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| Project: | Type:     |
|          | Comments: |



### Highlights

**Dual-Dimming Architecture:** Phase dimming (Forward phase, MLV, Reverse phase, ELV, TRIAC) and 0-10V dimming (0-10V/1-10V/Potentiometer/10V PWM 4-in-1) compatible.

**Ultra-Smooth Dimming:** Full 0-100% dimming range with an industry-leading dimming depth of 0.1% and completely flicker-free performance.

**Robust Environment Performance:** Driver built-in Junction Box; IP-rated enclosure suitable for dry, damp, and wet locations.

**Power Efficiency:** Built-in active PFC function achieving high power factor (PF > 0.9) and an overall efficiency up to 88%.

**Full Certifications:** cULus Listed (E495946), FCC Class 2, TYPE HL, SELV, RoHS, and REACH compliant.

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### Configuration Example

|                |
|----------------|
| Model #        |
| TECHOLED-MT-24 |

### Ordering Guide:

Select one option from each group below. For a custom preference please contact [sales@techoled.com](mailto:sales@techoled.com)

| 1-FAMILY           | 2-DC OUTPUT VOLTAGE | 3-OUTPUT POWER    |
|--------------------|---------------------|-------------------|
| <b>MT-D</b> DRIVER | <b>12</b> 12(VDC)   | <b>100</b> (100W) |
|                    | <b>24</b> 24(VDC)   |                   |
|                    | <b>48</b> 48(VDC)   |                   |

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| Model        | MT-12  | MT-24  | MT-48                      |                            |
|--------------|--|--|----------------------------|----------------------------|
| Certificate  | UL / cUL / FCC / TYPE HL / SELV / RoHS / REACH   |  |                            |                            |
| Output       | DC Voltage   | 12V  | 24V                        | 48V                        |
|              | Voltage Tolerance  | ±0.5V  |                            | ±1V                        |
|              | Voltage Regulation   | ±0.5%  |                            |                            |
|              | Rated current  | 8.33A  | 4.17A                      | 2.08A                      |
|              | Rated power  | 100W   |                            |                            |
|              | Load Regulation  | ±2%  | ±1%                        | ±1%                        |
| Input        | Voltage Range  | 100-277VAC   |                            |                            |
|              | Frequency Range  | 50 / 60Hz  |                            |                            |
|              | Power Factor @ full load   | >0.9   |                            |                            |
|              | THD(Typ.) @ full load  | <20%@120VAC & 277VAC   |                            |                            |
|              | Efficiency(Typ.) @ full load   | ≥84%@120VAC<br>≥85%@277VAC   | ≥85%@120VAC<br>≥86%@277VAC | ≥86%@120VAC<br>≥89%@277VAC |
|              | AC Current (Max.)  | 1.5A   |                            |                            |
|              | Inrush Current (Typ.)  | 31.6A, 530us @50% 120VAC   | 60.0A, 460us @50% 277VAC   |                            |
|              | Leakage current  | <0.5mA   |                            |                            |
| Protection   | Short Circuit  | Shut down o/p voltage, re-power on to recover after fault condition is removed.<br>Or, hiccup mode, automatically recovers after fault condition is removed.                               |                            |                            |
|              | Over Load  | 12V&24V: 105%~125% Constant current mode, automatically recovers after fault condition is removed.<br>48V: 105%~125% Hiccup mode, automatically recovers after fault condition is removed. |                            |                            |
|              | Over temperature   | Shell surface temp.100°C±10°C shut down o/p voltage, re-power on to recover after fault condition is removed. Or, hiccup mode, automatically recovers after fault condition is removed.    |                            |                            |
| Environment  | Working TEMP. (Ta)   | -40~+45°C (see below derating curve)   |                            |                            |
|              | Case Temperature (Tc)  | 90°C   |                            |                            |
|              | Working Humidity   | 20 - 95%RH non-condensing  |                            |                            |
|              | Storage TEM.,Humidity  | -40 - +80°C,10 - 95% RH non-condensing   |                            |                            |
|              | TEMP.coefficient   | ±0.03%/°C(0 - 50°C)  |                            |                            |
|              | Vibration  | 10~500Hz, 5G 12min./1 cycle, period for 72min. each along X,Y,Z axes   |                            |                            |
| Safety & EMC | Safety standards   | UL8750; CAN/CSA-C22.2 No. 250.13   |                            |                            |
|              | Withstand voltage  | I/P-O/P: 1.88KVAC I/P-FG: 1.88KVAC O/P-FG: 0.5KVAC   |                            |                            |
|              | Isolation resistance   | I/P-O/P: 100MΩ/ 500VDC/ 25°C/ 70% RH   |                            |                            |
|              | EMC Immunity   | FCC/ICES do not request this test.   |                            |                            |
|              | EMC Emission   | FCC 47 CFR Part 15, Subpart B  |                            |                            |
| Others       | Net Weight   | 1.375KG  |                            |                            |
|              | Dimension  | 8.6x3.75x1.72in(L*W*H)   |                            |                            |
|              | Packing  | 11.7x10.4x8.66in 10pcs/CTN   |                            |                            |
| Notes        | <ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 120VAC input, rated load, non-dimming state and 25 of ambient temperature.</li> <li>Tolerance: includes set up tolerance and load regulation.</li> </ol> |  |                            |                            |

