APMS100C105HD LED Drivers

Replacement BH Voltage driver for use on the following Appleton™ LED Luminaires: 7500, 9,500, and 11,500 Lumen Mercmaster™ LED Generation 3 and Industrial Mercmaster LED Generation 3; 9500 Lumen Areamaster™ Generation 2 LED and Industrial Areamaster Generation 2 LED; 2400 Lumen Areamaster Generation 2 HL LED and Industrial Areamaster™ Generation 2 HL LED; 9500 Lumen Baymaster™ LED and Industrial Baymaster LED; 2400 Lumen Baymaster HL LED and Industrial Baymaster HL LED; 7900, 10,000, 11,600 Lumen Code•Master™ LED

Features

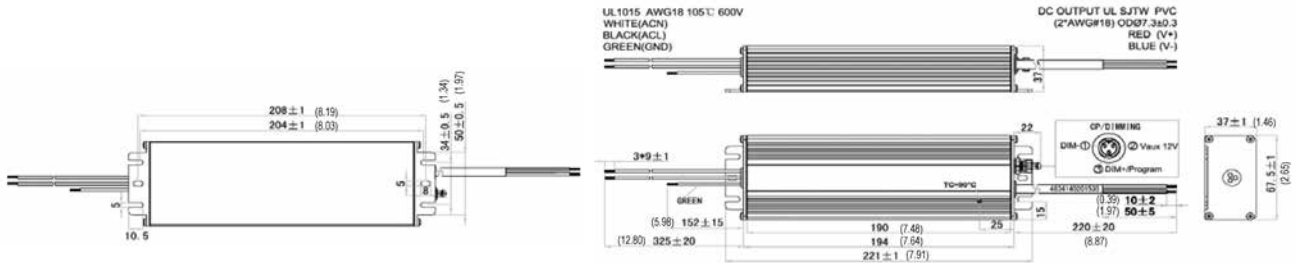
- Input voltage: 347-480 Vac
- Built-in active PFC function: 0.98 Typ.
- Built-in Lightning protection.
- High efficiency: 87% Typ.
- Waterproof (IP66)
- Constant Current / 0-10V Dimming
- Clock Dimming (CLK) / PWM Dimming
- Protection: OVP, SCP, OTP
- Full Power at 65% Io max ~ 100% Io max (Constant Power)
- UL Type HL

NEC/CEC Compliances

- UL8750, UL1310
- CSA 250.13

Output Current	Input Voltage	Max. Output Power	Typical Efficiency	Typical Power Factor	Used in BH Luminaire Models	Part Number
360 mA	347-480 Vac	100 W	90%	0.98	MLGL7	**APMS100C105HD36**
370 mA	347-480 Vac	100 W	90%	0.98	CMLED17	**APMS100C105HD37**
410 mA	347-480 Vac	100 W	90%	0.98	AMLGL6C, AMLGL6N, AMLGL6W, BLLL6C / BLLPL6C, BLLL6N / BLLPL6N, BLLL6W / BLLPL6W	**APMS100C105HD41**
480 mA	347-480 Vac	100 W	90%	0.98	MLGL9, MLGH9 CMLED25	**APMS100C105HD48**
530 mA	347-480 Vac	100 W	90%	0.98	AMLHL1C, AMLHL1N, AMLHL1W BHLL1C / BHLPL1C, BHLL1N / BHLPL1N, BHLL1W / BHLPL1W	**APMS100C105HD53**
570 mA	347-480 Vac	100 W	90%	0.98	CMLED35	**APMS100C105HD57**
595 mA	347-480 Vac	100 W	90%	0.98	MLGH1	**APMS100C105HD59**

Dimensions in Millimeters (Inches)



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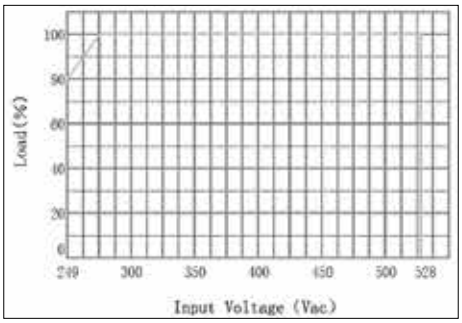
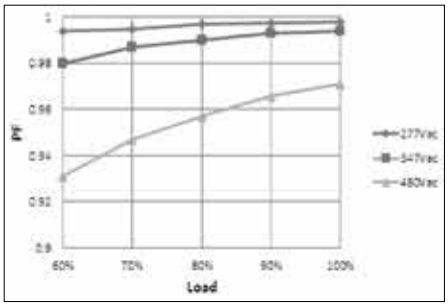
Diagrams

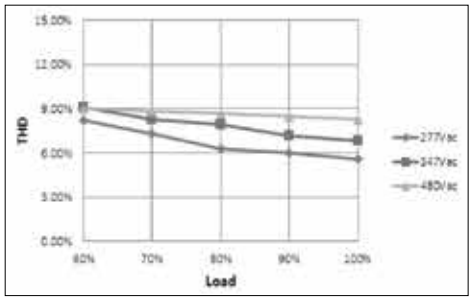
Derating Curve



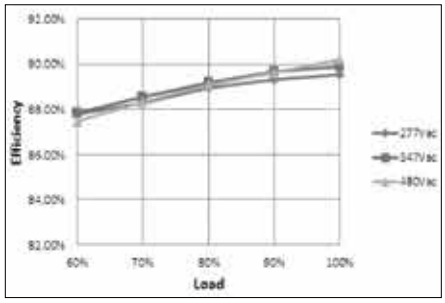
Power Factor vs. Load Curve



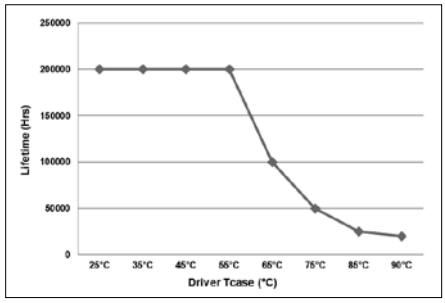
THD Curve



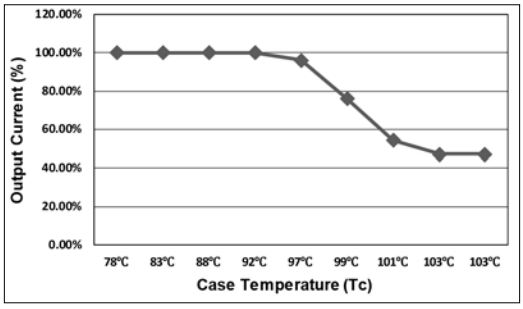
Efficiency vs. Load Curve



Lifetime vs. Driver Tcase



OTP



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Specifications ①

Input	Efficiency (277 Vac) ②	88% (Typical), >86% at full load
	Efficiency (480 Vac) ②	90% (Typical), >88% at full load
	Voltage Range (V), ①	249–528 Vac
	Frequency Range (Hz)	47 ~ 63
	Power Factor	0.96 (Typical), 0.94 (minimum) at 480 Vac >0.9 with 50% ~ 100% load, at 277 ~ 480 Vac
	THD	<15% with 80% ~ 100% load, at 277 ~ 480 Vac <20% with 60% ~ 100% load, at 277 ~ 480 Vac
	AC Current (Max.)	0.5 A max. at 277 Vac
	Inrush Current (Max.)	65 A at 480 Vac input +25 °C (+77 °F) Cold Start (time wide=500 uS, measured at 50% Ipeak)
	Leakage Current (Max.)	0.75 mA at 480 Vac, 50 Hz
Output	Output Voltage Range (V)	150–57
	Output Current Range (mA)	70–1050
	Output Current Settable Range	0.45-1.05 A dc
	Rated Power (W)	100 (max.)
	Constant Power Output Set Range	65% Io_max ~ 100% Io_max
	Ripple Current	<10% [(PK-AV) / AV] full load
	Current Tolerance	5%
	Line Regulation	3%
	Load Regulation	5%
	Turn On Delay Time	2s (typ.), measured at 277 Vac input
Dimming Control	12 Vdc Output Voltage (Vdc)	10.8 V min. ~ 12 V typ. ~ 13.2 V max.
	12 Vdc Output Current (Vdc)	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	0 ~ 10 V / 10% Io ~ 100% Io
Protection	Over Voltage (V)	<250 V Protection type: Voltage limiting output will not exceed the upper limit voltage, recovers automatically after fault condition is removed.
	Short Circuit	Protection type: Hiccup mode. Recovers automatically after short is removed.
	Over Temperature	Protection type: Decrease output current. When Tc reaches +100 °C + / - 10 ° (+212 °F + / - 10 °), the output current decrease to approximate 50% of rated value. (See OTP plot.)

① All parameters NOT specially mentioned are measured at 480 Vac input, rated load and +125 °C (+257 °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).

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Specifications ①

Environment	Operating Humidity	20 ~ 95% RH non-condensing
	Storage Temp., Humidity	-40 ~ +85 °C (-40 ~ +185 °F), 10-95% RH
	Tc	-40 ~ +90 °C (-40 ~ +194 °F) max.
	Vibration	10-500 Hz,5G 12 min/cycle, period for 72 min. each along X, Y, Z axes
Environment	Operating Humidity	20 ~ 95% RH non-condensing
	Storage Temp., Humidity	-40 ~ +85 °C (-40 ~ +185 °F), 10-95% RH
	Tc	-40 ~ +90 °C (-40 ~ +194 °F) max.
	Vibration	10-500 Hz,5G 12 min/cycle, period for 72 min. each along X, Y, Z axes
Safety & EMC	Safety Standard	UL8750, UL1012, CSA 250.13
	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:100M Ohms (500 Vdc / +25 °C [+77 °F]70%RH)
	EMC Emission	Conducted Emission: FCC PART 15 Class A Radiated Emission: FCC PART 15 Class A
	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 C62.41.2 Transient Surge Requirements, combi wave 2 ohm source impedance.
Others	MTBF	300,000 hours, measured at full load, +25 °C (+77 °F) TC ambient temperature MIL-HDBK-217F (+25 °C [+77 °F])
	Lifetime	Refer to plot.
	Dimension	221 x 67.5 x 37 mm (L x W x H); (8.70 x 2.66 x 1.46 inches)
	Weight (Typ.)	940 g (2.07 lb)

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