ALLOY LED® Specifications

# PowerFactor™ Non-Dimmable Driver with UL Listed Junction Box

AL-98-12-24XXX

PowerFactor™ Non-Dimmable Drivers with integrated UL Listed junction box supply reliable, efficient low voltage power to white tape light on an on/off switch, or RGB and RGB-W color controllers (which have on-board dimming functionality). Although non-dimmable drivers are compatible with AC on/off switches, they are not dimmable with AC dimmer switches.

- High power factor for high efficiency
- Flat and compact housing is easy to conceal
- >90% power factor
- Dry or wet environment
- 6 year warranty

## QUICK SPECIFICATIONS

| | | |
|---|---|---|
| **Input** | 120V~ 277V | 120~277V AC |
| **Features** | >90% POWER FACTOR, CLASS 2 | >90% Power Factor<br>Class 2 |
| **Environment** | DRY LOCATION | Dry/wet environment<br>Dust tight and protected against high seas and jets of water |
| **Certifications** | c UL us LISTED, RoHS, NEMA 4X | UL Listed<br>RoHS<br>NEMA 4X |
| **Warranty** | WARRANTY 6 YEAR | 6 year limited |

## 24V MODELS TECHNICAL INFORMATION

| Item Number | AL-98-12-24030 | AL-98-12-24060 | AL-98-12-24080 | AL-98-12-24096 |
|---|---|---|---|---|
| DC Voltage | 24V DC | 24V DC | 24V DC | 24V DC |
| Rated Current | 1.25A | 2.5A | 3.33A | 4A |
| Rated Power | 30W | 60W | 80W | 96W |
| Voltage Tolerance | ±0.5V | | | |
| Voltage Regulation | ±0.5% | | | |
| Load Regulation | ±1% | | | |
| Voltage Range | 100~277V AC | | | |
| Frequency Range | 47~63HZ | | | |
| Power Factor (Avg.) | 0.99 @ 120V ;<br>0.98 @ 230V ;<br>0.96 @ 277V | 0.99 @ 120V ;<br>0.95 @ 230V ;<br>0.94 @ 277V | 0.99 @ 120V ;<br>0.96 @ 230V ;<br>0.97 @ 277V | 0.99 @ 120V ;<br>0.97 @ 230V ;<br>0.97 @ 277V |
| THD (Avg.) Full Load | <15% @120V ; <20%@230V ; <20% @277V | | | |
| Full Load Efficiency (Avg.) | 82% @ 120V ;<br>82% @ 230V ;<br>81% @ 277V | 85% @ 120V ;<br>88% @ 230V ;<br>86% @ 277V | 83% @ 120V ;<br>87% @ 230V ;<br>86% @ 277V | 83% @ 120V ;<br>88% @ 230V ;<br>87% @ 277V |
| AC Current (Avg.) | 0.5A (100VAC) | 0.9A (100VAC) | 1.2A (100VAC) | 1.3A (100VAC) |
| Inrush Current | 7A,50% ,420us @120V ;<br>30A,50% 90us @230V ;<br>12A 50% 480us @ 277V | 14A,50% ,780us @ 120v ;<br>50A,50% 176us @ 230V ;<br>15A 50% 660us @ 277V | 20A,50% ,1.6ms@120V ;<br>30A,50% 200us@230V ;<br>25A,50% 1.2ms@277V | |
| Leakage Current | <0.50mA | | | |
| Short Circuit | Shut down o/p voltage, re-power on to recover after fault condition removed | | | |
| Overload | ≤120% shut down o/p voltage, re-power on to recover | | | |
| Over Temperature | 100°C±10°C (212°±50°F) shut down o/p voltage, automatically recover after cooling | | | |
| Working Temp. | -40°C~+60°C (-40°F~+140°F) | | | |
| Working Humidity | 20~90% RH, non-condensing | | | |
| Storage Temp., Humidity | -40 ~ +80°C, -40~176°F / 10~95%RH | | | |
| Temp. Coefficient | ±0.03%/°C (0~50°C, 32~122°F) | | | |
| Vibration | 10~500Hz, 5G 10min./1 cycle, period for 60min. each along X, Y, Z axes | | | |
| Safety Standards | UL8750+UL1310 | | | |
| Withstand Voltage | I/P-O/P: 1.88KV AC | | | |
| Isolation Resistance | I/P-O/P:>100MΩ/500V DC/25°C, 77°F/70% RH | | | |
| EMC Emission | Compliance to FCC Part 15 B | | | |
| Warranty | 6 Year Limited | | | |
| Dimensions (L x W x H) | 6.5 x 3.72 x 1.57 inches | 7.4 x 3.72 x 1.57 inches | 8.66 x 3.72 x 1.57 inches | |

