

APMZ100C090UD LED Drivers

Replacement BU Voltage driver for use on the following Appleton™ LED Luminaires: 7500, 9,500, and 11,500 Lumen Mercmaster™ LED Generation 3 Zone 1 Luminaire; 9K Lumen Areamaster™ Generation 2 LED Zone 1 Luminaire; 23K Lumen Areamaster™ Generation 2 HL LED Zone 1 Luminaire; 9K Lumen Baymaster™ LED Zone 1 Luminaire; 23K Lumen Baymaster™ HL LED Zone 1 Luminaire

Features

- Input voltage: 120–277 Vac; 170–300 Vdc
- Built-in active PFC function: 0.99Typ.
- High efficiency: 90% Typ.
- Constant Current / 0–10V Dimming / Clock Dimming (CLK) / PWM Dimming
- High Surge Immunity
- Protection: OVP, SCP, OTP
- Type HL

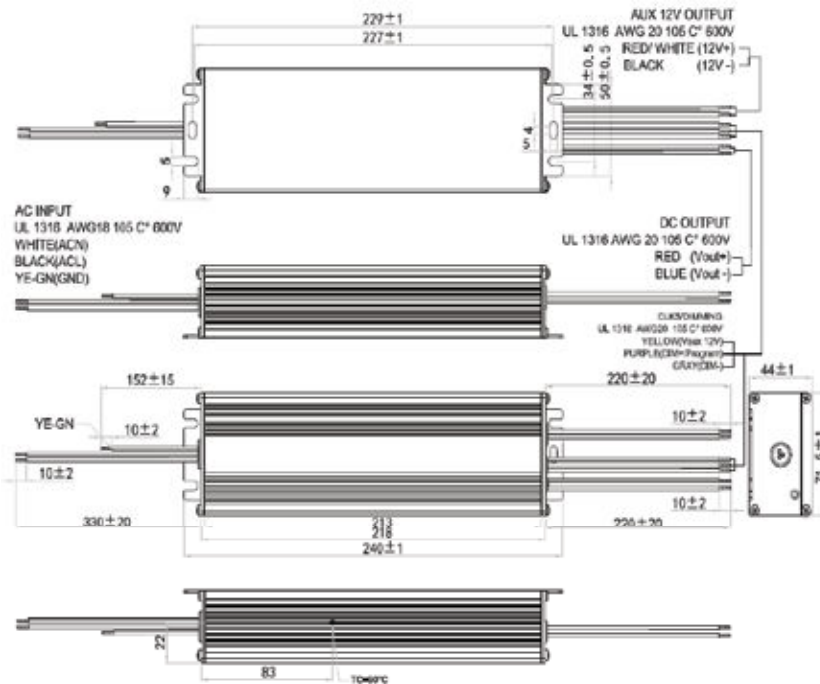
NEC/CEC and ATEX/IECEX Compliances

- UL8750; UL1012; CAN/CSA-C22.2 No.107-01
- IEC/EN61347-1; IEC/EN61347-2-13; IEC60079-0; IEC60079-18



Output Current	Input Voltage	Max. Output Power	Typical Efficiency	Typical Power Factor	Used in BU Luminaire Models	Part Number
360 mA	120-277 Vac / 170-300 Vdc	100 W	84%	0.95	MGZxL7xxxBU	APMZ100C090UD36
410 mA	120-277 Vac / 170-300 Vdc	100 W	84%	0.95	AMLZL6, BLZL6	APMZ100C090UD41
480 mA	120-277 Vac / 170-300 Vdc	100 W	88%	0.98	MGZxH9xxxBU MGZxL9xxxBU	APMZ100C090UD48
530 mA	120-277 Vac / 170-300 Vdc	100 W	90%	0.98	AMHZL1, BHZL1	APMZ100C090UD53
595 mA	120-277 Vac / 170-300 Vdc	100 W	90%	0.98	MGZxH1xxxBU	APMZ100C090UD59

Dimensions in Millimeters (Inches)

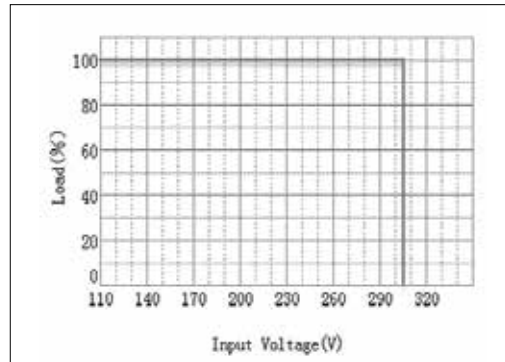


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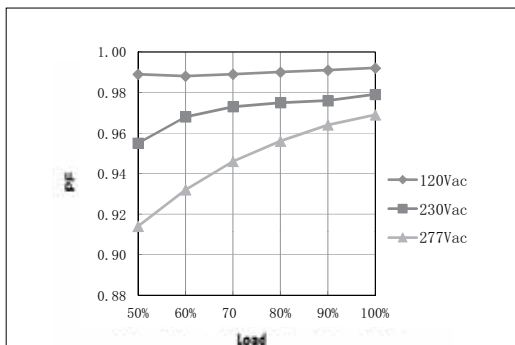
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Diagrams