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U.S. Patents No. 9,942,959; 10,039,167; 9,661,710; 9,961,724

### MCB recommendation

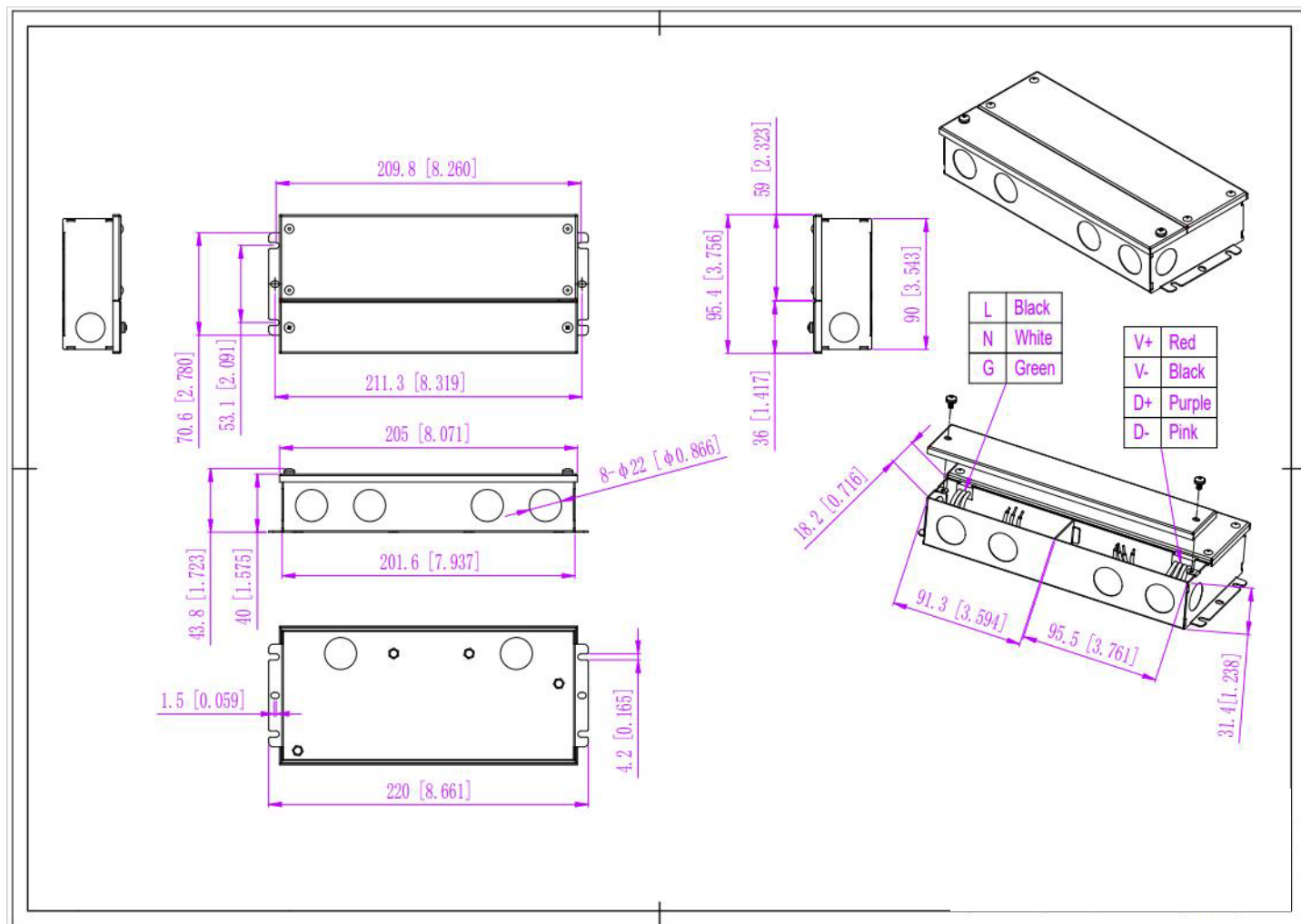
| When the input voltage is 120Vac, the number of LED Driver matched by circuit breakers is as follows: |       |                          |
|---|-------|--------------------------|
| MCB Type  | Level | The number of LED Driver |
| C type  | 10A   | 7                        |
|   | 13A   | 9                        |
|   | 16A   | 11                       |
|   | 20A   | 13                       |
|   | 25A   | 15                       |
| When the input voltage is 277Vac, the number of LED Driver matched by circuit breakers is as follows: |       |                          |
| MCB Type  | Level | The number of LED Driver |
| C type  | 10A   | 4                        |
|   | 13A   | 5                        |
|   | 16A   | 6                        |
|   | 20A   | 8                        |
|   | 25A   | 10                       |

