APMS150C105UD LED Drivers

Replacement BU Voltage driver for use on the following Appleton™ LED Luminaires: 13,500 and 17,500 Lumen Mercmaster™ LED Generation 3 and Industrial Mercmaster LED Generation 3; , 15,000 and 19,500 Lumen Areamaster™ Generation 2 LED and Industrial Areamaster Generation 2 LED; 30,000 and 38,000 Lumen Areamaster Generation 2 HL LED and Industrial Areamaster Generation 2 HL LED; 15,000 and 19,500 Lumen Baymaster™ LED and Industrial Baymaster™ LED; 30,000 and 38,000 Lumen Baymaster HL LED Industrial Baymaster HL LED; 13,600, 16,700 and 19,300 Lumen Code•Master™ LED

Features

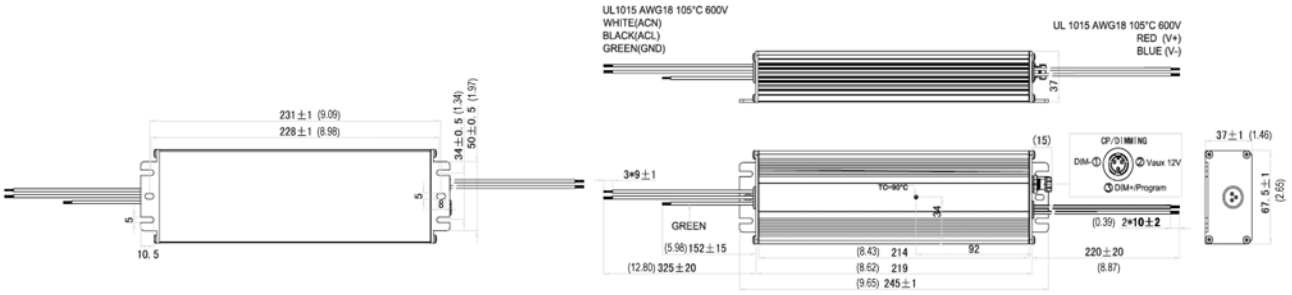
- Input voltage: 90–305 Vac
- Built-in active PFC function 0.98 typ.
- High efficiency: up to 92% typ.
- Built-in lightning protection
- Three dimming in one operation modes (0–10 V dimming / clock dimming (CLK) / PWM dimming)
- Protection: OVP, SCP, OTP
- Full power at 65% Io max ~ 100% Io max (constant power)
- IP67 design for indoor or outdoor installations

NEC/CEC Compliances

- UL8750, UL1012, EN61347-1
- EN61347-2-13, EN60598-1, EN62384

Output Current	Input Voltage	Max. Output Power	Typical Efficiency	Typical Power Factor	Used in BU Luminaire Models	Part Number
650 mA	90-305 Vac / 125-300 Vdc	150 W	90%	0.98	AMLGL7W, AMLHL2W, BLLL7W, BLLPL7W, BHLL2W, BHLPL2W, CMLED40	**APMS150C105UD65**
680 mA	90-305 Vac / 125-300 Vdc	150 W	90%	0.98	AMLGL7C, AMLGL7N, AMLHL2C, AMLHL2N, BLLL7C / BLLPL7C, BLLL7N / BLLPL7N, BHLL2C / BHLPL2C, BHLL2N / BHLPL2N	**APMS150C105UD68**
720 mA	90-305 Vac / 125-300 Vdc	150 W	90%	0.98	MLGH3	**APMS150C105UD72**
820 mA	90-305 Vac / 125-300 Vdc	150 W	90%	0.98	CMLED75	**APMS150C105UD82**
890 mA	90-305 Vac / 125-300 Vdc	150 W	90%	0.98	AMLGL8W, AMLHL3W, BLLL8W, BLLPL8W, BHLL3W, BHLPL3W	**APMS150C105UD89**
900 mA	90-305 Vac / 125-300 Vdc	150 W	90%	0.98	MLGH6	**APMS150C105UD90**
915 mA	90-305 Vac / 125-300 Vdc	150 W	90%	0.98	AMLHL3C, AMLHL3N, BHLL3C / BHLPL3C, BHLL3N / BHLPL3N	**APMS150C105UD91**
930 mA	90-305 Vac / 125-300 Vdc	150 W	90%	0.98	AMLGL8C, AMLGL8N, BLLL8C / BLLPL8C, BLLL8N / BLLPL8N	**APMS150C105UD93**
980 mA	90-305 Vac / 125-300 Vdc	150 W	90%	0.98	CMLED90	**APMS150C105UD98**

