keypad Functions:

Output voltage, On delay time, Off delay time, Soft Start time.

sales@sparkdna.in, +91 99428 66766
#44, Marvel Parambariam, Kalapatti Road, Saravanampatti,
Coimbatore, Tamilnadu, India 641035.

Connection Info

Power Supply Connection : Black Colour, 3 Core Cable.

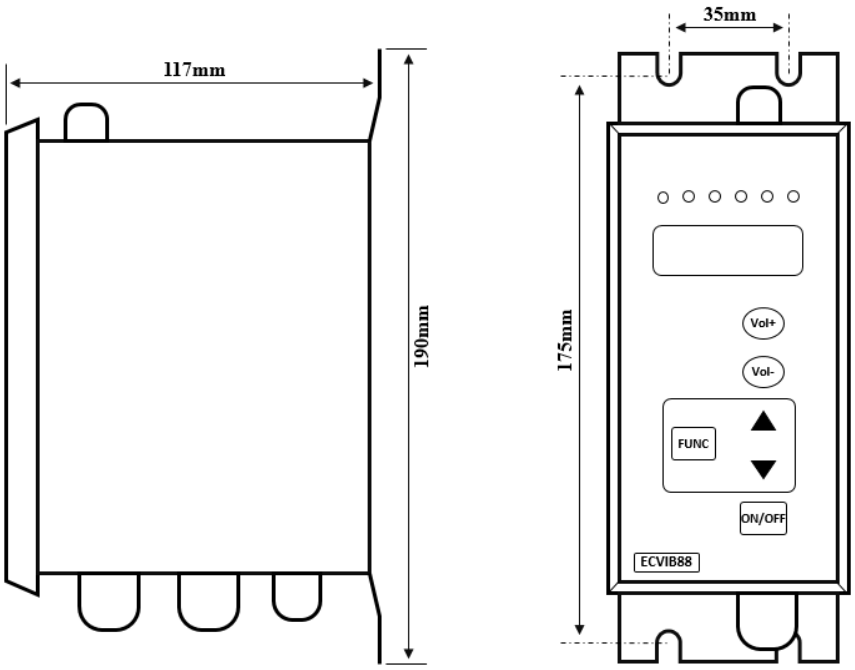
Vibrator Connection : Grey Colour, 3 Core Cable.

Remote-speed & Run/Stop : White Colour, 3 Core Cable.

Each cable is of length 1 feet.

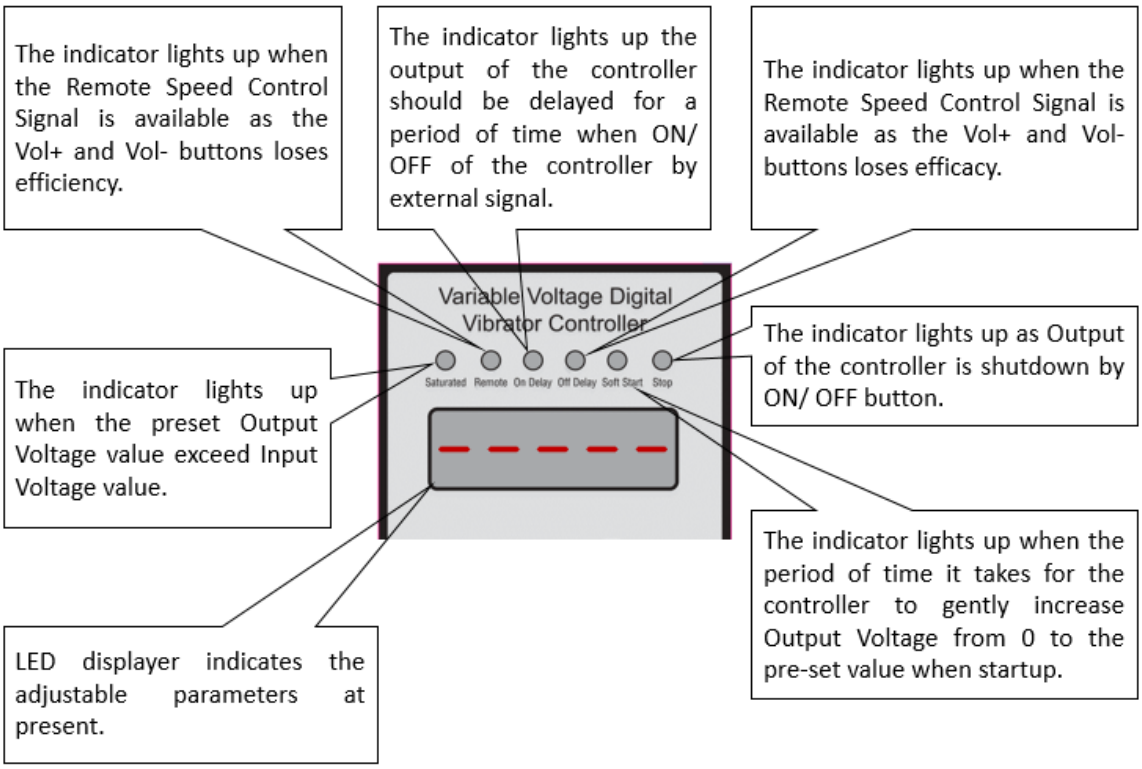
**By default, Vibrator is in RUN Mode, if Run/Stop Control wires are left open.
If Run/Stop Control wires are connected together, then Vibrator will enter STOP mode.