1. All parameters NOT specially mentioned are measured at 120V AC input, rated load and 25ºC, 77ºF of ambient temperture
2. Derating may be needed under low input voltage. Please check the static characteristics for more details
3. The unit might not be suitable for lighting applications in EU countries. Avoid immersion in water over 30 minutes

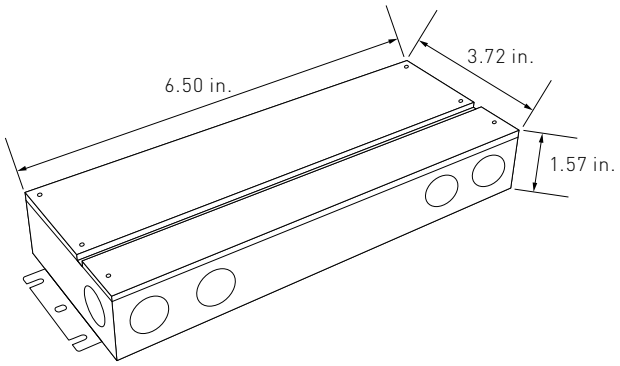
## MULTI-TAP MODELS TECHNICAL INFORMATION

| Item Number | AL-98-12-24192-MT | AL-98-12-24288-MT |
|---|---|---|
| DC Voltage | 24V DC | 24V DC |
| Number of Channels | 2 | 3 |
| Current per Channel | 4A (8A total) | 4A (12A total) |
| Wattage per Channel | 96W (192W total) | 96W (288W total) |
| Voltage Tolerance | ±0.5V | |
| Voltage Regulation | ±0.5% | |
| Load Regulation | ±1% | |
| Voltage Range | 100~277V AC | |
| Frequency Range | 47~63HZ | |
| Power Factor (Avg.) | 0.99 @ 120VAC ;<br>0.94 @ 277VAC | 0.99 @ 120VAC ;<br>0.95 @ 277VAC |
| THD (Avg.) Full Load | <20% | |
| Full Load<br>Efficiency (Avg.) | 88% @ 120V ;<br>90% @ 277VAC | 88% @ 120V ;<br>92% @ 277VAC |
| AC Current (Avg.) | 2.3A (100VAC) | 3.4A (100VAC) |
| Inrush Current | 19A ,50%,1.3ms @ 120VAC ;<br>38A,50%,960us @ 277VAC | 35A ,50%,960us @120VAC ;<br>43A,50%,1ms @ 277VAC |
| Leakage Current | <0.50mA | |
| Short Circuit | Shut down o/p voltage, re-power on to recover after fault condition removed | |
| Overload | ≤120% shut down o/p voltage, re-power on to recover | |
| Over Temperature | 100°C±10°C (212°±50°F) shut down o/p voltage, automatically recover after cooling | |
| Working Temp. | -40°C~+60°C (-40°F~+140°F) | |
| Working Humidity | 20~90% RH, non-condensing | |
| Storage Temp., Humidity | -40 ~ +80°C, -40~176°F / 10~95%RH | |
| Temp. Coefficient | ±0.03%/°C (0~50°C, 32~122°F) | |
| Vibration | 10~500Hz, 5G 10min./1 cycle, period for 60min. each along X, Y, Z axes | |
| Safety Standards | UL8750+UL1310 | |
| Withstand Voltage | I/P-O/P: 1.88KV AC | |
| Isolation Resistance | I/P-O/P:>100MΩ/500V DC/25°C, 77°F/70% RH | |
| EMC Emission | Compliance to FCC Part 15 B | |
| Warranty | 6 Year Limited | |
| Dimensions (L x W x H) | 10.94 x 4.33 x 1.77 inches | 11.85 x 4.33 x 1.77 inches |

