

GRE Alpha Linear Lighting Pro, XLAV Series Drivers
versus
Traditional Magnetic Transformer for LED Lighting

	LED Magnetic Transformers	GRE Alpha XLAV Series	Comments
Line & Load Regulation	Poor at 10% typical	Excellent at 5% max	<p>Tighter line and load regulation ensures consistent light intensity, with varying AC line voltages and differences in LED VF and LED current requirements, and also ensures stable DC voltage to secondary side control/auxiliary devices, such as RGB controllers.</p> <p>Our GRE Alpha driver eliminates the need for boost strap wires to boost voltage drops in the Driver/LED circuit, as is required in a magnetic transformer</p>
Dimming Performance	Moderate. May produce certain LED flicker or flutter	Excellent. 0-100% flicker-free dimming	The GRE Alpha driver provides electronically regulated output voltage, which enables much better, flicker- and flutter-free dimming as it electronically tracks the AC input dimming signal
Dimmer Compatibility	Moderate. Required MLV type dimmers only	High. Can be used with many incandescent dimmers, and with Leading edge and Trailing edge dimmers	<p>GRE Alpha drivers can be used with both Triac/ELV type dimmers and has a wide dimmer compatibility.</p> <p>Magnetic transformers cannot be used with incandescent type dimmers and must only be used with MLV type dimmers</p>
Output DC ripple	High at 100%. No filtering	Low at 5%	<p>Low ripple output reduces LED stress, ensures consistent LED brightness and reduced LED heating.</p> <p>Also is critical to sensitive DC side control/aux devices, such as RGB controllers</p>
Overcurrent/Short circuit protection	Circuit Breaker. Needs user to reset	Hiccup/Auto Recovery	Auto recovery protection enables the driver to continue normal operation after a fault is removed, without having to be manually reset by the user
Overvoltage Protection	No Protection	Hiccup/Auto Recovery Protection	Overvoltage protection, with auto recovery, is important to protect the LED load from overvoltage conditions, as caused by external electronic devices or AC line voltage increases beyond normal ratings
Surge Protection	No Protection	Full Input Surge Protection	AC line transients can damage LED loads and Electronic Auxiliary Devices, by delivering high energy transients for which mechanical breakers used in magnetic transformers cannot sense or provide protection

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Thermal Protection	No Protection	Shutdown/Auto Recover Protection	<p>Thermal runaway can destroy the transformer and its load, if there is no protection.</p> <p>The GRE Alpha LED electronic drivers provide internal thermal protection, which enable the output to shutdown, during a thermal increase beyond its internal component ratings, ensuring protection to the driver and its load</p>
Power Factor	Moderate at 0.85 or lower	High at 0.9 or higher	<p>Our GRE Alpha driver provides high PF, which provides low THD (< 20%).</p> <p>This ensures compliance to Energy Star standards, and reduces harmonic distortion injection back into the AC line.</p> <p>It also reduces or eliminates AC line/facility branch circuit breaker nuisance tripping from high harmonics content, and from increased RMS AC input currents.</p> <p>Increased Harmonics and input RMS AC current may not be inherent to a magnetic transformer itself, but it can be caused by adding DC side filter capacitors and DC side auxiliary devices, of which magnetic transformers cannot control.</p> <p>Our GRE Alpha drivers provide a high PF to address this</p>
UL Listing & Class 2	Yes, in most Magnetic Transformers	Yes	<p>GRE Alpha drivers have been tested and certified to conform to UL Class 2, but are also available in non-class 2 for certain application specific requirements</p>
Standalone Housing with AC/DC wiring compartments	Yes, in some Magnetic Transformers, but with reduced AC wiring compartment space	Yes	<p>Our GRE Alpha driver, –SSB suffix UL listed version offers a patented AC and DC wire compartments for ease of installation.</p> <p>Plenty of compartment space is available for wiring and daisy chaining multiple drivers, as well as for DC side Auxiliary device wiring and placement</p>