Dimensions:

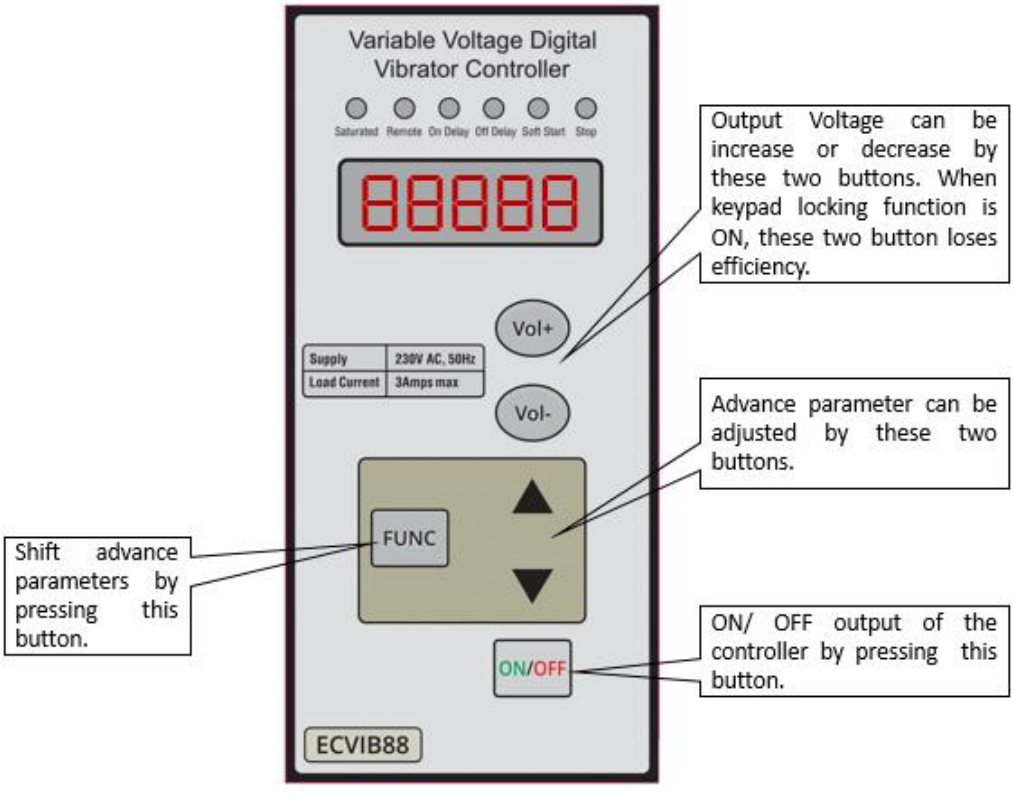


SIDE VIEW FRONT VIEW

DESCRIPTION OF STATUS INDICATORS:



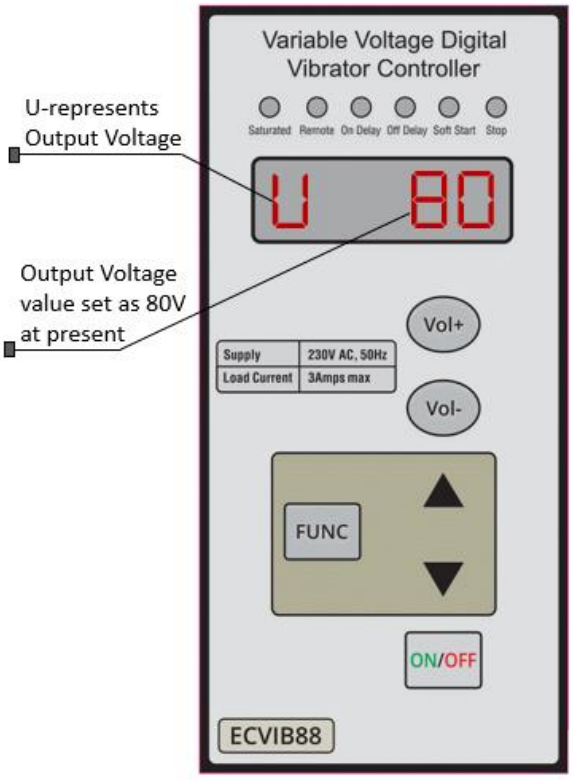
KEYBOARD DESCRIPTION:



FUNCTION DESCRIPTIONS:

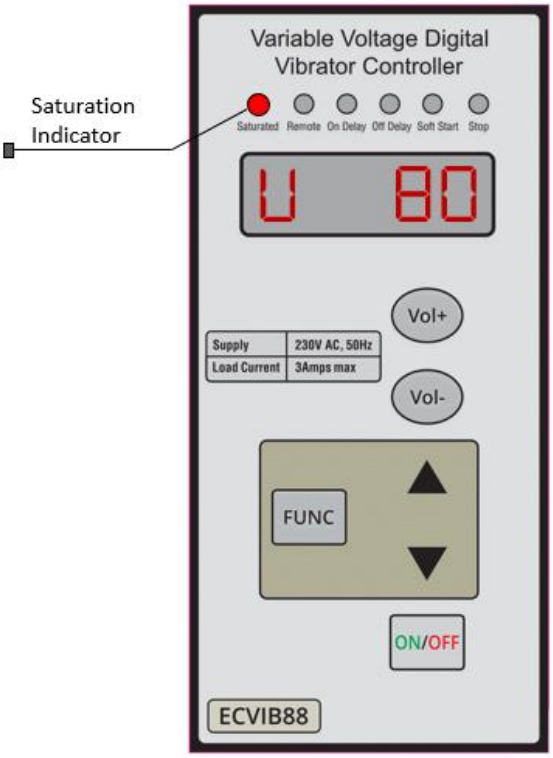
OUTPUT VOLTAGE:

- Turn on the power switch.
- The Output Voltage Indicator lights up as the controller enters Output Voltage Adjusting status when the LED displays the voltage symbol U and the previously set voltage value.
- Adjust the Output Voltage value by pressing the **Vol+** or **Vol-** button.



SATURATION INDICATOR:

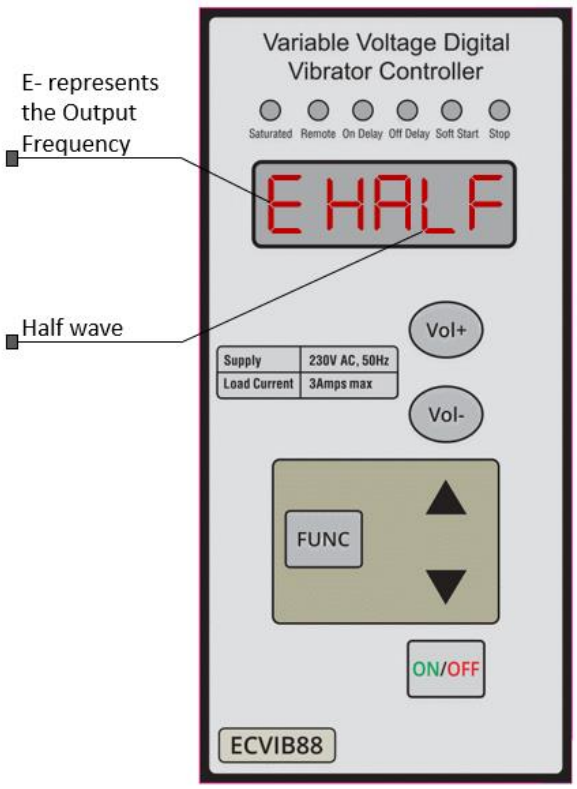
- Output Voltage value of the controller cannot exceed Input Voltage value. If Output Voltage value is set too close to Input Voltage value, the controller fails to stabilize its voltage output and the Saturation Indicator lights up.
- If Output Voltage value is set too close to zero, the controller fails to stabilize its voltage output and the Saturation Indicator lights up.



OUTPUT FERQUENCY:

The controller can choose to output frequency at the value of the mains' or the mains' double.

- Press the **FUNC** button for 2 seconds to enter the Basic Parameters Adjusting status.
- Press the **FUNC** button repeatedly until Shifting to the Output Frequency Adjusting status (E).
- Press the ▲ or ▼ button to adjust the parameter value.



NOTE:

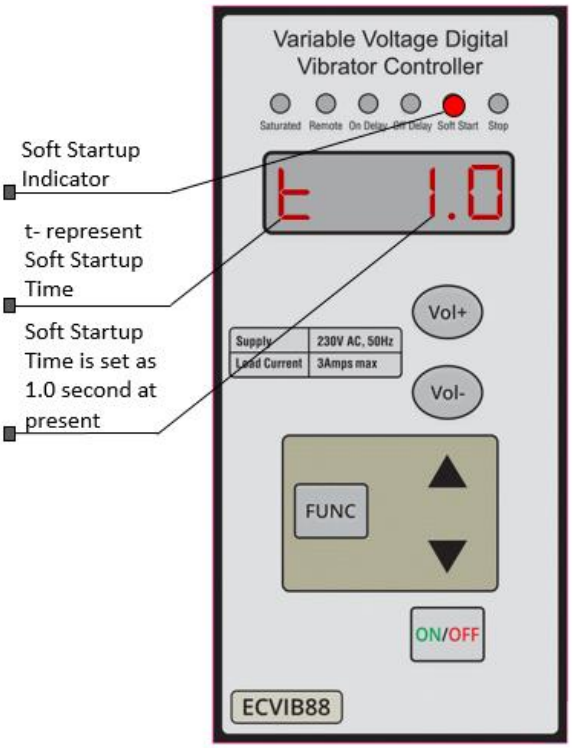
If the mains frequency is at 50 Hz, when the E parameter is adjusted to HALF, then Output Frequency of the controller is at 50 HZ. When the E parameter is adjusted to FULL, Output Frequency of the controller is at 100HZ.

SOFT STARTUP TIME SETTING:

In order to avoid sudden shock to the work pieces, the controller can gently increase Output Voltage from 0 to the pre-set value when startup.

Soft Startup Time (t): The period of time it takes for the controller to gently increase Output voltage from 0 to the pre-set value when startup.

- Press the **FUNC** button and hold for 2 seconds to enter the Basic Parameters Adjusting status.
- Press the **FUNC** button repeatedly until Shifting to the Soft Startup.
- Time adjusting status (t) as the Soft Startup Indicator lights up.
- Press the ▲ or ▼ button to adjust the parameter value. The parameter unit is second, and the numerical precision is 0.1.