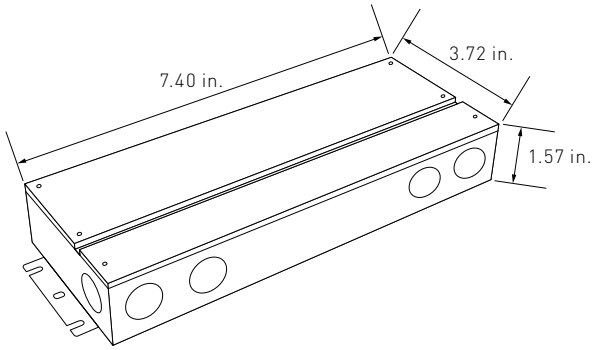
1. All parameters NOT specially mentioned are measured at 120V AC input, rated load and 25ºC, 77ºF of ambient temperture
2. Derating may be needed under low input voltage. Please check the static characteristics for more details
3. The unit might not be suitable for lighting applications in EU countries. Avoid immersion in water over 30 minutes

## DIMENSIONS

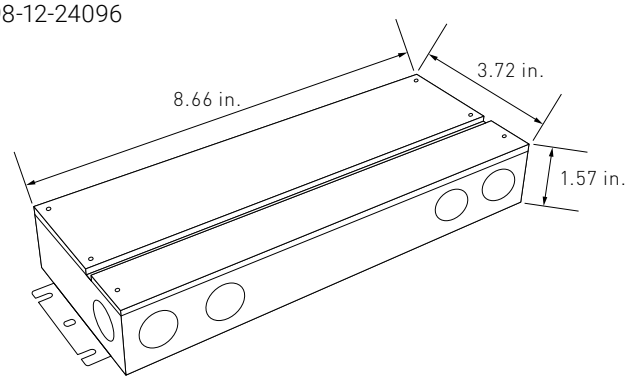
AL-98-12-24030




AL-98-12-24060




AL-98-12-24080
AL-98-12-24096

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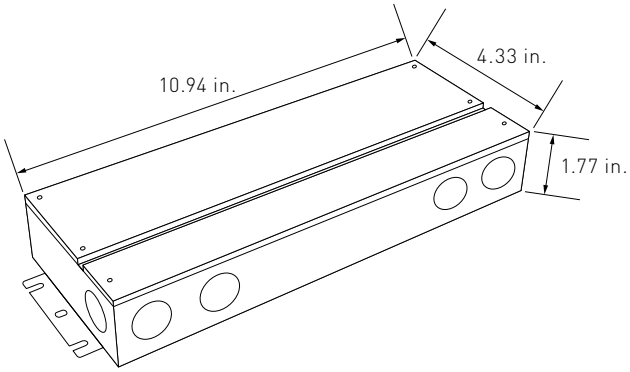


