

APMS050C135UD LED Drivers

Replacement BU Voltage driver for use on Appleton™ 2K, 3K and 4K Lumen Mercmaster™ LED Low Profile, 2K, 3K and 4K Lumen Industrial Mercmaster LED Low Profile, 3500 and 5500 Lumen Mercmaster LED Generation 3, and 3500 and 5500 Lumen Industrial Mercmaster LED Generation 3, LED Rigmaster,™ LED Industrial Rigmaster, LED Explosionproof Rigmaster and ATX™ FNLED.

Features

- Input voltage: 90-305 Vac
- Built-in active PFC function: 0.99 Typ.
- High efficiency: 87% Typ.
- Waterproof (IP66)
- Constant current/ 0-10V dimming/ clock dimming(CLK)/ PWM dimming
- Full power at 65%Io max ~ 100%Io max (constant power)
- High surge immunity

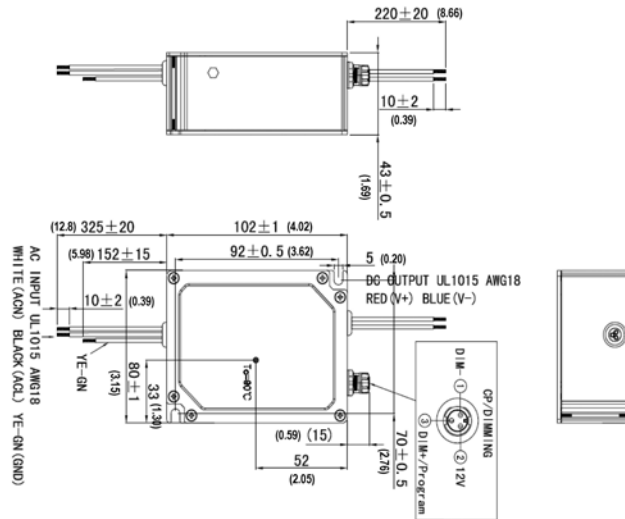


NEC/CEC Compliances

- UL8750, UL1310
- EN61347-1, EN61347-2-13

Output Current	Input Voltage	Max. Output Power	Typical Efficiency	Typical Power Factor	Used in BU Luminaire Models	Part Number
415 mA	90-305 Vac 125-300 Vdc	50 W	86%	0.98	MLLED2 (Emergency)	APMS050C135UD41
500 mA	90-305 Vac 125-300 Vdc	50 W	86%	0.98	MLGL3	APMS050C135UD50
550 mA	90-305 Vac 125-300 Vdc	50 W	86%	0.98	MLLED3 (Emergency)	APMS050C135UD55
600 mA	90-305 Vac 125-300 Vdc	50 W	86%	0.98	RM*4, IRM*4, ERM*4	APM050C135UD060
690 mA	90-305 Vac 125-300 Vdc	50 W	86%	0.98	MLLED4 (Emergency)	APMS050C135UD69
720 mA	90-305 Vac 125-300 Vdc	50 W	86%	0.98	MLLED2	APMS050C135UD72
780 mA	90-305 Vac 125-300 Vdc	50 W	86%	0.98	MLGL5	APMS050C135UD78
1000 mA	90-305 Vac 125-300 Vdc	50 W	86%	0.98	MLLED3	APMS050C135UD10
1040 mA	90-305 Vac 125-300 Vdc	50 W	86%	0.98	RM*4, IRM*4, ERM*4	APM050C135UD104
1300 mA	90-305 Vac 125-300 Vdc	50 W	86%	0.98	MLLED4	APMS050C135UD13

Dimensions in Millimeters (Inches)

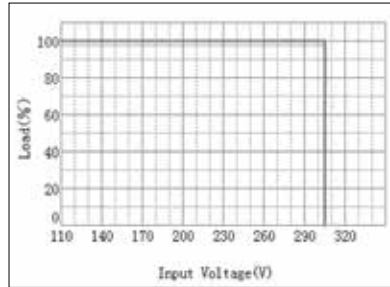


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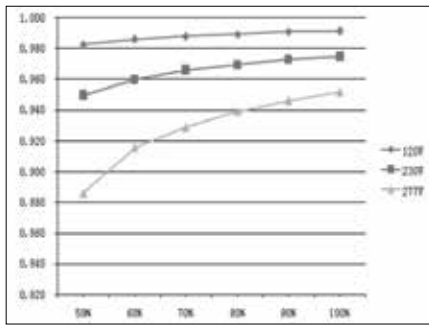
Replacement BU Voltage driver for use on Appleton™ 2K, 3K and 4K Lumen Mercmaster™ LED Low Profile, 2K, 3K and 4K Lumen Industrial Mercmaster LED Low Profile, 3500 and 5500 Lumen Mercmaster LED Generation 3, and 3500 and 5500 Lumen Industrial Mercmaster LED Generation 3, LED Rigmaster™, LED Industrial Rigmaster, LED Explosionproof Rigmaster and ATX™ FNLED.

