

April 6, 2020

Overdrive equipment distributors,

Hope this finds you, your family and business safe from this coronavirus. Our Virginia office is open but our New Jersey warehouse is shipping only 1-2 times weekly. We hope that changes very quickly! I would like to update you on an important issue of LED lamp and control incompatibility.

Overdrive, due to distributors like you, has risen to the position of one of the leading manufacturers supplying LED products to the poultry industry. The Overdrive directional LED lamps are designed with light distributions that are quite different from our competition. We do supply other lamp models but these directional lamps are our most purchased models. We were the first to offer a 5 year warranty, understanding the harshness of the poultry house environment! We have been involved in continual field testing where university researchers and other knowledgeable authorities compared our floor foot-candles, lighting uniformity, dimming capabilities, life cycles, lumen depreciation, and other engineering performance stats with our competition, and we have always compared very well. To improve further on our lamps' engineering stats, especially dimming levels and lamp life, we designed our own 2-channel, MOSFET, trailing-edge electronic dimmer to allow our Overdrive LEDs to operate at their highest potential. Our trailing-edge dimmers have been well received.

Approximately 9 months ago, we heard from a distributor that one of their grower customers was experiencing excessive lumen depreciation. This depreciation was much higher than the normal 5% per year. Over the next few months, several other growers had the same experience, and we began a dedicated field testing regime. These tests basically looked into keyless fixtures, neutral wiring, proper grounding, controllers and their compatibilities. Initial results were inconclusive. About 4 months ago, a distributor called us to say that they had noticed that all of their jobs experiencing these unique problems were using a particular dimmer. We have accelerated our Overdrive lab testing, have used and consulted with an independent international test group (Intertek Testing Labs), had university engineers repeat testing using full poultry house equipment, and lastly, consulted with an independent LED researcher. All of the data, field testing, research, etc. point to the conclusion that dimmers using a leading-edge design technology are NOT (long-term) compatible with some LED poultry lamps, and this is the case with Overdrive's LED poultry lamps. Let us make clear ... we are NOT saying that this is the only problem, but that it has been proven and verified to be a problem and potentially a large source of the lumen depreciation and shorter life lamp issues observed. We have examined many published articles (most of these are openly found on the internet) whereby LED designers and other LED experts document the effects of leading-edge technologies and their problems. There are frequent compatibility issues with these leading-edge dimmer models when used to control LED lighting.

We are coordinating tests with poultry industry and university leaders to openly verify our findings. This way, it will not be our word against others, but actual testing results. This further testing will be coordinated after some of the coronavirus quarantines are removed.

This dimmer/lamp incompatibility is creating serious issues and our lamps are receiving the full blame, while we and you are left to handle the issues! Now ... better understanding the issues ... Overdrive will continue to stand behind our warranty! We made that commitment and we'll honor it! As a final comment ... the LED industry offers a fantastic product for poultry applications, but continually are making design improvements in dimming, efficacy, and other design features.

All dimmers/controllers must keep up with LED advancements, but have not. Herein lies the problem. Moving forward, we <u>strongly recommend</u> that Overdrive LED poultry lamps NOT be controlled with the category of dimmers described as leading-edge, forward-phase, and/or triac. Thank you for your attention to this issue.