Dimensions in Millimeters (Inches)



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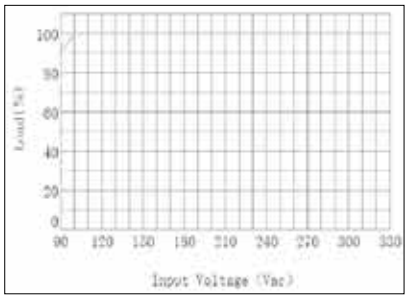
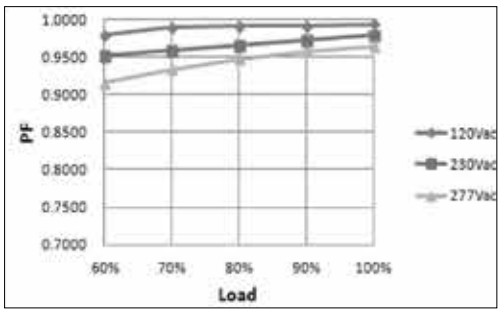
Diagrams

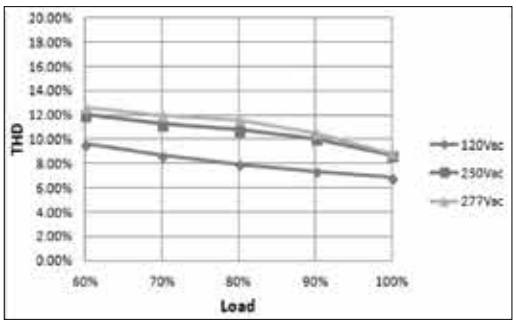
Derating Curve



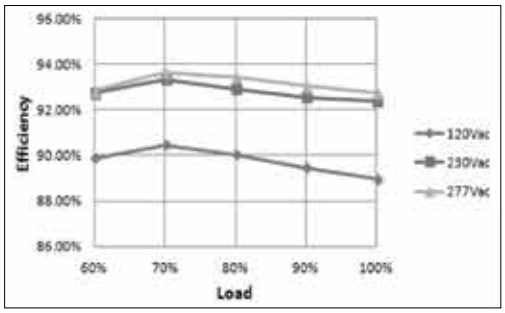
Power Factor vs. Load Curve



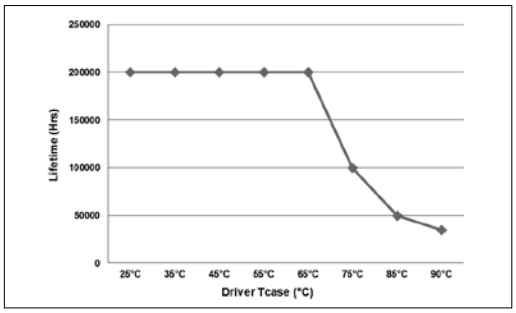
THD Curve



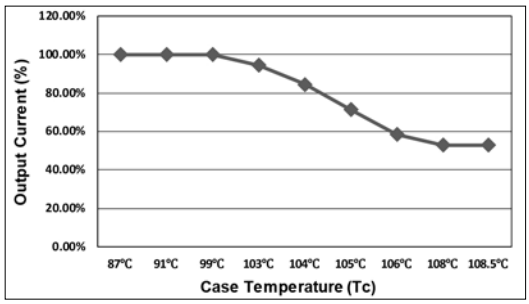
Efficiency vs. Load Curve



Lifetime vs. Driver Tcase



OTP



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Specifications

Input	Efficiency (120 Vac) (Typ.)	89.0%
	Efficiency (230 Vac) (Typ.)	92.0%
	Voltage Range (V)	90–305 Vac, 125-300 Vdc (min.-max.)
	Frequency Range (Hz)	47 ~ 63
	Power Factor (Typ.)	>0.95 with 100% load,at 100 Vac–277 Vac 0.90 (Typ.) with 60% ~ 100% load, at 100 Vac–277 Vac, 60 Hz
	THD (Typ.)	<15% at 220 Vac input 50 Hz,80% ~ 100% load <20% at 100 Vac - 277 Vac, 60 Hz input, 60% ~ 100% load
	AC Current (Typ.)	1.8 A at 100 Vac input, 0.9 A at 230 Vac
	Inrush Current (Max.)	65 A at 230 Vac input +25 °C (+77 °F) Cold Start (time wide=500 uS, measured at 50% Ipeak
	Leakage Current (Max.)	0.75 mA at 277 Vac, 60 Hz input
Output	Voltage Range (V) ③	214–86
	Output Current Range (mA)	70–1050
	Rated Power (W)	150 (max.)
	Output Current Settable Range	0.45 to 1.05 A dc
	Constant Power Output Set	65% Io_max ~ 100% Io_max
	Ripple & Noise Current (Typ.)	10% max. ((PK-AV) / AV), full load)
	Current Tolerance (Imax)	±5%
	Line Regulation (Imax)	±3%
	Load Regulation (Imax)	±5%
	Turn On Delay Time	<1.2s, at 120 Vac; <1s, at 277 Vac
Dimming Control	12 Vdc Output Voltage (Vdc)	10.8 V min. ~ 13.2 V max.
	12 Vdc Output Current (mA)	0 mA ~ 20 mA max.
	0 ~ 10V / DMI+ Voltage	Absolute maximum voltage -10 V min ~ 20 V max
	0 ~ 10V / DMI+ Short Current	280 uA ~ 450 uA (DIM(+)=0)
	Dimming Function	Default is 0–10 V dimming mode; others dimming ways like PWM / CLK. Dimming can set by software configuration