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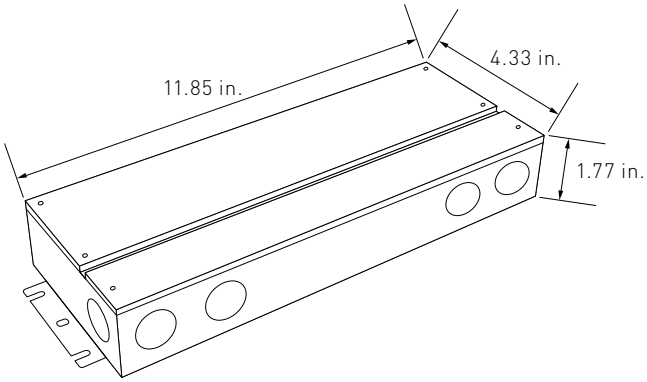
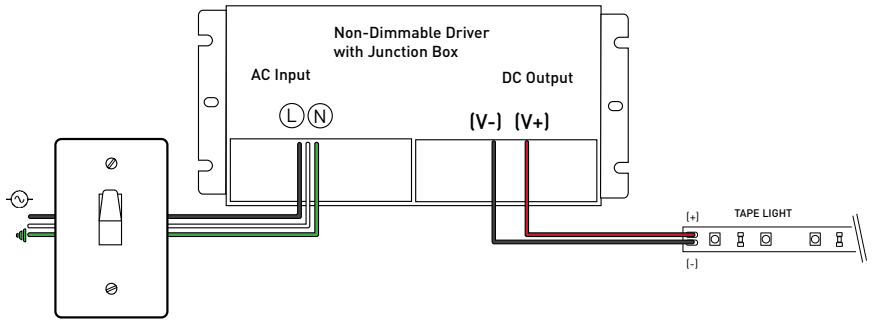


## WIRING DIAGRAMS

AL-98-12-24030
AL-98-12-24060
AL-98-12-24080
AL-98-12-24096

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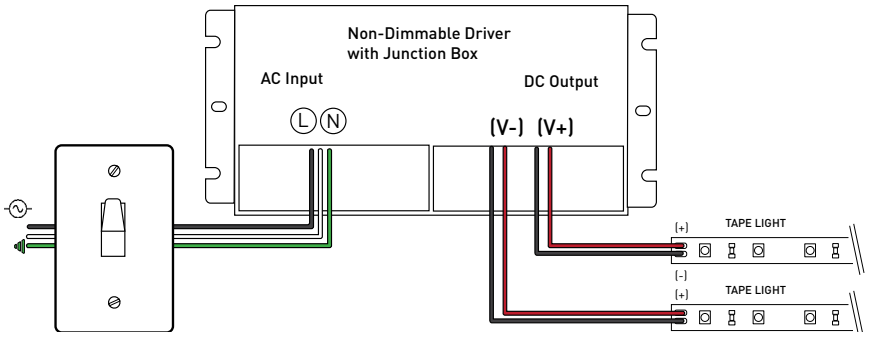


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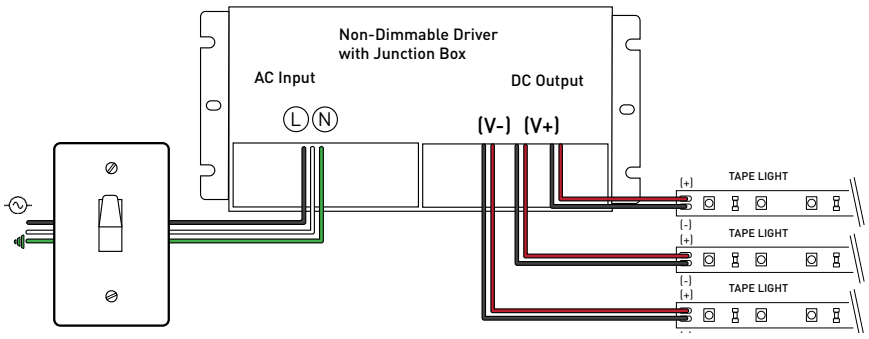


## TROUBLESHOOTING

Q: Why are the lights connected to the driver blinking roughly once a second?
A: The driver may be overloaded. Check to make sure the maximum wattage is not being exceeded. There could also be a possibility of incompatible voltage. Confirm that the driver and tape light voltage match.

Q: How do I determine the compatibility?
A: Check the voltage, wattage, load capacity of both the tape light and driver.

Q: Is it possible to have multiple runs of tape light that are daisy-chained together connect to a driver with 1 lead wire?
A: Yes, but only if the total length of consecutive runs do not exceed the tape light's maximum run and also does not exceed the driver's maximum wattage.