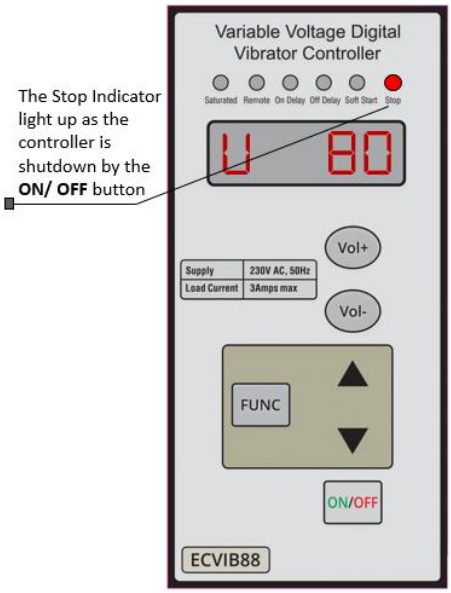


NOTE:
Adjustable Soft Startup Time ranges from 0.0 seconds to 9.9 seconds.
Default value of the Soft Startup Time parameters is 1 second.

OUTPUT SWITCH:

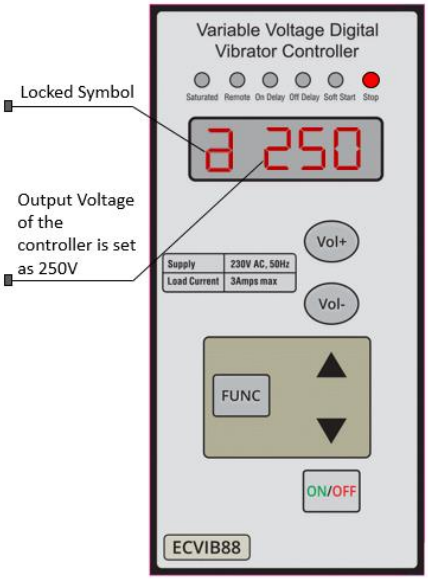
The soft-touch Output Switch Button on the panel can turn on/ off the controller's output quickly and easily.

- Press the **ON/ OFF** button to turn on/ off the controller's output. The Stop Indicator lights up as output of the controller is turned off.
- Due to the soft-touch switch and digital signal control technology, no spark will generate to spoil the contact. As a result, life-span of the controller and the vibrator will be extended greatly.



KEYPAD LOCKING:

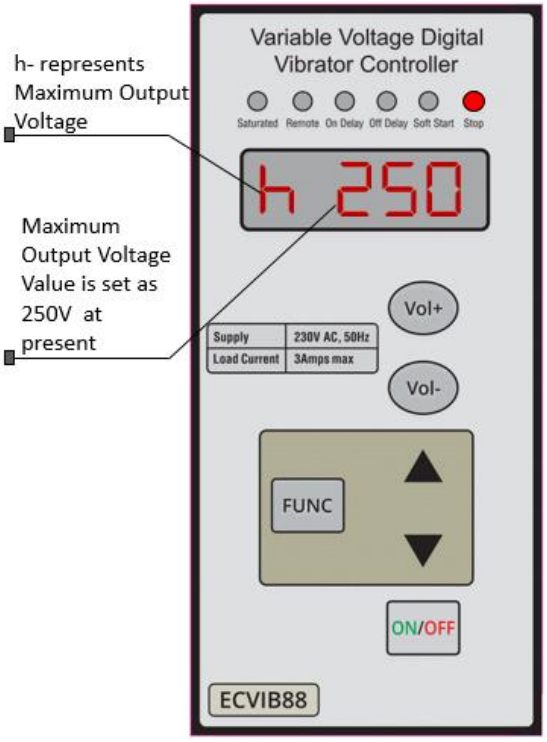
- Press the **ON/ OFF** button and hold for 2 seconds to lock all buttons on the panel as the LED display as
- Press the **ON/ OFF** button and hold for 2 seconds in the locking mode to unlock the keypad.
- The **ON/ OFF** will not be affected by keypad locking function.



MAXIMUM OUTPUT VOLTAGE RESTRICTION:

Maximum Output Voltage of the controller can be set to prevent damage to the vibrator. Remote Speed Control function is affected by this parameter.