#### Note:

1. The above quantities of the led drivers connected on the Type C is recommended base on the maximum ambient temperature is 50 °C.
2. The breaker should be selected according to the input rated voltage, input rated current, ambient temperature, and trip characteristic curve.

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### Dimensions



12V&24V&48V Version

### Wire gauge

JM88-A1

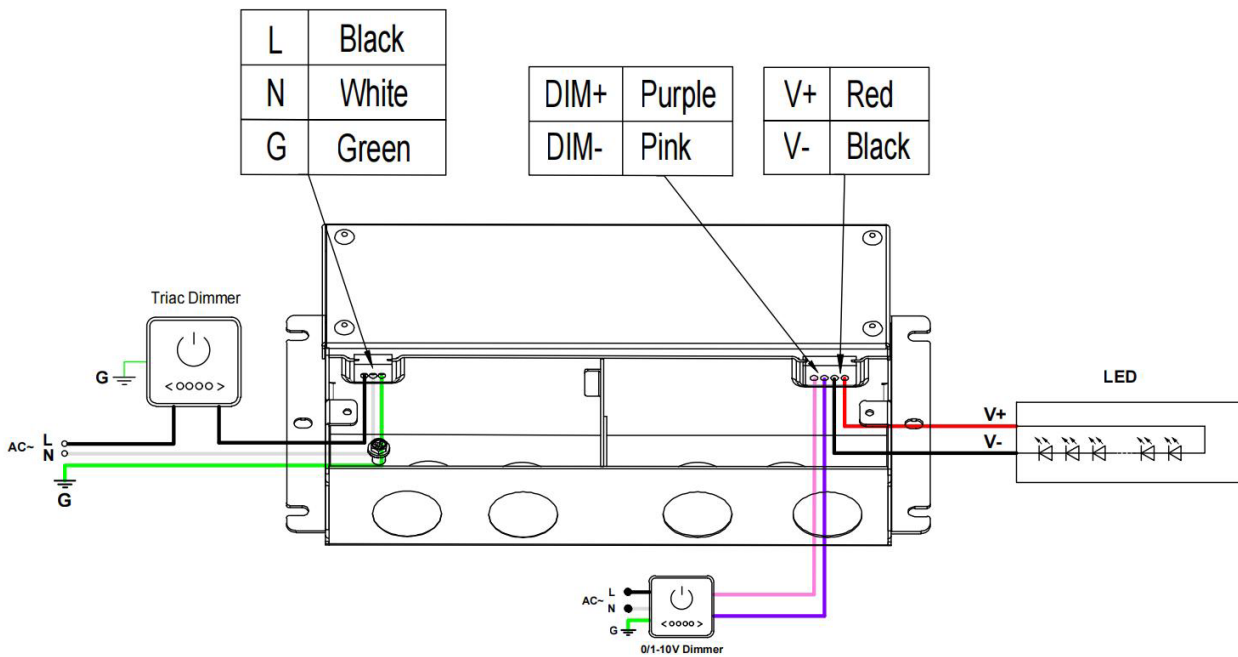
|                     |                                     |
|---------------------|-------------------------------------|
| <b>Input wire</b>   | Black(L) White(N) Green(G)(3*18AWG) |
| <b>Output wire</b>  | Red(V+) Black(V-)(2*16AWG)          |
| <b>Dimming wire</b> | Purple(D+) Pink(D-)(2*18AWG)        |

