

APMZ050C135UD LED Drivers

Replacement BU Voltage driver for use on the following Appleton™ LED Luminaires: 3,500 and 5,500 Lumen Mercmaster™ Generation 3 Zone 1 LED and 3000, 4000, 5000 and 7000 Lumen FELED Series Nonmetallic LED Luminaires

Features

- Input voltage: 120–277 Vac
- Built-in active PFC function: 0.98Typ.
- Built-in lightning protection
- High efficiency: 87% Typ.
- Waterproof (IP66)
- Constant Current / 0–10V Dimming
- Protection: OVP, SCP, OTP

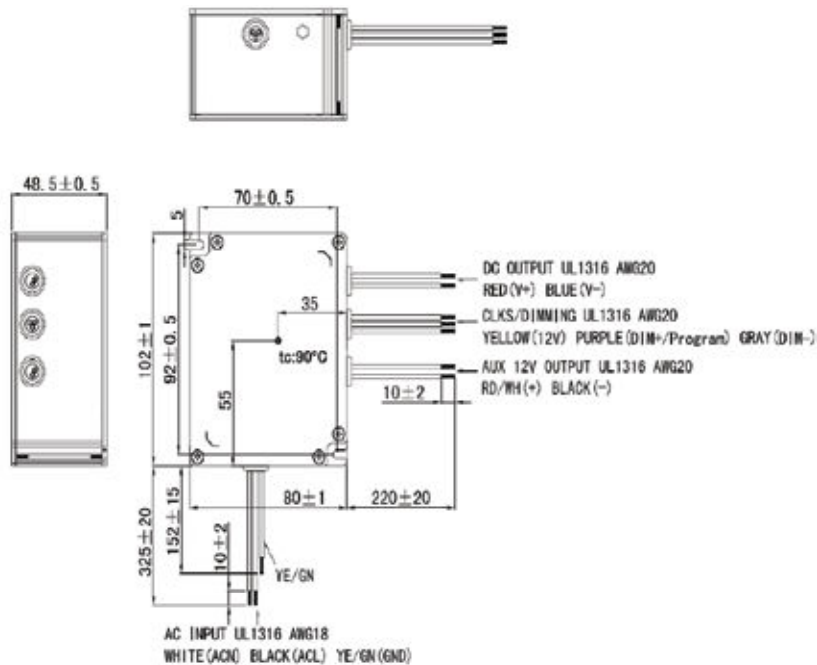


NEC/CEC/IEC Compliances

- 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 BH Luminaire Models	Part Number
500 mA	120-277 Vac / 170-300 Vdc	50 W	82%	0.9	MGZxL3xxxBU	APMZ050C135UD50
550 mA	120-277 Vac / 170-300 Vdc	50 W	82%	0.9	FELED3	APMZ050C135UD55
675 mA	120-277 Vac / 170-300 Vdc	50 W	85%	0.9	FELED7	APMZ050C135UD67
780 mA	120-277 Vac / 170-300 Vdc	50 W	86%	0.92	MGZxL5xxxBU	APMZ050C135UD78
800 mA	120-277 Vac / 170-300 Vdc	50 W	86%	0.92	FELED4	APMZ050C135UD80
950 mA	120-277 Vac / 170-300 Vdc	50 W	86%	0.92	FELED5	APMZ050C135UD95

Dimensions in Millimeters (Inches)

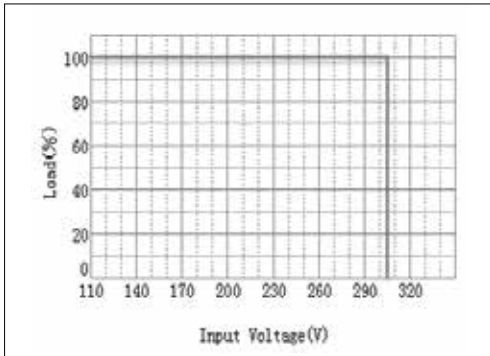


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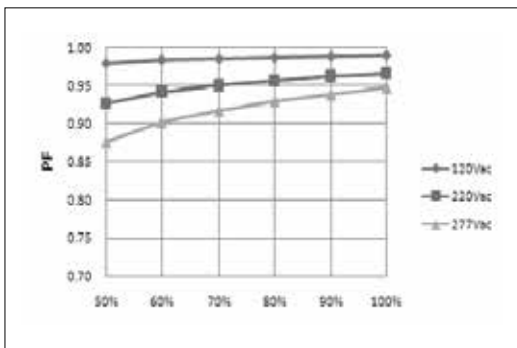
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Diagrams