- Press the **FUNC** and ▲ buttons simultaneously and hold for 2seconds to enter the Advance Parameters Adjusting status.
- Press the **FUNC** button repeatedly until Shifting to the Maximum Output Voltage Restriction status (h).
- Press the ▲ or ▼ button to adjust the parameter value.
- Default value of the Maximum Output Voltage is 250V.

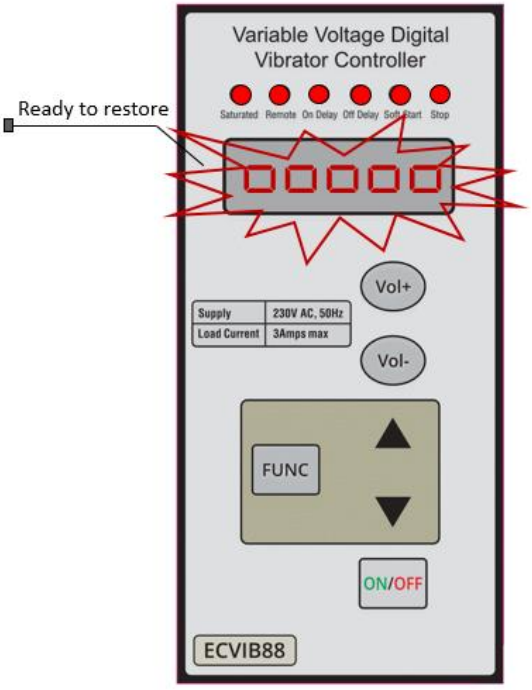


DEFAULT SETTING RESTORTION:

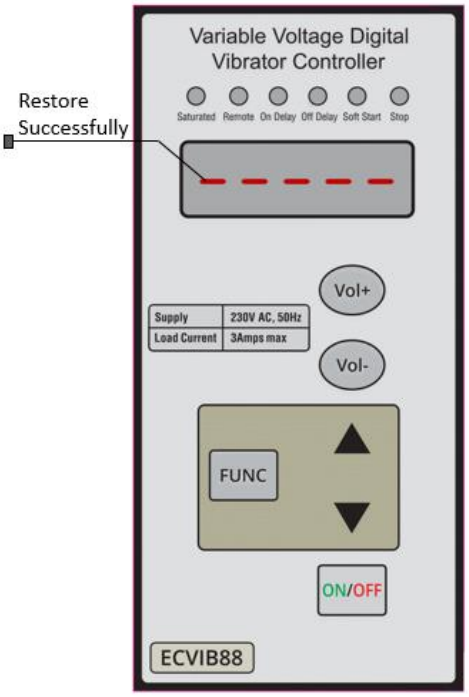
This function allows the operator to restore all default parameter settings.

Due to the abundant functions of the controller, many parameters can be adjusted. In order to avoid the circumstance that after too many times modifications by a beginner, the controller cannot work properly, this function allows the operator to restore default settings to the controller in an easy way.

Activate Factory Reset:



Factory Reset Successful:



- Press the **FUNC** and ▲ buttons simultaneously and hold for 2 seconds to enter the Advance Parameters Adjusting status.
- Press the **FUNC** button repeatedly until full screen is flashing, and then press the ▲ button and hold until "- - - - -" is displayed which means default settings have been restored.
- After releasing the ▲ button, the controller enters Output Voltage Adjusting status (U). By this time, all parameters have been restored to default values.

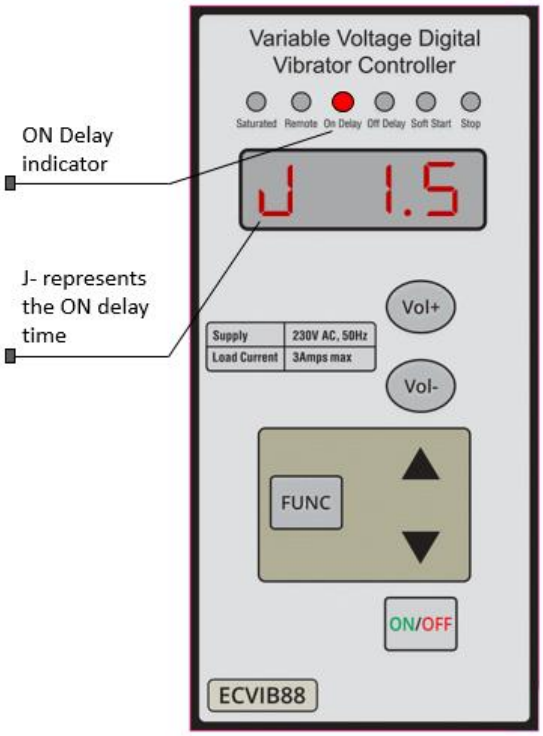
ON DELAY TIME and OFF DELAY TIME SETTINGS:

In most actual applications, the output of the controller should be delay for a period of time when ON or OFF delay of the controlled by external signals.
ON delay time and OFF delay time adjusting function made this kind of application possible. Furthermore, shocks to the work pieces as the controller starts up can be eliminated by adjusting Soft Startup time.

ON DELAY (J):

The period of time the controller goes through from receiving a startup control signal to outputting.

- Press the **FUNC** button and hold for 2 seconds to enter the Basic Parameters Adjusting status.
- Press the **FUNC** button repeatedly until Shifting to the ON Delay Time Adjusting status (J) as the ON Delay Indicator lights up.
- Adjust the parameter by pressing the ▲ or ▼ button. The parameter unit is second, and the numerical precision is 0.1.

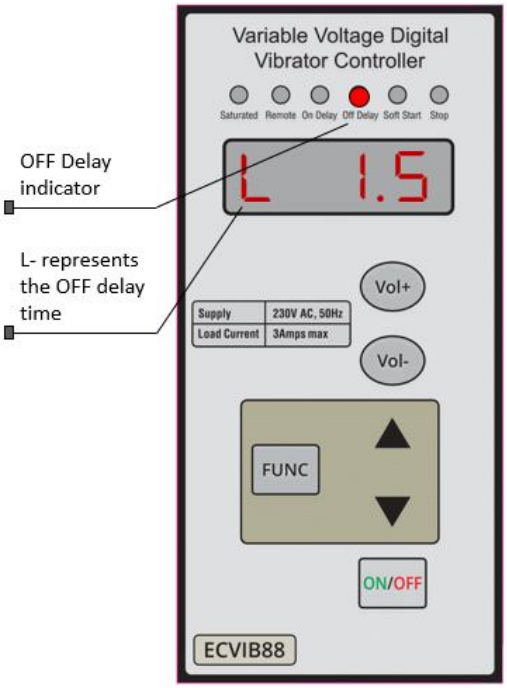


NOTE:
Adjustable On Delay Time ranges from 0.0 seconds to 9.9 seconds.
Default value of the Soft Startup Time parameters is 0.2 seconds.

OFF DELAY (L):

The period of time the controller goes through from receiving a shutdown control signal to cutting off output.

- Press the **FUNC** button and hold for 2 seconds to enter the Basic Parameters Adjusting status.
- Press the **FUNC** button repeatedly until Shifting to the OFF Delay Time adjusting status (L) as the OFF Delay Indicator lights up.
- Adjust the parameter by pressing the ▲ or ▼ button. The parameter unit is second, and the numerical precision is 0.1.



NOTE:

Adjustable Off Delay Time ranges from 0.0 seconds to 9.9 seconds.

Default value of the Soft Startup Time parameters is 0.2 seconds.

REMOTE SPEED CONTROL:

The function of Remote Speed Control allows the operator to control the Output Voltage by a control signal ranging from 0V to 10V. Thus, external remote speed control can be easily achieved by a PLC, a DCS or some other devices.

Remote Speed Control function becomes effective to the controller when the controlling signal exceeds 0.5V. Meanwhile, Remote Speed Control Indicator on the panel lights up and the **Vol+** and **Vol-** buttons lose effectiveness. The LED displayer shows current Output Voltage if the controller is running in the Output Voltage Adjusting status.

There are linear relationship between 0V-10V controlling voltage and 0-250V Output Voltage.

Connection Method of the PLC: