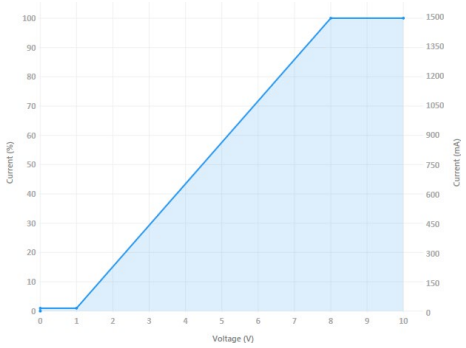
EVERset 0-10V Dimming Curves

Dimming Curves

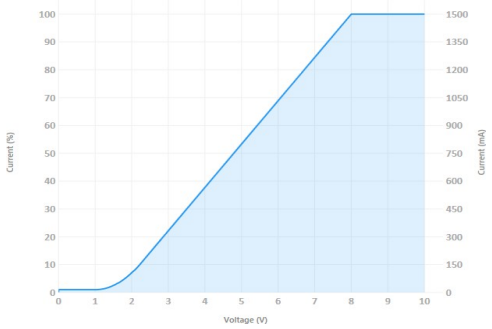
Everline LED Drivers can be configured to one of three base dimming curves: linear, linear soft start or logarithmic. The logarithmic dimming curve can be further configured by selecting an integer from 1 to 7 that is used as a factor in determining the slope of the logarithmic dimming curve.

Linear Curve: provides a linear slope from the maximum output current at the full bright control voltage to the minimum dim current at the minimum dim control voltage.



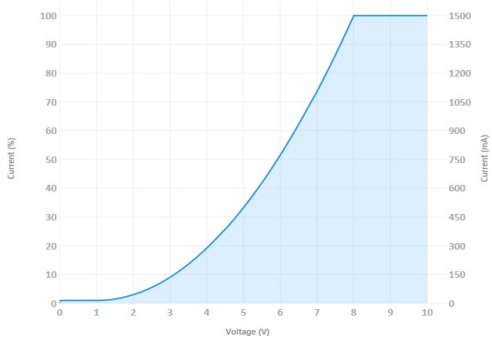
Linear Curve

Linear Soft Start Curve: provides a slow ramp up over the first 1.0V above the minimum dim control voltage, after which it is a linear curve up to the maximum output current at the full bright control voltage.



Linear Soft Start Curve

Logarithmic Curve: provides a logarithmic dimming curve based on the factor selected. A factor of 1 provides for a gentle slope from the minimum dim control voltage to the maximum control voltage. Increased factor values provide for a steeper curve, which allows for more precise control of the driver output near the minimum dimming current and less precise control near the maximum output current.



Logarithmic (1) Curve

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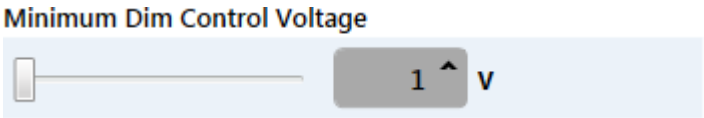
Control Voltages

The selected dimming curves can be further customized by configuring the full bright control voltage, minimum dim control voltage and the dim-to-off control voltage.

Full Bright Control Voltage: this is the control voltage level that is required for the driver to reach the maximum programmed output current. This control voltage can be set from 7.0Vdc to 9.0Vdc in 0.1Vdc increments. Many legacy fluorescent dimming ballasts and early LED drivers had a full bright control voltage of 8.0Vdc to ensure all luminaires could reach their full lumen output while allowing for variances in dimming controls.

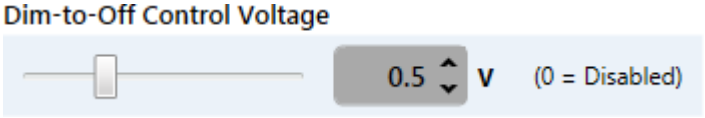
Full Bright Control Voltage slider in EVERset.

Minimum Dim Control Voltage: this is the control voltage level that is required for the driver to reach the programmed minimum dim current. This control voltage can be set from 1.0Vdc to 3.0Vdc in 0.1Vdc increments. Many legacy fluorescent dimming ballasts and early LED drivers had a minimum dim control voltage of 1.0Vdc to 1.5Vdc to ensure all luminaires could reach their minimum dimming level while allowing for variances in dimming controls.



Minimum Dim Control Voltage slider in EVERset.

