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[U.S. Patent No. 11,297,697](#) entitled “Light Modulating Control Method for Dimming Analog Constant Current LED Driver” issued April 5, 2022 to Universal Lighting Technologies, Inc. of Madison, Alabama. Invented by Wei Xiong and Travis L. Berry also of Madison, Alabama. **Abstract:** An LED driver for light modulation control includes a power converter circuit, a feedback circuit, a buffer circuit, an energy recovery circuit, and a controller. The power converter circuit is configured to provide an output current to an LED load coupled thereto. The feedback circuit is configured to generate an error signal which is fed back to the power converter circuit for maintaining the power converter circuit in a constant current output state. The buffer circuit is coupled to the LED load and configured for quick turn off of the LED load and for temporary storage of power. The energy recovery circuit is configured to reuse the power stored in the buffer circuit before relying on an external power source to power the controller and the feedback circuit. The controller is configured to control at least one aspect of each of the circuits of the LED driver.

[U.S. Patent No. 11,297,698](#) entitled “Constant Current Led Driver with Light Output Modulation” issued April 5, 2022 to Universal Lighting Technologies, Inc. of Madison, Alabama. Invented by Wei Xiong also of Madison, Alabama. **Abstract:** An LED driver for light modulation control includes a power converter circuit having a controller, a buffer circuit, and an energy recovery circuit. The controller is configured to selectively enable and disable both buffer control signals and gate drive signals depending on a sensed modulation control signal corresponding to a modulation-on stage and a modulation-off stage. In the modulation-on stage, the buffer control signals are enabled and the gate drive signals are disabled. In the modulation-off stage, the buffer control signals are disabled and the gate drive signals are enabled. The buffer circuit is configured for quick turn off of an LED load and for temporary storage of power from an output capacitor. The energy recovery circuit is configured to reuse the power stored in the buffer circuit before relying on an external power source to power the controller.