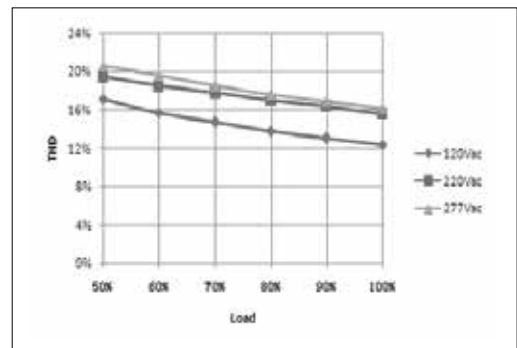
Derating Curve



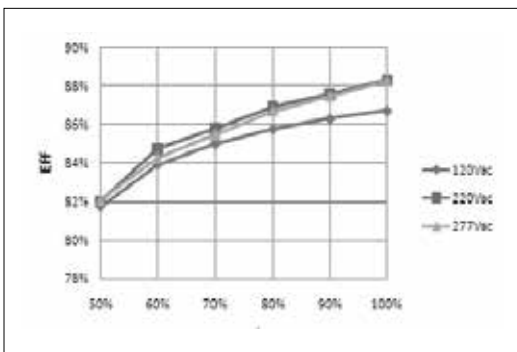
Power Factor vs. Load Curve



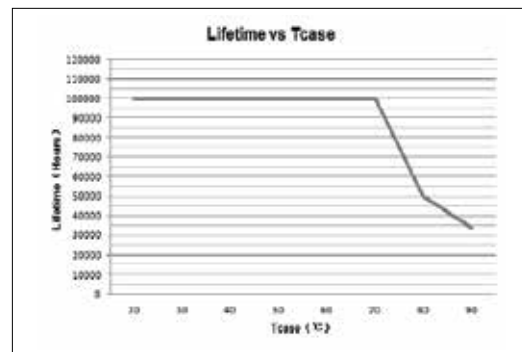
THD Curve



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	86% (Typical), >86% at full load
	Efficiency (230 Vac) ②	87% (Typical), >88% at full load
	Voltage Range (V)	108–305 Vac
	Voltage Rated (V)	120–277 Vac, or 170–300 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	15% (Max.) 120 Vac~220 Vac at full load
		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 (+77 °F) 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 (max.)
	Ripple Current	<10% [(PK-AV) / AV] full load
	Current Tolerance	5%
	Line Regulation	1%
	Load Regulation	3%
	Turn On Delay Time	0.5s (typ.)
Dimming Control	12 Vdc Output Voltage (Vdc)	10.8 V min. ~ 12 V typ. ~ 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	0 ~ 10 V / 10% lo ~ 100% lo ref.
Protection	Over Voltage (V)	<75 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.)
	Lightning Surge Protection	Per IEEE C62.41.2202 (6 kV, 1.2/50 ms, 8/20 ms combination wave with 2 ohms source impedance, L-N, L-PE, N-PE)

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).

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

Environment	Maximum Case Temperature	+90 °C (+194 °F)
	Minimum Case Temperature	-40 °C (-40 °F)
	Operating Humidity	20 ~ 95% RH non-condensing
	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	Agency Approbations	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 [+77 °F] / 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 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) ambient temperature, MIL-HDBK-217F (+25 °C [+77 °F])
	Lifetime	Refer to plot
	Dimension	102 x 80 x 48.5 (mm) (LxWxH); (4.02 x 3.15 x 1.91 inches)
	Weight (Typ.)	930 g (2.05 lbs)

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).