Diagrams

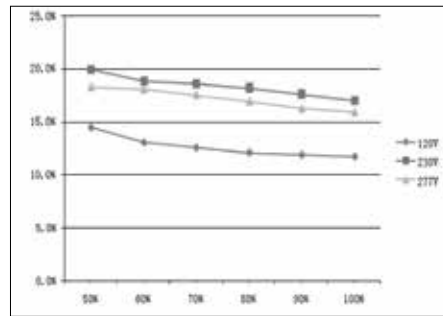
Derating Curve



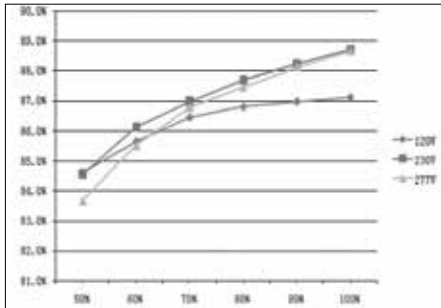
Power Factor vs. Load Curve



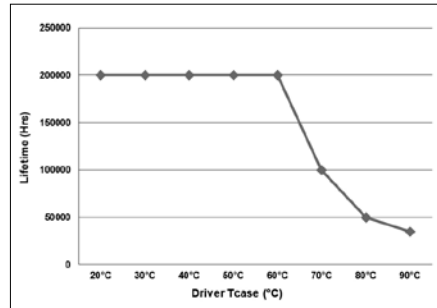
THD Curve



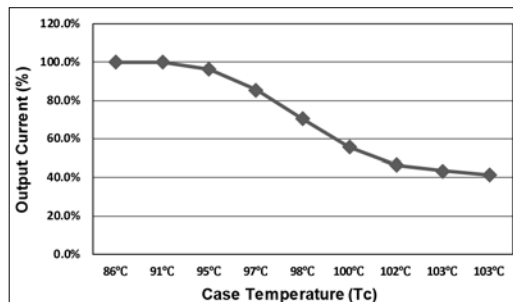
Efficiency vs. Load Curve



Lifetime vs. Driver Tcase



OTP



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Specifications ①		
Input	Efficiency (120 Vac) ②	86% (Typical), >84% @ full load
	Efficiency (230 Vac) ②	87% (Typical), >85% @ full load
	Voltage Range (V)	108 ~ 305 Vac
	Voltage Rated (V)	120 ~ 277 Vac, or 125-300 Vdc (min.-max.)
	Frequency Range (Hz)	47 ~ 63
	Power Factor	0.95 (Min.) at 120 ~ 230 Vac, with 100% load; 0.90 (Min.) at 120 ~ 277 Vac, with 60% ~ 100% load
	THD	20% (Max.) at 120 Vac ~ 277 Vac, with 60% ~ 100% load
	AC Current (Max.)	0.6 A at 120 Vac input, 0.35 A at 230 Vac
	Inrush Current (Max.)	65 A at 230 Vac input, +25 °C, Cold Start (time wide=500 uS, measured at 50% Ipeak)
	Leakage Current (Max.)	0.75 mA at 277 Vac/60 Hz
Output	Output Voltage Range (V)	56-22
	Output Current Range (mA)	90-1350
	Rated Power (W)	50
	Output Current Settable Range	0.45-1.35 A dc
	Constant Power Output Set Range	65%-100% of I _{o_max}
	Ripple Current	10% of I _{o_max} . ((PK-AV) /AV), full load)
	Current Tolerance	5%
	Line Regulation	1%
	Load Regulation	3%
	Turn On Delay Time	<1s, at 120 Vac; <0.5s, at 230 Vac
Dimming Control	12 Vdc Output Voltage (Vdc)	10.8-13.2
	12 Vdc Output Current (mA)	20 (Max.)
	0 ~ 10V/DIM+ Voltage	Absolute maximum voltage -10 V min ~ 20 V max
	0 ~ 10V/DIM+ Short Current	280 uA ~ 450 uA (DIM(+)=0)
	Dimming Function	Default is 0-10 V dimming mode. Other dimming ways like PWM/CLK dimming can be set by software configuration.

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Specifications ①

Protection	Over Voltage (V) (Typ.)	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 °C, the output current decrease to approximate 50% of rated value. (See OTP plot.)
Environment	Operating Humidity	20 ~ 95% RH
	Tc	-40 °C to +90 °C (max.)
	Storage Temp., Humidity	-40 ~ +85 °C, 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, UL1310, CAN/GSA-C22.2 No. 223-M91, IEC61347-1, IEC61347-2-13
	Withstand Voltage	I/P-O/P:3.75k Vac, I/P-FG:1.875k Vac, O/P-FG:1.5k Vac
	Isolation Resistance	I/P-O/P:100M Ohms (500VDC/25°C/70%RH)
	EMC Emission	FCC Part 15 Class A, EN55015, 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:±6kV; Line to GND:±6kV; Neutral to GND: ±6kV.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 ambient temperature
	Lifetime	100,000 Hours at Tc +70 °C (Refer to "Life Time VS. Tcase (Ref.)" Refer to plot.
	Dimension	102 x 80 x 43 (mm) (LxWxH); (4.02 x 3.15 x 1.69 inches)
	Weight (Typ.)	710 g (1.56 lb)

① All parameters NOT specially mentioned are measured at 230 Vac input, rated load and 25°C of ambient temperature

② Measured at full load and steady-state temperature in 25°C ambient (Efficiency will be about 2% lower if measured immediately after startup)