Protection	Over Voltage (V)	280 V max. No damage. The power supply shall be self-recovery when the fault is removed.
	Short Circuit	Protection type: Constant current limiting.
	Over Temperature	Decreases output current,returning to normal after over temperature is removed. (See OTP plot.)

① All parameters NOT specially mentioned are measured at 230 Vac input, rated load and +25 °C (+77 °F) of ambient temperature.
② Measured at full load and steady-state temperature in +25 °C (+77 °F) ambient (Efficiency will be about 2% lower if measured immediately after startup).
③ Refer to V/I curve.

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Specifications

Environment	Operating Humidity	20 ~ 95% RH, non-condensing
	Tc	-40 ~ +90 °C (-40 ~ +194 °F) (max.)
	Storage Temp., Humidity	-40 ~ +85 °C (-40 ~ +185 °F), 10–95% RH
	Vibration	10–500 Hz, 5G 12 min./cycle, period for 72 min. each along X, Y, Z axes
Safety & EMC	Safety Standard	UL8750, UL1012, EN61347-1, EN61347-2-13, EN60598-1, EN62384
	Withstand Voltage	I / P-O / P:3.75K Vac I / P-FG:1.875KV O / P-FG:1.5KV
	Isolation Resistance	I / P-O / P, I / P-FG, O / P-FG:100M Ohms / 500 Vdc / +25 °C (+77 °F) / 70%RH
	EMC Emission	EN55015/FCC Part 15 Class B, EN61000-3-2 Class C, EN61000-3-3
	EMC Immunity	EN61000-4-2,3,4,5,6,8,11, EN61000-4-5: Line to Neutral: ±6 kV ; Line to GND: ±6 kV; Neutral to GND: ±6 kV. IEEE/ANSI C62.41.2Transient Surge Requirements, combi wave 2 ohm source impedance.
Others	MTBF	300,000 Hours,measured at full load, +25 °C (+77 °F) ambient temperature
	Lifetime	Refer to plot.
	Dimension	221 x 67.5 x 40 mm (L x W x H); (8.70 x 2.66 x 1.46 inches)
	Weight	1550 g (2.31 lb)

① All parameters NOT specially mentioned are measured at 230 Vac input, rated load and +25 °C (+77 °F) of ambient temperature.

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