Remarks: Please make sure your connect these correctly otherwise your product will not function correctly and could be damaged.

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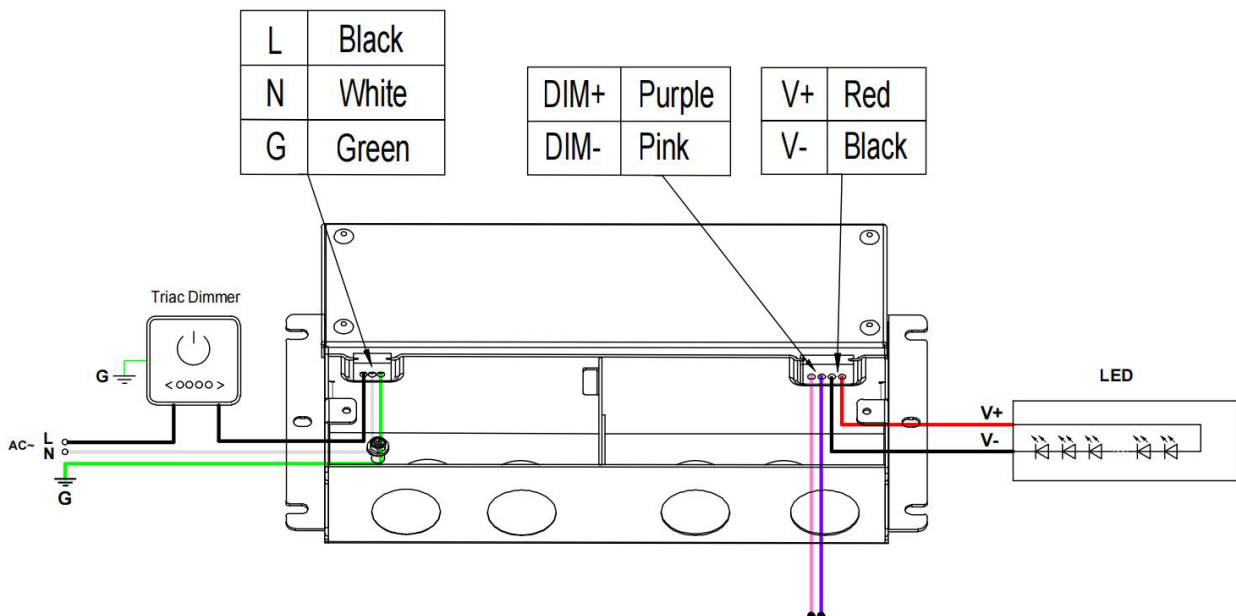
### DIMMING OPERATION AND CONNECTING DIAGRAM

**Using two ways of dimming at the same time:** You must be assured that LED lighting is up to the max. brightness, then you could operate with the other dimming style.



### Using one dimming — TRIAC/Phase cut dimming

1. The Pulse-Width Modulation (PWM) of output voltage can be adjusted through the input terminal of the AC phase line (L) by connecting a phase / Triac dimmer or lighting system.
2. Working with Forward phase, MLV and Reverse phase, ELV, TRIAC dimmers or light systems.
3. Min. loading is about 10%
4. Please try to use dimmers with power at least 1.5 times as the output power of the driver.



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- Using one dimming --0-10/ 1-10V/ 10V PWM/ Potentiometer dimming