Dim-to-Off Control Voltage: this is the control voltage level that is required for the driver to reduce the output current to 0mA while line voltage is still present to the driver. This is commonly referred to as standby mode. This control voltage can be set from 0.1Vdc to 1.7Vdc in 0.1Vdc increments when dim-to-off is enabled. A value of 0Vdc disables the dim-to-off functionality and the driver will not go into the standby mode. The dim-to-off functionality has 0.2Vdc of hysteresis designed in, so the driver requires a control signal of 0.2Vdc greater than the programmed dim-to-off control voltage to transition from standby mode to the minimum dim current. While the dim-to-off control voltage must be set at least 0.2Vdc less than the minimum dim control voltage, it is recommended to have 0.5Vdc between the dim-to-off and minimum dim control voltages.



Dim-to-Off Control Voltage slider in EVERset.

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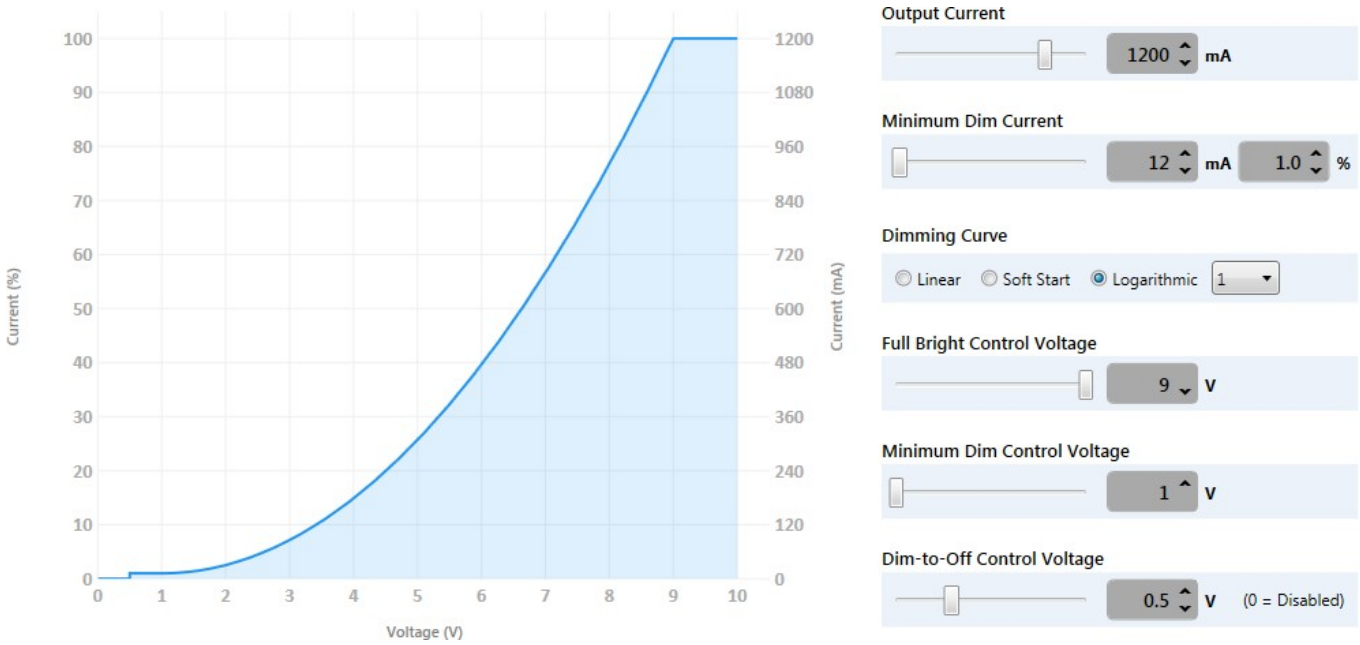
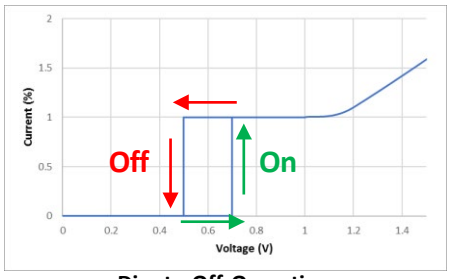
Example: D15CC55UNVPW-C configured through EVERset with the following parameters

Output Current: 1200mA
Minimum Dim Current: 12mA
Dimming Curve: Logarithmic with factor of 1
Full Bright Control Voltage: 9Vdc
Minimum Dim Control Voltage: 1Vdc
Dim-to-Off Control Voltage: 0.5Vdc



Dimming graph and slider values in EVERset.



Dim-to-Off Operation

Dim-to-Off Operation: in this example, the driver will dim down to the minimum dim current when the control voltage is 1.0Vdc. The driver will then go into standby mode when the control voltage is 0.5Vdc. The driver will remain in standby mode until the control voltage reaches 0.7Vdc when the driver will turn on to the minimum dim current. The driver will stay at minimum dim current until the control voltage increases beyond 1.0Vdc to begin increasing the output current or the control voltage decreases back to 0.5Vdc to return to standby mode.