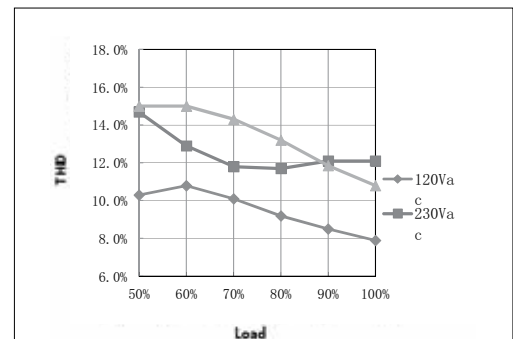
Derating Curve



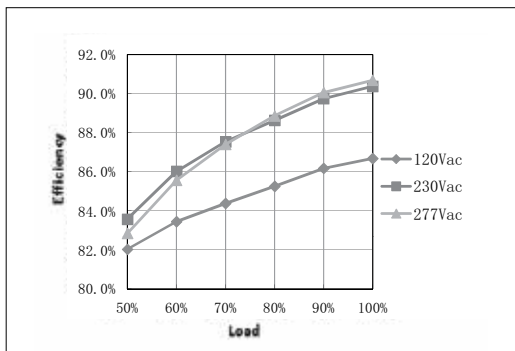
Power Factor vs. Load Curve



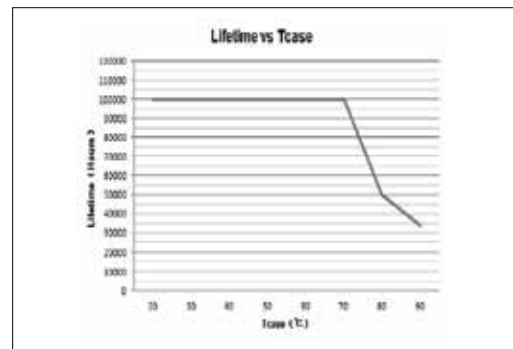
THD Curve



Efficiency vs. Load Curve



Lifetime vs. Driver Tcase



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Specifications (at +25 °C [+77 °F] ambient unless specified otherwise) ①

Input	Efficiency (120 Vac) ②	87% (Typical)
	Efficiency (230 Vac) ②	90% (Typical)
	Voltage Range (V) ③	108–305 Vac
	Voltage Rated (V) ③	120–277 Vac, or 170–300 Vdc (min.–max.)
	Frequency Range (Hz)	47 ~ 63
	Power Factor	0.95 (Min.) at 120~277 Vac, with 100% load
		0.90 (Min.) at 120~277 Vac, with 60%~100% load
	THD	15% (Max.) at 120~277 Vac, with 80%~100% load
		20% (Max.) at 120 Vac~277Vac, with 60%~100% load
	AC Current (Max.)	1.1A at 120 Vac input, 0.6A at 230 Vac
	Inrush Current (Max.)	65A at 230Vac input, +25 °C (+77 °F), Cold Start (time wide=500uS, measured at 50% Ipeak, Not applicable for the inrush current to Noise Filter for less than 0.2ms)
	Leakage Current (Max.)	0.75 mA at 277 Vac, 60 Hz
Output	Output Voltage Range (V)	165-55
	Output Current Range (mA)	60-900
	Output Current Settable Range	6.5%-100% of Io_max
	Rated Power (W)	100 (max.)
	Ripple Current	10% of Io_max. ((PK-AV) / AV) with LED default mode and 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 V min.-13.2 V max.
	12 Vdc Output Current (mA)	20 (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	0-10V / CLK / PWM dimming, can be set by software configuration.
		<250
Protection	Over Voltage (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 until tc drops below +90 °C (+194. °F)

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 Derating may be needed under low input voltage, Please Refer to 'Derating Curve'

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Specifications (at +25 °C [+77 °F] ambient unless specified otherwise) ①

Environment	Operating Temperature	-40~+65 °C (-40~+149 °F) Refer to Derating Curve)
	Tc	+90 °C (+194 °F) max
	Operating Humidity	20 ~ 95% RH
	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 Standards	UL8750; UL1012; CAN/CSA-C22.2 No.107-01; IEC/EN61347-1; IEC/EN61347-2-13; IEC60079-0; IEC60079-18
	Withstand Voltage	I / P-O / P:3.75 K Vac I / P-FG:1.875 KV O / P-FG:1.5 KV
	Isolation Resistance	I / P-O / P:100M Ohms (500 Vdc / 25 °C / 70% RH)
	EMC Emission	FCC PART15 Class B, 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: ±6 kV ; Line to Ground: ±6 kV ; Neutral to Ground: ±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) ambient temperature
	Lifetime	100,000 Hours at Tc +70 °C (+158 °C) (Refer to "Life Time VS. Tcase (Ref.)")
	Dimension	240 x 71.5 x 44 mm (L x W x H); (9.45 x 2.81 x 1.73 inches)
	Weight (Typ.)	1.2 kg (2.65 lbs)

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